FX/FY-SERIES

OWNER'S AND DRIVER'S MANUAL Ⓔ

2026

FX/FY SERIES

OWNER'S AND DRIVER'S MANUAL Ⓔ

ISUZU

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Keep this Owner's Manual in the vehicle for handy reference whenever needed.

- We recommend that you also read the separate instructions for the equipment on your vehicle that was installed by your Isuzu Dealer.
- Your Isuzu Dealer will be glad to answer any questions you may have about the information in this manual.
- Please leave this manual in the vehicle when you resell it – the next owner will need it.

Notes on Reading This Manual

- Please read this manual carefully, especially the information in the "IMPORTANT INFORMATION" section and the instructions and information identified by the following symbol/letter combinations: DANGER, WARNING, CAUTION, ADVICE and NOTE. Among them, DANGER, WARNING and CAUTION are reminders to be especially careful. Failure to follow or wrongly following the associated instructions could result in personal injury or accidents. Please read them thoroughly.
- Throughout this manual, illustrations are primarily based on right-hand drive models.
- Due to differences in vehicle specifications, the illustration used for description may not match your vehicle.
- The contents of this manual are current at the date of issue, but may differ slightly from your vehicle due to specification changes or other modifications made thereafter.
- This manual is applicable for vehicle in all countries except the USA and Canada.
- All rights reserved. This manual may not be reproduced in whole or in part, without the permission in writing of ISUZU MOTORS LIMITED.

Symbols Used in This Manual

⚠ DANGER

Failure to follow these instructions identified by this symbol could result in death or serious injury to you and/or other people.

⚠ WARNING

Failure to follow these instructions identified by this symbol could result in a fire inside your vehicle in addition to death or serious injury to you and/or other people.

⚠ CAUTION

Failure to follow these instructions identified by this symbol could result in injuries or an accident.

ADVICE

Failure to follow these instructions identified by this symbol could cause malfunction or damage to your vehicle.

NOTE

This symbol identifies information that you need to know.
This symbol also identifies information that would be useful for operating the vehicle.

The following symbols are also used in this manual.

- [V] : Market-/type-specific equipment (Your vehicle may not have the equipment with this symbol.)
- [M/T] : Manual transmission vehicle
- [A/T] : Automatic transmission vehicle
- [ISZ] : Vehicle equipped with Isuzu production transmission or axle
- [MER] : Vehicle equipped with Meritor production axle

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Abbreviations

This manual uses the following abbreviations, as interpreted below.

Abbreviations	Description
A/C	Air Conditioner
ABS	Anti-lock Brake System
ACEA	Association des Constructeurs Europeens d'Automobiles (Association of European Automobile Constructors)
ADB	Adaptive Driving Beam
AEBS	Advanced Emergency Braking System
API	American Petroleum Institute
ASR	Anti-Slip Regulator
ASTM	American Society for Testing and Materials
A/T	Automatic Transmission
BS	British Standards
CAN	Controller Area Network
DIN	Deutsche Industrie Normen
DPD	Diesel Particulate Defuser
EBD	Electronic Braking force Distribution
EBS	Electronic Braking System
ECE	Economic Commission for Europe
EGR	Exhaust Gas Recirculation
ELR	Emergency Locking Retractor
ESC	Electronic Stability Control
ESS	Emergency Stop Signal
FAME	Fatty Acid Methyl Esters
FMVSS	Federal Motor Vehicle Safety Standards
GNSS	Global Navigation Satellite System
GVM	Gross Vehicle Mass
ISO	International Organization for Standardization
JASO	Japanese Automobile Standards Organization
JATMA	The Japan Automobile Tyre Manufacturers Association
JIS	Japanese Industrial Standards
LDWS	Lane Departure Warning System
MID	Multi-Information Display
MIL	A United States Defense Standard (Military Standard)
M/T	Manual Transmission

Abbreviations	Description
PM	Particulate Matter
r/min	revolutions per minute
SAE	Society of Automotive Engineers
SCR	Selective Catalytic Reduction
SRS	Supplemental Restraint System
SVS	Service Vehicle Soon
TRA	The Tire and Rim Association
UN	United Nations
VDA	Verband der Automobilindustrie
VIN	Vehicle Identification Number

4 How to Use This Manual

Chapter title

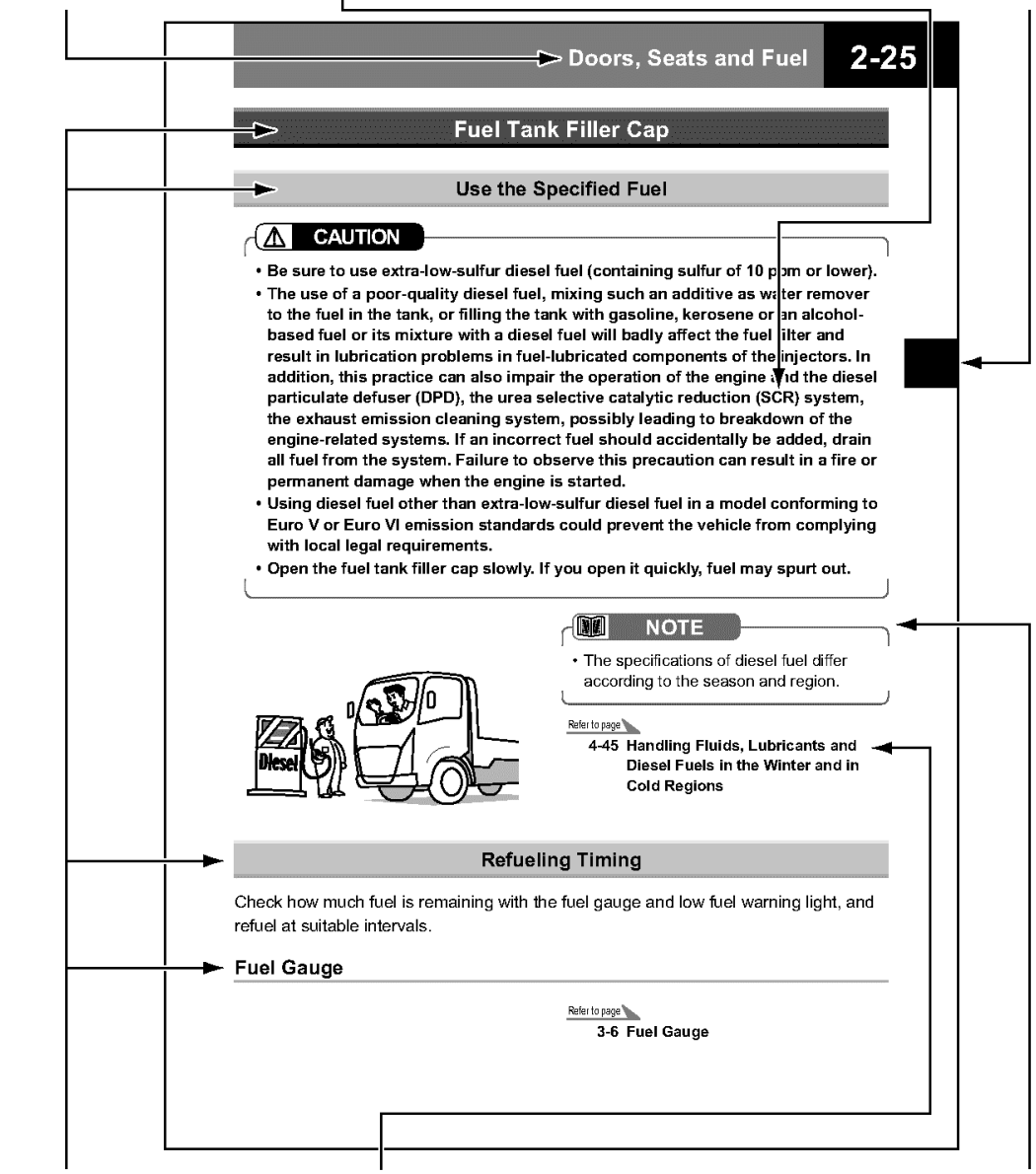
This shows the title of each chapter.

Abbreviations

Refer to page 3.

Chapter index

Use these for quick access to your desired chapter. They align with the titles on the cover.



Section title

These identify topics in each section.

Reference page

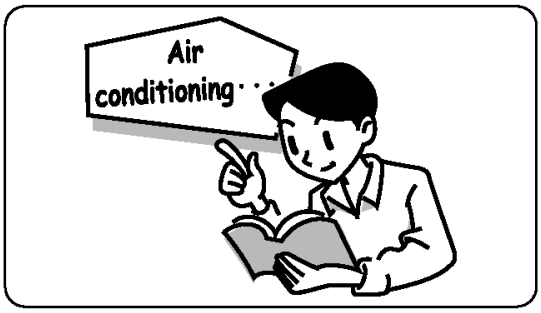
Refers you to a page (or pages) of this manual which should be read concerning the present topic. Read referenced pages as well as the present topic.

DANGER CAUTION
WARNING ADVICE
NOTE

Symbols

See page 1 for the meanings of these symbols.

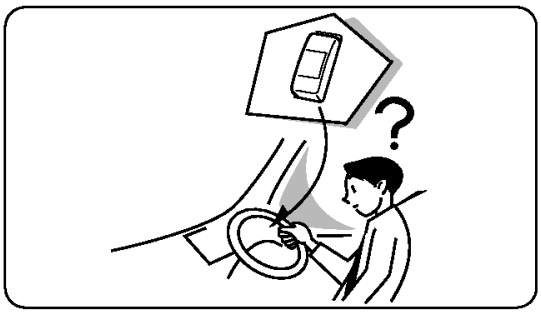
Note: This page is shown only as an example. It is not intended to give you information on your particular vehicle.



Use chapter/section titles as keys

➔ Page 6

Search for the page describing a specific topic by using the table of contents and the lists of titles at the start of each chapter.

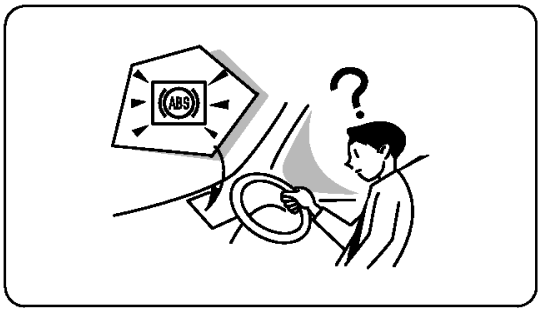


Use the pictorial indexes

➔ Pages 25

Pictorial Index

If you do not know the name of the switch or other device for which you need information, locate the page describing it by using the pictorial indexes.

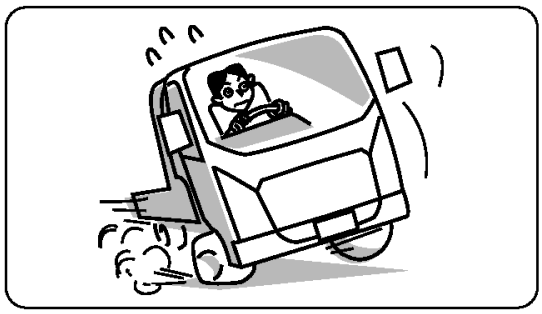


Use the warning/indicator light overview

➔ Pages 3-8

Warning/Indicator Light Overview

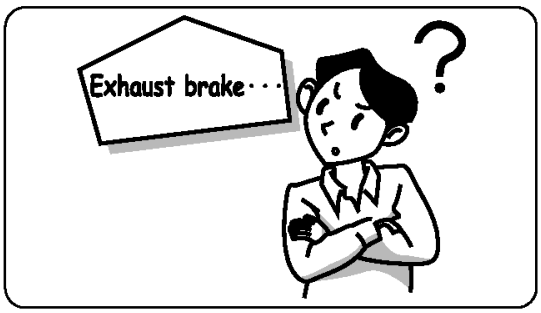
If a warning or indicator light is illuminated, you can use the warning/indicator light overview to find the page that provides information on the light.



If you have a problem with your vehicle

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In an Emergency



Use device names as keys

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Index

If you know the name of the switch or other device for which you need information, locate the page describing it by using the Index at the end of this manual.

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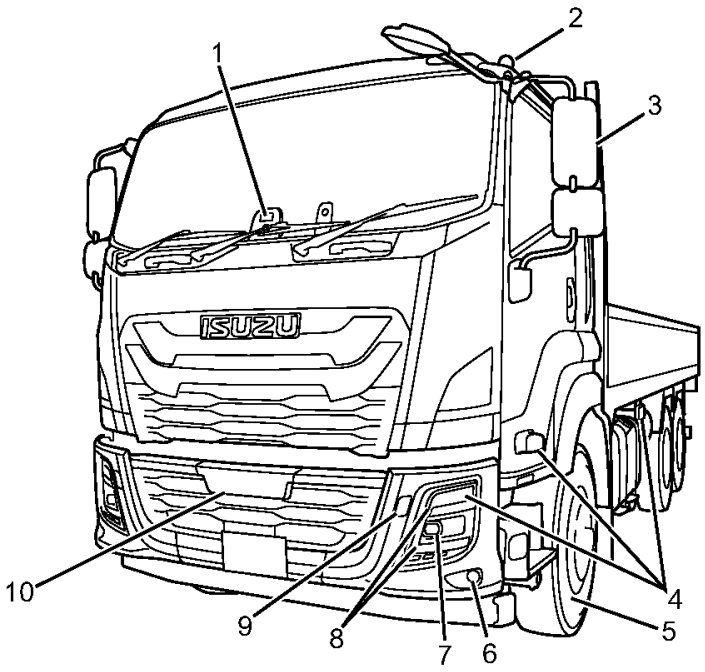
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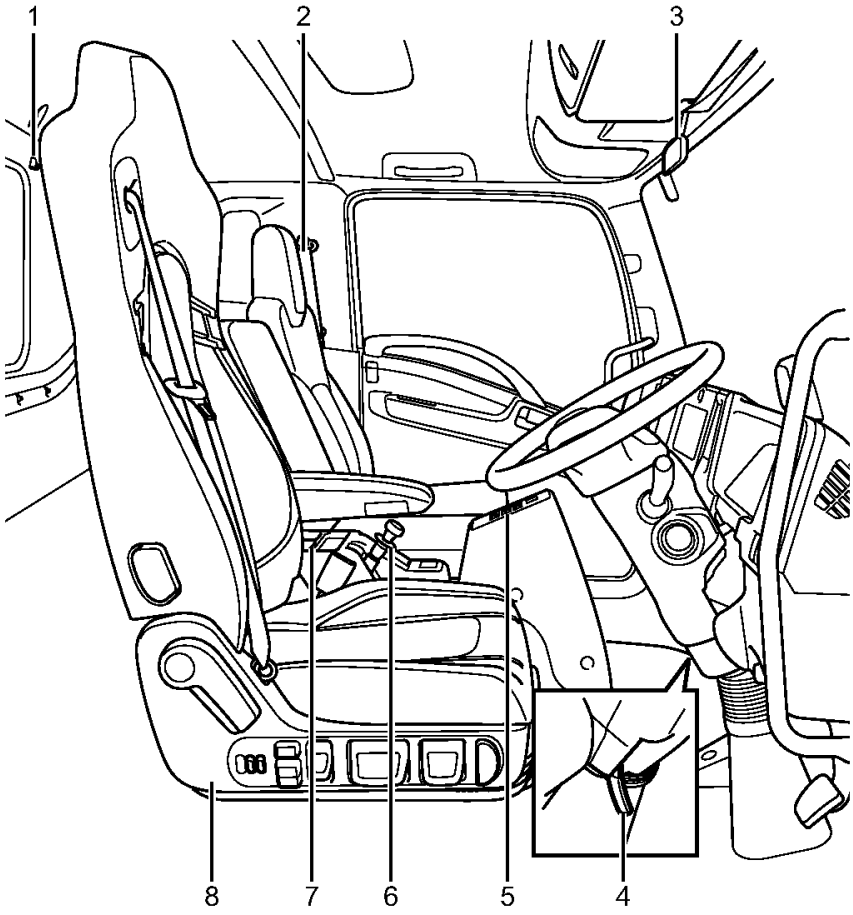


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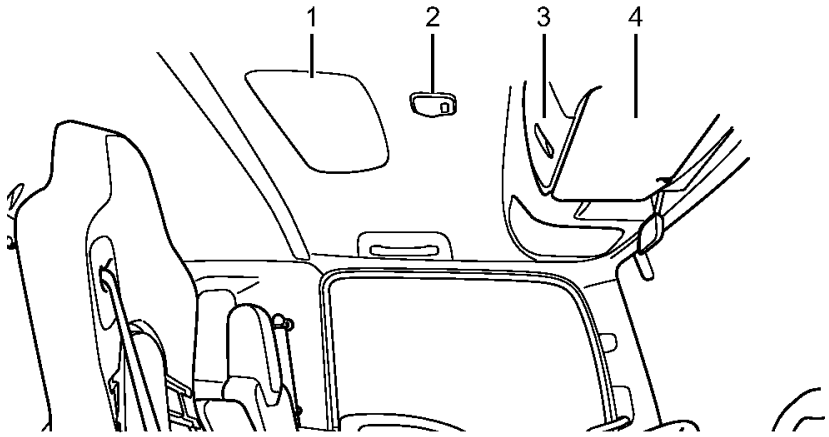
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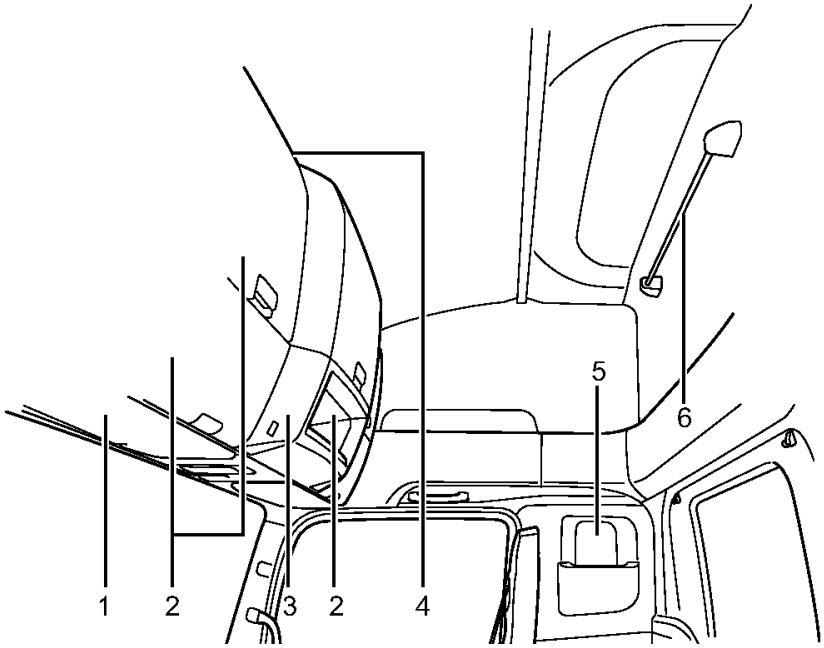
Roof (Standard Model)



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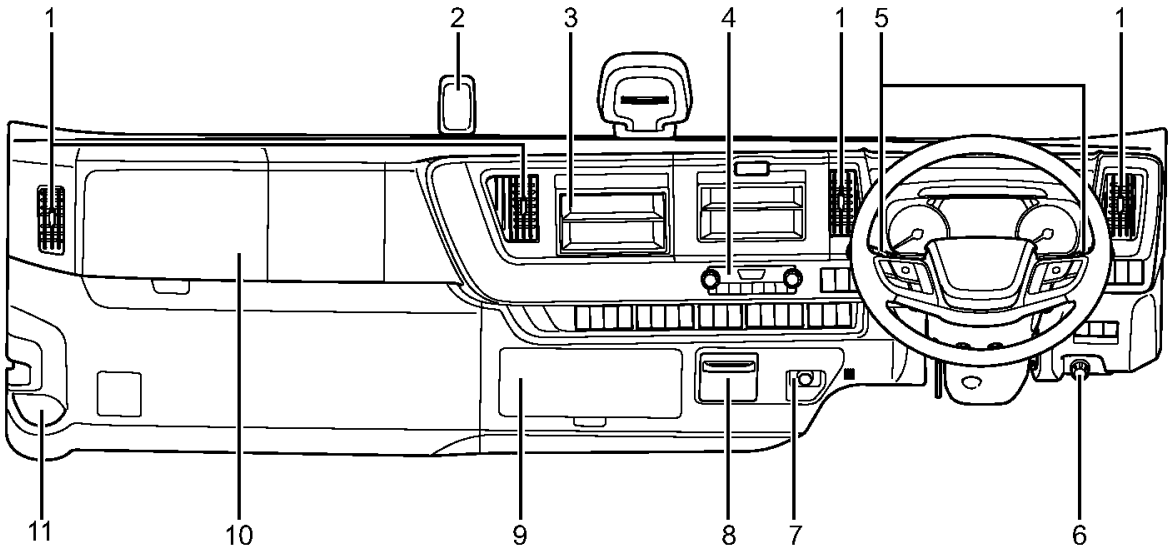
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Instrument Panel

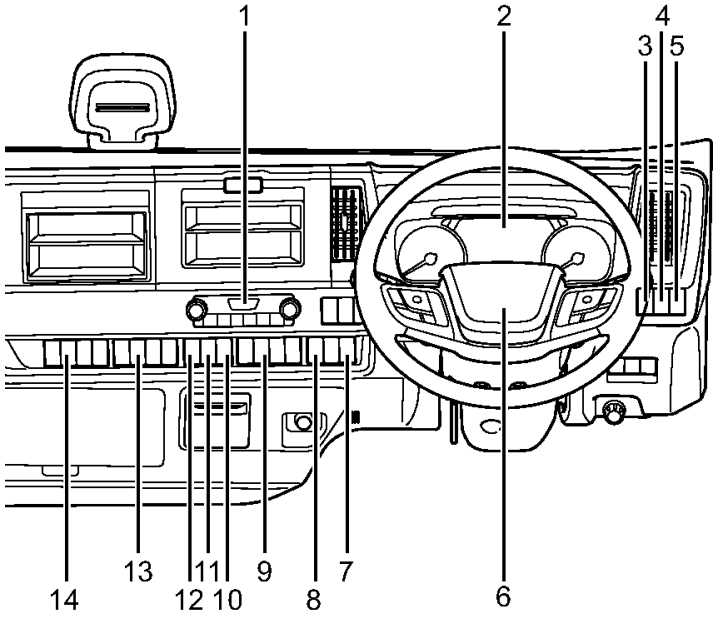


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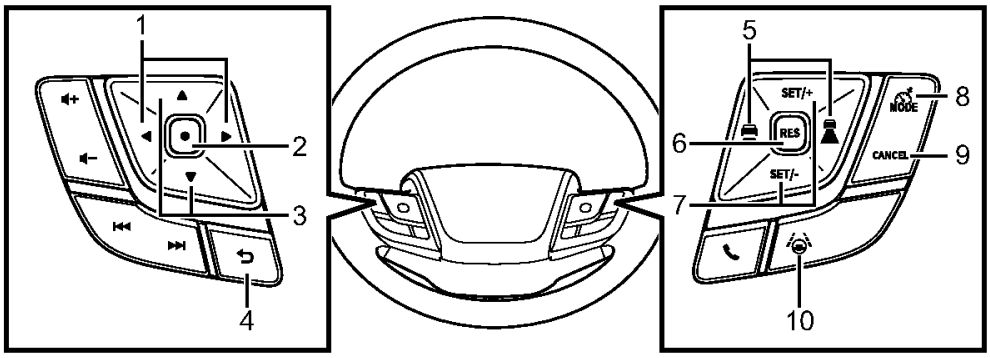
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Introduction 0

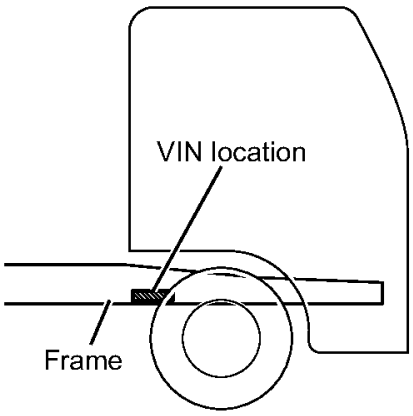
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Vehicle Identification Number (VIN) and Engine Number

The VIN and engine number are necessary for registering your vehicle. They are also necessary when your vehicle undergoes official inspections. Provide your Isuzu Dealer with these numbers when you are having the vehicle repaired or are ordering replacement parts. The Dealer will be able to do the requested jobs more competently and quickly.

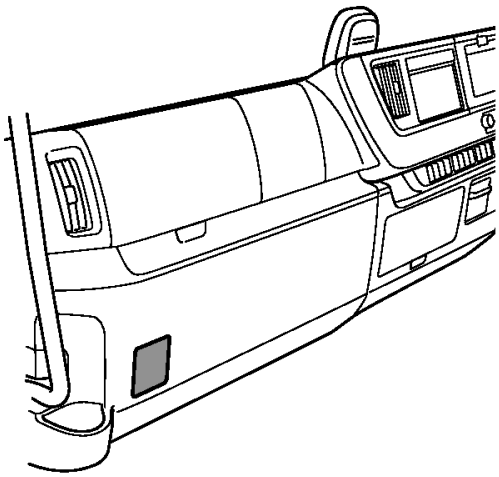
VIN

VIN location on frame



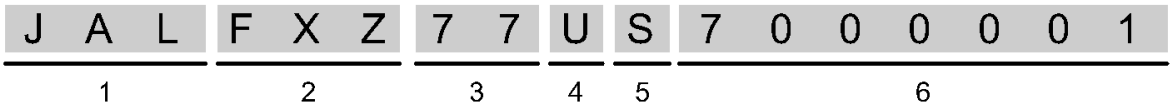
The VIN is stamped on the right-side front part of the frame.

ID plate



The ID plate at the lower part of the dashboard indicates the VIN together with other information such as the option code.

The ID plate indicates the VIN. This single number contains multiple pieces of information including the vehicle and engine model codes as shown below.



No.	Description
1	World Manufacturer Identifier (WMI)
2	Vehicle model code FXR: 4 × 2 truck FXM: 6 × 2 truck FXZ: 6 × 4 truck FYH: 8 × 4 truck
3	Engine code 77: 6UZ1 Engine
4	Wheelbase code
5	Model year code S: 2025 model T: 2026 model
6	Production sequential number

ADVICE

- Interpretation of the VIN may differ depending on the market. For further details, please ask your Isuzu Dealer.

Option Codes

The ID plate also indicates option codes. These codes are three-digit, alphanumeric codes, each assigned to a particular component of the vehicle.
You will be able to use these codes to identify the model or type of engine, transmission, rear axle or other components when your vehicle needs inspection and other services.

Option Codes	Engine
1E1	6UZ1-TCC

Option Codes	Transmission
Y4X	MJT7 model
Y5K	ZF9S1310 model
Y5V	ALLISON4430 model

Option Codes	Brake system
Z06	Full-air brake system

Option Codes	Rear axle and final drive
W6K	MT20-14X type axle 15-inch final drive
W6L	
W6Q	
W7F	
W5W	RT210 type axle 16.5-inch final drive
W3A	
W3P	
W3B	

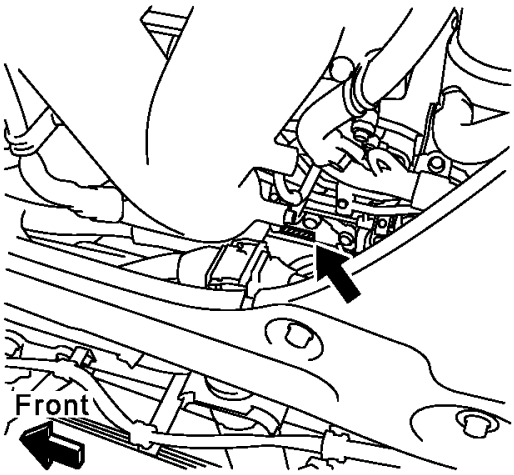
Option Codes	Rear axle and final drive
W5L	RT210 type axle 17.5-inch final drive
W4R	
W4C	
W4B	
W4A	
W3Z	
W3X	
W3Y	
W5Z	MS11-165 type axle 18-inch final drive
W6R	
W8C	

Option Codes	Other components
KG2	Generator 24V-60A
K44	Generator 24V-90A

ADVICE

- There are more option codes than those indicated above. Depending on the market, an option code may not be shown. For detailed specifications of your vehicle, please ask your Isuzu Dealer.

Engine Number

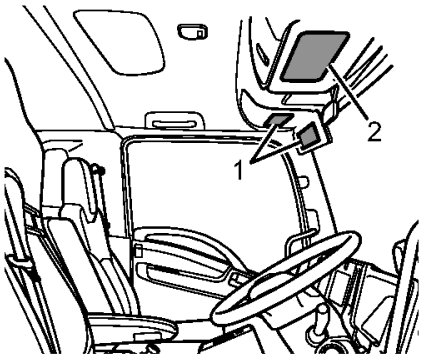


The engine number is stamped on the left side of the crank case on the back of the engine foot mounting.

Caution and Other Labels in Your Vehicle

- The warning/caution labels in your vehicle indicate very important instructions and information that you should respect to ensure safe and proper use of the vehicle. Be sure to read them before using the vehicle.
- If any of these labels are peeling or illegible due to wear or scratches, please contact your Isuzu Dealer for a replacement.
- Some examples of warning/caution labels are indicated on the following pages, but there are many others not shown. Also, the contents of these labels may vary from model to model.
- The warning/caution labels indicated may be located differently in your vehicle.

Caution and Other Labels – Cab Interior



No.	Description
1	Passenger's SRS airbag *1
2	DPD, HSA, driver's SRS airbag, passenger's SRS airbag, urea SCR system, Advanced driver assistance system, Automatic transmission

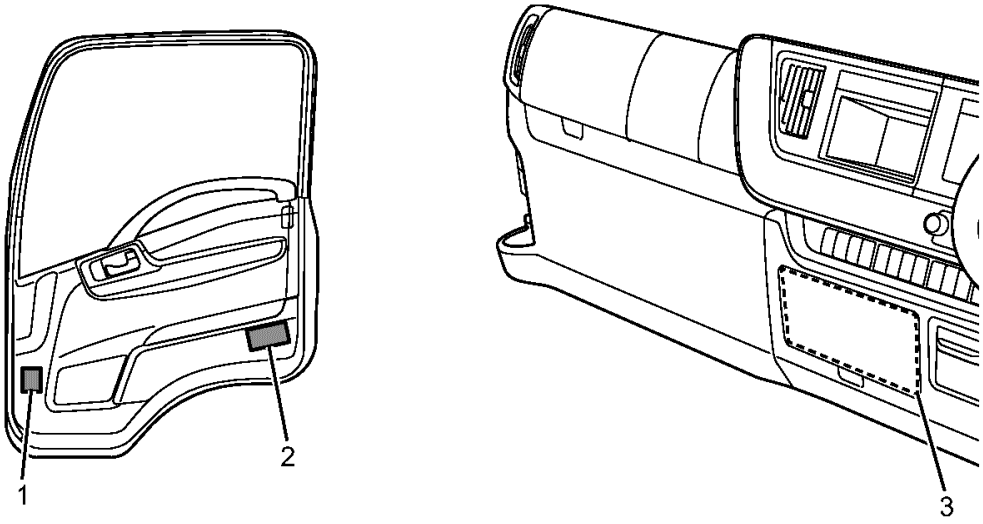


*1: If the vehicle has a passenger airbag, never fit a baby seat, child seat or junior seat facing rearward on a passenger seat. Failure to observe this precaution may result in serious injury to the child, or, in the worst case, death due to the impact during deployment of the passenger SRS airbag as a result of an accident, etc.

Refer to page

1-11 Precautions for Driving with Children

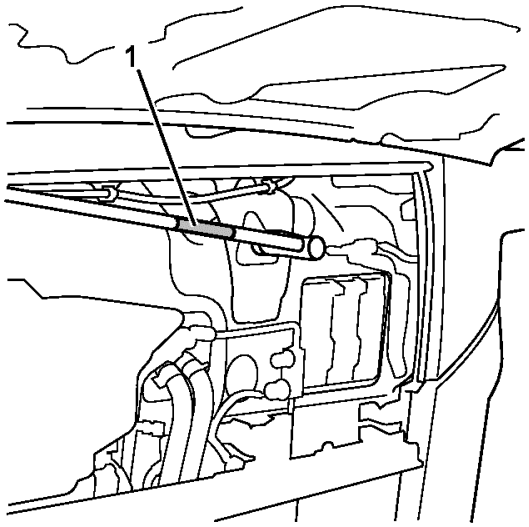
1-20 Using Seat Belts with Children



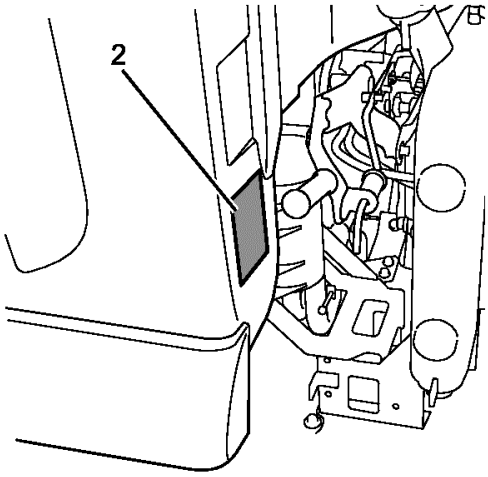
No.	Description
1	Driving [V]
2	Towing [V]
3	Fuse

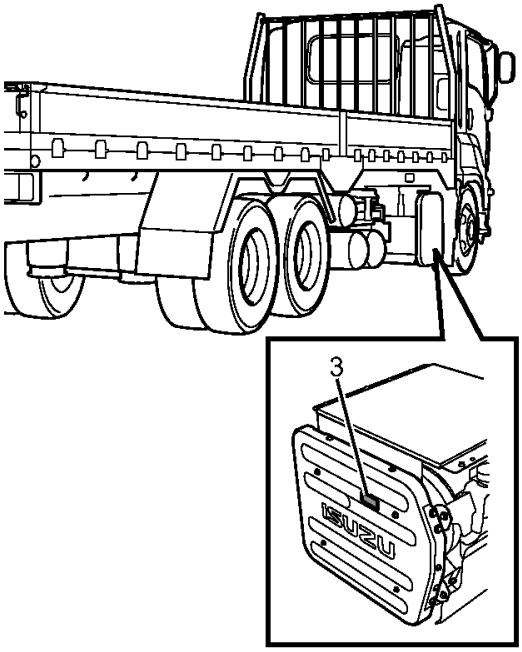
Warning/Caution Labels – Cab Exterior

Inside the front lid



Left rear side of the cab

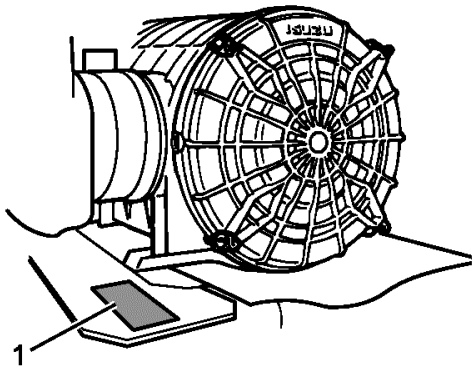




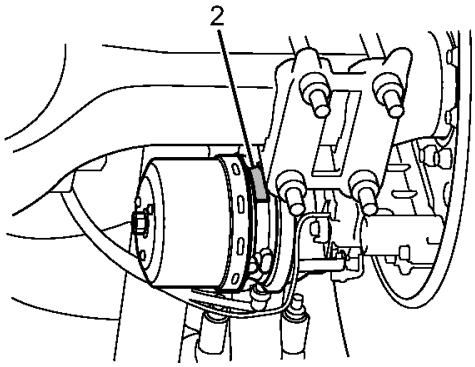
No.	Description
1	Windshield wiper
2	Electric cab tilt
3	Urea SCR system

Warning/Caution Labels – Chassis

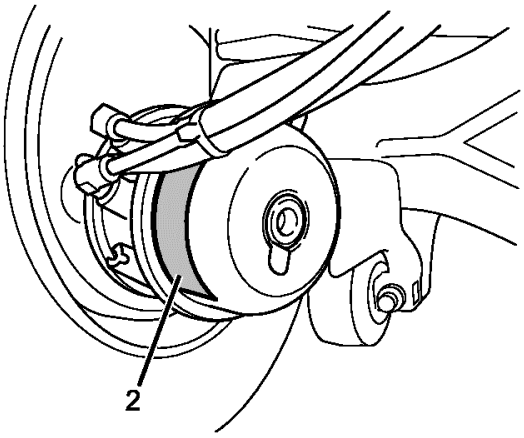
Air cleaner



Brake chamber (models for Australia)

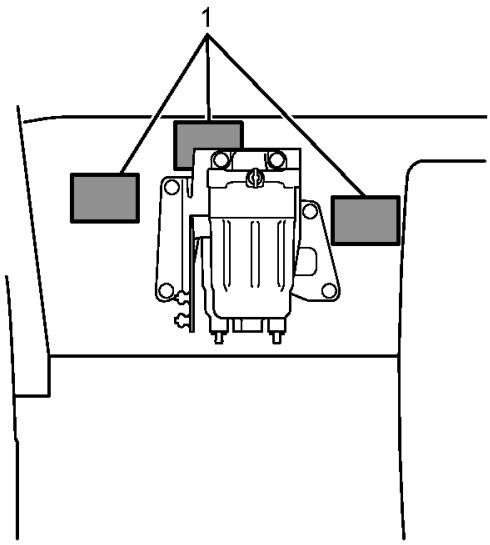


Brake chamber (except models for Australia)

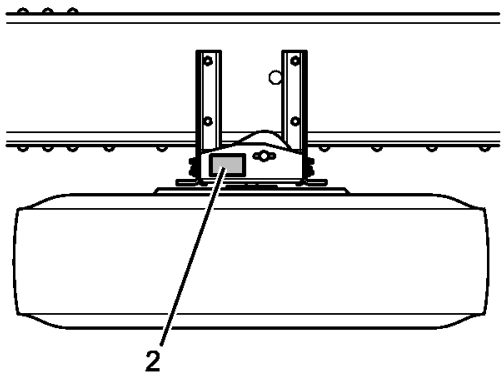


No.	Description
1	Air cleaner
2	Brake chamber

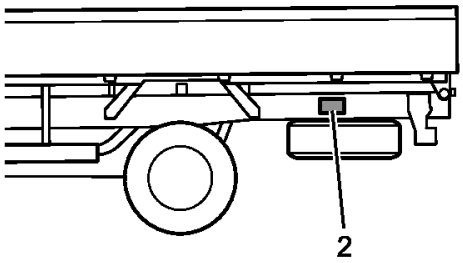
Vehicle-side pre-fuel filter



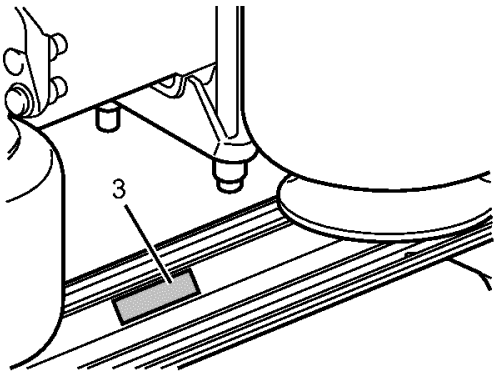
Spare tire carrier



Rear of the vehicle



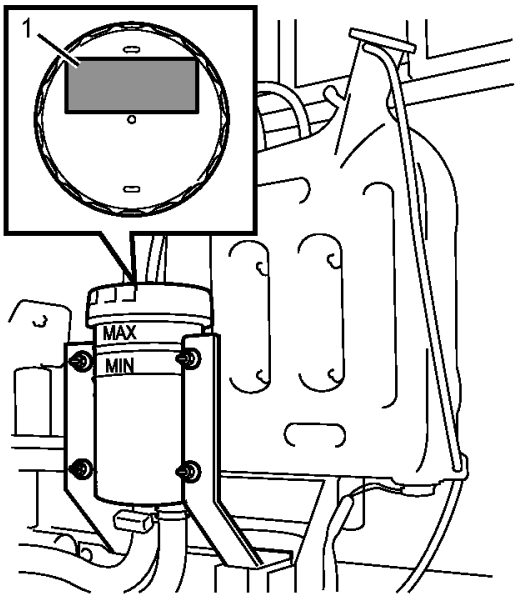
Rear suspension



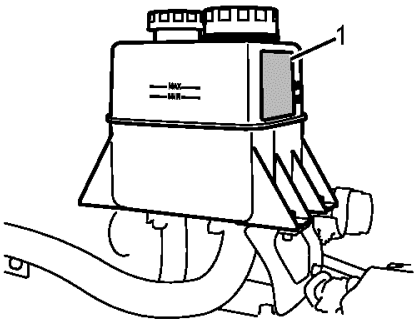
No.	Description
1	Pre-fuel filter
2	Spare wheel [V]
3	Air suspension [V]

Power steering fluid tank

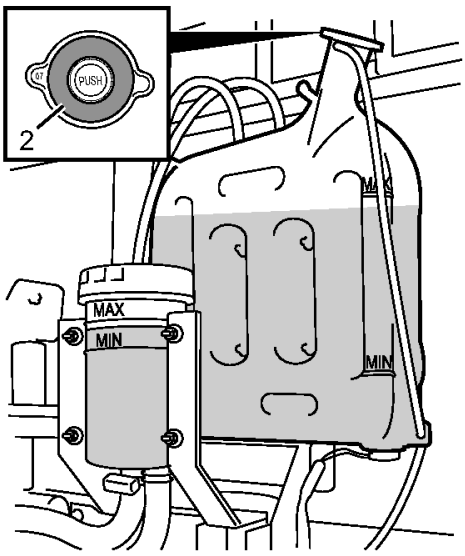
FXM/FXR/FXZ models



FYH model

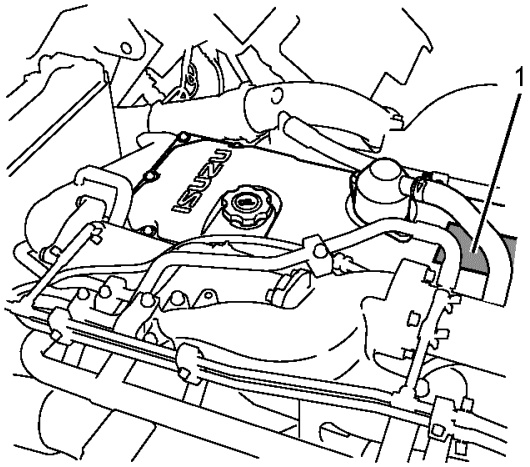


Radiator sub-tank



No.	Description
1	Power steering fluid tank
2	Radiator sub-tank cap

Warning/Caution Labels – Engine Compartment



No.	Description
1	Engine tuning table and engine model

Privacy Policy

Isuzu Motors Limited shall comply with the laws and other standards and regulations related to personal data. This Privacy Policy is meant to help you understand our privacy practices, including what personal data we collect, what personal data we use, how we share your personal data, and how we protect it, as well as your individual rights.

What Personal Data We Collect

We collect the following types of personal data from our dealers:

Vehicle data (e.g., Vehicle Identification Number (VIN), device and service usage, vehicle configuration details, vehicle technical data, vehicle location data, vehicle operation data);

How We Use Personal Data

Purposes	Legal basis
To provide maintenance, repair, and other services to the owner or operator of the vehicle.	Necessary for the realization of the legitimate interests of the vehicle owner, the vehicle operator, and Isuzu (the specific interest is to operate the vehicle safely and efficiently).
To take recalls and other procedures provided for by laws and regulations	Necessary for the fulfillment of its obligations to which Isuzu is subjected under EU or Member State law relating to the safety of vehicles.
For research and development to improve the quality of vehicles & services	Necessary for the realization of Isuzu's legitimate interests (improvement of the quality of vehicles manufactured and sold by Isuzu)

How We Share Your Personal Data

We share your personal data within our group for the purposes described above.

Cross Border Transfer of Your Personal Data

We may transfer your personal data through the channels to, and store such data in, other countries, which may have different data protection laws and regulations than the country in which the data was provided. Your personal data may also be processed by staff working for Isuzu group companies, distributors or third-party service providers, operating outside the country where the data was collected.

In case the personal data, whose data subjects are located in the European Economic Area ("EEA"), are transferred to non-EEA countries, we will ensure such countries have adequate level of data protection required under GDPR. (For example, the European Commission has adopted adequacy decision on Japan, where our headquarter is located and majority of personal data is stored/processed.)
For transfers from the EEA to countries not considered adequate by the European Commission, we will take appropriate safeguard measures including: applying standard contractual clauses adopted by the European Commission, obtaining consent from the data subject, or performing data transfer agreed on contracts.

Retention of Your Personal Data

We will retain your personal data for as long as required to meet business needs for which it was collected, or to meet any legal or contractual obligations. Our retention periods are determined considering: the purpose for which we process your personal data, the nature, sensitivity and amount of the data, the potential risk of unauthorized use or disclosure of the data, the applicable laws or regulations.

Your Rights as the Data Subject

Data protection laws or regulations in each country may grant the rights of data subjects. In particular, those who live in the EEA have the following rights under the GDPR:

- Right of access;
  You have the right to access your own personal data which we process and related information including: our purposes of the processing, categories, recipients, or the criteria used to determine retention periods, and the source of the data, if not directly obtained from you. You may also request a copy of your personal data in an electric form, or provision of information orally as long as your identity is proven by other means.
- Right to rectification;
  You have the right to rectify any inaccurate personal data concerning you or provide supplementary information to complete the incomplete personal data that we process.
- Right to erasure;
  When your personal data are no longer necessary in relation to the purposes for which it was collected, or you withdraw the consent on which processing is based and where there is no other legal basis, or in certain cases, you have the right for your personal data to be erased.
- Right to restriction of processing;
  When you want us to establish accuracy of your personal data, or in certain cases, you have the right to restrict/suspend our processing of the data.
- Right to data portability; and

Where we process your personal data based on your consent or the contract with you, you may ask us a copy of that information in a structured, commonly used and machine-readable form. You may also ask us to transmit your personal data directly to another data controller if technically possible.

- Right to object
  Where we process your personal data based on our legitimate interests, you have the right to object our processing of data including profiling or direct marketing that are conducted using those data. (We will include an unsubscribe button in any marketing emails so that you can easily raise unsubscribe request if you wish and we will promptly action that request.)
  If you wish to exercise any of your data privacy rights, please address our Enterprise Risk Management Department described in "Contact Us" section. We will complete your request within one month of the receipt unless there is any specific reason for delay.

Complain to a Supervisory Authorities

If you remain unsatisfied with our response to your request, you have the right to lodge a complaint with the data protection authority, in European countries you live, work or an infringement of the GDPR occurs.

Contact Us

We provide support in case you have any data privacy related questions or concerns, or wish to exercise any of your data privacy related rights. For such cases, please contact below:

<Data Protection Officer>
Nearest distributor
Please check the "Distributors Network" on the Isuzu Motors website.

Vehicle Data Collection

Your vehicle, like other modern motor vehicles, has a number of sophisticated computer systems that monitor and control several aspects of the vehicle's performance. Your vehicle uses on-board vehicle computers to monitor emission control components to optimize fuel economy, to monitor conditions for airbag deployment and, if so equipped, to provide anti-lock braking and to help the driver control the vehicle in difficult driving situations. Some information may be stored during regular operations to facilitate repair of detected malfunctions.
Isuzu may download and retrieve stored information for the purpose of diagnosing, servicing, or repairing your motor vehicle or improvement to future Isuzu motor vehicles.

Event Data Recorder (EDR) Function [V]

Models with the SRS airbag system and/or the AEBS have a unit that controls the SRS airbag system and/or the AEBS. This unit constantly checks whether the SRS airbag system and/or the AEBS are working normally or not and has an event data recorder (EDR) function. For the SRS airbag system, it records and stores data about vehicle operation in the event that the vehicle suffers an impact or comes close to suffering an impact. For the AEBS, it records and stores vehicle data at the time of activation.

EDR Records

SRS Airbag System

In the event that the vehicle suffers an impact or comes close to suffering an impact, the EDR records the following data:

- Whether or not the driver's seat belt was fastened
- Data related to the SRS airbag system operation
- SRS airbag system fault diagnosis data
- Operating status

NOTE

- The EDR differs from typical data recorders in that it does not record video or the sound of conversations.

AEBS

The EDR records the following information when the AEBS is activated.

- Sensing information in the forward direction
- Vehicle speed

- Operating status of the steering wheel, accelerator pedal, brake pedal, etc.
- Other vehicle conditions

NOTE

- The EDR differs from typical data recorders in that it does not record the sound of conversations.

Preventing Breakdowns

CAUTION

[Do not install electrical equipment on your own]

- **Inappropriate installation or removal of audio, radio or other electrical equipment can adversely affect other electrical equipment and cause a breakdown or fire. It can also cause unexpected, dangerous airbag deployment. Be sure to have electrical equipment installed or removed by your Isuzu Dealer.**

[Do not Modify the vehicle]

- **Attaching parts that are not suitable for the vehicle's performance and functions could lead to a breakdown or accident. For adjustments (for example, engine adjustments) and equipment installation, consult your Isuzu Dealer.**
- **If you wish to attach accessories to the vehicle, consult your Isuzu Dealer.**

ADVICE

[Do not climb onto the engine]

- Do not step on the engine or climb onto it. You could cause an engine failure by, for example, damaging the cylinder head cover or various connectors.

[Installation of radio equipment]

- Do not install any unauthorized radio set, or any radio set or antenna that does not comply with relevant standards. Noise from the radio set could cause electromagnetic interference with the vehicle's electronic equipment and other systems, resulting in a vehicle breakdown or in a malfunction of electronic equipment. Consult your Isuzu Dealer if you wish to install radio equipment.

[Electric welding]

- Careless electric welding of vehicle parts can cause welding current to flow back through the vehicle's ground circuit and damage electrical and electronic parts so that they do not function normally. Whenever electric welding is necessary, consult your Isuzu Dealer.

Statement of Compliance with UN R13 (ECE R13) [V]

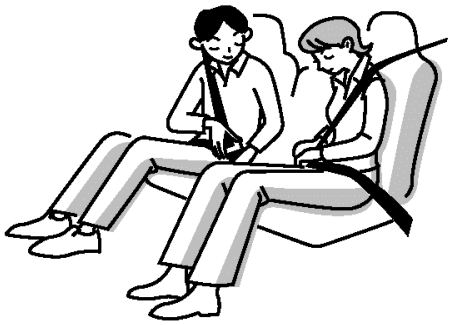
Information required by European brake regulation UN R13 (ECE R13) is disclosed onthe following website.
URL: http://www.isuzu.co.jp/world/index.html
Click "Isuzu Brake Wear Check Procedure (UN R13 (ECE R13) regulation)" then enter your vehicle identification number (VIN).

Passenger Safety 1

- Seat Belts 1-2
- Seat Belt with Pretensioner and SRS Airbag System [V] 1-9
- Carrying Children 1-19
- Carrying an Expecting Mother or a Person Who Is Ill 1-22

1-2 Passenger Safety

Seat Belts



The protection provided by seat belts might be significantly reduced if they are not fastened properly; in certain cases, improperly fastened seat belts can even play a role in causing injury to the wearer.
Seat belts must be worn not only by the driver but also by the passenger(s) before the vehicle starts moving. You should be fully acquainted with the proper use of seat belts and important points to be respected as described in the following pages.
Familiarizing yourself with the correct use of seat belts is essential for your safety.

⚠ WARNING

- **Seat belts must always be fastened before starting to drive.**
- **A seat belt functions correctly only when the person fastens it while sitting upright and fully back on the seat.**
  Also, wearing a seat belt with the seatback excessively reclined could be very dangerous while driving. Wear your seat belt correctly by sitting up straight and well back in the seat.
- **Insert the latch plate securely into the buckle until it clicks. If it is not correctly inserted, there is a risk that the seat belt may come unfastened and result in an injury.**
- **Do not run the seat belt over your face, chin or neck.**
- **Wear the seat belt as low as possible around the hips, not around the waist. If it is fastened over the abdomen, a collision or sudden stop could result in extreme pressure being applied to the abdomen and causing serious injury.**
- **Remove any twists in the seat belt before fastening it. A seat belt with twists will not provide full protection because it cannot disperse shocks efficiently in the event of a collision or sudden stop.**
- **An expectant mother or a person who has a (chest or abdomen) condition should also wear a seat belt. However, depending on how it is used, there is a possibility of injury due to extreme pressure on the chest or abdomen, so check with a physician regarding precautions.**
- **Do not use one seat belt for more than one person. If worn by more than one person, the seat belt would not work effectively in a collision or sudden stop.**

WARNING (Continued)

WARNING (Continued)

- **Have seat belts inspected and, if necessary, replaced by the nearest Isuzu Dealer when the webbing becomes frayed or worn and/or when the buckle or other mechanical parts fail to work properly.**
- **Seat belts that have been subject to extreme forces, such as while being worn when an accident occurs, should be inspected, even if they appear normal, and if necessary, replaced by an Isuzu Dealer.**
- **Handle the seat belts and buckles so they are not pinched and damaged in the seat or door.**
- **Be careful to keep the buckles and retractors free of dust and foreign matter.**
- **Drivers are obligated to wear a seat belt and to have their passengers wear seat belts. Emergency vehicles and other special vehicles are exempted from the obligation to wear seat belts, but we recommend that seat belts be worn as much as possible.**
- **Do not use a seat belt for a small child if the seat belt is touching the child's neck or chin, or if it does not fit snugly over the child's hips because doing so could be dangerous. Instead, use a commercially available infant car seat, child restraint system, or junior car seat.**
- **Do not install an infant car seat, child restraint system, or junior car seat on the center seat. Use a child restraint system that fits the size of the child. Install an infant car seat, child restraint system, or junior car seat securely according to the manufacturer's instructions.**

Refer to page
2-30 Seats
10-135 Seat Belt Care

Precautions for Driving with Children

It is recommended to use commercially available protective equipment (such as a child restraint system) when transporting a child in the vehicle.

Refer to page
1-19 Carrying Children

⚠ WARNING

- **Do not use a seat belt for a small child if the belt is on or very close to the child's neck or chin. Also, do not use a seat belt if it does not fit snugly over the child's hips because restraining the child under those conditions could be dangerous in the event of a collision or sudden stop. Instead, use an appropriate child restraint system available on the market.**
- **Use a child restraint system that fits the size of the infant or child. Install the system according to the manufacturer's instructions.**

1-4 Passenger Safety

Precautions for Wearing Seat Belts



	Seat belt fastening cautions	Why?
A	Position the lap belt as low on your hips as possible.	The pressure applied by the seat belt in a collision would be dangerous if the belt is positioned incorrectly.
B	Position the shoulder belt so it is on your shoulder (not touching your neck, chin or face).	
C	Make sure the seat belt is not twisted when you put it on.	To ensure that the seat belt is fully effective.

Seat Belt Warnings/Indicators

Seat Belt Warning Light



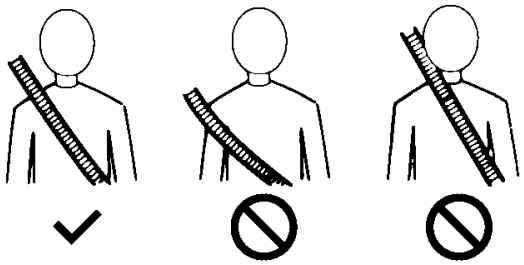
This warning light comes on when the driver or passenger is not wearing their seat belt while the starter switch is in the "ON" position. When the vehicle speed exceeds approximately 20 km/h (12 MPH), this warning light flashes. At this time, the warning buzzer sounds for approximately 90 seconds.

NOTE

- This warning light will go out and the buzzer will stop sounding as soon as the driver or passenger buckles the seat belt, or the seat to which the alert was issued becomes empty.

Three-Point Seat Belts

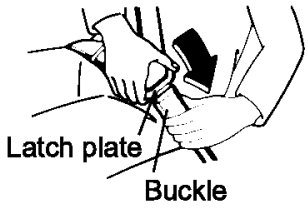
Every seat except the center seat on your vehicle is equipped with a three-point seat belt. The seat belt extends or retracts freely if the wearer moves slowly, but it locks and restrains the occupant during forward force caused by the occupant's body following a strong shock. Adjust the driver's shoulder belt for proper position by means of the shoulder anchor.

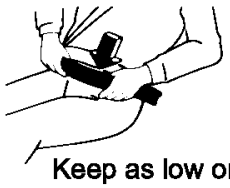


⚠ WARNING

- **The shoulder belt should be adequately positioned on your shoulder but should not touch your neck and/or face. The shoulder belt could harm you in a collision or sudden stop if it is in contact with your neck and/or face.**

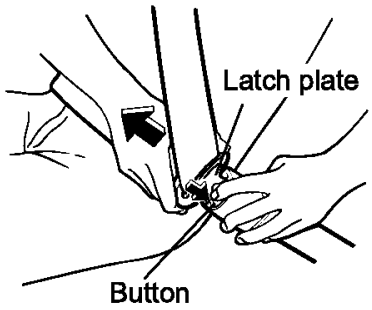
To Fasten





1. Sit on the seat in the correct driving position.
2. Pull out the seat belt holding the latch plate. After checking that there are no twists in the belt, insert the latch plate into the buckle until it clicks. And then, pull on the belt to confirm the latch plate is fastened.
3. To reduce the risk of sliding under the belt during a collision, position the belt across your lap as low on your hips as possible and adjust it to a snug fit by pulling the "shoulder" portion upward through the latch plate.
   The lap-shoulder belt is designed to lock during a sudden stop or impact. At other times it should move freely.

To Unfasten



Push the button on the buckle. As the belt automatically retracts, let it be taken up slowly by holding on to the latch plate until the belt is fully retracted.

CAUTION

- **If you repair any components around the steering wheel, instrument panel, center console and brake/clutch pedal or on the seat belts, or if you install an audio system or other equipment, the seat belt with pretensioner and SRS airbag system may be adversely affected, possibly causing the driver's seat belt (and the passenger's seat belt, if the vehicle is equipped with a passenger's airbag) to unintentionally retracts or the driver's airbag (and the passenger's airbag, if equipped) to suddenly deploys, resulting in injury. Be sure to have any repair or installation done by your Isuzu Dealer.**

ADVICE

- While being automatically retracted, the seat belt could damage a nearby window or interior trim unless the latch plate is properly held. Hold the latch plate to ensure that the belt is taken up slowly.
- Before closing the door, check that the retracted seat belt is taut. A slack belt could become trapped in the door or seat rail.
- When the passenger's seat belt is fully taken up (or not pulled out), check that the stopper is holding the belt in a fully taut state.
- If you cannot pull out the seat belt, let it go loose, and then slowly pull it out again. If you still cannot pull it out, give the seat belt one strong pull, let it go loose, and then slowly pull it out again.

NOTE

- The driver's seat belt and the passenger's seat belt (if the vehicle is equipped with a passenger's airbag) feature pretensioner and load limiter functions.
- The three-point seat belts are provided with an emergency locking retractor (ELR) function.

[ELR function]

- The ELR normally allows the seat belt to move in and out freely as the occupant moves. However, it locks the seat belt to restrain the occupant when a forward force resulting from a collision or sudden stop acts on the occupant.
- The ELR also locks the seat belt when the belt is pulled out quickly. If this happens, allow it to retract once and then pull it out slowly.

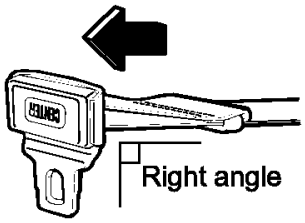
[Load limiter function]

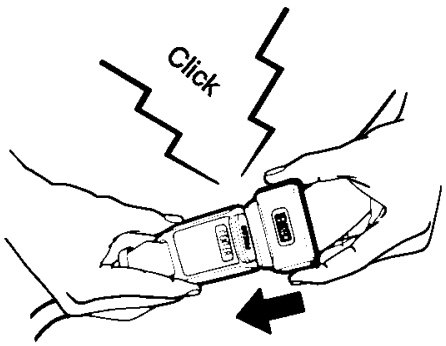
- The load limiter allows the seat belt to extend while maintaining the load working on the belt at a constant level. This helps alleviate the shock applied on the occupant's chest.

Refer to page
1-9 Seat Belt with Pretensioner and SRS Airbag System [V]

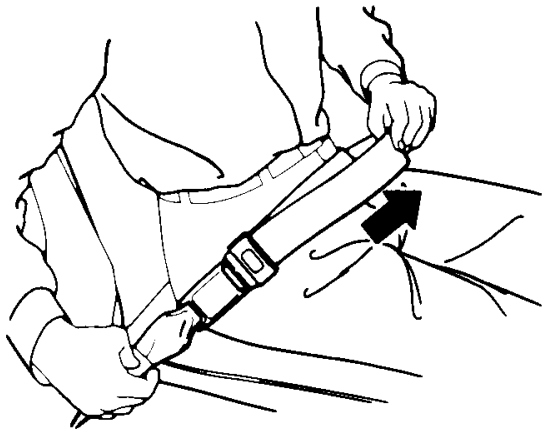
Two-Point Seat Belt (Center Seat)

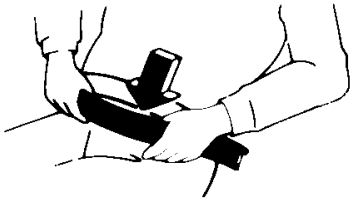
To Fasten





1. Sit on the seat in the correct position.
2. Pull out the latch plate side of the belt a little longer than necessary. (Placing the latch plate at right angles with the belt makes this easier.)
3. After checking that there are no twists in the belt, insert the latch plate into the buckle until it clicks.

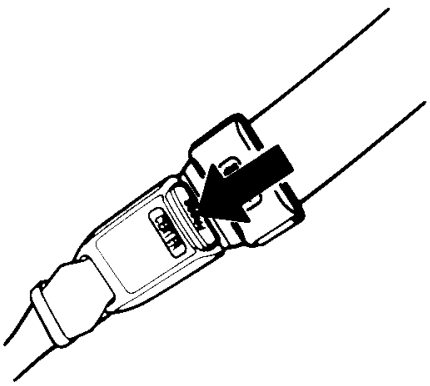


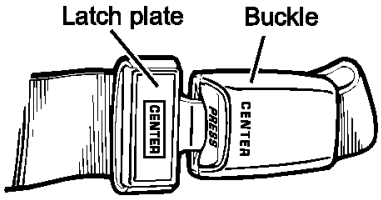


Keep as low on hip bone as possible

4. Position the seat belt across the lap as low as possible on the hips. Pull the fold-back end of the belt (upper side) until the belt is adjusted to a snug fit.

To Unfasten





Push the button on the buckle to unfasten the belt.

NOTE

[Center seat belt design to prevent incorrect fastening]

- The center seat belt (length-adjustable two-point belt) is designed so that it cannot be connected with any of the window-side seat belts (three-point seat belts with ELR).
  In addition, both the latch plate and buckle of the center seat belt are identified by "CENTER" marks to prevent incorrect fastening of the center seat belt.

Seat Belt with Pretensioner and SRS Airbag System [V]

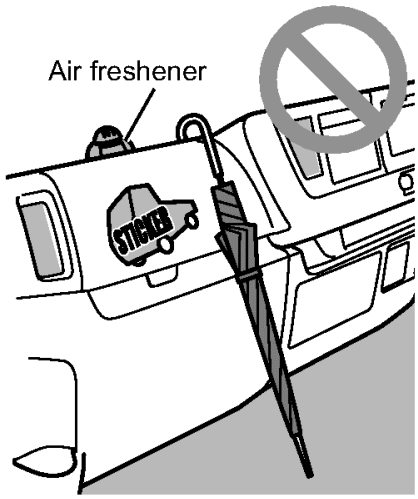


The seat belt with pretensioner and supplemental restraint system (SRS) airbag system is activated, in the event of a frontal collision when the impact energy exceeds a certain level, to help mitigate the shock to the passengers by firmly restraining the bodies of the driver and passengers (models with passenger seat SRS airbag) in their seats with the seat belt with pretensioner and airbag. Be sure to observe the following instructions to prevent you and your passengers from suffering a serious or fatal injury due to impacts from the seat belt with pretensioner and SRS airbag.

⚠ WARNING

- **Before driving the vehicle, properly adjust your seat for proper driving position and wear the seat belt correctly. Do not sit closer than necessary to the steering wheel and do not lean over it. If your vehicle is equipped with a passenger's airbag, do not allow the passenger to put his/her hands or feet on the instrument panel and to sit with his/her face or chest close to it. When the airbags are activated, you or the passenger may suffer a burn on or serious injury to the arm or face.**
- **Do not apply excessive force to the pad or the upper part of the instrument panel, such as by strongly hitting them. Doing so could impair the normal operation of the SRS airbag.**
- **Do not drive the vehicle with something placed between you and airbag or held on your lap. If the airbag inflates, the objects may be thrown and hit your face. Doing so also hinders normal activation of the airbag, which is dangerous.**
- **If you make unauthorized modifications to the vehicle or install an unauthorized accessory, the seat belt with pretensioner and airbag may not operate correctly.**
- **If the steering wheel is changed to a non-standard one or a sticker is attached to the steering wheel pad, the system could malfunction or the sticker could fly off. Also, do not attach stickers to the upper surface of the instrument panel, and do not place objects, such as accessories or air fresheners around it, and do not lean an umbrella on it. Do not install any accessories on the windshield. They may prevent normal operation or fly off if the system is activated.**





WARNING (Continued)

WARNING (Continued)

- **Doing any of the following may require special precautions. Do not do any of the following by yourself. Be sure to consult your Isuzu Dealer before doing any of the following. Failure to do so may cause the seat belt with pretensioner and airbag to be unduly activated, causing serious injury or death to the occupant. Doing any of them improperly will adversely affect the operation of the system, causing a malfunction or failure.**
  - **Repair or replacement of the steering wheel, instrument panel, center console, dashboard and parts around the brake pedal.**
  - **Repair, replacement or disposal of the seat belt with pretensioner and airbag, or scrapping of a vehicle that has seat belt with pretensioner and airbag.**
  - **When audio equipment and accessories are installed or modification such as body mounting is carried out.**
  - **Modifying the vehicle front (bumper/frame), mounting equipment (snowplow) or other parts, modifying the frame, or changing the vehicle height. In addition, illegally modifying the vehicle or installing parts.**
  - **Repainting of vehicle front and cab panels.**
- **Do not touch the components of the SRS airbag immediately after the SRS airbag is inflated. The components become very hot and can cause serious injuries, such as burns.**

⚠ CAUTION

- **Have your vehicle inspected at the nearest Isuzu Dealer promptly if you encounter any of the following conditions.**
  - **The SRS airbag warning light does not go out or frequently flashes.**
  - **The seat belt with pretensioner and airbag are activated by an impact. (The SRS airbag warning light comes on.)**
  - **Your vehicle has received a significant level of frontal impact even when the impact has not activated the seat belt with pretensioner and airbag.**
  - **The seat belt is frayed or worn out.**
  - **The steering pad surface is cracked or otherwise damaged, or it receives a significant level of impact.**
  - **The instrument panel surface is cracked or otherwise damaged, or it receives a significant level of impact.**

Refer to page
1-2 Seat Belts
2-30 Seats

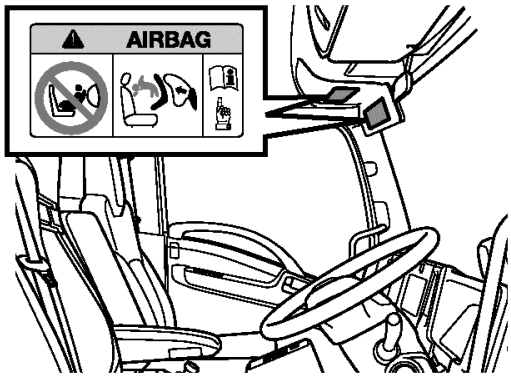
Precautions for Driving with Children

Be sure to observe the following precautions when carrying a child in the vehicle. Otherwise the child may be fatally injured by the impact from an inflating airbag.

It is also recommended to use commercially available protective equipment (such as a child restraint system) when transporting a child in the vehicle.

⚠ WARNING

- **Do not drive with a child standing in front of the passenger's airbag or held on your lap. Doing so is dangerous because the child would receive a very strong impact by an inflating airbag.**
- **If the vehicle has a passenger airbag, never fit a baby seat, child seat or junior seat facing rearward on a passenger seat. Failure to observe this precaution may result in serious injury to the child, or, in the worst case, death due to the impact during deployment of the passenger SRS airbag as a result of an accident, etc.**
  This information is also on a warning label on the passenger side sun visor.



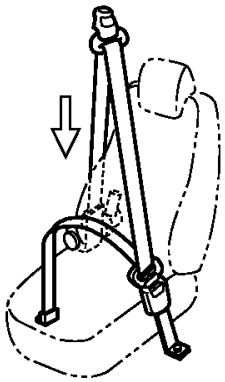
SRS Airbag System Warnings/Indicators

SRS Airbag Warning Light [V]



If the SRS airbag warning light comes on, driver's seat belt with pretensioner and airbag (and passenger's seat belt with pretensioner and airbag, if equipped) may not function properly in the event of a collision.

Seat Belt with Pretensioner



When the vehicle receives an impact exceeding a certain level during a frontal collision, the pretensioner causes the seat belt to be retracted instantly and removes the slack in the seat belt to securely restrain the occupant in the seat, thus enhancing the seat belt's restraining effect.

Refer to page
1-2 Seat Belts

⚠ WARNING

- **The seat belt with pretensioner helps reduce the risk of a serious injury to the occupant should the vehicle receive a frontal impact exceeding a certain level. The maximum effect is achieved only if the seat belt is correctly worn.**
- **When the pretensioner is activated, it takes up the slack in the seat belt instantly. At this time, you may suffer a slight bruise or slight burn due to abrasion or rubbing.**

⚠ CAUTION

- **Do not remove or disassemble the seat belt. Accidental activation of the system may cause parts to fly off, causing an injury to you; or causing malfunction.**

ADVICE

- Once activated during a collision, the seat belt with pretensioner cannot be reused. The seat belt must be replaced immediately at the nearest Isuzu Dealer.

NOTE

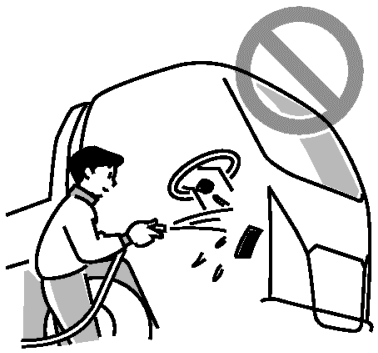
- Even if the pretensioner function fails, the seat belt still operate as a regular seat belt (with ELR).
- The pretensioner generates a sound at the moment it retracts the seat belt.
- When the seat belt with pretensioner and airbag system is activated by an impact, the warning light comes on.

Supplemental Restraint System (SRS) Airbag

The SRS airbag, when it inflates, helps to disperse and reduce the impact on the occupant's body, as a supplement to the seat belt with pretensioner.
This occurs when there is an with an impact exceeding a certain level.

⚠ WARNING

- **The airbag supplements the occupant protection effect of the seat belt by being activated together with the seat belt with pretensioner to reduce severity of injury to the occupant should the vehicle receive a frontal impact exceeding a certain level. The maximum effect is achieved only if the seat belt is correctly worn.**
- **The airbag does not replace the seat belt. Be sure to wear the seat belt.**
- **The airbag is instantly inflated with considerable force to reduce serious injury. If the airbag inflates, you may suffer a slight bruise or burn due to heat generated by rubbing.**
- **Immediately after the airbag is inflated, the metal portion that inflates the airbag gets hot. Do not touch it. Doing so may cause a serious injury such as a burn.**
- **Do not remove or disassemble the airbag. Doing so may cause a malfunction or inadvertent activation.**
- **Do not place anything near the airbag. You may suffer an injury when an object is thrown by the inflation force of the airbag.**
- **Do not take a rest using the steering wheel as a pillow or with your arms or legs resting on it. If the vehicle is stopped with the starter switch in the "ON" position and an impact greater than the airbag activation level occurs to the front of the vehicle, the airbag will injure you.**
- **Do not wet the airbag sensor with water or subject it to an impact. The system may malfunction; this is very dangerous.**



ADVICE

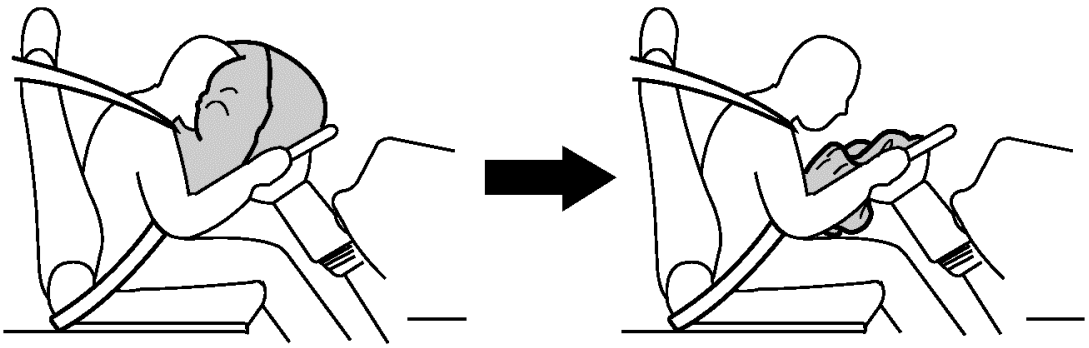
- When the airbag is inflated, a sound and white smoke are produced but this is not the result of a fire. This white smoke is not detrimental your health. However, if residue (gas and so on) adheres to your eyes and skin, rinse them with water as soon as possible. Although it is rare, a person with delicate skin may suffer from irritation.
- The airbag cannot be reused once it is inflated. Immediately replace it at the nearest Isuzu Dealer.

NOTE

- The airbag is quickly deflated after deployment and does not hinder visibility.
- When the seat belt with pretensioner and airbag are activated by an impact, the SRS airbag warning light comes on.

Deployment of SRS Airbag

When the vehicle collides head-on with an impact of a certain level or higher, the airbag system is activated and airbag instantly inflates. It is deflates quickly and does not hinder visibility.



When and How the Seat Belt with Pretensioner and SRS Airbag System Operates

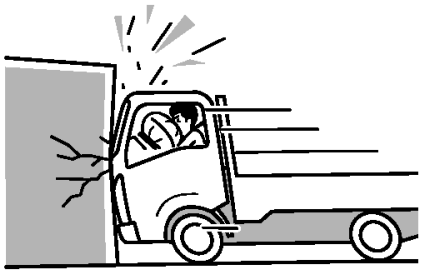
The seat belt with pretensioner and airbag system are activated when the vehicle receives an impact exceeding a certain level in the event of a frontal collision. Because the vehicle body absorbs part of impact energy, the system may not be activated due to reduction in the force of the impact or the intensity or direction of the impact received. However, even if the front of the vehicle is largely deformed by the collision, in some cases the impact on the seat is not severe. In such cases, the system may determine that the SRS airbag is not needed and not activate it.

When are the Seat Belt with Pretensioner and SRS Airbag System Activated?

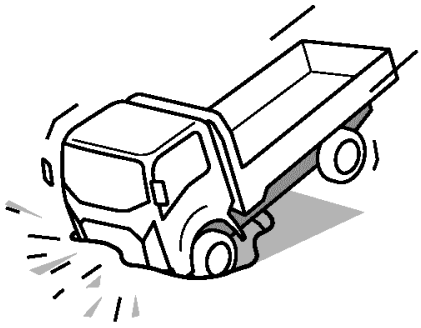
When the vehicle collides head-on against a parked/stopped vehicle or a moving vehicle with an impact of a certain level or higher



When the vehicle collides head-on against a solid wall with an impact of a certain level or higher



When are the Seat Belt with Pretensioner and SRS Airbag System Activated Other than in a Collision?



- When the vehicle falls into a pothole or groove in the road
- When the vehicle strongly collides against an obstacle such as a protruding object on the road
- When the vehicle collides against a curb at high speed
- When the vehicle becomes airborne and hits the ground, receiving a strong impact on the bottom of the vehicle

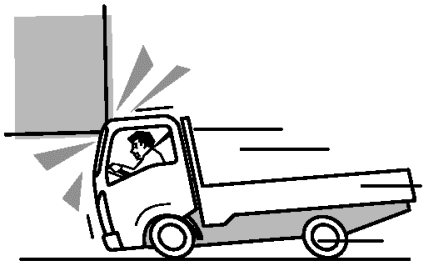
When are the Seat Belt with Pretensioner and SRS Airbag System Not Likely to Be Activated?

In the following cases, the seat belt with pretensioner and SRS airbag system are less likely to be activated even if they are working properly.

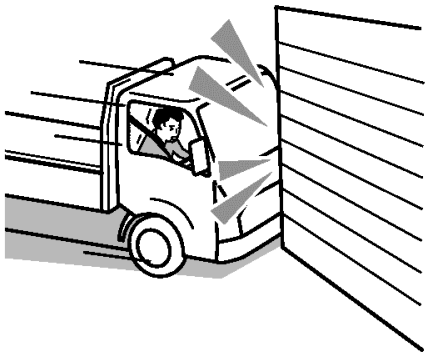
When the vehicle collides against a utility pole or standing tree



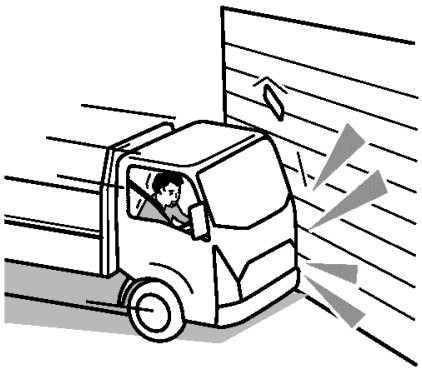
When the vehicle gets under an obstacle or vehicle



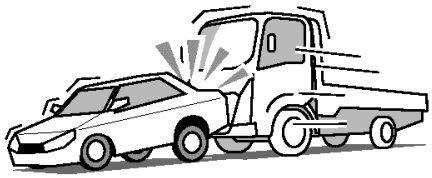
When the vehicle has an offset collision (one-sided collision)



When the vehicle has a frontal angle collision



When the vehicle collides with a passenger vehicle



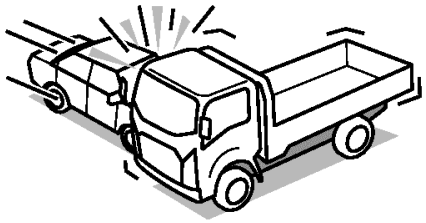
When are the Seat Belt with Pretensioner and SRS Airbag System Not Activated?

In the following cases, the seat belt with pretensioner and airbag system are not activated even if they are working properly.

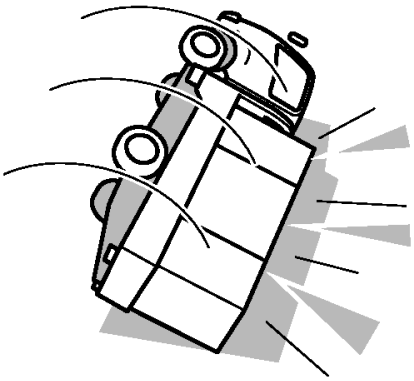
When the vehicle is hit from the rear



When the vehicle is hit from the side

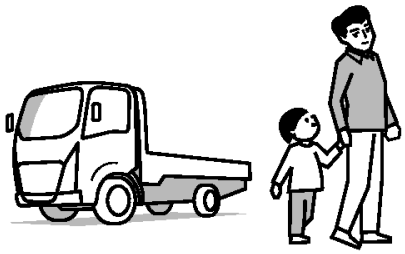


When the vehicle rolls onto its side or upside down



Carrying Children

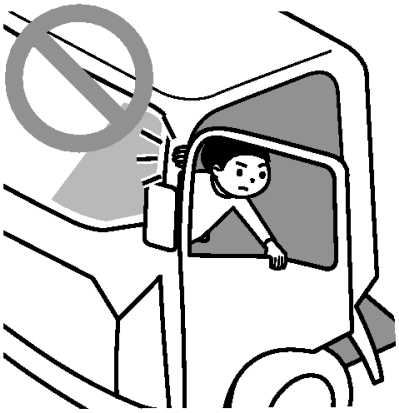
Never Leave a Child Alone in the Vehicle



⚠ WARNING

- **When you leave the vehicle, take the child with you. If you leave the child alone in the cab, the child could interfere with things, causing vehicle movement, a fire or some other accident. Also, the cab inside could become dangerously hot when heated by the sun.**

An Adult must Open, Close and Lock the Door for a Child



⚠ WARNING

- **To protect the child from the danger of getting his/her hands and head trapped, an adult must open, close and lock the door for the child. Be careful that the child does not interfere with the power window switches and get his/her hands or head trapped in the window. While a child is in the cab, be sure to control the power windows using the power window switches beside the driver's seat.**

Refer to page
2-25 Doors
2-50 Power Windows

Do not Allow a Child to Put His/Her Head or Hands Out of the Window



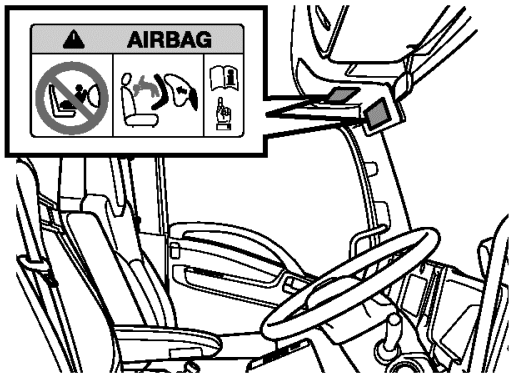
⚠ WARNING

- **Regardless of whether the vehicle is moving or stationary, you must never allow a child to put his/her head, hands, or other body parts out of the window. Allowing such behavior would be dangerous because the child could hit an obstacle.**

Using Seat Belts with Children

⚠ WARNING

- **The vehicle's seat belts are designed for adults. If a seat belt touches a child's neck or chin, or does not rest across his/her hips, use a baby seat, child seat or junior seat. If the seat belt were used as it is, it could apply intense pressure to the child's abdomen in the event of a collision. A small child who is not able to sit up by him/herself must be placed in a child seat.**
- **Do not fit a baby seat, child seat or junior seat on the center seat. It could hinder your driving.**
- **If the vehicle has a passenger airbag, do not fit a baby seat, child seat or junior seat facing rearward. If the baby seat, child seat or junior seat is facing rearward, the impact on the child seat during deployment of the passenger airbag could inflict life-threatening injuries on the child.**



NOTE

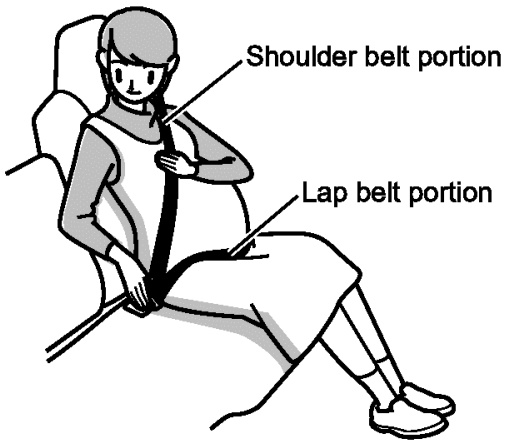
- The appropriate type of baby seat, child seat or junior seat and the proper installation for it depend upon the weight and height of the child.
  It may not be possible to correctly fit certain child seats depending on their shapes. Be sure to use a child seat that is suitable for the vehicle.
  - For detailed instructions, see the instruction manual supplied with the baby seat, child seat or junior seat.

Refer to page
1-2 Seat Belts

In Case the SRS Airbag is Inflated

Refer to page
1-11 Precautions for Driving with Children

Carrying an Expecting Mother or a Person Who Is Ill



⚠ WARNING

- **An expectant mother or a person who is ill riding in the vehicle must also wear a seat belt. In light of the risk that the seat belt will apply pressure to the abdomen, chest and shoulders in the event of a collision, however, an expectant mother or person who is ill should get advice from a physician beforehand.**
  - **An expectant mother should use a three-point seat belt.**
  - **An expectant mother should position the lap belt snugly as low as possible on the hips (not across the abdomen). Also, she should fasten the shoulder belt so it rests on her chest, not on her abdomen.**
  - **Unless the seat belt is correctly worn, it may dig into the abdomen in the event of hard braking or a collision, harming not only the expectant mother but also the unborn child, putting them both in danger of serious injuries or death.**

Refer to page
1-2 Seat Belts

Doors, Seats and Fuel 2

- Key 2-2
- Keyless Entry System [V] 2-11
- Passive Entry and Start System [V] 2-13
- Doors 2-25
- Grips and Steps 2-29
- Seats 2-30
- Fully Adjustable Steering 2-44
- Mirrors 2-45
- Windows 2-50
- Fuel Tank Filler Cap 2-54
- Cargo Bed [V] 2-59

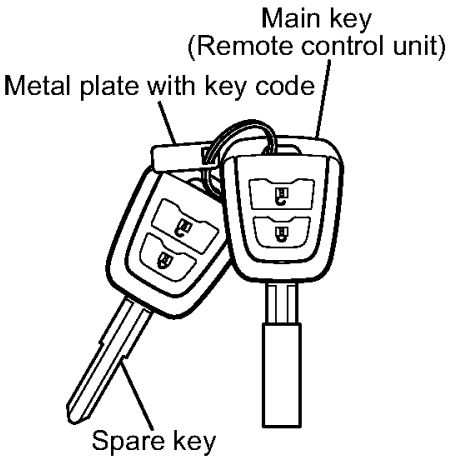
2-2 Doors, Seats and Fuel

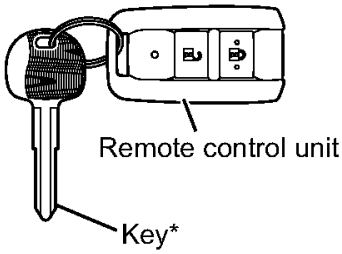
Key

Types of Keys

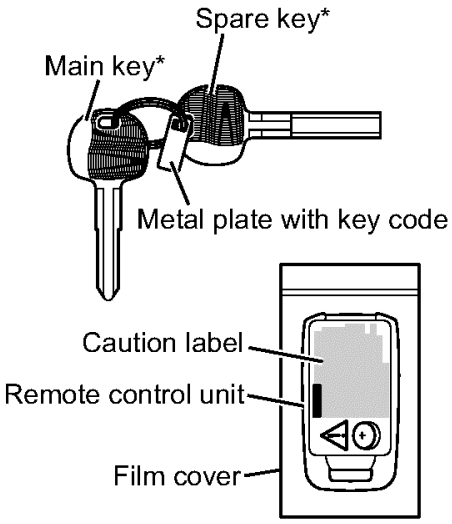
Both sides of the key are identical, so you can insert the key in the starter switch without worrying about which way you insert it. The key code is indicated on a separate metal plate in order to prevent it from being acquired by an unauthorized person.

Keyless entry key





Passive entry and start system key



NOTE

- All keys except those marked with asterisk are equipped with an immobilizer function.

[Model with passive entry and start system]

- Please carry the key and remote control unit together in case the remote control unit's battery is dead or there is a malfunction.

Precautions for Keys

⚠ WARNING

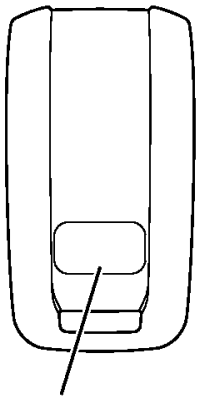
[Model with passive entry and start system]

- **If you bring the remote control unit on board an aircraft, do not press the remote control unit buttons on board the aircraft. In addition, when storing the unit in a bag or the like, keep it in a way that the buttons cannot be easily pressed.**
- **If the buttons are pressed, radio waves will be transmitted and may interfere with aircraft operation.**

⚠ CAUTION

[Model with keyless entry system/model with passive entry and start system]

- **The remote control unit conforms to the certification of Radio Law. Be sure to observe the following:**
  - **Do not disassemble the remote control unit, except when replacing the battery. Using a disassembled or modified unit is prohibited by law.**
  - **Do not remove the certification label. Using a remote control unit without the certification label is prohibited.**



[Model with passive entry and start system]

- **When the vehicle is not in use, keep the remote control unit at least 2 m (7 ft) away from the vehicle to prevent theft.**

ADVICE

- Should you lose the remote control unit, please contact your Isuzu Dealer.
- Do not disassemble the key with the immobilizer function, except when replacing the battery in the remote control unit.
- Do not leave the transponder key on the dashboard or any other surface where the key might be exposed to high temperatures (exceeding 60°C /140°F).
- Do not place a magnetic object close to the transponder key.

[Model with keyless entry system/model with passive entry and start system]

- Avoid getting water on the remote control unit, dropping it, hitting it against another object, or stepping on it; otherwise, the remote control unit could malfunction.
- Do not leave the remote control unit on the dashboard or any other surface where the unit might be exposed to high temperatures (exceeding 60°C/140°F). Doing so may result in shorter battery life or malfunction of the remote control unit.

[Model with passive entry and start system]

- Keep the remote control unit away from electric appliances, such as televisions or computers. Failure to do so may cause the battery to run down significantly.

Where Is the Key Used?

Where	For what
Starter switch	Starting and stopping the engine
Front doors	Locking and unlocking the doors
Fuel tank filler cap	Locking and unlocking the filler cap

ADVICE

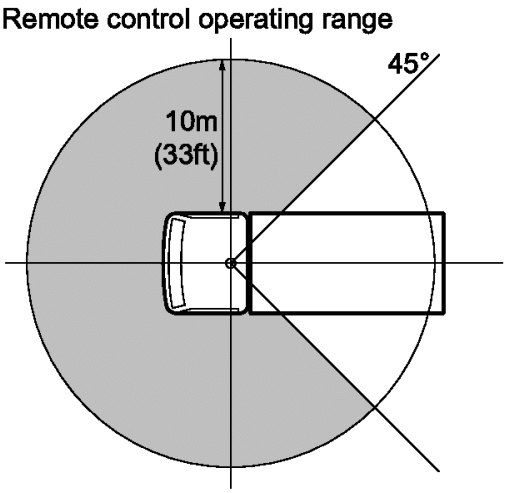
- Wipe off the key to remove any dirt or dust, etc. before using it.

NOTE

- To prevent theft, store the metal plate with key code in a safe place other than the vehicle.
- Should you lose the key, please give the key code to the nearest Isuzu Dealer. The Isuzu Dealer will be able to duplicate your key.
- If you resell the vehicle, be sure to hand over the plate with key code to the new owner together with the vehicle.

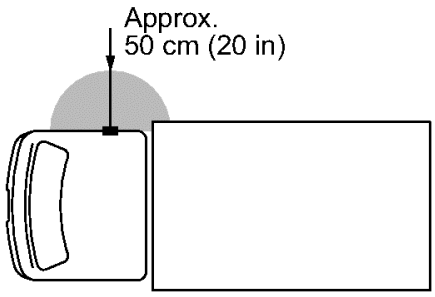
Operating Range of Remote Control Unit

Locking and Unlocking Doors with Remote Control Unit



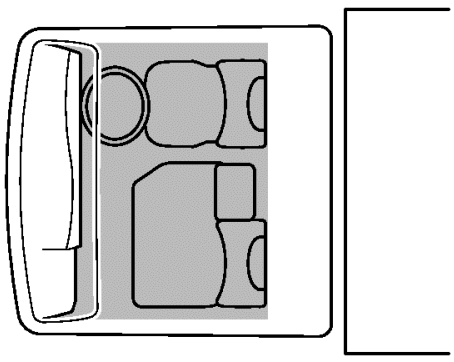
The remote control unit works within a 10 m (33 ft) radius of the cab center as indicated in the figure (the actual distance over which the unit operates may vary depending on conditions).
The rear door of the crew cab vehicle cannot be locked or unlocked via a remote control.

Locking and Unlocking Doors Using the Request Switch



This can be operated when the remote control unit is within approximately 50 cm (20 in) of the driver side door handle.

Starting the Engine



The engine can be started when the remote control unit is within the operating range.

NOTE

- The operating range is the vehicle interior, excluding the instrument panel, floor, area behind the seats (driver side and passenger side, including the bed for full cab vehicles), and in various small article storage pockets, such as door pockets. There are some locations where it is difficult for the unit to operate depending on the surrounding environment. In this case, move the remote control unit to start the engine.
- When the remote control unit is within the operating range, the indicator light of the remote control unit flashes.

Replacing the Battery in Remote Control Unit

The battery has reached its end of life when the remote control unit works intermittently or does not work at all. If the battery level warning light of the remote control unit illuminates or if the indicator light of the remote control unit does not come on, the battery level may also be low. Replace the battery as soon as this happens.

Refer to page
2-18 Remote Control Unit Low Battery Warning Light

WARNING

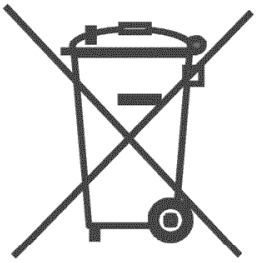
- **Do not ingest the battery. Doing so may cause physical impairment due to the chemical reaction.**
  This product (the remote control unit that comes with this product) has a lithium coin/button cell battery inside. If a lithium coin/button cell battery is ingested, it may cause severe internal damage within 2 hours and may result in death. If the battery is ingested or is suspected of being ingested, seek immediate medical attention.
- **Keep the new or used batteries out of reach of children.**
  If the battery compartment does not close securely, stop using the product and keep it out of reach of children.

CAUTION

- **Do not place the battery in direct sunlight, or near a fire or other sources of heat.**
- **When changing the battery, use only a battery of the same type as the original battery, or an equivalent. Otherwise, there is a risk of explosion.**
- **Be sure to install the battery with the "+" and "-" sides correctly oriented. Incorrect installation will result in leakage of chemicals from inside the battery or other operational problems.**

NOTE

- The warning mark (an exclamation mark in an equilateral triangle) indicated on the surface of or inside the remote control unit is intended to alert the user to the presence of important instructions in the owner's manual or workshop manual.
- Please comply with the collection system available in your country for the disposal of old batteries. In addition, take special care to prevent any danger to children.
  This symbol [crossed-out wheeled bin] provided in Regulation (EU) 2023/1542 of the European Parliament and of the Council indicates separate collection of waste batteries in the European Union countries.

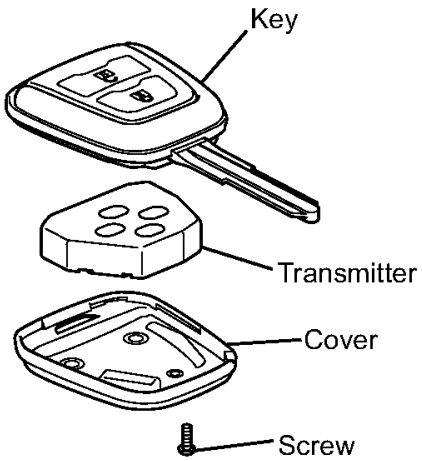


Replacing the Battery of the Keyless Entry Key

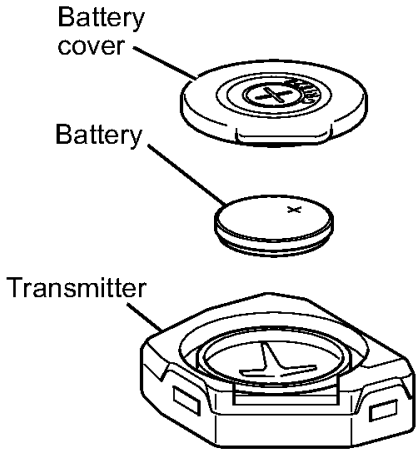
Battery used	Number of battery
Lithium battery Model number: CR1620 Voltage: DC3V	1

NOTE

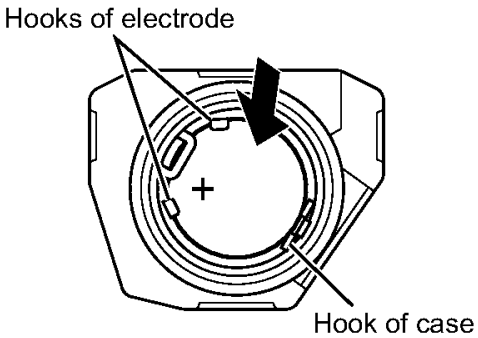
- For the manufacturer, model name, country of origin, and lot number of the battery, refer to the battery itself.
- The battery life varies depending on how the key is used.



1. Loosen the screw with a precision screwdriver and open the cover.
2. Remove the transmitter.



3. Open the battery cover and remove the battery.



4. Install the new battery. With its positive side up, place it with the edge under the hooks of the electrode (2 locations). Press the battery downward until it is fully seated in the housing so that the other edge fastens under the hook of the case.
5. Close the battery cover.

ADVICE

- When closing the transmitter cover, check that there is no dust, hair, or anything else caught underneath it. A poorly sealed remote control unit could become deteriorated.

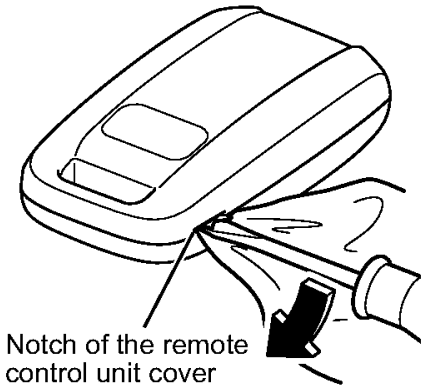
6. Fit the transmitter into the key and attach the cover with the screw.

Replacing the Battery of the Passive Entry and Start System Key

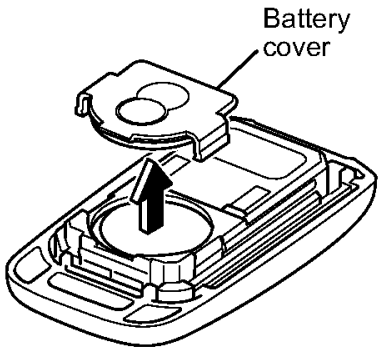
Battery used	Number of battery
Lithium battery Model number: CR2032 Voltage: DC3V	1

NOTE

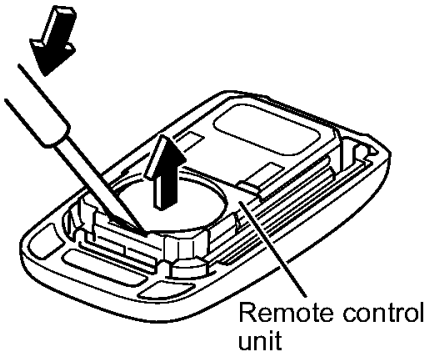
- For the manufacturer, model name, country of origin, and lot number of the battery, refer to the battery itself.
- The service life of the battery is approximately 2 years, depending on how it is used.



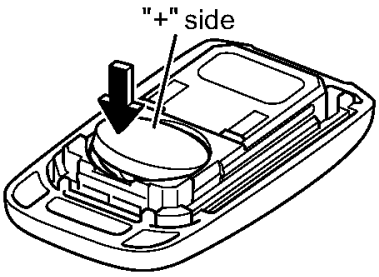
1. Pry open the remote control unit cover by inserting a flat head screwdriver or similar tool into the notch of the remote control unit cover. Wrap a piece of cloth or tape around the tip of the screwdriver so as not to damage the remote control unit cover.



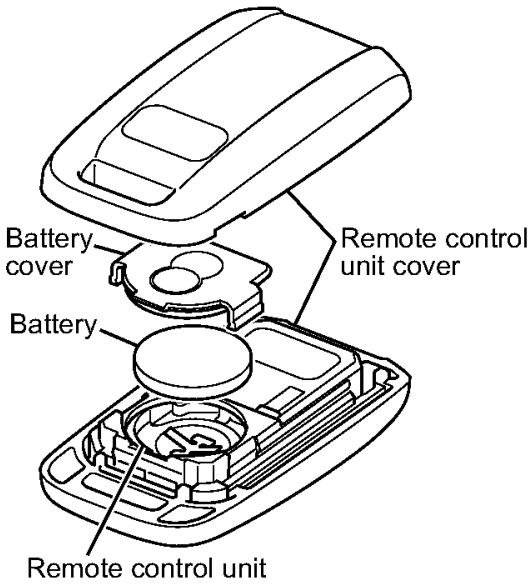
2. Remove the battery cover.



3. Insert a flat head screwdriver or similar tool into the recess of the remote control unit to remove the old battery.



4. Insert the new battery into the remote control unit with its positive side visible, as shown in the diagram on the left, and press battery downward until fully seated.



5. Install the remote control unit, battery, and battery cover in their original positions inside the remote control unit cover.
6. Close the remote control unit cover.

ADVICE

- When closing the remote control unit cover, check that there is no dust, hair, or anything else caught underneath it. A poorly sealed remote control unit could become deteriorated.

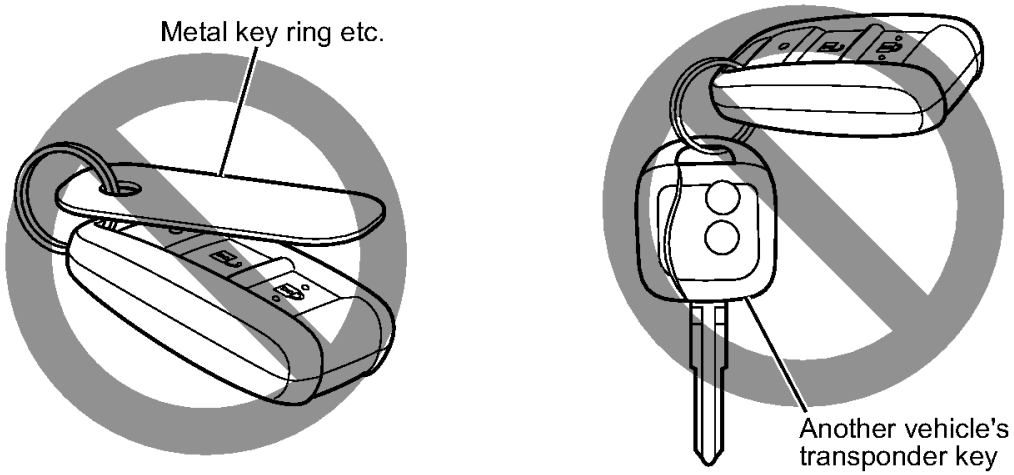
Key with Immobilizer Transponder Chip [V]

The key contains an immobilizer transponder chip.
The immobilizer anti-theft system allows the engine to be started only when it receives signals from the transponder of the pre-registered key.

When the Engine Cannot be Started

Even when using the pre-registered key, you might not be able to start the engine in the cases listed below. If the engine fails to start due to a metal key ring, remove the key ring and then try again; first turn the starter switch to the "LOCK" position, then turn to the "START" position to start the engine.

- There is a facility nearby that is emitting strong radio waves.
- A metallic object is touching or covering the handle of the key.
- Another vehicle's transponder key is near your key.



⚠ WARNING

- **Do not keep the starter switch in the "START" position for more than about 10 seconds. Operating the starter for too long might cause battery failure or might result in overheating and even a fire.**

Open Source Software (OSS)

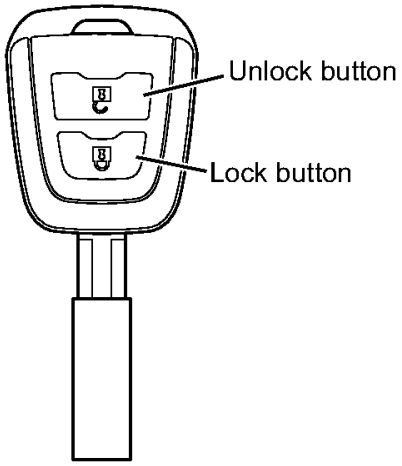
The immobilizer anti-theft system and keyless entry system are equipped with software that uses Open Source Software (OSS). For software license information, refer to the following website:
http://car.panasonic.jp/oss/n08yme4c

Keyless Entry System [V]

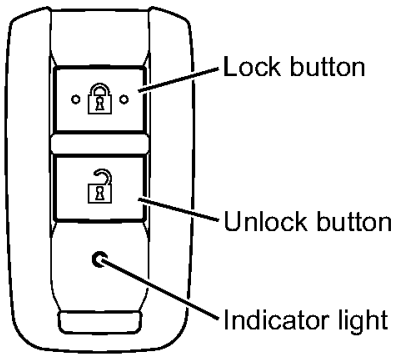
The keyless entry system allows you to lock/unlock the doors by simply pressing the remote control button rather than inserting the key into the lock.

Locking and Unlocking the Doors

Remote control unit (keyless entry key)



Remote control unit (passive entry and start system key)



Unlocking the Doors

Press the door unlock button of the remote control unit for 1 second or longer. The vehicle's keyless entry system causes the right and left turn signal lights to simultaneously flash twice upon receiving the signals from the remote control unit. If the doors are unlocked while the dome light switch is between the "ON" and "OFF" positions, the dome light comes on for about 20 seconds.

Locking the Doors

Press the door lock button of the remote control unit for 1 second or longer. The vehicle's keyless entry system causes the right and left turn signal lights to simultaneously flash once upon receiving the signals from the remote control unit. If the dome light is on while its switch is between the "ON" and "OFF" positions, the dome light goes out.

ADVICE

- After locking the doors using the remote control unit, be sure to check that they are locked by pulling the door handles.
- Repeatedly locking and unlocking the doors using the remote control unit ten or more times in succession will trigger the protection circuit in the system, preventing the unit from working. If this happens, wait for a while. The system will then work normally.
- If the keyless entry system fails to operate normally, lock and unlock the doors using the key and have the system inspected by your Isuzu Dealer.

NOTE

- The lock or unlock buttons on the remote control unit must be fully pressed for more than 1 second to work.
- On models with passive entry and start system, when the lock or unlock button is pressed, the indicator light on the remote control unit comes on.
- If you do not open any doors within about 30 seconds after pressing the unlock button to unlock the doors, the automatic locking function of the system will lock the doors again to prevent theft.
- While the dome light switch is between the "ON" and "OFF" positions, the light goes out when the door is locked while the dome light is illuminating.
- In areas near a TV tower, electric power plant, radio station, etc. or under any conditions involving strong electrical disturbances, the remote control unit operating range might change or the passive entry and start system might not work.
- The passive entry and start system does not operate in the following cases:
  - The starter switch is in the "ACC" or "ON" position.
  - The lock button is pressed while a door is open.

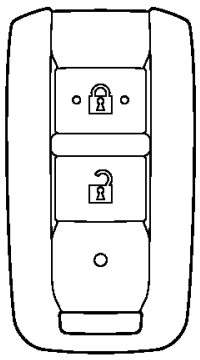
[Model without passive entry and start system]

- The keyless entry system does not operate in the following cases:
  - The starter switch is in the "ON" position.
  - The key is inserted in the starter switch.
  - One of the doors is open.

[Model with passive entry and start system]

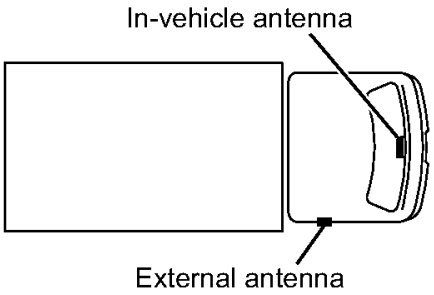
- The keyless entry system does not operate in the following cases:
  - The starter switch is in the "ACC" or "ON" position.
  - The lock button is pressed while a door is open.

Passive Entry and Start System [V]



The passive entry and start system is a system that allows you to carry the remote control unit to lock and unlock the doors and start the engine without having to take out the key. It also works as the remote control unit for the keyless entry system. A key is provided to lock and unlock the doors in case the battery in the remote control unit runs out.

Refer to page
2-2 Key
2-11 Keyless Entry System [V]
4-46 Starting and Stopping the Engine



WARNING

- **Persons with implantable cardiac pacemakers or implantable cardioverter defibrillators should not approach within 22 cm (9 in) of the antenna mounted on the vehicle. Radio waves transmitted by the passive entry and start system may affect the operation of the equipment. Persons using medical electronic devices should check with their doctor or medical device manufacturer to determine whether they can use the system. The passive entry and start system can be set to off by using the customization function.**

Refer to page
2-16 Customization Function

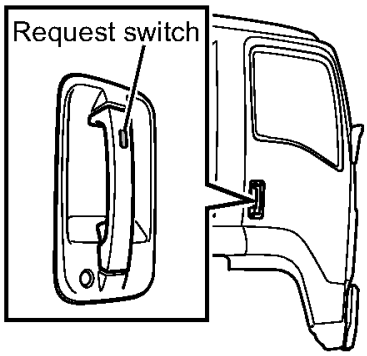
ADVICE

- If the operation of locking and unlocking is repeated ten times or more, the system may activate the protection circuit and stop the operation. However, after a short time, locking and unlocking will be possible again.
- If a malfunction of the unit occurs, use the key to lock or unlock the doors and have the vehicle inspected at your Isuzu Dealer.

NOTE

- As long as the remote control unit is within the operating range, anyone can do the following:
  - Lock and unlock the doors.
  - Start the engine.
- The remote control unit should be carried by the driver and should not be left in the vehicle.

Locking and Unlocking the Doors Using the Request Switch [V]



This can be operated when you are carrying the remote control unit within the operating range of the remote control unit.

Refer to page
2-5 Operating Range of Remote Control Unit

Unlocking the Door

When the door is locked, pressing the request switch on the door handle unlocks the door. At the same time, the left and right turn signal lights flash twice simultaneously. Furthermore, the LED dome light comes on under the following conditions.

- When the LED dome light switch is between the "ON" and "OFF" position, the dome light comes on for approximately 20 seconds.

Locking the Door

When the door is unlocked, pressing the request switch on the door handle locks the door. At the same time, the left and right turn signal lights flash once simultaneously. Furthermore, the LED dome light turns off under the following conditions.

- When the LED dome light switch is between the "ON" and "OFF" position, and the LED dome light is on

ADVICE

- When the door is locked, be sure to pull the door handle to confirm that it is locked.

NOTE

- When a person carrying the remote control unit is in the operating range, anyone can lock and unlock the door by pressing the request switch.
- After locking, the door will not be unlocked for approximately 3 seconds, even if the request switch is pressed.
- After unlocking, the door will not be locked for approximately 2 seconds, even if the request switch is pressed.
- To open the door, press the request switch, confirm that the door is unlocked, and pull the door handle. Pulling the door handle while pressing the request switch may not unlock the door. If the door does not unlock, release the door handle, press the request switch again, confirm that the door is unlocked, and open the door.
- The remote control unit may not operate when it is near the ground or in a high position, even if it is within approximately 50 cm (20 in) of the door handle.
- The remote control unit may not operate if it is too close to the door or window.
- When you unlock the door using the remote control unit, the door will be automatically locked again if the door is not opened within 30 seconds.
- Use the key when the battery in the remote control unit runs down or when the vehicle's battery is flat.
- When using the remote control unit to lock or unlock the doors or start the engine, radio waves are transmitted from the vehicle to allow the system to verify the unit. Therefore, the passive entry and start system may not operate properly or may be unstable in the following cases:
  - There is a facility nearby that transmits strong radio waves.
  - The remote control unit is carried along with cell phones, radios, laptops or other communication devices.
  - The remote control unit is near or covered by metal objects.
- Pressing the request switch will not lock the door in the following cases:
  - The starter switch is in a position other than the "LOCK" position.
  - The remote control unit is in the vehicle.
  - The door is open.

Customization Function

The following feature settings of the passive entry and start system can be changed: Please consult your Isuzu Dealer about changing the settings.

Function	Default setting	Options
Passive entry and start system	On	On/Off
Answerback buzzer	Off	On/Off
Answerback buzzer volume	High	Low/Middle/High
Automatic door lock	Off	On/Off

Function when the automatic door lock is set to on

Function	Default setting	Options
Time until the automatic door lock is activated	10 seconds	1/3/5/10 seconds
Answerback buzzer of the automatic door lock	Off	On/Off

ADVICE

- When the automatic door lock is set to on, be sure to carry the remote control unit before leaving the vehicle. The key lock-in prevention function may not work depending on the surrounding radio wave conditions, the battery level of the remote control unit, or the position of the remote control unit. As a result, the remote control unit may be locked inside the vehicle.

NOTE

- For locking and unlocking the doors and starting the engine when the passive entry and start system is set to off, refer to "When the Passive Entry and Start System Does Not Work Properly".

[About the automatic door lock]

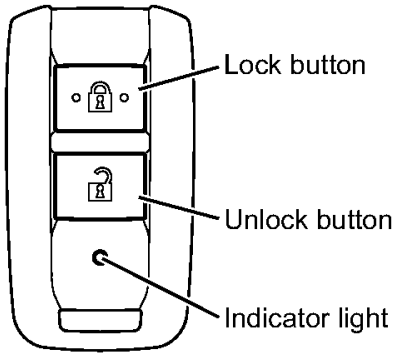
- When the starter switch is in the "LOCK" position, this function automatically locks the doors after a set amount of time has elapsed since all doors were closed.

Refer to page
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

Power Saving Mode of the Remote Control Unit

When the vehicle will not be used for a long period of time, the remote control unit function can be deactivated by setting it in power saving mode, thereby reducing the consumption of the remote control unit battery.

Activating the Power Saving Mode



Press the unlock button twice while pressing the lock button on the remote control unit. The setting is complete when the indicator light on the remote control unit flashes four times. If the indicator light does not flash, do the operation again.

NOTE

- Since the remote control unit function is deactivated in power saving mode, the passive entry and start system cannot be used. To use the passive entry and start system, turn off the power saving mode.

Deactivating the Power Saving Mode

Press the lock or unlock button on the remote control unit to deactivate the power saving mode.

Passive Entry and Start System Warnings/Indicators

Remote Control Unit Low Battery Warning Light

Low key battery

Key battery is low
Replace the battery

When the battery level in the remote control unit is low, the multi-information display will show this message for approximately 10 seconds when the engine is stopped. When "Low key battery" is displayed, replace the battery in the remote control unit.

Refer to page
2-6 Replacing the Battery in Remote Control Unit

ADVICE

- The battery level is checked approximately 20 minutes after engine is started. If the engine is repeatedly started and stopped for 20 minutes or less, the remote control unit low battery warning light may not illuminate even if the battery level is low.
- When the operation of the passive entry and start system is unstable or the indicator light of the remote control unit does not come on when the lock or unlock button is pressed, the battery level is low. Replace the battery.
- If this warning light comes on, replace the battery as soon as possible. If you continue to use the vehicle without replacing the battery, the battery in the remote control unit will run out and the passive entry and start system will not be able to open or close the doors or start the engine.

Refer to page
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

Passive Entry and Start System Warning Light



This warning light comes on, flashes, or goes out when the starter switch is in the following positions:

"LOCK" position	Slow flashing (about every 2 seconds)
"ACC" position	Off
"ON" position	If the warning light comes on and goes out after about 3 seconds, it is normal (system check)

It also flashes (about every 1 second) in the following cases:

- With the starter switch in the "ACC" or "ON" position, the remote control unit is carried out of the vehicle and the door is closed. At the same time, three short beeps will sound.

Refer to page
2-21 Passive Entry and Start System Warnings

CAUTION

- **If the warning light does not go out with the starter switch in a position other than the "LOCK" position, if the light flashes frequently, or if the light does not flash with the starter switch in the "LOCK" position, have the vehicle checked and repaired immediately at your Isuzu Dealer.**

ADVICE

- For locking and unlocking the doors and starting the engine when the passive entry and start system does not work properly due to a dead battery or other issues, refer to "When the Passive Entry and Start System Does Not Work Properly".

Refer to page
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

NOTE

- Slow flashing (about every 2 seconds) indicates that the immobilizer function (vehicle anti-theft device) is activated.

Passive Entry and Start System Warnings

In the following cases, the warning system operates and a buzzer sounds:

Check to see if the remote control unit is left in the vehicle

Multi-information display	Buzzer	Measures	Status
Door lock unavailable Key is in vehicle	Continuous beep*3	Carry the remote control unit outside the vehicle and lock the door again	**Key lock-in prevention alarm (when pressing the request switch)** While the remote control unit was left in the vehicle, locking the door was attempted by pressing the request switch (The door would not be locked).
			Key lock-in prevention alarm (when locking the door manually) While the remote control unit was left in the vehicle, locking the door was attempted by pressing the lock button on the driver side or passenger side door and closing the door with the door handle pulled up. The door would be automatically unlocked when the handle is released, and the left and right turn signal lights would flash twice. As a result, the door would not be locked.

*1: Inside the cab *2: Outside the cab *3: Inside and outside the cab

Refer to page
2-27 Locking the Door from Outside without Using the Key

Check to see if the starter switch is in the "ACC" or "ON" position

Multi-information display	Buzzer	Measures	Status
Door lock unavailable Put starter switch in LOCK position	Continuous beep*3	Turn the starter switch to the "LOCK" position and lock the door again	**Starter switch ON-position warning (when pressing the request switch)** While the starter switch was in the "ACC" or "ON" position, an attempt was made to lock the door by pressing the request switch (The door would not be locked).
—	Two short beeps*2		**Starter switch ON-position warning (when locking the door manually)** • While the starter switch was in the "ACC" or "ON" position, the lock button on the driver side door was pressed with the door opened. The door would be automatically unlocked, and the left and right turn signal lights would flash twice. • While the starter switch was in the "ACC" or "ON" position, an attempt was made to close the door after it was opened when it was previously locked. The door would be unlocked automatically, and the left and right turn signal lights would flash twice.
Key undetectable No key found in vehicle	Three short beeps*2 Continuous beep*1	Return the remote control unit to the inside of the vehicle or turn the starter switch to the "LOCK" position	**Remote control unit carried out warning** While the starter switch was in the "ACC" or "ON" position, the remote control unit was carried out of the vehicle and the door was closed.

*1: Inside the cab *2: Outside the cab *3: Inside and outside the cab

Check to see if the door is closed properly

Multi-information display	Buzzer	Measures	Status
Door lock unavailable Door is open	Continuous beep*3	Close the door properly and lock it again	**Door ajar warning** While the driver side or passenger side door had not been closed properly, an attempt was made to lock the door by pressing the request switch or operating the remote control unit.

*1: Inside the cab *2: Outside the cab *3: Inside and outside the cab

The remote control unit is not recognized

Multi-information display	Buzzer	Measures	Status
Authenticate key Hold key over starter switch	Continuous beep*1	Place the remote control unit against the starter switch ring	**Start operation without remote control unit warning** The starter switch cannot be turned to the "ON" position because the unit cannot be recognized due to the remote control unit's dead battery or due to the surrounding radio wave conditions.
Key collation complete Put starter switch in ON position	Two short beeps*1	Turn the starter switch to the "ON" position	**Immobilizer recognition completion alert** The remote control unit is recognized and the starter switch can be turned to the "ON" position.

*1: Inside the cab *2: Outside the cab *3: Inside and outside the cab

Refer to page
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

The remote control unit battery is running down

Multi-information display	Buzzer	Measures	Status
Low key battery Key battery is low Replace the battery	Continuous beep*1	Replace the battery in the remote control unit	**Remote control unit (passive entry and start system unit) battery level warning** The battery in the remote control unit is running down.

*1: Inside the cab *2: Outside the cab *3: Inside and outside the cab

Refer to page
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

The passive entry and start system has an abnormality

Multi-information display	Buzzer	Measures	Status
Key system abnormal Remote controller key system abnormal Contact the dealer	Continuous beep*1	Please contact the nearest Isuzu Dealer.	**Abnormal passive entry and start system warning** The passive entry and start system has an abnormality and does not work properly.

*1: Inside the cab *2: Outside the cab *3: Inside and outside the cab

ADVICE

[About the key lock-in prevention alarm]

- The buzzer may not sound depending on the surrounding radio wave conditions.
- The buzzer may not sound if the battery in the remote control unit is running down.
- The buzzer may not sound if the remote control unit is placed in the following locations:
  - On the instrument panel
  - In the small article storage pockets, such as the door pockets
  - Behind the seats (driver side and passenger side, including the bed for full cab vehicles)
  - On the floor
  - It is touching or being covered by metallic objects

[About the remote control unit carried out warning]

- Depending on the surrounding environment and radio wave conditions, the buzzer may sound even if the remote control unit is within the operating range. If this happens, change the carrying position of the remote control unit and operate it again.
- If the remote control unit is taken out of the vehicle through the opened window, the warning will not be activated.
- If the remote control unit is placed on the instrument panel or in various small article storage pockets, such as the door pockets, the warning may be activated depending on the radio wave conditions.
- If the starter switch is set to the "LOCK" position while the remote control unit is taken out of the vehicle, the starter switch cannot be operated. When operating the starter switch, make sure that you are carrying the remote control unit.

Doors

WARNING

- **Do not pull on the door handles while the vehicle is moving.**

⚠ CAUTION

- **Be sure to do the following whenever you leave the vehicle:**
  1) Fully engage the parking brake.
  2) Stop the engine.
  3) Lock the doors.
- **When you close the door after sitting behind the wheel, check that the door is fully closed. If the door is not properly closed, it may open while the vehicle is in motion.**
- **Before opening the door when climbing into or out of the cab, carefully check all areas around the vehicle for safety, especially the area at the rear of the vehicle.**
- **Never leave the key in the vehicle.**
- **Tilt the cab only after fully closing the doors.**

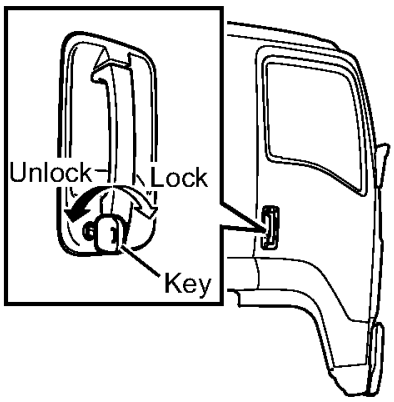
Locking and Unlocking the Front Doors

Locking and Unlocking the Doors Using the Request Switch

Refer to "Passive Entry and Start System".

Refer to page
2-13 Passive Entry and Start System [V]

Locking and Unlocking the Door from Outside Using the Key



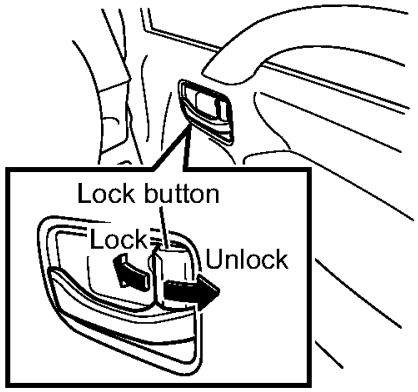
Firmly insert the key.
Turn the key toward the front of the vehicle to lock the door and turn it toward the rear of the vehicle to unlock it.

ADVICE

- The door cannot be locked or unlocked from the passenger side. Use the driver's side door or keyless entry system or passive entry and start system to lock and unlock the locks.

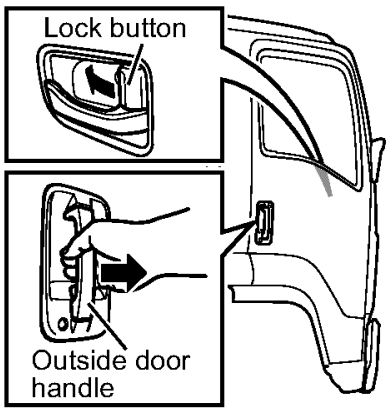
Refer to page
2-27 Power Door Lock (Central Door Lock)
2-11 Keyless Entry System [V]
2-13 Passive Entry and Start System [V]

Locking and Unlocking the Door from Inside



Push the lock button forward to lock the door; pull the lock button backward to unlock it.

Locking the Door from Outside without Using the Key



First, push the lock button on the inside door handle forward and then close the door while keeping the outside door handle raised.

ADVICE

- Before closing the door, be sure to check that you have the key with you.

Key Left Inserted Warning

When the driver side door is opened with the key left inserted and the starter switch in the "ACC" or "LOCK" position, warning beeps will continue to sound to alert the drive that the key has been left inserted. The warning beeps stop sounding when the key is removed.

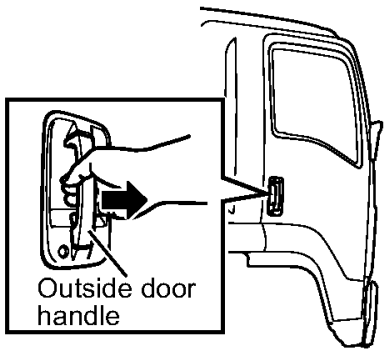
Power Door Lock (Central Door Lock)

How the Power Door Lock System Operates

When you lock or unlock the driver's door using the key or by operating the lock button, the power door lock system will automatically lock or unlock all doors simultaneously.

Opening and Closing the Front Doors

Opening the Door from Outside

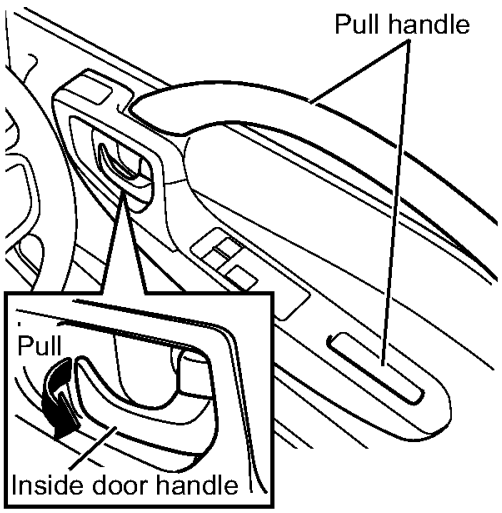


To open the door, pull the outside door handle.

ADVICE

- When opening and closing the doors, operate them slowly without applying excessive force. Applying excessive force may result in damage to the door components.
- When a door is open, do not hang from it and do not hang heavy objects from it. Doing so may result in damage to the door components.

Opening and Closing the Door from Inside



To open the door, pull the inside door handle.
To close the door, pull the pull handle.

ADVICE

- Before leaving the vehicle, be sure to stop the engine and lock the doors. Never leave the key behind the door.

Grips and Steps



Carefully check that the area around the vehicle is safe, hold the grip, and place your foot on the step when getting in or out of the vehicle.

⚠ CAUTION

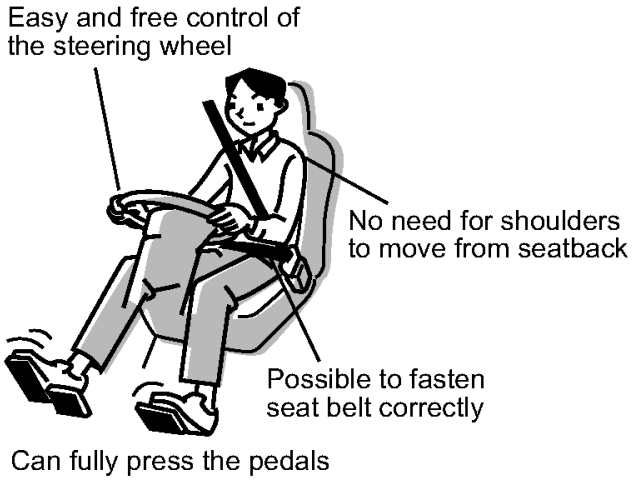
- **When getting in or out of the vehicle, make sure you use the grip and step to always support yourself from at least 3 points. It is very dangerous to stand on the tire or wheel when getting in or out of the vehicle.**
  Furthermore, do not try to jump in or out of the vehicle, as doing so could cause unexpected accidents or injuries.
- **Getting in or out of the vehicle with oily or greasy hands or shoes could cause you to slip. Always thoroughly clean grease etc. from your hands and shoes before getting in or out of the vehicle.**
- **Rain and snow can cause the step to become very slippery. Therefore, always remove snow and ice from your shoes and the step, and be careful not to slip when getting in and out of the vehicle.**
- **Exercise caution when opening or closing doors, as strong winds or steep slopes may cause doors to open or close suddenly.**

ADVICE

- Do not hold parts other than the grip when getting in or out of the vehicle. Doing so may cause damage to the vehicle or injuries to yourself or others.

Seats

The driver's seat must be adjusted so that when you sit well back in the seat, you can fully depress the pedals without moving your back from the seatback, and you can operate the steering wheel easily and freely. After making adjustments, check that the seat is completely locked.
A correctly adjusted seat for the proper driving position is fundamental to safe vehicle operation.

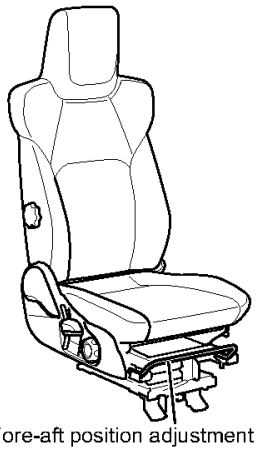


⚠ WARNING

- **Use caution when adjusting the seat, as failure to do so could cause injury.**
- **Never allow children to adjust their seats themselves; an adult should adjust the seat for occupants who are children.**
- **For models with air suspension seats, the suspension may move the seat up or down when you sit down on or get up from the seat. Keep your hands away from the moving parts or from under the seat. Otherwise, injury may result.**
- **Adjust the seat only before you start driving. Adjusting the seat while the vehicle is in motion must be avoided not only because the unlocked seat will move back and forth unstably, preventing you from taking the correct position, but might also cause you to lose control of the vehicle, possibly resulting in an accident.**
- **Try to move the seat without unlatching it after making adjustments to check that it is completely locked. A loosely locked seat may move unexpectedly and your position might then become unstable; this could lead to an accident. Take the vehicle to your Isuzu Dealer for service if you find that your seat adjusters do not latch. In addition, the seat belt will not operate properly if the seatback is not completely locked.**
- **Driving with the seat excessively reclined could be very dangerous in a collision or sudden stop. Raise the seatback, and wear the seat belt correctly while sitting well back and straight up in the seat.**
- **Do not place a cushion or similar object between your back and the seatback. Doing so not only affects the stability of your driving position but also prevents the seat belt from working effectively in the event of a collision.**
- **Do not place any objects under the seat. If there are any objects under the seat, the seat could be locked in an improper position.**
- **Before making adjustments, check that the seat rails are free of anything that could obstruct the locking of the seat. Be careful that your hand or foot does not become trapped in the seat or rails when adjusting the seat.**
- **When you adjust the seat, be careful that the seat does not hit passengers or objects. Doing so could cause injury to passengers, or damage objects.**
- **Make sure not to hit a passenger or luggage with the seat when adjusting your seat.**
- **Be careful not to lose your balance when standing on the seats. Ensure that the suspension does not move on vehicles equipped with seats with suspension function.**

Driver's Seat (Except ISRI 6860) [V]

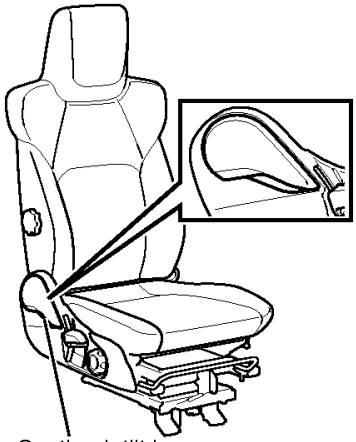
Forward/Backward Adjustment



Fore-aft position adjustment lever

While raising the lever, move the seat forward or backward. Release the lever when the seat is in the desired position. After making adjustments, try to move the seat back and forth to check that it is fully locked.

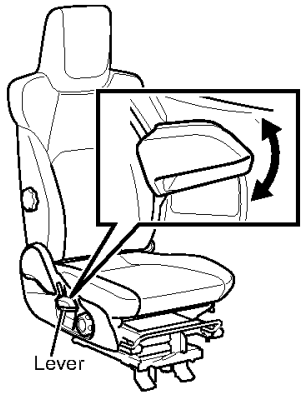
Reclining Adjustment



Seatback tilt lever

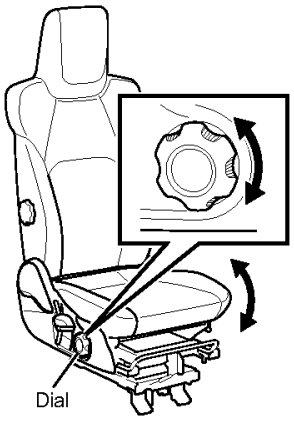
To recline the seatback, raise the seatback tilt lever and gently lean back to the desired position. To move the seatback forward, lean forward with your back slightly clear of the seatback and raise the lever. After making adjustments, check that the seatback is fully locked.

Height Adjustment



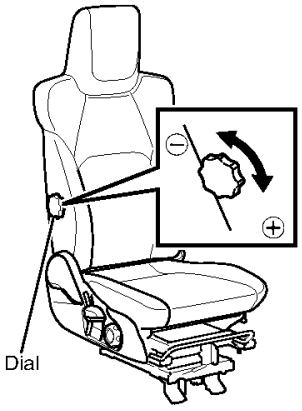
Pull or push the lever and adjust the seat to the desired height.

Tilt Adjustment



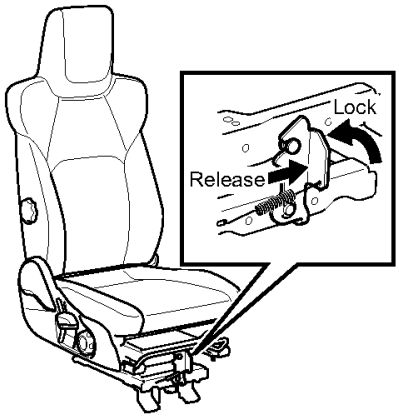
Turn the dial to adjust the seat cushion tilt. By turning the dial forward, the front of the seat cushion tilts down, and by turning the dial backward, the front of the seat cushion tilts up.

Lumbar Support [V]



The dial on the right side of the driver's seat can be used to adjust the seatback lower back curve shape to fit the shape of the spine. By turning the dial forward, the curve expands to the "+" side, and by turning the dial backward, the curve loosens to the "-" side.

Suspension Adjustment [V]



Turn the lever up to lock the seat at the fixed height. Operate the lever after getting down from the seat.

CAUTION

- **Operating the lever while seated may result in your fingers or hands becoming unexpectedly caught and injured.**

Driver's Seat (ISRI 6860) [V]

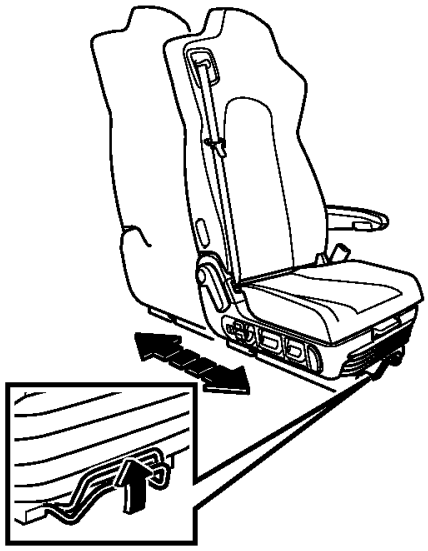
WARNING

- **Never modify the vehicle seats. Doing so may impair the safety performance and legal compliance.**
- **For installation, maintenance, and repair of the seats, please consult your nearest Isuzu Dealer.**
- **Please keep dust and dirt from accumulating on the insertion slot of the buckle tongue. If dirt has accumulated, the lock may not work properly.**
- **If a seat belt has been subjected to an impact while it was worn due to an accident, etc., the characteristics of the seat belt may be lost or reduced even if there is no abnormality in the appearance. Therefore, if this happens, have the vehicle inspected/serviced at an Isuzu Dealer.**
- **If there is a problem with the seat, or if a defect is found in a part of the seat, immediately have it inspected and repaired by an Isuzu Dealer.**

ADVICE

- Do not drive in a state where it interferes with other parts in the cab. The seat or the cab may be damaged.

Forward/Backward Adjustment

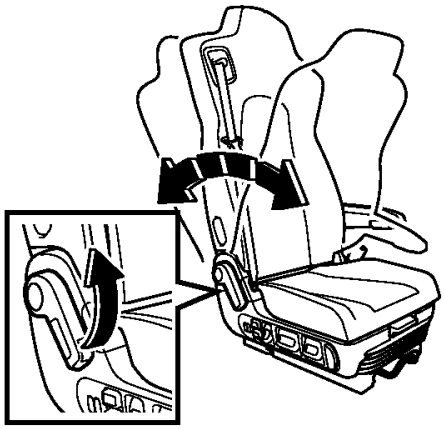


Pull the lever and move the seat forward or backward. Release the lever to lock the seat. After making adjustments, try to move the seat back and forth to check that it is fully locked.

⚠ WARNING

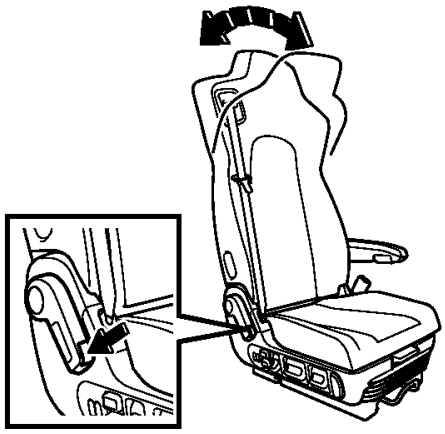
- **Do not put your foot on the lever while seated on the seat. The seat may move suddenly, leading to an accident.**

Reclining Adjustment



Pull the lever and adjust the seatback position by applying your weight to the seatback. After making adjustments, check that the seatback is fully locked.

Shoulder Adjustment

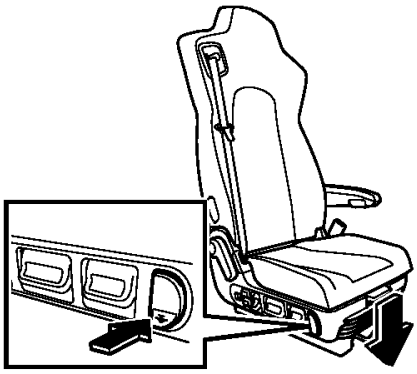


While pressing the button, adjust the shoulder position of the seatback to the desired position and release the button. After the adjustment, make sure that the shoulder of the seatback is completely locked.

⚠ CAUTION

- **When the button is pressed, the seatback will tilt forward. Adjust the seatback with your back rested against the seatback.**

Seat Lowering

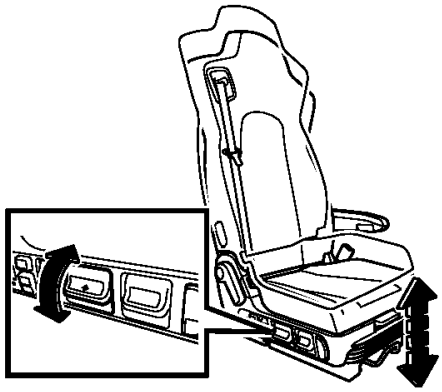


The air suspension function can be turned ON/OFF with the air suspension switch. When you press the switch, the seat surface will be lowered, making it easier to get in and out of the vehicle. When you press the switch again, the seat surface will return to the original height.

⚠ CAUTION

- **Be sure to return the seat to its original position when driving. If the seat surface is lowered to the lowest position, the air suspension may not function and the seat may be damaged.**

Height Adjustment

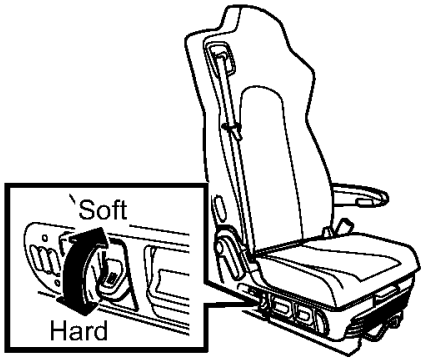


Pull or push the lever and adjust the seat to the desired height.

⚠ CAUTION

- **When the air suspension switch is set to the "OFF" position, the seat height adjustment will not work.**
- **If operating the lever does not change the seat height, set the air suspension switch to the "ON" position.**

Air Suspension Hardness Adjustment



Operate the lever to adjust the air suspension to the desired hardness.

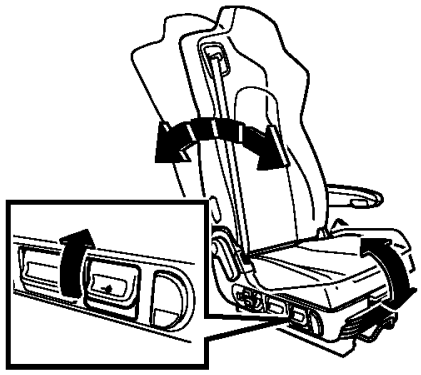
⚠ CAUTION

- **When driving on rough roads, adjust the seat to make it harder than usual to keep the driver's feet on the pedals.**
- **When driving on rough roads, do not make the seat too soft. The seat may bottom out.**

NOTE

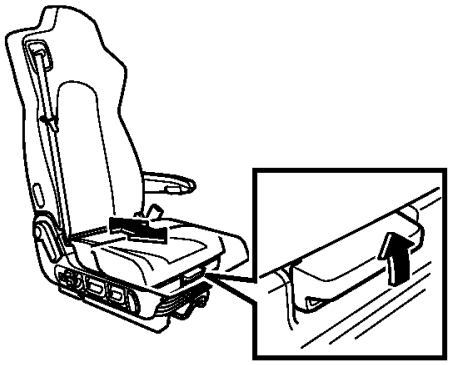
- When the air suspension switch is set to the "OFF" position, the air suspension hardness adjustment will not work.
- If operating the lever does not change the hardness, set the air suspension switch to the "ON" position.

Tilt Adjustment of Cushion



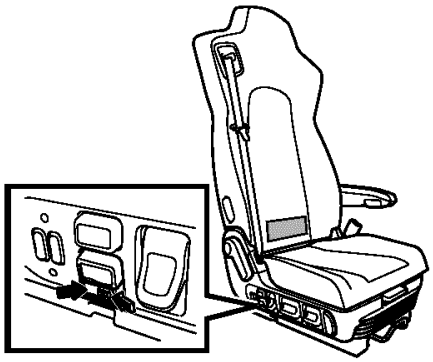
Pull the lever and adjust the seat tilt by applying/removing weight to the front seat cushion area.

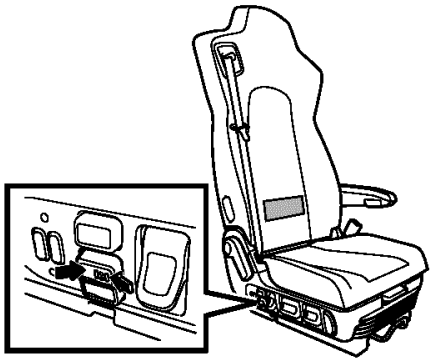
Seat Cushion Adjustment



Pull the lever and move the seat cushion forward or backward.
Release the lever to lock the seat position.

Lower/Upper Lumbar Support Adjustment



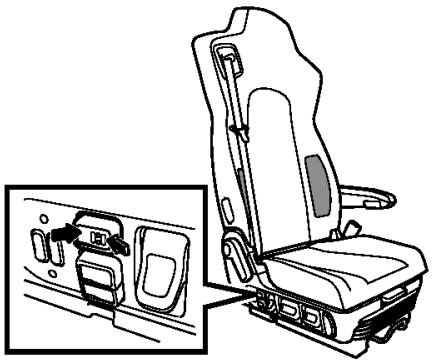


Operate the switch to adjust the pushing force of the part of the seat that touches your back. Pressing the front side of the switch facing the vehicle front makes the pushing force at the lumbar stronger, and pressing the rear side of the switch facing the vehicle front makes it weaker. This will help to reduce fatigue during long-distance driving, etc.

ADVICE

- If the front side of the switch facing the vehicle front is pressed and held, you may hear a buzzer-like sound due to an excessive air supply. If you hear such a sound, stop operating the switch. The function of the lumbar support may be impaired.

Side Lumbar Support

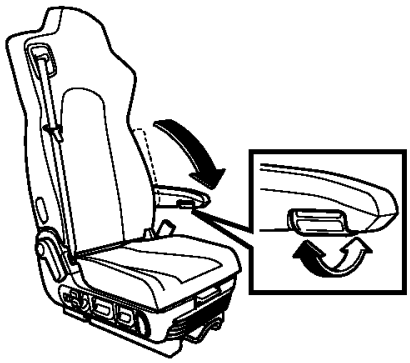


Operate the switch to adjust the pushing force of the side support.
Pressing the upper side of the switch makes the pushing force at the side lumber support stronger, and pressing the lower side of the switch makes it weaker.
This will help to reduce fatigue during long-distance driving, etc.

ADVICE

- If the front side of the switch facing the vehicle front is pressed and held, you may hear a buzzer-like sound due to an excessive air supply. If you hear such a sound, stop operating the switch. The function of the side lumber support may be impaired.

Armrest

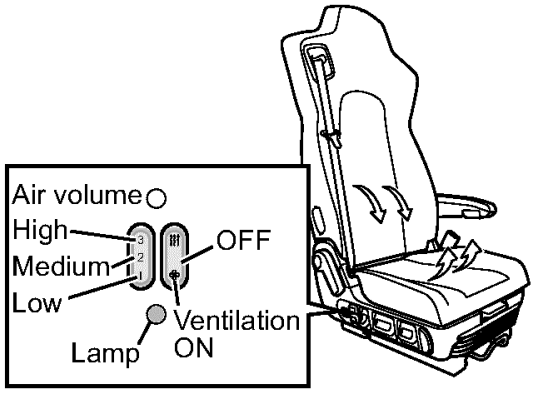


The armrest can be adjusted steplessly.
Raise the armrest slightly and rotate the adjustment knob under the armrest to adjust the tilt.
Raise the armrest when it is not in use.

ADVICE

- When the armrest tilts to the topmost or lowest position, the adjustment knob stops rotating. Do not rotate the adjustment knob further in the same direction once it has stopped rotating. The armrest may get stuck.

Ventilation

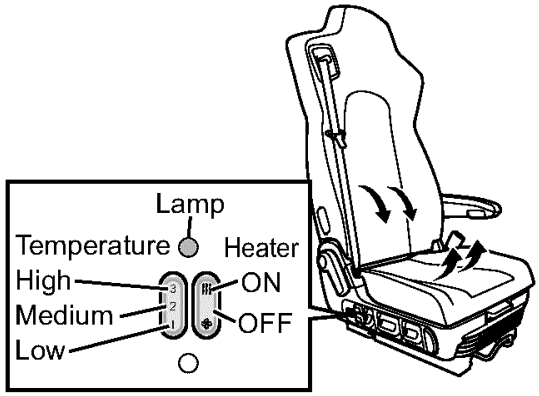


By operating the switch, the seat ventilation can be turned ON/OFF, and the air volume of the seat ventilation can be adjusted.
When the ventilation is set to "ON", the lamp lights up in blue.

CAUTION

- **Please be careful when using this function for a long time, as it may get too cold.**

Heater



By operating the switch, the seat heater can be turned ON/OFF, and the heater temperature can be set.
When the heater is set to "ON", the lamp lights up in red.

CAUTION

- **Those who fall into either of the following categories need to be careful not to get a low-temperature burn:**
  - **People with sensitive skin**
  - **Exhausted people**
- **Do not put any blanket, cushion, or the like which has heat-retaining properties on the seat, and do not use a seat covering. There is a risk of burns or seat failure due to overheating.**

ADVICE

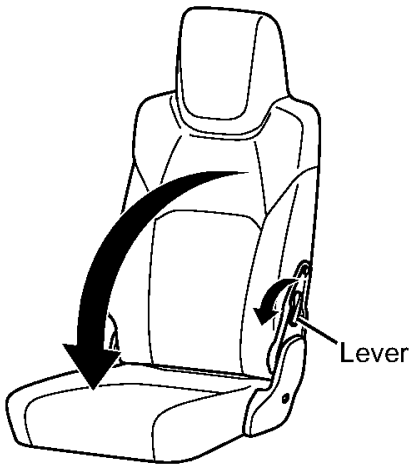
- Do not use the seat heater while the engine is stopped. Since it consumes a lot of electric power, it may cause a flat battery.
- Do not place any hard, heavy objects or objects with sharp protrusions, such as nails or needles on the seat, and do not pierce the seat with anything. There is a risk of breaking the heater wiring.
- If you spill water or juice on the seat, wipe it off immediately with a dry cloth.
- Do not spill water or juice on the switch.

NOTE

- The seat heater stops temporarily when the temperature exceeds a certain level and recovers when the temperature drops.

Passenger Seat

Reclining Adjustment

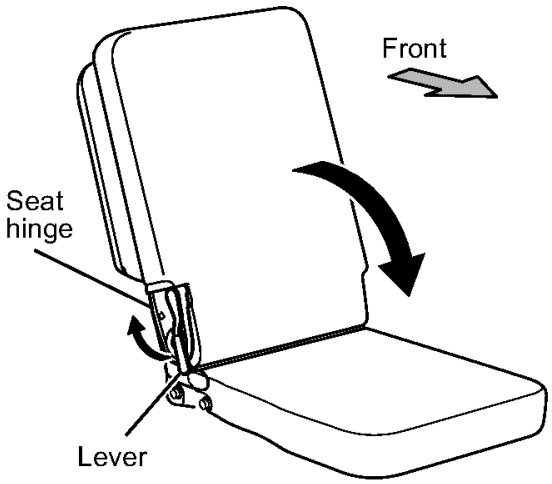


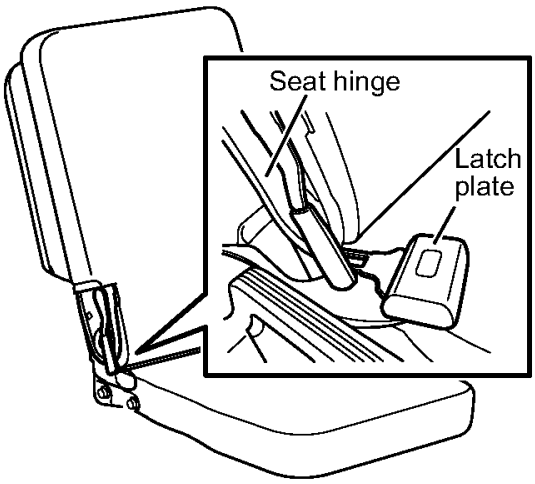
Raise the reclining lever to adjust the seatback angle.

⚠ CAUTION

- **As with the driver, the passenger must also have a correctly fastened seat belt during driving, in case his/her body should undergo dangerously strong force from a collision or sudden braking.**
- **During driving, the passenger's seat should not have the seatback tilted forward. The passenger seat in this position will obstruct the driver's view of the passenger side.**

Center Seat [V]





If the center seat is not occupied, fold its seatback forward by using the lever positioned in the side of the center seat.

⚠ CAUTION

- **As with the driver, the passenger must also have a correctly fastened seat belt during driving, in case his/her body should undergo dangerously strong force from a collision or sudden braking.**
- **Baggage must not be placed on the center seat. If the baggage falls on the floor when the vehicle is braked, it may prevent the driver from operating the pedals.**
- **Do not remove the seatbelt buckle from the seat band. If the buckle falls on the floor, it may become trapped in cargo and so on, possibly resulting in damage to the buckle.**
- **When folding the seats up and down, ensure that neither the seat belts nor tongues become trapped in the seat hinges. The seatbelts may be damaged.**

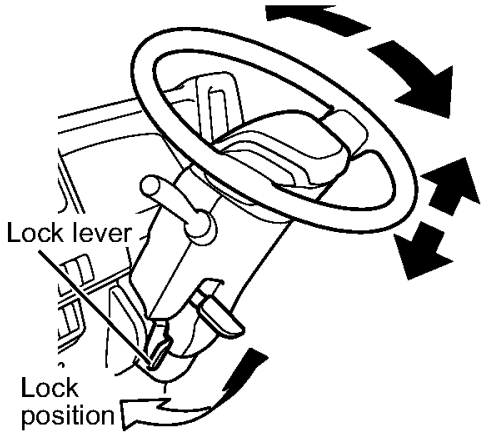
Fully Adjustable Steering

The steering wheel is adjustable up and down as well as forward and backward.

⚠ WARNING

- **After adjusting the steering wheel, try moving it up and down to make sure it is fully locked before you drive the vehicle.**
- **Adjust the steering wheel only when the vehicle is not in motion. Steering wheel adjustment on a moving vehicle is very dangerous, since a vertically moving steering wheel prevents the driver from properly controlling the vehicle.**

Adjusting the Steering Wheel Position



1. Lift the lock lever toward you to unlock the steering column.
2. Sit in the correct driving position, and then move the steering wheel up and down and forward and backward to select the optimum steering wheel position.
3. Firmly lock the steering wheel at the selected position by moving the lock lever to the lock position.

Mirrors

Sit in the correct driving position on the properly adjusted seat, and then check each mirror to ensure that it provides a proper view of the rear, the sides, the area just in front of the vehicle, and the area directly opposite to the driver's seat. Make adjustments if necessary and clean any dirty mirrors.

⚠ CAUTION

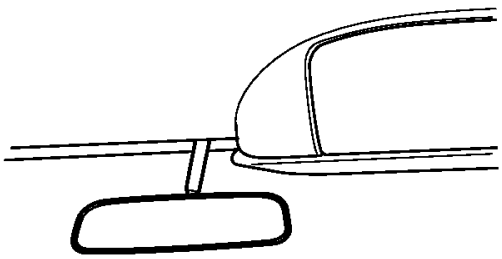
- **Adjust the mirrors when the vehicle is stationary, not while the vehicle is in motion.**

[Outside rearview mirrors]

- **When looking in the mirrors to see behind the vehicle while driving, your line of sight moves a lot, so be very careful that you are not distracted from the traffic ahead.**
- **Rearview mirrors may make the vehicle behind you appear farther away than it really is. Use these mirrors very carefully until you are able to correctly determine distances from the images.**
- **Keep the mirrors in mind when passing another vehicle on a narrow road, moving the vehicle into a garage or driving near pedestrians.**
- **There are blind spots that cannot be checked with the mirrors. Before pulling away, use not only the mirrors, but also look directly all around the vehicle to confirm that there are no people or obstacles.**
- **Do not drive with the mirrors folded.**
  Not being able to see behind with the mirrors may lead to an unexpected accident.
- **When driving in the rain, drops of water stick to the mirrors and reduce visibility to the rear. Before driving, use a towel to wipe off the drops of water.**

Inside Mirror

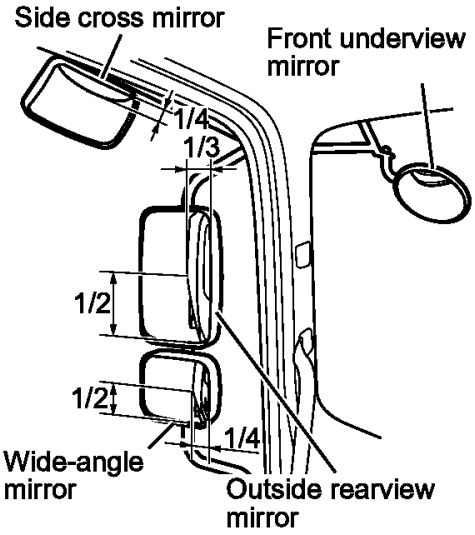
Move the mirror to a position where it provides a proper rear view.



Outside Mirrors

Door-mounted Mirrors [V]

After properly adjusting your seat for proper driving position, adjust the mirrors indicated below so that they provide adequate views for checking the rear, the side and the areas just in front and immediately to the side of the vehicle by moving each of the mirrors.



Outside Rearview Mirror
Lateral-direction: Adjust the mirror so that you can see the vehicle's side including the cargo bed within the inner one-third of the mirror.

Vertical-direction: Adjust the mirror so that you see the rear bottom corner of the vehicle halfway up the height of the mirror.

Wide-angle Mirror [V]
Lateral-direction: Adjust the mirror so that you can see the vehicle's side within the inner one-fourth of the mirror.

Vertical-direction: Adjust the mirror so that you see the rear bottom corner of the vehicle halfway up the height of the mirror.

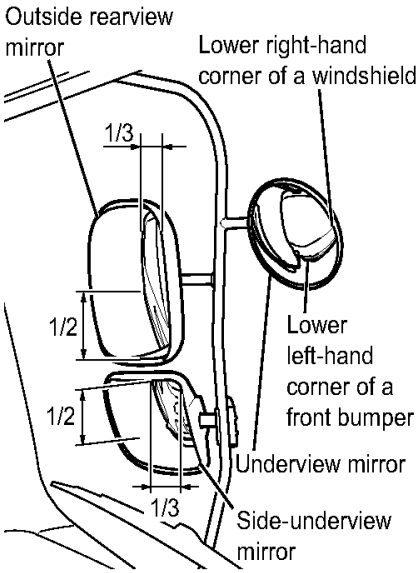
Front Underview Mirror
Adjust the mirror so that you see the bumper's right-hand edge at the center of the mirror and the windshield's right lower corner along the edge of the mirror.

Side Cross Mirror
Lateral-direction: Adjust the mirror so that you can see the cab's side in the mirror.

Vertical-direction: Adjust the mirror so that you see the cab within the upper one-fourth of the mirror.

Pillar-mounted Mirrors [V]

After properly adjusting your seat for proper driving position, adjust the mirrors indicated below so that they provide adequate views for checking the rear, the side and the areas just in front and immediately to the side of the vehicle by moving each of the mirrors.



Outside Rearview Mirror
Lateral-direction: Adjust the mirror so that you can see an image of the vehicle's side within the inner one-third of the mirror.
Vertical-direction: Adjust the mirror so that you see an image of the rear bottom corner of the door window halfway up the height of the mirror.

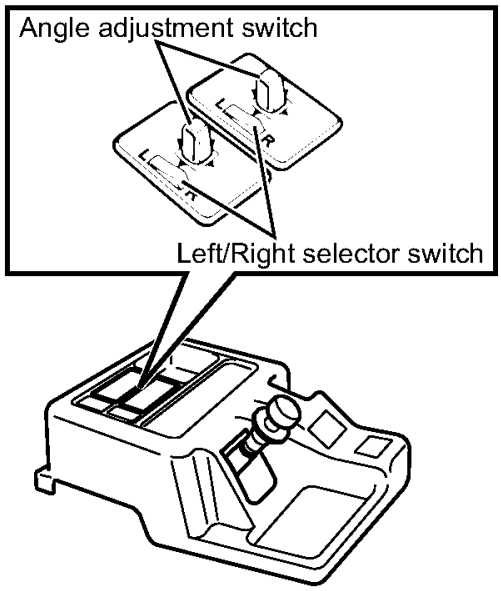
Side-Underview Mirror [V]
Lateral-direction: Adjust the mirror so that you see an image of the vehicle's side within the inner one-third of the mirror. Vertical-direction: Adjust the mirror so that you see an image of the bumper's left-hand corner halfway up the height of the mirror.

Underview Mirror [V]
Adjust the mirror so that you see an image of the bumper's edge at the center of the mirror and the corner of the windshield along the upper edge of the mirror.

Remote Control Mirror Switch [V]

The remote control mirror switch is active only when the starter switch is in the "ACC" or "ON" position.

Models for Australia



Adjustment

1. Press the left/right selector switch on the "L" or "R" side to move the mirror to the desired position.
2. Press the angle adjustment switch to adjust the mirror angle.

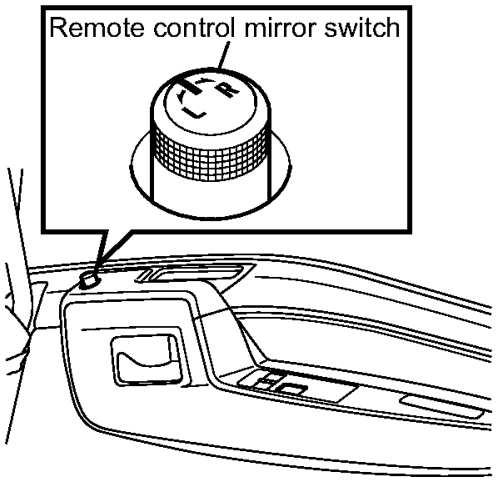
CAUTION

- **Do not adjust the mirror while driving; doing so is dangerous and could cause an accident.**

ADVICE

- Do not try to forcefully move the mirror surface by hand. Otherwise, the mirror motor may sustain damage.

Models except for Australia



Adjustment

1. Turn the switch in the desired direction, "L (left)" or "R (right)".
2. Press the switch up, down, left, or right to adjust the angle of the outside rearview mirror.

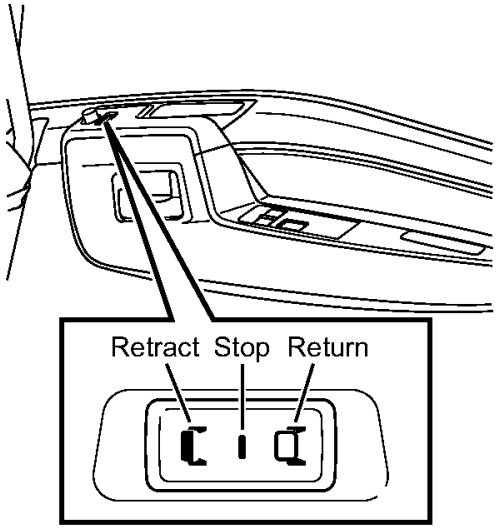
CAUTION

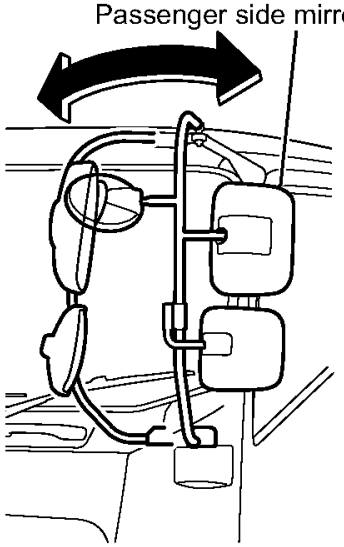
- **Do not adjust the mirror while driving; doing so is dangerous and could cause an accident.**

ADVICE

- Do not try to forcefully move the mirror surface by hand. Otherwise, the mirror motor may sustain damage.

Retractable Power Mirror Switch [V]





The passenger side mirrors retract inwards. Retract or return the mirrors to its position following the switch illustrations.

CAUTION

- **Do not operate the retractable power mirrors while driving as this is dangerous and could cause an accident.**
- **Do not touch the mirrors with a hand while the mirrors are moving. It could cause your hands to be pinched or a mirror malfunction.**
- **If the mirror hits an obstacle while moving, it may stop in that position. In such cases, remove the obstacle first then press the switch again.**

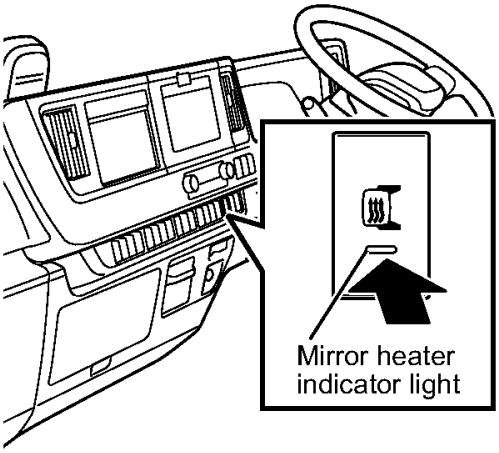
ADVICE

- When moving the mirror manually, do not use more force than necessary.
- Although the retractable power mirror can be moved manually as well, we recommend that you electrically move the mirror to prevent malfunction.
- If the mirror stay does not lock in its original position when operated manually, use the retractable power mirror switch to return it to its original position.

NOTE

- The retractable power mirror switch is active only when the starter switch is in the "ACC" or "ON" position.

Mirror Heater Switch [V]



Use the mirror heater to defrost the mirror surface. With the starter switch in the "ON" position, press the mirror heater switch to turn on the mirror heater. The mirror heater indicator light (amber) comes on. Press the switch again to turn it off. The mirror heater indicator light goes out.

ADVICE

- Do not use the mirror heater while the engine is not running. The mirror heater consumes a lot of electricity and could discharge the battery completely.
- Turn off the switch promptly after the mirror is defrosted.

Windows

Power Windows

The power windows operate only when the starter switch is in the "ON" position. Open each door window by pressing the power window switch; close each one by raising the switch.

⚠ WARNING

- **Before closing the windows, make sure that there is no risk of a hand, head or anything else being trapped in the moving window. Failure to do so could result in serious injury. This is especially true when a child is with you.**

ADVICE

- Do not apply excessive force or weight, such as by grabbing the door window to open or close the doors. If you do, the glass or internal components of the door could be damaged.
- If a door window is left open in rainy weather, water may get on the switches and cause a malfunction. Close the windows when it rains.

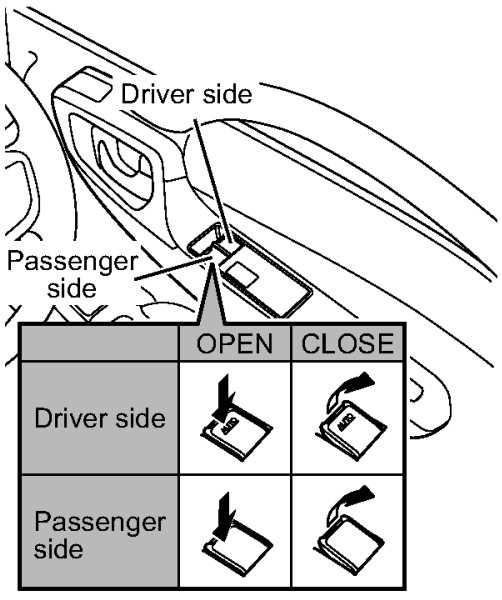
Window Switches on Driver's Door

ADVICE

- Doing the following operations may activate the protection circuit to prevent the windows from moving, but operations will become possible again in a short time.
  - Opening and closing the door windows repeatedly
  - Continuing to operate a switch even though the window is fully open or closed

NOTE

- In cold weather, the door windows may temporarily not open in auto mode. If this happens, open them in manual mode.



To open the driver's window

Lightly pressing the driver-side window switch will lower the driver's window until the switch is released (manual mode operation). When the switch is firmly pressed, the window will lower completely without the need to press the switch continuously (automatic mode operation). If you want to stop the automatic movement of the window before it lowers completely, pull the switch lightly.

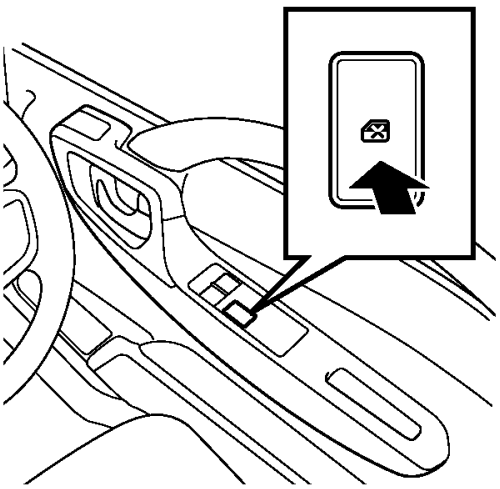
To close the driver's window

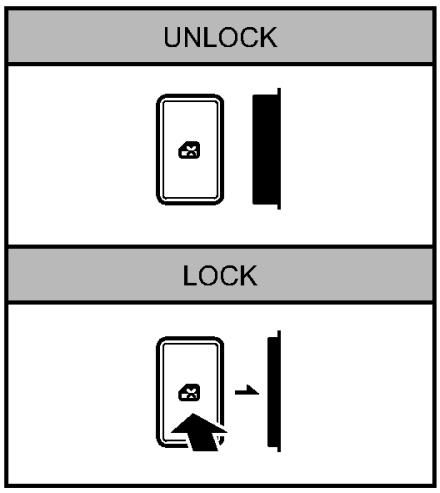
Lightly pulling the driver-side window switch will cause the driver's window to move up until the switch is released.

To open the passenger's window
The passenger's window continues to lower while the passenger-side switch on the driver's door is being pressed.

To close the passenger's window
The passenger's window continues to move up while the passenger-side switch on the driver's door is being pulled.

To lock passenger's window
If you push the power window lock switch, only the driver's window will be openable. To cancel the power window lock, push the switch again. Use the power window lock switch to lock the passenger's power window. By doing so, you can prevent passengers from operating the power window.





⚠ CAUTION

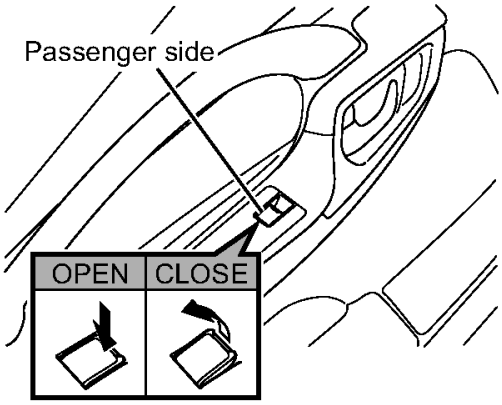
- **When children are riding in the vehicle, put the power window lock switch in the lock position. This can prevent accidents caused by children operating them incorrectly.**

Window Switches on Passenger's Door and Rear Doors

⚠ CAUTION

- **Be sure to warn passengers, especially in the case of a child, not to let any part of the body become trapped or caught in a moving window.**

Passenger side



To operate the passenger's window

The power window switch on the passenger's door can raise and lower the passenger's side window.

The window continues to lower while the window switch is being pressed and continues to rise while the switch is being pulled. It will stop moving at any position when the switch is released.

Fuel Tank Filler Cap

Use the Specified Fuel

CAUTION

- **Be sure to use extra-low-sulfur diesel fuel (containing sulfur of 10 ppm or lower).**
- **The use of a poor-quality diesel fuel, mixing such an additive as water remover to the fuel in the tank, or filling the tank with gasoline, kerosene or an alcohol-based fuel or its mixture with a diesel fuel will badly affect the fuel filter and result in lubrication problems in fuel-lubricated components of the injectors. In addition, this practice can also impair the operation of the engine and the diesel particulate defuser (DPD), the urea selective catalytic reduction (SCR) system, the exhaust emission cleaning system, possibly leading to breakdown of the engine-related systems. If an incorrect fuel should accidentally be added, drain all fuel from the system. Failure to observe this precaution can result in a fire or permanent damage when the engine is started.**
- **Using diesel fuel other than extra-low-sulfur diesel fuel or low-sulfur diesel fuel in a model conforming to Japan post-post new long term regulation emission standards could prevent the vehicle from complying with local legal requirements. Using diesel fuel other than extra-low-sulfur diesel fuel in a model conforming to EuroVI emission standards could prevent the vehicle from complying with local legal requirements.**
- **Open the fuel tank filler cap slowly. If you open it quickly, fuel may spurt out.**



NOTE

- The specifications of diesel fuel differ according to the season and region.

Refer to page
4-42 Handling Fluids, Lubricants and Diesel Fuels in the Winter and in Cold Regions

Using Self-service Filling Stations

⚠ WARNING

[Be sure to obey the following instructions when refueling the vehicle]

- **Stop the engine and close the vehicle's doors and windows.**
- **Keep cigarettes and other flames away from the vehicle.**
- **Before opening the fuel tank filler cap, touch a metallic object to discharge static electricity from your body. If you have a static charge buildup on your body while refueling the vehicle, a spark caused by its discharge could ignite the fuel, resulting in burns.**
- **When filling, place the nozzle deeply into the fuel tank. If you try to fill more fuel by pulling out the nozzle from the fuel tank, the fuel may spill out, thus causing danger.**
- **All parts of the refueling procedure (from opening the fuel tank filler cap to completing the refueling and closing the fuel tank filler cap) must be performed by the same person.**
  Other people may be carrying static electricity. Do not allow them to approach the fuel filler.
  The person performing the refueling procedure must not return to the seat in the cab part-way through the procedure. He/she could pick up another charge of static electricity by doing so.
- **Obey all cautions posted in filling stations.**

⚠ CAUTION

[Caution when refueling the vehicle]

- **Be careful not to inhale fuel vapor when refueling the vehicle.**

Refer to page
2-56 How to Refuel

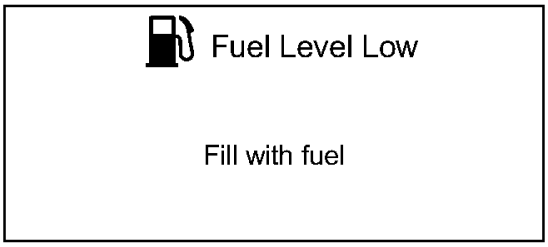
Refueling Timing

Check how much fuel is remaining with the fuel gauge and low fuel warning light, and refuel at suitable intervals.

Fuel Gauge

Refer to page
3-6 Fuel Gauge

Low Fuel Warning Light



This message appears on the multi-information display when the fuel level in the tank becomes too low while the engine is running.

ADVICE

- If this message appears on the multi-information display, add fuel at the earliest possible time.
- If the vehicle runs out of fuel, air bleeding procedure must be performed.

Refer to page
3-6 Fuel Gauge
11-12 When the Fuel Runs Out

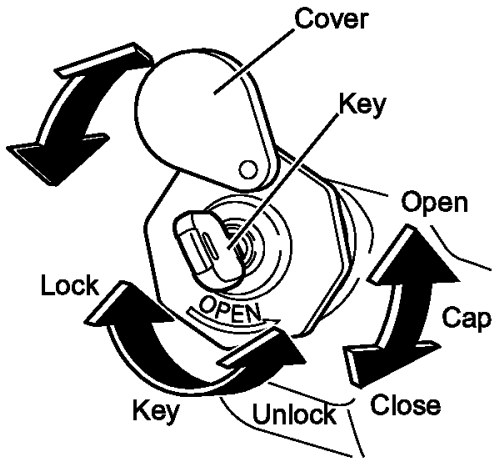
How to Refuel

WARNING

- **Be sure to place the starter switch in the "ACC" or "LOCK" position to shut down the engine before refueling the vehicle. Refueling while the engine is running could cause a fire in your vehicle.**
- **When refueling, never smoke or place any ignition source nearby. There is a risk of fire.**
- **Do not use any fuel tank filler cap that is not an Isuzu genuine part.**

Refer to page
2-54 Use the Specified Fuel
2-55 Using Self-service Filling Stations

1. Eliminate static from your body before opening the fuel tank filler cap.



2. For a fuel tank filler cap with a key lock, open the cover, then firmly insert the key and turn it to the "OPEN" position.
3. Slowly turn the cap counterclockwise to open it.

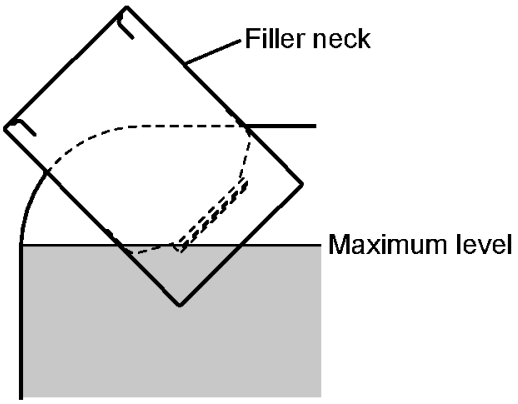
⚠ CAUTION

- **Be sure to slowly open the fuel tank filler cap. If you open it quickly, fuel may spurt out.**

4. Refuel the tank.

⚠ WARNING

- **Do not refuel beyond the maximum level of the fuel tank (if the vehicle is equipped with a flap).**



5. Securely screw the fuel tank filler cap onto the fuel tank.
6. Turn the key to the "CLOSE" position to lock the fuel tank filler cap.
7. Pull the key out, then make sure the fuel tank filler cap is securely closed.

⚠ WARNING

- **Be sure to wipe off the fuel that is spilled at refueling.**
- **If the fuel tank filler cap is not tightly closed, leaking fuel could start a fire while driving.**

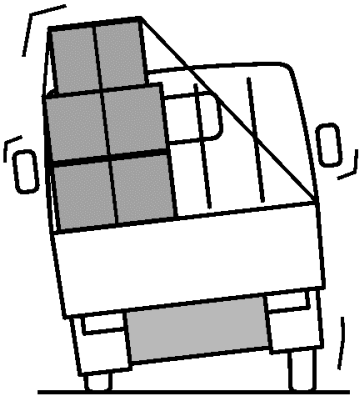
ADVICE

- When opening or closing the fuel tank filler cap, be sure to grasp the fuel tank filler cap itself, not the key. If you try to turn the fuel tank filler cap using the key, you could damage the key.
- Wipe off the key to remove any dirt or dust, etc. after pulling it out.

Cargo Bed [V]

Loading and Unloading

Load Cargo Correctly



⚠ WARNING

- **Overloading can result in an accident because it places too much strain on the wheel bolts with the result that they break and the wheels come off.**

⚠ CAUTION

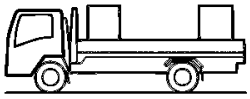
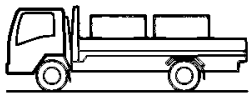
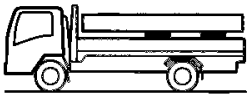
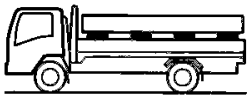
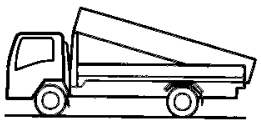
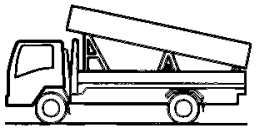
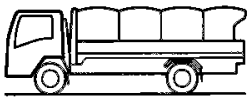
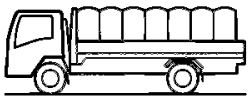
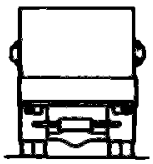
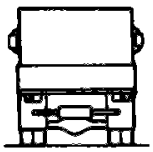
- **It is extremely dangerous to overload the vehicle or to load the vehicle with the cargo positioned on one side. Load the vehicle correctly, observing the maximum loading capacity.**
- **Incorrect loading can make the cargo unstable. It can also cause an overload condition confined to a small area, resulting in damage to the cargo bed and frame.**
- **Overloading places undue strain on vehicle parts. It can shorten the vehicle's service life and cause an accident.**

ADVICE

[Air suspension models]

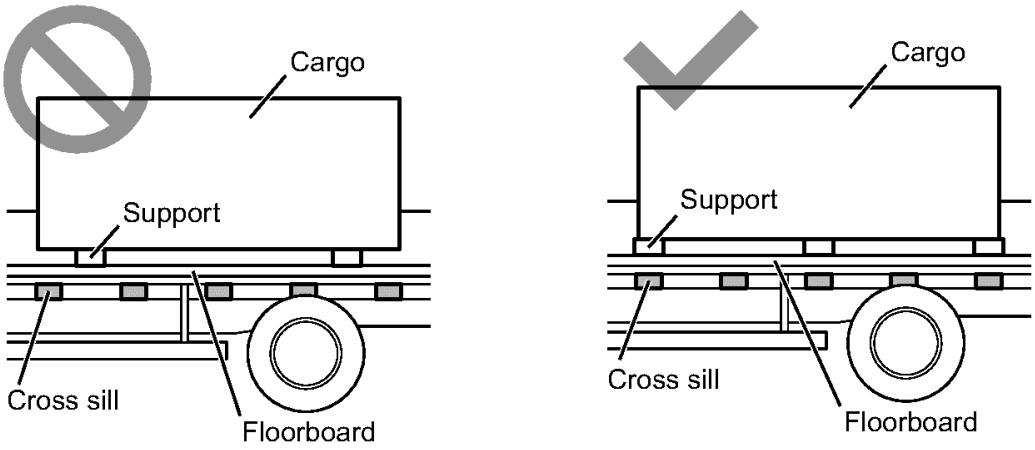
- With a vehicle that has air suspension, pay attention to the following points while loading and unloading cargo.
  - The cargo bed may momentarily move upward when heavy items are unloaded.
  - The cargo bed may momentarily move downward when heavy items are loaded.

Loading Methods

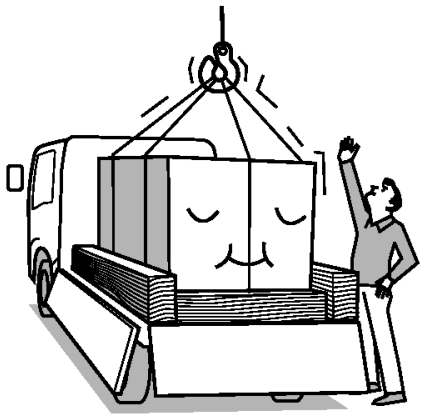
Cargo loading caution	Incorrect	Correct
Do not place cargo only at the front or only at the rear. Distribute it evenly.		
When using supports under cargo, position them uniformly along the cargo.		
To the greatest extent possible, do not allow long cargo to protrude beyond the rear edge of the cargo bed. Rather, use supports to raise it at an angle. Avoid supporting it using just the front guard frame and the rear edge of the cargo bed.		
Use ropes and tarpaulins to secure the cargo so it does not fall off the cargo bed. Use rubber bands or bungee cords to prevent the tarpaulins from flapping in the wind.		
Avoid loading cargo too high. It can cause the vehicle to tip sideways when it catches sidewinds and when turning the vehicle.		

ADVICE

- When using supports under the cargo, place the supports on top of the cross sills. If supports are placed on areas without the cross sills, the floorboard may get damaged.



Loading Heavy Cargo



CAUTION

- **When the cargo is heavy, take steps to prevent it from slipping and secure it with wire cables.**

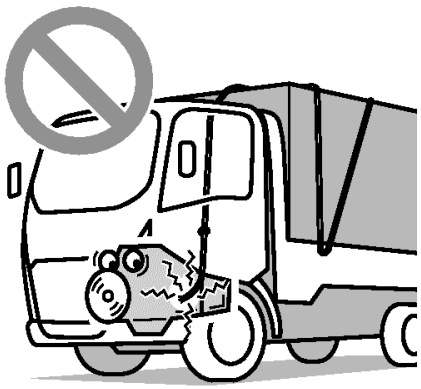
Do not Secure Cargo Too Tightly



ADVICE

- To prevent cargo from falling off the cargo bed, it is essential to secure it with ropes and tarpaulins. However, securing it too tightly can damage the cargo bed's gates and front guard frame.

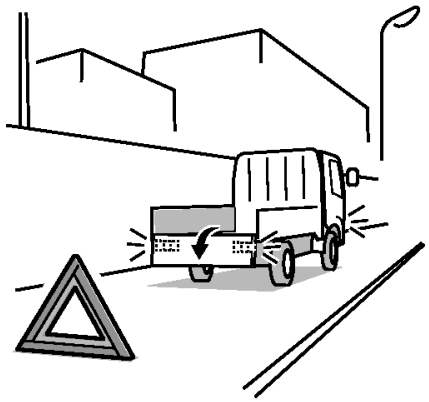
Make Sure There Is No Flammable Material between the Cab and Cargo Bed



⚠ WARNING

- **Be careful not to allow the ends of ropes or edges of tarpaulins to come into contact with the engine, the DPD or exhaust piping. During vehicle operation, the engine's heat could set them on fire. Carefully retain ropes and edges of tarpaulins.**

Unloading Cargo



⚠ CAUTION

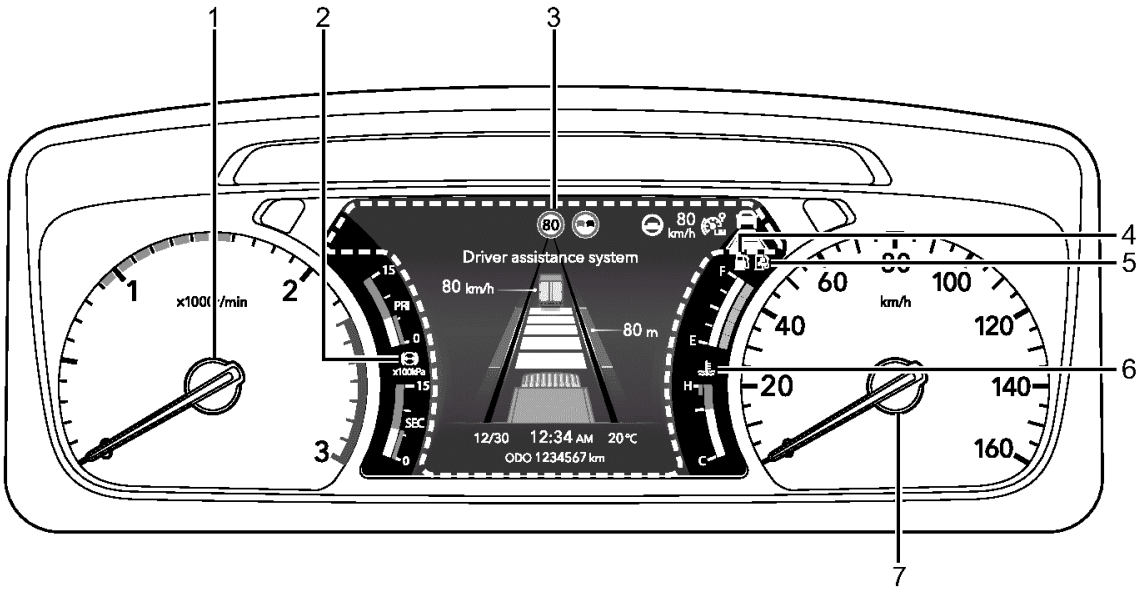
- **When you load or unload cargo at the roadside and the cargo bed's gates or other body parts obscure the taillights, stop lights, hazard warning flashers, turn signal lights and/or reflectors, be sure to warn other drivers and passersby by placing signs or emergency warning triangles where they are easy to see.**
- **When you load or unload cargo at the roadside, select a place where stopping and parking are allowed and other drivers and passersby will not be inconvenienced.**

How to Read the Instruments 3

- Instruments Layout 3-2
- Speedometer 3-3
- Tachometer 3-3
- Air Pressure Gauge 3-4
- Engine Coolant Temperature Gauge 3-5
- Fuel Gauge 3-6
- AdBlue® Level Gauge 3-7
- Instrument Panel Warning/Indicator Lights 3-8
- Understanding Warning/Indicator Lights 3-22
- Multi-information Display Functions 3-31

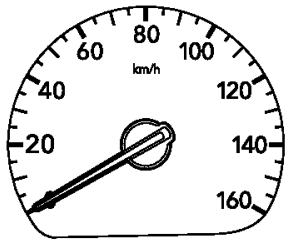
3-2 How to Read the Instruments

Instruments Layout



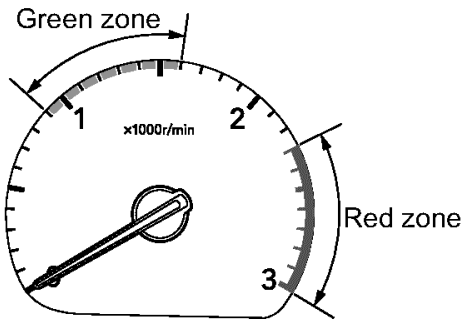
No.	Name	Reference page
1	Tachometer	3-3
2	Air pressure gauge	3-4
3	Multi-information display	3-31
4	Fuel gauge	3-6
5	AdBlue® level gauge	3-7
6	Engine coolant temperature gauge	3-5
7	Speedometer	3-3

Speedometer



The speedometer indicates the vehicle speed in km/h.

Tachometer



The tachometer indicates the engine speed in revolutions per minute (r/min). (Graduation "1" on the scale indicates 1,000 r/min.) The red zone indicates a range of dangerous engine speeds beyond permissible levels. Do not drive your vehicle with the needle of the tachometer in the red zone.

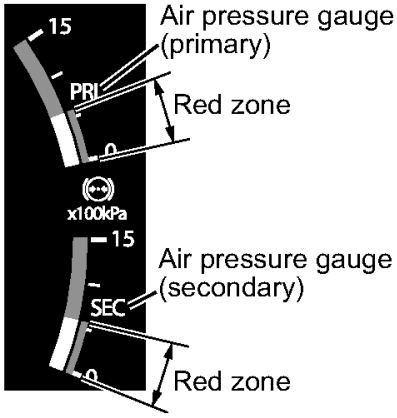
ADVICE

- Exercise extreme caution when shifting down on a steep downslope. The engine speed may easily exceed the critical speed, which can seriously damage the engine.

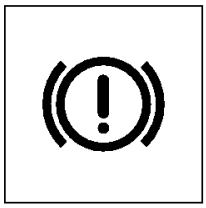
Refer to page
4-17 Driving Uphill or Downhill

3-4 How to Read the Instruments

Air Pressure Gauge



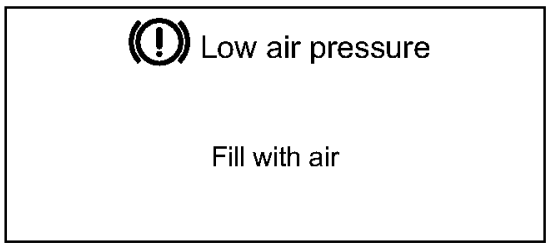
Brake warning light
(Except models for Australia)



Air pressure warning light
(Models for Australia)



Low air pressure



This gauge indicates the pressure of the compressed air in the air tank.

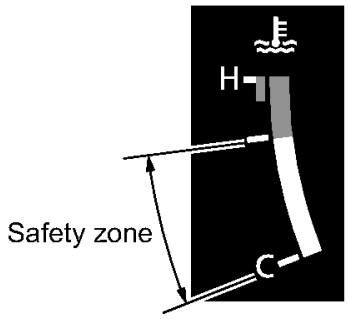
Proper air pressure range
930 - 1,080 kPa (9.5 - 11.0 kgf/cm²/**135- 156 psi**)

If the needles are in the red zone, the brake warning light or air pressure warning light will turn on and "Low air pressure" will be shown on the multi-information display. When this happens, a continuous beep will sound. (The warning will stop when the parking brake is engaged.)
In such circumstances, stop driving immediately and pull the parking brake lever. Place the gearshift lever into "N" (model with a manual transmission); or firmly press the brake pedal and confirm that the shift selector display shows "NN" (model with an automatic transmission).
Run the engine at idle, and increase the air pressure. If air pressure is not increased, if the values indicated by the two needles differ significantly, or if it takes time to increase pressure, contact the nearest Isuzu Dealer.

⚠ WARNING

- **Do not drive the vehicle if the needles are in the red zone, or if brake warning light turns on and "Low air pressure" is shown on the multi-information display. Doing so would be very dangerous as the brakes would not work sufficiently.**

Engine Coolant Temperature Gauge



With the starter switch in the "ON" position, this gauge indicates the temperature of the engine coolant.
The display shows "C" for cool and "H" for hot. When the engine overheats, "Overheating" appears on the multi-information display and a warning buzzer sounds.
During operation, the needle should stay in the safety zone.

Overheating

Stop in a safe place
Cool engine while idling

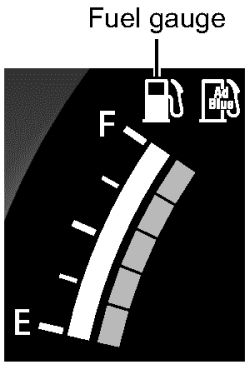
ADVICE

- If the needle goes up above the upper limit of the safety zone and enters the "H" zone while you are driving, the engine is likely to overheat. Immediately pull safely off the road out of the way of any traffic and take the necessary actions to deal with engine overheating.
- If the needle nears the "H" zone but is still in the safety zone, this is not a problem. But, check the engine coolant level in the reservoir at your next opportunity. Add engine coolant as required.
  The engine can seize up if it is stopped immediately after driving. Take appropriate actions for engine overheating.

Refer to page
10-13 Engine Coolant
11-17 When the Engine Overheats

3-6 How to Read the Instruments

Fuel Gauge



With the starter switch in the "ON" position, this gauge indicates the approximate quantity of fuel remaining in the fuel tank. "F" means the tank is full while "E" means the tank is almost empty.

ADVICE

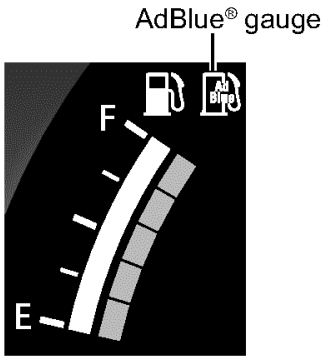
- If your vehicle has run out of fuel, air bleeding procedure must be performed.

NOTE

- Make a habit of filling up the fuel tank well before it approaches empty.
- After filling up the fuel tank, it takes a while for the fuel gauge needle to stabilize after the starter switch is turned to the "ON" position.
- If the fuel tank is filled while the engine is off but the starter switch is in the "ON" position, the fuel gauge needle takes a while to show the correct reading. If so, turn the starter switch to the "LOCK" position and then to the "ON" position again.

Refer to page
2-54 Fuel Tank Filler Cap
11-12 When the Fuel Runs Out

AdBlue® Level Gauge



This gauge indicates the approximate quantity of AdBlue® remaining in the AdBlue® tank. "F" means the tank is full and "E" means the tank is almost empty.
The amount of remaining AdBlue® is shown in 5 levels.

NOTE

- The vehicle speed will be severely limited when the AdBlue® tank is empty, therefore be sure to add AdBlue® before the AdBlue® tank reaches empty.

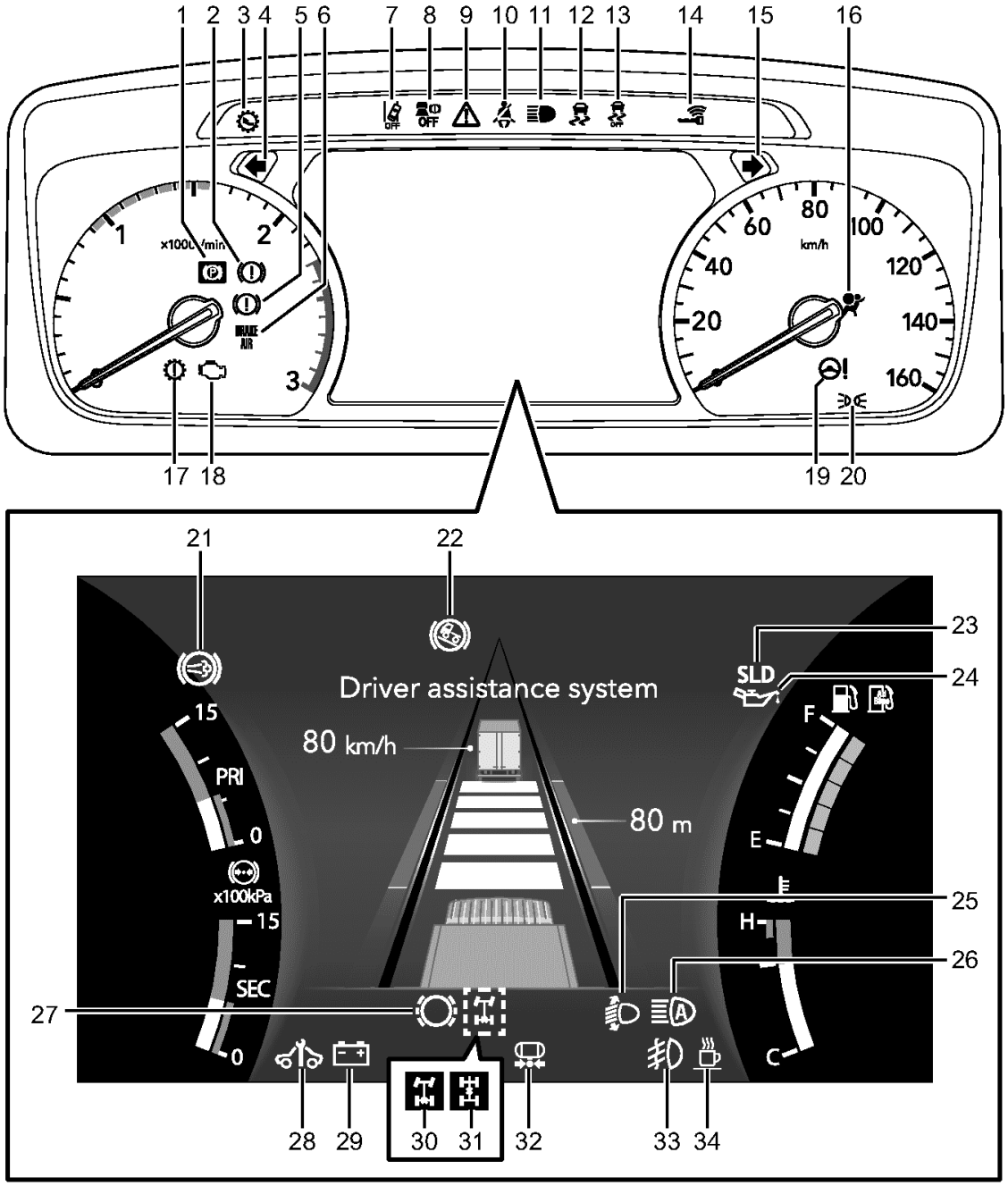
AdBlue® tank usable capacity [Reference value]
23.0 liters (6.08 US gal./**5.06 Imp gal.**)

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?
4-168 Refilling AdBlue®

3-8 How to Read the Instruments

Instrument Panel Warning/Indicator Lights

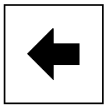
Warning/Indicator Light Overview

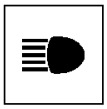
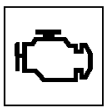
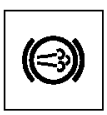


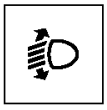
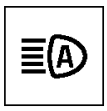
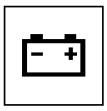
ADVICE

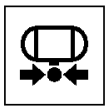
[What is operation check?]

- The lights turn on or flash during the systems checks when the starter switch is put in the "ON" position. If they remain on briefly or turn off after the engine starts, then the systems are normal. The warning lights/indicator lights with a "●" in the following table light at startup.
  If the light does not come on or does not turn off, there may be a problem with the system. Have the vehicle inspected at the nearest Isuzu Dealer.

No.	Symbol	Color	Name	Operation check	Page
1		Red	Parking brake warning light	—	4-59
2		Red	Brake Warning Light	●	3-22
3		Green	Low range indicator light [V]	—	4-66
4		Green	Turn signal and hazard warning flasher indicator light - left	—	4-83
5		Amber	Brake Warning Light	●	3-22
6		Amber	Air pressure warning light [V]	●	3-23
7		Amber	LDWS OFF indicator light	●	5-75
8		Amber	AEBS OFF indicator light	●	5-15
9		Amber	Master warning light	●	3-28

No.	Symbol	Color	Name	Operation check	Page
10		Red	Seat belt warning light	—	1-4
11		Blue	High beam indicator light	—	4-81
12		Amber	ESC warning light	●	4-124
13		Amber	ESC OFF indicator light	●	4-132
14		Red	Passive entry and start system warning light	●	2-19
15		Green	Turn signal and hazard warning flasher indicator light - right	—	4-83
16		Red	SRS airbag warning light	●	1-12
17		Amber	Check trans warning light	●	4-67
18		Amber	Check engine warning light	●	3-27
19		Amber	Steering assist motor warning light	●	3-30
20		Green	Lights on indicator light	—	4-81
21		White/ Green/ Amber	Exhaust brake indicator light	—	4-115

No.	Symbol	Color	Name	Operation check	Page
22		Green	HSA indicator light [V]	●	4-104
		Amber	HSA warning light [V]	●	4-103
23		Green	SLD indicator light	●	4-137
24		Red	Engine oil pressure warning light	●	3-24
25		Amber	Headlight automatic leveling warning light [V]	●	4-85
26		Green	Adaptive driving beam indicator light	—	5-98
		Amber	Adaptive driving beam warning light	●	5-98
27		Amber	Brake pad wear warning light [V]	—	3-24
28		Amber	SVS indicator light	●	3-28
29		Red	Generator warning light	●	3-25
30		Amber	Differential lock indicator light	—	4-118
31		Amber	Inter-differential lock indicator light [V]	—	4-120

No.	Symbol	Color	Name	Operation check	Page
32		Amber	Low accessory air pressure warning light	—	3-29
33		Green	Front fog light indicator light	—	4-86
34		Amber	Attention Assist warning light	●	5-94

Multi-Information Display

Warning and operation indicators

Main display	Color	Name	Description	Page
Regenratng DPD automtcly DPD automatic regeneration is performed	Green	Automatic regeneration of DPD in progress	DPD is being automatically regenerated.	4-150
Check selectable regen Checking selectable regeneration Please wait	Amber	Confirming selectable regeneration	System is checking if selectable regeneration of DPD is possible.	4-151
Regen DPD manually Stop the vehicle until regeneration is complete	Amber	Manual regeneration of DPD in progress	DPD is being manually regenerated.	4-150
DPD regeneration needed Stop in a safe place to perform DPD regeneration	Amber	Regeneration required warning light	Manual regeneration of DPD is needed.	4-150
DPD regeneration needed Stop in a safe place to perform DPD regeneration The engine may not be able to restart	Amber	Regeneration required warning light	Manual regeneration of DPD is needed.	4-150

Main display	Color	Name	Description	Page
Torque restricted Engine torque is restricted	Red	Torque restricted	Engine torque is restricted. (Model conforming to EuroVI emission standards)	4-164
Vehicle speed restricted Vehicle speed is restricted	Red	Vehicle speed restricted	Vehicle speed is restricted. (Model conforming to EuroVI emission standards)	4-164
Incorrect AdBlue AdBlue quality is abnormal Contact the dealer	Red	Incorrect AdBlue®	Quality of AdBlue® is abnormal. (Model conforming to EuroVI emission standards)	4-165
AdBlue level low Fill with specified AdBlue	Amber	AdBlue® level low	AdBlue® level is low and refilling is needed. (Model conforming to EuroVI emission standards)	4-163
Fill up AdBlue Fill with specified AdBlue Engine torque and vehicle speed are restricted if AdBlue is empty	Amber	Fill up AdBlue®	The remaining amount of AdBlue® is very low and refilling is needed. (Model conforming to EuroVI emission standards)	4-163
Critical emission fail Emission control system is abnormal Contact the dealer	Red	Critical emission fail	There is an abnormality with the emission control system. (Model conforming to EuroVI emission standards)	4-166
AdBlue injection system AdBlue injection system is abnormal Contact the dealer	Amber	AdBlue® injection system	There is an abnormality with the urea SCR system. (Model conforming to EuroVI emission standards)	4-166
AdBlue dosing malfunction AdBlue is being consumed abnormally Contact the dealer	Amber	AdBlue® dosing malfunction	There is an abnormality with the AdBlue® consumption. (Model conforming to EuroVI emission standards)	4-167

3-14 How to Read the Instruments

Main display	Color	Name	Description	Page
Fuel Level Low Fill with fuel	Amber	Fuel level low	Fuel level is low and refilling is needed.	2-56
Fuel filter Water has accumulated Drain the water from the fuel filter	Red	Water separator (vehicle-side pre-fuel filter)	Water needs to be drained from pre-fuel filter.	10-33
Insufficient coolant Check for coolant leaks and fill. As there is a risk of burns, do not remove sub-tank cap while it is hot	Red	Low coolant	Engine coolant level is low.	10-15
Overheating Stop in a safe place Cool engine while idling	Red	Overheating	Engine is overheated.	11-17
Caution! Driver not seated HSA system is operating When releasing, apply the parking brake	Amber	Caution! Driver not seated (HSA)	A door is opened without pulling the parking brake while the HSA is activated.	4-105
Caution! HSA long operation HSA system is operating for a long time Apply the parking brake	Amber	Caution! HSA long operation	The vehicle is stopped a long time with the HSA activated.	
Vehicle rolling forward Apply the parking brake	Amber	Vehicle rolling forward (HSA)	The vehicle starts moving during a stop using the HSA.	
HSA abnormal Restart engine, if it appears again, contact the dealer	Amber	HSA abnormal	The HSA warning light or buzzer is activated for reasons other than those above.	

Main display	Color	Name	Description	Page
PTO operating Operating	Red	PTO operating	The PTO is operating.	4-172
Warning Cab is not locked Check that cab is locked	Red	Cab tilt	Cab tilt lock is not engaged.	7-16
Door lock unavailable Key is in vehicle	Amber	Door lock unavailable	While the remote control unit was left in the vehicle, locking the door was attempted.	2-21 2-21
Door lock unavailable Put starter switch in LOCK position	Amber		While the starter switch was in the "ACC" or "ON" position, an attempt was made to lock the door.	2-22
Door lock unavailable Door is open	Amber		While the driver side or passenger side door had not been closed properly, an attempt was made to lock the door.	2-23
Key undetectable No key found in vehicle	Amber	Key undetectable	While the starter switch was in the "ACC" or "ON" position, the remote control unit was carried out of the vehicle and the door was closed.	2-22
Authenticate key Hold key over starter switch	Amber	Authenticate key	The starter switch cannot be turned to the "ON" position because the unit cannot be recognized due to the remote control unit's dead battery or due to the surrounding radio wave conditions.	2-23

3-16 How to Read the Instruments

Main display	Color	Name	Description	Page
Key collation complete Put starter switch in ON position	Amber	Key collation complete	The remote control unit is recognized and the starter switch can be turned to the "ON" position.	2-23
Low key battery Key battery is low Replace the battery	Amber	Low key battery	The battery in the remote control unit is running down.	2-24
Key system abnormal Remote controller key system abnormal Contact the dealer	Amber	Key system abnormal	The passive entry and start system has an abnormality and does not work properly.	2-24
Comm system abnormal Stop in a safe place Contact the dealer	Amber	Communication system abnormal	There is an abnormality in communication between instruments and the related system.	3-29
Hydraulic pressure failure Stop in a safe place Check the engine oil level and if there is no oil leakage, contact the dealer	Red	Hydraulic pressure failure	The engine oil pressure has fallen abnormally.	3-25
Engine Oil Level Low Use level gauge to check engine oil level	Amber	Engine oil level (inspection)	The engine oil level is low or has exceeded the "Inspection MAX" position.	10-5
Air cleaner inspection Air cleaner inspection Clean or replace it	Amber	Air cleaner element (inspection)	The cleaning interval is near.	10-29

Main display	Color	Name	Description	Page
 T/M oil temp rising While engine is running, put gearshift lever in the P or N position, and wait	Red	T/M oil temp rising [A/T]	The automatic transmission fluid is abnormally high.	4-68
 Voltage drop	Red	Voltage drop	The battery voltage is low.	3-26
 Overvoltage	Red	Overvoltage	The battery voltage is high.	
 Caution!turn off the light Battery may go flat because forget to turn off the light	Amber	Caution! turn off the light	The door is opened while the starter switch is in the "LOCK" position and the lights on indicator light are lit.	4-81
 Variable speed limiter Driver assistance mode changed	White	Adjustable speed limitation device	The mode switch is pressed to change to the adjustable speed limitation device mode.	4-140
 Intelligent speed limiter Driver assistance mode changed	White	Intelligent speed limiter	The mode switch is pressed to change to the intelligent speed limiter mode.	5-69
 Cruise control Driver assistance mode changed	White	Cruise control	The mode switch is pressed to change to cruise control mode.	4-96
 Adaptive cruise control Driver assistance mode changed	White	Adaptive cruise control	The mode switch is pressed to change to full speed range adaptive cruise control mode.	5-42

3-18 How to Read the Instruments

Main display	Color	Name	Description	Page
Cruise control canceled Cruise control has been canceled	Amber	Cruise control canceled	The cancel switch is pressed to temporarily cancel cruise control mode.	4-96 5-43
Front camera failure Contact the dealer	Amber	Front camera failure	There is an abnormality in the camera.	5-8
Front camera unavailable Camera cannot be used	Amber	Front camera unavailable	The camera is deactivated temporarily.	5-7
Front radar failure Contact the dealer	Amber	Front radar failure	There is an abnormality in the radar.	5-9
Front radar unavailable Radar cannot be used	Amber	Front radar unavailable	The radar stops temporarily.	5-9
Front radar is blocked Remove snow and dirt from the radar surface If it appears again, contact the dealer	Amber	Front radar is blocked	Dirt is detected on the radar.	5-10
Warning Brake!	Red	Driver attention alert (AEBS)	Obstacles in the forward direction are detected and the driver is encouraged to operate the brake.	5-12
Brake! 		Automatic braking activation warning (AEBS)	An obstacle is detected in the direction of travel and avoiding a collision is difficult, so the AEBS activates automatic braking.	5-12

Main display	Color	Name	Description	Page
Attention Keep distance from Preceding Vehicle	Amber	Distance warning (following distance warning)	The following distance with the preceding vehicle is too short.	5-17 5-43
Preceding vehicle start	White	Preceding vehicle start (preceding vehicle departure notification function)	The preceding vehicle has departed but your vehicle remains stopped.	5-24 5-44
No entry 	Amber	No entry (traffic sign recognition system)	The vehicle passes a no entry sign and then enters the restricted area.	5-57
Adaptive headlight suspended	Amber	Adaptive headlight suspended	The camera system is malfunctioning.	5-98
Brake Hold	White	Brake hold	Vehicle stopped while following the preceding vehicle and using full speed range adaptive cruise control.	5-43
Attention Take a break?	Amber	Weaving attention	The vehicle is weaving.	5-93
EBS brake abnormal Stop in a safe place Contact the dealer	Red	EBS brake abnormal	EBS, ABS, or ESC/ASR abnormality has occurred.	4-127
Low air pressure Fill with air	Red	Low air pressure	The air pressure has dropped below the specified pressure level.	3-29

Maintenance alert messages

Indicate the maintenance period for each maintenance item. Be sure to set (reset) the replacement period after replacing any item.

This can also be confirmed from the "Maintenance alert info" on the multi-information display.

Refer to page
3-39 Maintenance alert

Main display	Color	Name	Description	Page
Maintenance alert Engine oil and filter Distance to replacement *,***km	Amber	Engine oil and filter	Distance remaining until the next engine oil and filter change is displayed.	10-6
Maintenance alert Engine oil and filter Distance to replacement −*,***km	Amber		This is displayed when the next engine oil and filter change has already been reached.	
Maintenance alert Transmission oil Distance to replacement *,***km	Amber	Transmission oil [M/T]	Distance remaining until the next transmission oil change is displayed.	10-79
Maintenance alert Transmission oil Distance to replacement −*,***km	Amber		This is displayed when the next transmission oil change has already been reached.	
Maintenance alert Differential oil Distance to replacement *,***km	Amber	Differential gear oil	Distance remaining until the next differential gear oil change is displayed.	10-93
Maintenance alert Differential oil Distance to replacement −*,***km	Amber		This is displayed when the next differential gear oil change has already been reached.	

Main display	Color	Name	Description	Page
Maintenance alert Fuel filter Distance to replacement *,***km	Amber	Fuel filter	Distance remaining until the next fuel filter change is displayed.	10-33
Maintenance alert Fuel filter Distance to replacement —*,***km	Amber		This is displayed when the next fuel filter change has already been reached.	
Maintenance alert Power steering fluid Distance to replacement *,***km	Amber	Power steering fluid	Distance remaining until the next power steering fluid change is displayed.	10-101
Maintenance alert Power steering fluid Distance to replacement —*,***km	Amber		This is displayed when the next power steering fluid change has already been reached.	
Maintenance alert Tire rotation Distance to replacement *,***km	Amber	Tire rotation	Distance remaining until the next tire rotation is displayed.	10-52
Maintenance alert Tire rotation Distance to replacement —*,***km	Amber		This is displayed when the next tire rotation has already been reached.	
Maintenance alert Brake pad Replace the brake pad *** axle	Amber	Brake pad [V]	This is displayed when brake pads have worn beyond the usable limit.	10-46

Understanding Warning/Indicator Lights

Warning and indicator lights not shown in this section are explained in the sections for each of the devices or functions. Refer to them from the "Instrument Panel Warning/ Indicator Lights".

Refer to page
3-8 Instrument Panel Warning/Indicator Lights

Brake Warning Light



This warning light comes on under the following circumstances.

- When air pressure is insufficient.
- When there is an abnormality in the EBS system.

If it comes on amber, contact the nearest Isuzu Dealer. Also, when it comes on red, "EBS brake abnormal" and "Low air pressure" will be shown on the multi-information display.

Refer to page
3-29 Low Air Pressure
4-133 ESC Operation Check, Operation, Error

CAUTION

- **If it turns on amber when the vehicle is in motion, immediately stop the vehicle in a safe place out of the way of traffic and take the following actions:**
  - **Stop the engine.**
  - **Restart the engine. When doing so, confirm the ON/OFF status of the warning light. There is no abnormality if the light turns on and then turns off normally. EBS system operate correctly.**
  - **If it does not turn off using the actions above, try starting and driving the vehicle. There is no abnormality if the warning light turns off by the time the vehicle speed reaches approximately 15 km/h (9 MPH).**
- **If it does not turn on or turn off, or turns on frequently, have the vehicle checked and serviced at your Isuzu Dealer as soon as possible.**
- **Even if the EBS has malfunctioned, the regular brakes will still operate normally. At this time, the EBS will not function, thus a larger amount of brake pedal depression will be required. The braking force can be ensured by depressing the pedal further.**

NOTE

- If the ESC OFF switch is pressed for 5 seconds or more, the ESC operating status will be switched to Roller Testing Bench Mode which is used for testing braking force, and the EBS warning light will come on.

Refer to page
4-132 ESC OFF Switch

Air Pressure Warning Light [V]

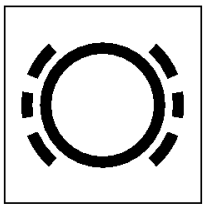


Models for Australia

This warning light comes on and a buzzer sounds if air pressure drops below the specified level. Immediately pull off to a safe place, check the vehicle and take necessary actions.

Refer to page
3-4 Air Pressure Gauge

Brake Pad Wear Warning Light [V]



Your vehicle is equipped with pad wear sensors that will illuminate the brake pad wear warning light when the pads approach their wear limit.
If the brake pad wear warning light comes on, contact your nearest Isuzu Dealer to have the pads inspected or replaced.

Engine Oil Pressure Warning Light



While the engine is running, this warning light comes on if the engine oil pressure, which lubricates the engine components, is abnormal.
Immediately stop the vehicle in a safe place, stop the engine, perform checks and then take corrective action.

CAUTION

- **Do not drive the vehicle when the warning light is on. It could damage the engine.**

ADVICE

- If this warning light comes on while the engine is running, immediately pull off to a safe place well clear of traffic.
- The lubrication system may be faulty. Promptly have your vehicle inspected at the nearest Isuzu Dealer.

NOTE

- In winter, when the engine oil temperature is low and the oil viscosity is high, the light might come on for a time. It will go out when the engine warms up.

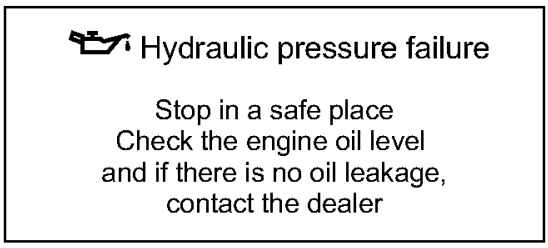
Check and Corrective Action

1. Check the engine oil level.
2. If the engine oil level is too low, check for leaks and add oil.
3. When the oil level is normal and there are no oil leaks, the oil filter may be clogged. Replace the oil filter.

4. When the oil level is normal and the oil filter is not clogged, but there are oil leaks, contact the nearest Isuzu Dealer.

Refer to page
10-4 Engine Oil
10-8 Changing the Engine Oil and Oil Filter
10-5 Engine Oil Level Warning

Engine Oil Pressure Abnormal



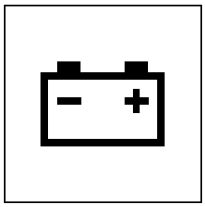
This message is displayed if the engine oil pressure falls abnormally.
If it appears on the multi-information display, stop the vehicle at a safe place immediately and perform inspection and take corrective action.

ADVICE

- There is a risk of a malfunction in the lubrication system, so immediately contact the nearest Isuzu Dealer for inspection.

Refer to page
10-4 Engine Oil

Generator Warning Light



This warning light comes on when, while the engine is running, there is a problem with the charging system (such as a loose or broken fan belt).
Immediately stop the vehicle in a safe place, perform checks and take corrective action.

CAUTION

- **Do not drive the vehicle when the warning light is on. The battery can be discharged.**

ADVICE

- If this warning light comes on while the engine is running, immediately pull off to a safe place well clear of traffic and promptly contact the nearest Isuzu Dealer for inspection.

NOTE

- Since disassembling is required to replace the fan belt, have it performed by the nearest Isuzu Dealer.

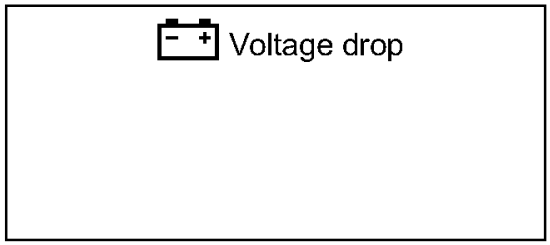
Check and Corrective Action

1. Check to see if the fan belt is broken or loose.
2. If the fan belt is loose, adjust the tension.
3. If there is no abnormality in the fan belt, contact the nearest Isuzu Dealer.

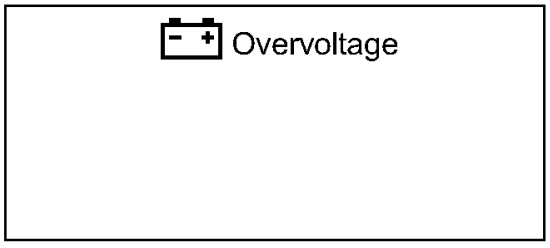
Refer to page
10-25 Fan Belt
10-116 Battery
11-10 When the Battery Goes Flat

Voltage drop/Overvoltage

Voltage drop



Overvoltage

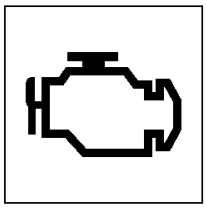


When the battery voltage is low or excessive, "Voltage drop" or "Overvoltage" appears on the multi-information display. The cause could be over-discharge of the battery or poor power generation by the generator. Contact the nearest Isuzu Dealer.

NOTE

- "Voltage drop" may appear on the multi-information display when the engine is started or immediately after being started, but this is not abnormal if it returns to normal after starting.

Check Engine Warning Light



The warning light comes on when the exhaust gas related equipment is abnormal.
It also comes on in the following cases. If it comes on, contact the nearest Isuzu Dealer.

- When the engine electronic control systems is abnormal and the engine is running (depending on the type of abnormality, after the engine is started, it may stay lit for 15 seconds and then turn off)
- When continuing to drive without performing a DPD regeneration, or when a DPD system abnormality occurs
- When there is an abnormality with the urea SCR system or with quality of AdBlue®

Immediately stop the vehicle in a safe place, perform checks and take corrective action. Since checking and repairing the control system is required, immediately contact the nearest Isuzu Dealer.

⚠ CAUTION

- **If this warning light comes on and the engine stops, it is possible that the engine has entered protection mode. Switch the power mode to "OFF" (models with passive entry and start system) or turn the starter switch to the "LOCK" position (models without passive entry and start system) and wait at least 60 seconds before proceeding to start the engine again.**
  Even if the vehicle is drivable, see the nearest Isuzu Dealer as soon as possible for service of the system.

ADVICE

- If this warning light comes on while the engine is running, avoid driving at high speeds and promptly have the vehicle inspected at the nearest Isuzu Dealer.
- If this warning light comes on either intermittently or continuously while driving, service is required. Even if the vehicle is drivable, and does not require towing, see your Isuzu Dealer as soon as possible for service of the system. Continued driving without having the system serviced could cause damage to the emission control system. It could also affect fuel economy and drivability.

Service Vehicle Soon (SVS) Indicator Light



The indicator light comes on when equipment other than the exhaust gas related equipment is abnormal.
It also comes on in the following case. If it comes on, contact the nearest Isuzu Dealer.

- When there is an abnormality in the system while the engine is running

If the indicator light comes on during operation, immediately contact the nearest Isuzu Dealer for inspection.

NOTE

- On a model equipped with a speed limit device, this indicator light normally will come on when the starter switch is turned to the "ON" position. And the indicator light keeps lighting for 15 seconds, and then will go off after flashing three times.

Master Warning Light



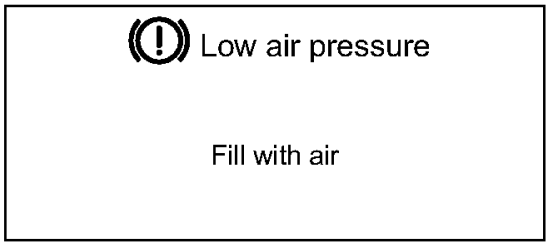
The warning light comes on when the advanced driver assistance system or auxiliary brake control is abnormal. If it comes on, contact the nearest Isuzu Dealer.

CAUTION

- **When the check engine warning light comes on at the same time, the engine output may be restricted and changing gears may be impossible. The vehicle system may be malfunctioning, so immediately contact the nearest Isuzu Dealer.**

Refer to page
3-27 Check Engine Warning Light

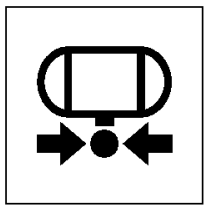
Low Air Pressure



If the air pressure drops below the specified pressure level, this message appears on the multi-information display, and a continuous beep will sound.
Stop the vehicle immediately in a safe location, and check the vehicle and take necessary actions.
When "Low air pressure" is displayed, the brake warning light (red) or the air pressure warning light comes on simultaneously.

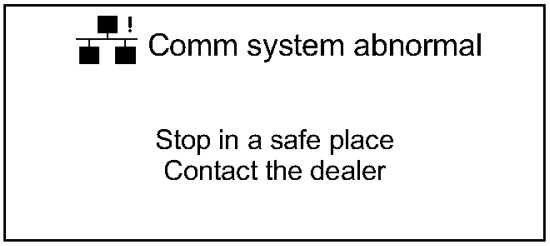
Refer to page
3-22 Brake Warning Light
3-23 Air Pressure Warning Light [V]
3-4 Air Pressure Gauge

Low Accessory Air Pressure Warning Light [V]



If the air pressure in the accessory air tank drops below the specified pressure level, a continuous beep will sound (The beep will stop when the parking brake is set.)
Stop the vehicle immediately in a safe location, and check the vehicle and take necessary actions.

Communication System Failure



This is displayed on the multi-information display when there is an abnormality in communication between instruments and the related system.
At this time, the engine coolant temperature gauge stops, and the instrument warning function does not work properly.
Stop the vehicle in a safe place, stop the engine and start the engine again.
If the indication appears again, contact the nearest Isuzu Dealer.

Steering Assist Motor Warning Light



The warning light comes on when an abnormality occurs in the motor used for steering assist control.

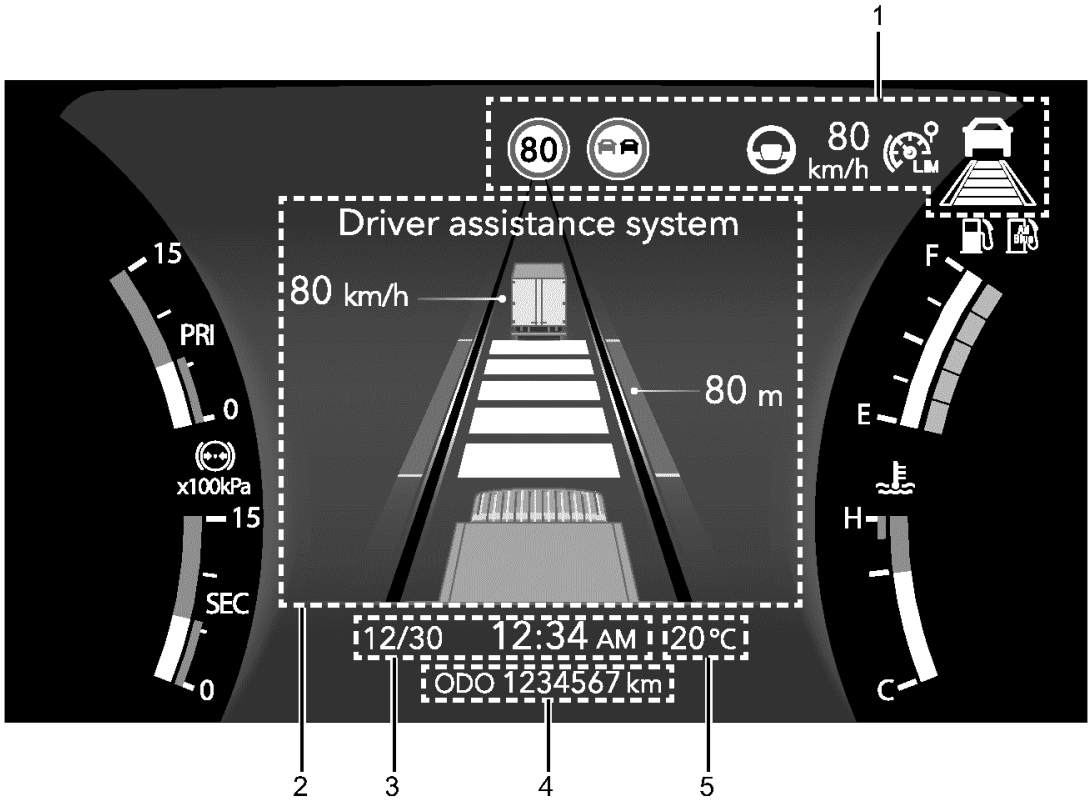
⚠ CAUTION

- **When the steering assist motor warning light comes on, steering assist may stop and the steering wheel may become hard to turn. Immediately contact the nearest Isuzu Dealer for inspection.**

Refer to page
5-81 Lane Keep Assist [V]

Multi-information Display Functions

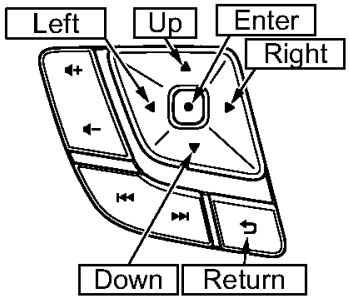
Various information related to driving is displayed on the multi-information display on the instrument panel.
When the screen is changed, maintenance information, settings such as clock/date or vehicle information can be checked.



No.	Name	Page
1	Drive assist display area	3-32
2	Main display area	3-33
3	Date and clock	3-37
4	Odometer	3-37
5	External temperature gauge	3-37

Refer to page
3-32 Multi-Information Display Screen Configuration

Multi-information Display Switches



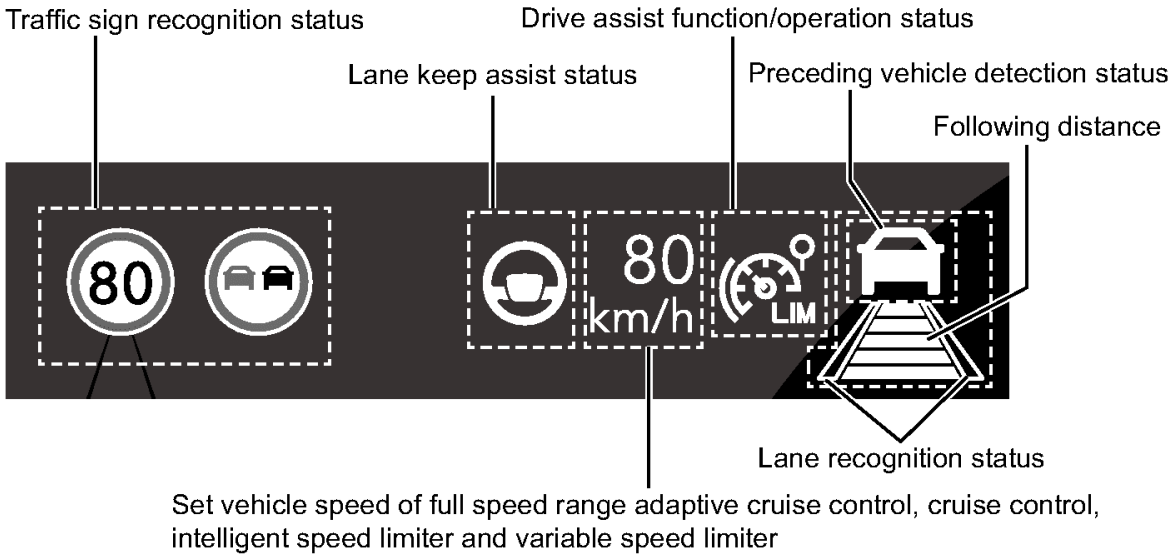
Change the screen or select a function using the switches on the left side of the steering wheel.

Switch	Function
Enter	Use to confirm selections.
Left	Use to move the cursor or to adjust values.
Right	
Up	
Down	
Return	Use to return to the previous screen.

Multi-Information Display Screen Configuration

Drive Assist Display Area

This displays the operating conditions and settings of the drive assist system.



Drive assist functions	Display	Page
Traffic sign recognition system		5-53

Drive assist functions	Display	Page
Intelligent speed limiter		5-65
Full speed range adaptive cruise control		5-30
Cruise control		4-94
Adjustable speed limitation device		4-138
Preceding vehicle departure notification function*		5-24
Following distance warning		5-17
Lane departure warning system (LDWS)		5-74
Lane keep assist		5-81

*: The preceding vehicle icon is displayed only during full speed range adaptive cruise control.

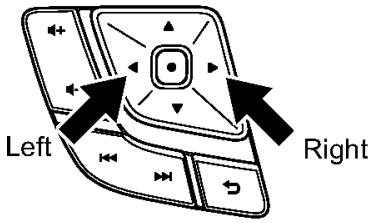
Main Display Area

Under normal conditions, pressing the "Right" or "Left" switch in the left side of the multi-information display switch changes the screen.
Selecting functions in each screen can be done by using the multi-information display switch.

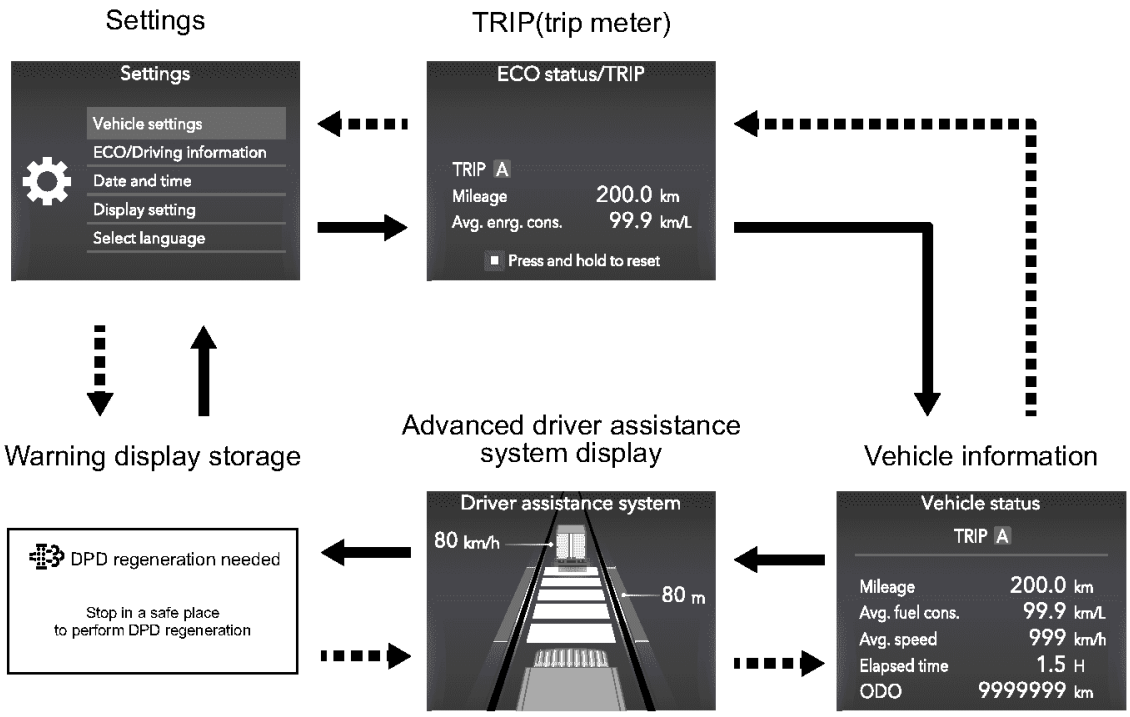
Refer to page
3-32 Multi-information Display Switches

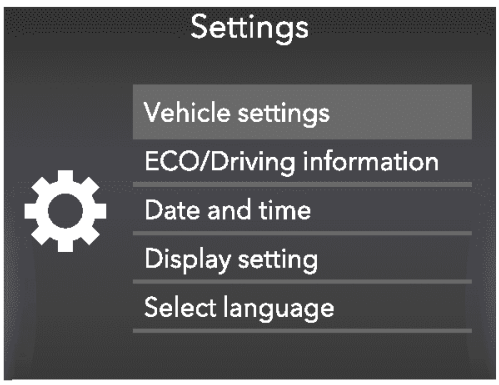
NOTE

- When the engine has been started, the screen that was displayed as when the starter switch was last set to the "LOCK" position is displayed.



Right	→
Left	←- - -

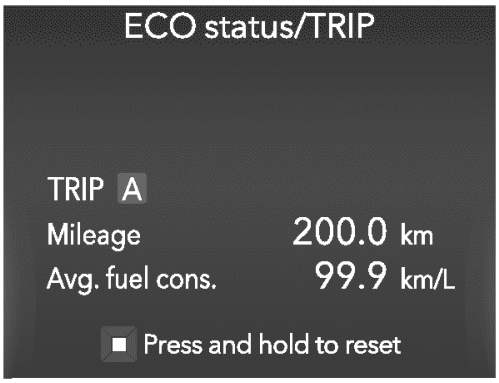




Setting

The vehicle's settings and condition can be checked.

Refer to page
3-38 Settings



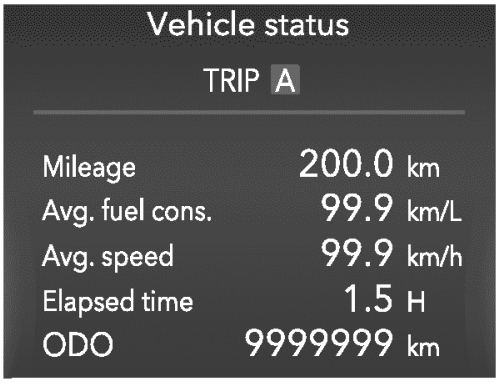
TRIP (trip meter)

TRIP (trip meter) is used to know the distance between designated points or the driving distance for within a certain period. The left side of the decimal point is kilometers, and the right side is 100 m units. You can also check the average fuel consumption for that trip.

You can check either of two types of trip meters, which are "TRIP A" and "TRIP B". Switch which one to use according to your plans.

Press "Up" or "Down" to switch between "TRIP A" and "TRIP B".

To reset "TRIP A" or "TRIP B", press and hold "Enter". Also, if the count exceeds 9999.9 km, it is automatically reset to "0".

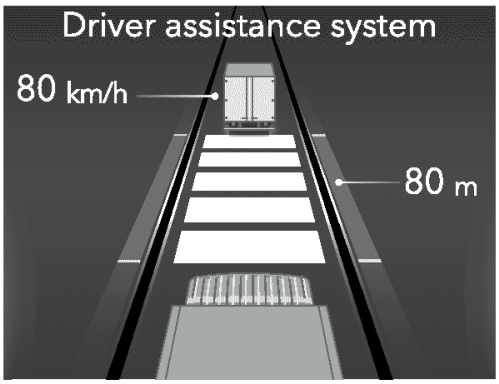


Vehicle information

The following vehicle information can be checked.

Vehicle information
Vehicle status
DPD accumulation level
Volt meter/hour meter

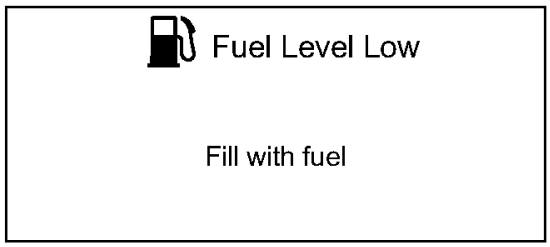
Refer to page
3-46 Vehicle Information

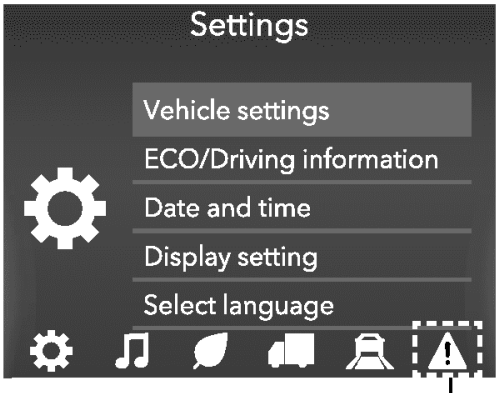


Advanced driver assistance system display

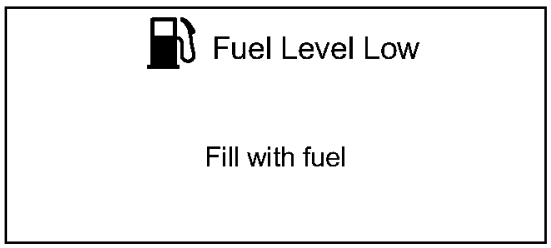
The operating conditions and warnings for the advanced driver assistance system are checked.

Advanced driver assistance system	Page
Cruise control/Full speed range adaptive cruise control	4-94 5-30
Lane departure warning system	5-74





Warning display storage icon



Warning display storage

Messages to the driver that have been hidden by pressing "Enter" when they appear on the multi-information display can be confirmed. If there are multiple hidden messages, press "Enter" to switch the displays.

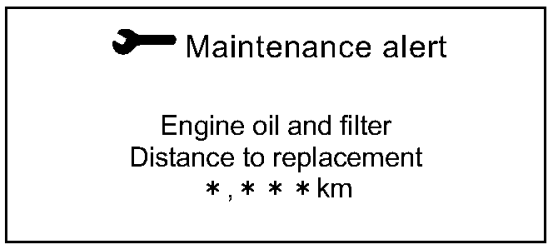
NOTE

- If there are hidden messages, the warning display storage icon in the lower part of the main display area that is displayed by pressing the "Right" or "Left" switch on the normal screen will turn orange.
- After returning to the normal screen, maintenance displays cannot be checked in the "Warning display storage". They are displayed when the starter switch is turned to "ON".

Warning/operation display

The operating state and abnormalities of each system are displayed in messages.

Refer to page
3-12 Warning and operation indicators

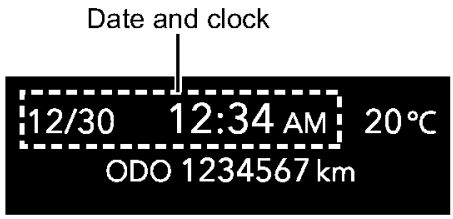


Maintenance display

Message is displayed when the maintenance period is near or is exceeded.

Refer to page
3-20 Maintenance alert messages

Date and Clock



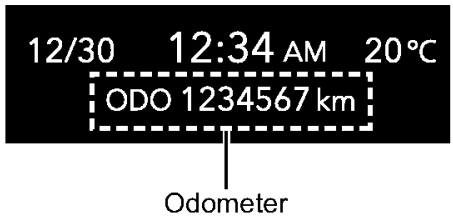
The date and time are displayed.
The "Setting" is used to adjust "Year", "Month", "Day", "Hour" or "Minute".

Refer to page
3-38 Settings

NOTE

- Warning and indicator lights may come on in the date and clock display area. The date and clock are not displayed at this time.

Odometer

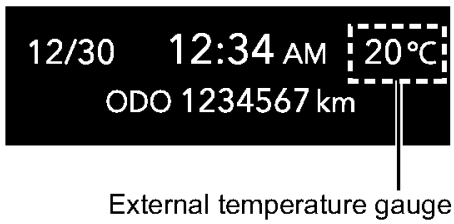


Total driving distance is displayed in km/miles. Distances in excess of 9999999 km/miles will not be counted.

NOTE

- Warning and indicator lights may come on in the odometer display area. The odometer is not displayed at this time.

External Temperature Gauge



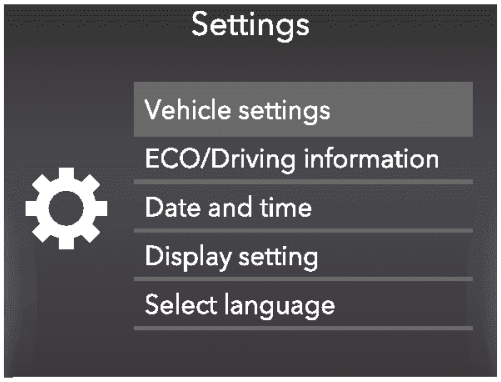
The external temperature is displayed.

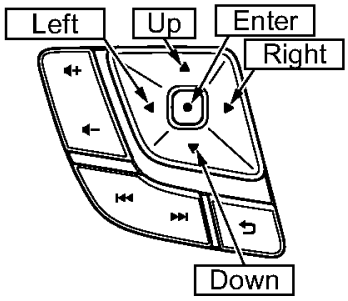
NOTE

- Warning and indicator lights may come on in the external temperature gauge display area. The external temperature is not displayed at this time.

Settings

The settings, such as if a device is on or off, and the vehicle condition can be checked. Use the multi-information display switches to do the settings. Select each item with "Up" or "Down" and confirm it with "Enter".





Vehicle settings

Transition screen		Page
Driver assist functions in front	Advanced Emergency Brake	5-11
	Following distance warning	5-17
	Preceding vehicle informations	5-24
	Traffic sign recognition system	5-53
	Intelligent speed limiter	5-65
Driver assist functions for side	Lane departure warning	5-74
Driver monitoring	Attention assist	5-92
Brake	HSA settings	4-102
Lamp	Adaptive headlight setup	5-96
Auto air conditioner	Compressor link	6-16
	Auto air intake switching	
Automatic wiper	Automatic wiper settings	4-91

Driving information

Transition screen		Page
TRIP A	Driving information	3-40
TRIP B	Driving information	

Date and time

Transition screen			Page
Time settings	24 hour format	Date/time settings	3-40

Display settings

Transition screen			Page
Lighting brightness			3-41
Unit	Speed	km/h	
		mph	
	Distance	km	
		mi	
	Fuel Economy	km/L	
		L/100km	
		mpg(UK)	
		mpg(US)	
	Temperature	°C	
		°F	
Select language			

NOTE

- You can choose your language from 13 different languages.

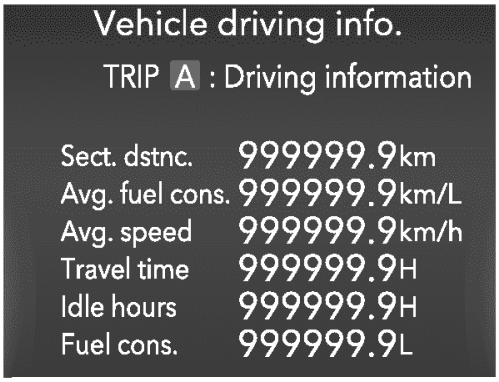
Maintenance alert

Transition screen		Page
Maintenance alert info	ENG Oil & Filter	3-43
	Fuel filter	
	Transmission oil	
	Differential oil	
	Power steering fluid	
	Tire rotation	
	Brake pad	

Transition screen		Page
Maintenance alert settng	ENG Oil & Filter	3-45
	Fuel filter	
	Transmission oil	
	Differential oil	
	Power steering fluid	
	Tire rotation	

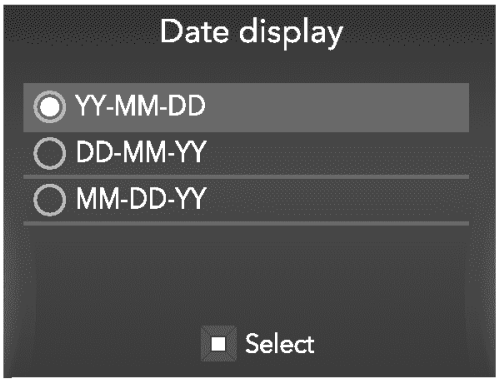
Driving Information

Driving information



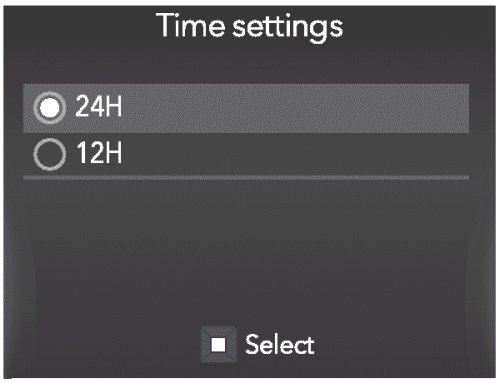
The driving conditions for the "TRIP A" or "TRIP B" section is displayed in numerical values.

Date and Time

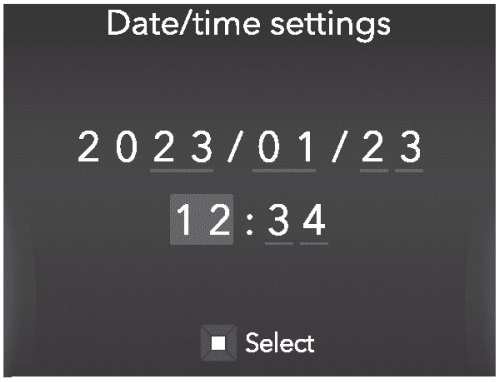


You can set the date and time.

1. On the date display screen, select the order of year, month, and day by pressing "Up" or "Down" , and press "Enter" to confirm the selection.

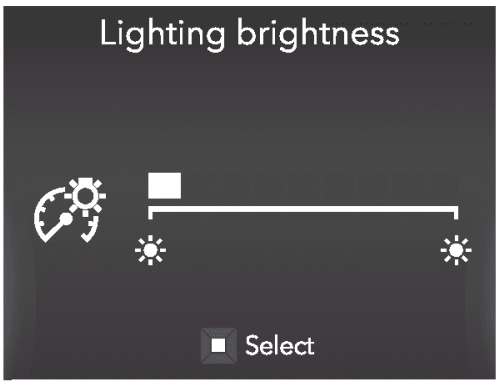


2. On the time setting screen, select the preferred time format by pressing "Up" or "Down", and press "Enter" to confirm the selection.



3. On the date/time setting screen, press "Up" or "Down" to set year, month, day, and time respectively, and press "Enter" to confirm the selection.

Display Settings

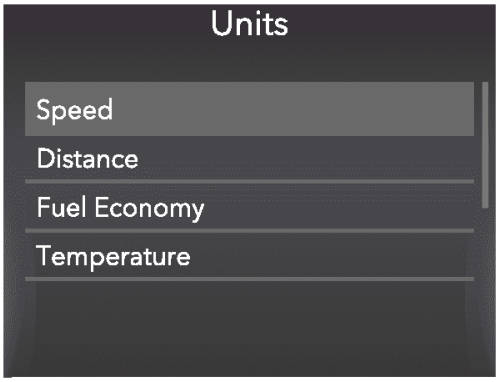


Dark Bright

Lighting brightness

It is used to adjust brightness of the multi-information display. Press "Right" to make the display bright and press "Left" to make the display dark.

You can set the brightness of the screen respectively when the lights on indicator light is on and off.



Unit

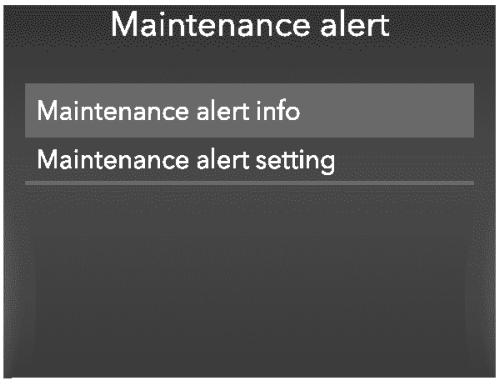
Use the multi-information display switches to select the unit in the multi-information display.



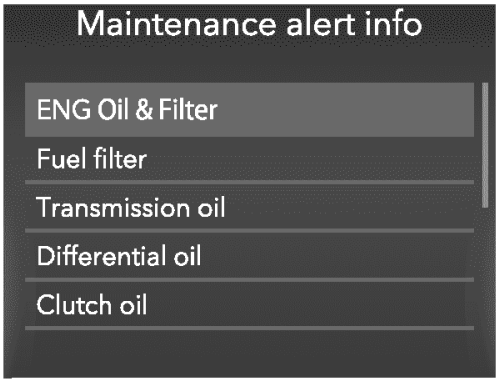
Select language

Use the multi-information display switches to select the language for the multi-information display.

Maintenance Alert



The maintenance periods can be checked and set.



Maintenance alert info

Select the item whose maintenance period you want to check by using "Up" and "Down", then press "Enter".

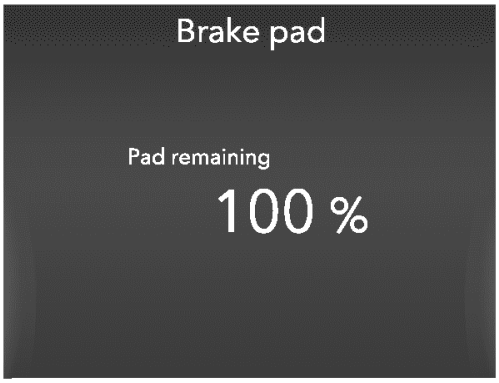
Distance remaining



Distance exceeded



Brake pad maintenance alert

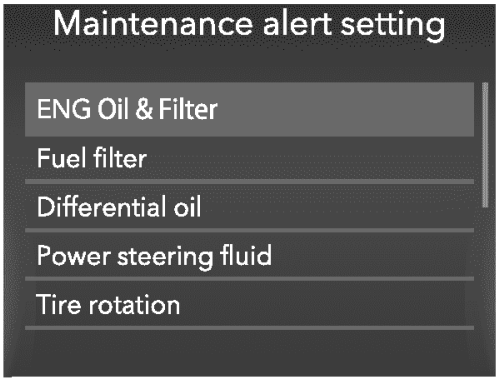


[ENG Oil & Filter/Fuel filter/Differential oil/Power steering fluid/Tire rotation]
Each maintenance item shows the distance remaining to or the distance exceeded from the maintenance period.
When a maintenance period is exceeded, the distance until maintenance shows "-(minus)" (distance exceeded). Have the vehicle inspected/serviced at the nearest Isuzu Dealer as soon as possible.
Pressing and holding the "Enter" button resets the distance until maintenance.

ADVICE

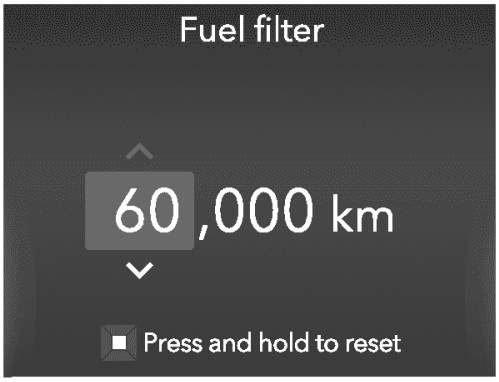
- The maintenance periods must be reset after the maintenance is done for the ENG Oil & Filter/Fuel filter/Differential oil/ Power steering fluid/Tire rotation. If the maintenance period is not reset, it cannot display correctly.

[Brake pad]
Remaining pad is shown in percentage. Before it reaches 0%, please contact the nearest Isuzu Dealer for replacement.



Maintenance alert setting

Select the item whose maintenance period you want to set by using "Up" and "Down", then press "Enter".



Select the replacement period with "Up" or "Down" and confirm by pressing and holding "Enter".

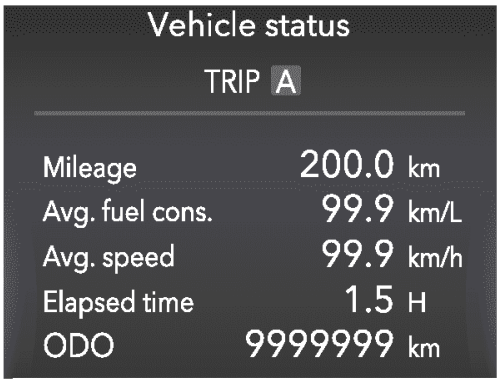
Refer to page
3-43 Maintenance alert info

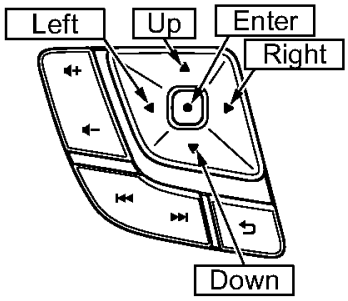
Setting range

Item	Default setting	Replacement period setting range
ENG Oil & Filter	20,000 km (12,000 miles)	Not set/20,000 km (12,000 miles)
Fuel filter	40,000 km (24,000 miles)	Not set/40,000 km (24,000 miles)
Transmission oil (MJT7 model)	40,000 km (24,000 miles)	Not set/40,000 km (24,000 miles)
Transmission oil (ZF9S1310 model)	120,000 km (74,000 miles)	Not set/120,000 km (74,000 miles)
Differential oil	40,000 km (24,000 miles)	Not set/40,000 km (24,000 miles)
Power steering fluid	60,000 km (37,000 miles)	Not set/60,000 km (37,000 miles)
Tire rotation	60,000 km (37,000 miles)	Not set/5,000 to 60,000 km (3,000 to 37,000 miles)

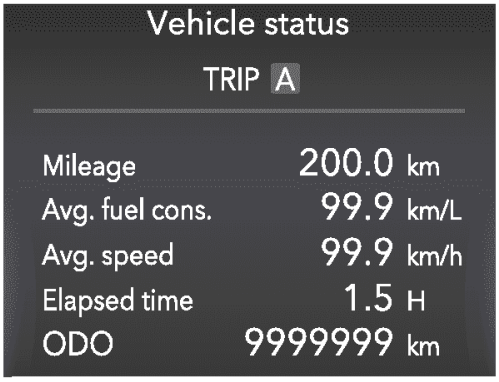
Vehicle Information

Press "Up" or "Down" on the multi-information display switch to change the screen.



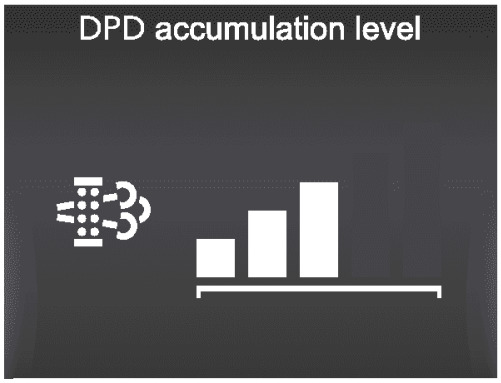


Vehicle Status



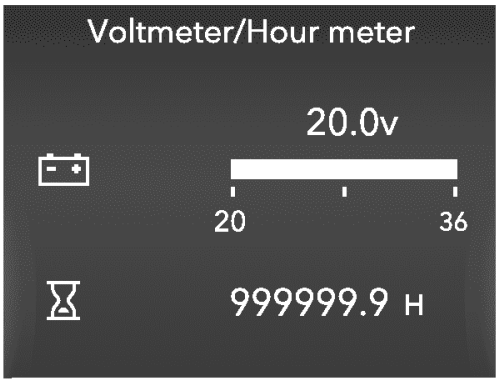
The vehicle status is displayed.
Press "Up" or "Down" to check the distance driven in either trip, "TRIP A" or "TRIP B".

DPD Accumulation Level



The state of the accumulated PM (particulate matter) that has collected inside the DPD is displayed.

Volt Meter/Hour Meter



Voltmeter

This shows the current state of the battery. Even if the voltmeter display is not selected, "Voltage drop" or "Overvoltage" is shown when the battery voltage is at either end.

Refer to page
3-26 Voltage drop/Overvoltage

NOTE

- "Voltage drop" may appear on the multi-information display when the engine is started or immediately after being started indicating the lower limit, but this is not abnormal if it returns to normal after starting.
- Because the power generation is controlled to improve fuel efficiency, the indication of the voltmeter may change significantly during driving, such as during acceleration or deceleration. However, this does not indicate a malfunction.

Hour meter

Operation time of the engine is shown on the multi-information display.

ADVICE

- The hour meter cannot be reset.

Driving Your Vehicle 4

Driving Tips

- Before Driving 4-3
- When Driving 4-11
- Stopping and Parking 4-27
- Driving in Winter and in Cold Regions 4-33
- Driving in Summer and in Hot Regions 4-44

Starting and Stopping the Engine

- Starting and Stopping the Engine 4-46
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- Parking Brake Lever 4-57
- Gearshift Lever [M/T] 4-60
- Selector Button [A/T] 4-62
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4-2 Driving Your Vehicle

Driving Systems

- Exterior Lights 4-79
- Windshield Wiper and Windshield Washer Switch 4-87
- Headlight Washer Switch [V] 4-93
- Horn Button 4-94
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- Exhaust Brake Switch 4-114
- When Using Differential Lock Switch/ Inter-Differential Lock Switch [V] 4-116
- Differential Lock Switch [V] 4-117
- Inter-Differential Lock Switch [V] 4-119
- Anti-lock Brake System (ABS) 4-120
- Anti-Slip Regulator (ASR) 4-123
- Electronic Braking System (EBS) 4-125
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- Emergency Stop Signal (ESS) 4-136
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Aftertreatment System

- Diesel Particulate Defuser (DPD) 4-148
- Urea Selective Catalytic Reduction (SCR) 4-161

Special Equipment

- Power Take-Off (PTO) [V] 4-171

Driving Tips

Before Driving

Perform Daily (Pre-operation) Inspections



For safe and comfortable driving, keep record of the distances driven and the condition of the vehicle during operation. Perform inspections at appropriate intervals, and perform maintenance in accordance with the findings of the inspections. If an inspection reveals an abnormality or there was an abnormality the previous time the vehicle was driven, have the vehicle repaired by the nearest Isuzu Dealer before it is driven again.

Refer to page
9-3 Perform Daily (Pre-operation) Inspections Before Driving

Get Plenty of Rest



If you drive when you are tired, you will get sleepy and lose concentration. Please get plenty of rest before you drive.

4-4 Driving Your Vehicle

Correct Driving Posture

WARNING

- **Before driving, be sure to adjust the seat, steering wheel and mirrors to positions that give you a correct driving posture. Make sure the seat is securely retained by trying to rock it forward and backward, and put on the seat belt. All other passengers must wear seat belts.**

Refer to page
1-2 Seat Belts
2-30 Seats
2-45 Mirrors

If the Vehicle Has not Been Used for a Long Period

ADVICE

- When storing the vehicle over a long period of time, disconnect the cable at the negative terminal side.
- Replace the AdBlue® for vehicles that have not been used for a year or more (models with the urea selective catalytic reduction (SCR) system). Failure to do so may result a failure of the urea SCR system.
- At least once a month, and before using the vehicle, perform the following inspections. Moving the vehicle without performing the inspections may cause engine seizures or other problems.
- Check the engine and transmission for oil leakage, and make sure the oil is at the required levels. If there is insufficient oil, it will not adequately reach and lubricate components, and a breakdown will result.
- Start the engine and run it at idle for at least 5 minutes until the temperature indicated in the engine coolant temperature gauge becomes stable. Make sure that the engine produces no abnormal noise, and that the engine oil pressure warning light is not on.
- For instructions on warming up the engine, refer to "Starting the Engine".

Refer to page
4-49 Starting the Engine

NOTE

[AdBlue®]

- AdBlue® is a registered trademark of Verband der Automobilindustrie (VDA).

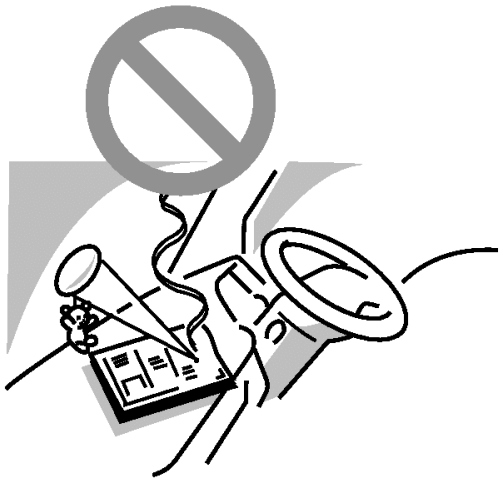
Do not Carry Fuel and Spray Cans in the Cab



⚠ WARNING

- **It is extremely dangerous to carry fuel and spray cans in the cab. If such a container were to ignite or rupture, it could cause a fire or explosion.**

Do not Attach Accessories to the Windshield or Windows



⚠ WARNING

- **Do not attach ornaments, films or other accessories to the windshield or windows. They would impair visibility. Also, any plastic suction cups used to attach accessories could cause a fire or other accident by acting as lenses.**

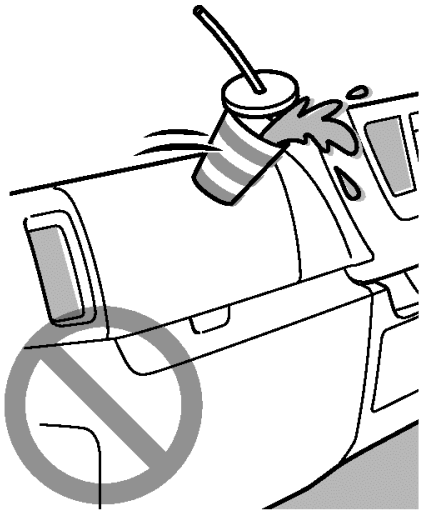
Keep the Floor around the Driver's Seat Clean and Tidy



⚠ WARNING

- **It is extremely dangerous to have empty cans, empty bottles or other items rolling around on the floor because they could get trapped under the brake pedal and prevent brake application.**
- **Do not use the dashboard pocket or the top of the dashboard as a place to put items that could roll, which could interfere with your driving.**

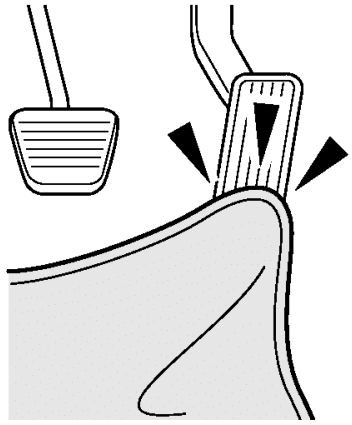
Do Not Spill Any Liquids on the Instrumental Panel



⚠ WARNING

- **Do not spill any liquids on the instrumental panel. They will drip onto the electrical components, such as the control units inside the instrumental panel, and may cause damage and malfunctions.**

Lay the Floor Mat Properly



CAUTION

- **A floor mat must be placed correctly. An incorrectly installed floor mat may hinder the free movement of each pedal.**

Choose Your Footwear Suitable for Driving



CAUTION

- **Choose footwear that ensures proper operation of pedals when driving the vehicle. Use of footwear unsuitable for driving may cause an accident.**

Do Not Press the Switch More Than Needed



⚠ CAUTION

- **The system may determine abnormal conditions exist and unintended operations may occur, such as warning lights lighting or the system being turned on and off.**

Using Tire Chains

Before the onset of winter, make preparations for use of tire chains by fitting the tire chains, adjusting their lengths and checking them for damage.

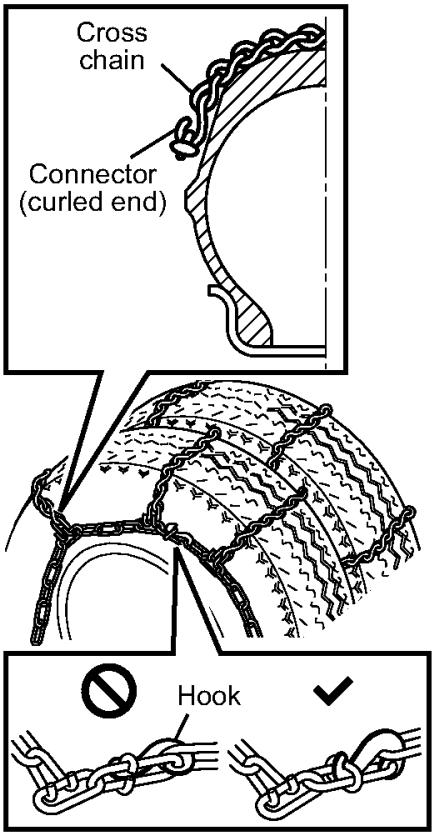
⚠ CAUTION

- **Fit the tire chains securely without looseness. If the vehicle is driven with the loosened tire chains, they may interfere with other components or come off, leading to an unexpected accident.**
- **If an abnormal sound is heard, it may indicate a possibility that a tire chain was cut or came off partially. Immediately pull off to a safe place, and check the fitting condition of the tire chains.**
- **The exhaust pipe and muffler are extremely hot when the engine is running, during DPD regeneration, and immediately after the vehicle is driven, so be careful not to touch them. The exhaust gas is also extremely hot during DPD regeneration, so do not work near it.**
- **Be careful not to hurt yourself on the edges of the vehicle while working with the tire chains.**

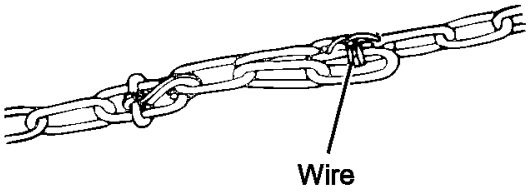
ADVICE

- Tire chains cannot be fitted on the front wheels. Make sure to fit the tire chains suitable for the tire size on the rear wheels.
- For triple chains, they may not be fitted depending on vehicle specifications, so please consult the nearest Isuzu Dealer for details.
- For dual tires, do not fit a single chain only on the outer tire. The chain may interfere with other components and adversely affect driving.
- The sidewalls of radial tires are prone to damage by tire chains. Be sure to use tire chains that are designed for radial tires, or use winter tires.
- When purchasing tire chains, fit them on the tires once and, if they are too long, adjust them to suit the tires.
- When the vehicle is fitted with tire chains, drive at speeds below 30 km/h (20 MPH) and avoid driving on surfaces other than snowy or frozen roads.
- For fitting and handling of tire chains, refer to the instruction manual attached to the tire chains.

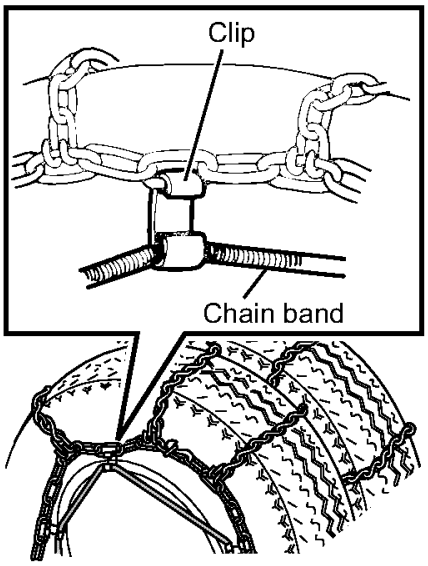
How to Fit a Tire Chain



1. Making sure the tire chain is not twisted, place it on the tire such that the curled ends are on the outside (the side that will make contact with the ground).
2. Pull both ends of the tire chain as far as possible. Couple the inner hooks first, and then couple the outer hooks.
3. The hook should be connected such that it is flat against the tire side face. Also, confirm that there is no twisting or bending in the chain.

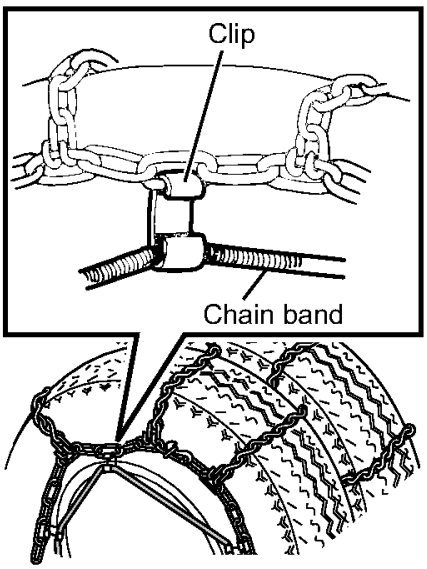


4. Retain any excess portion of chain with wire so it does not hit the vehicle's body or brake pipes.



5. Hook the clips over the chain band (with the clips pointing outward) such that the clips are evenly positioned around the band.
6. After fitting the tire chains and driving for a while, check whether the chains are loose or they have come unfastened.

How to Remove a Tire Chain



1. Remove the chain band and wires, and undo the outer hook first.
2. Move the vehicle and remove the chain.

When Driving

Pre-driving Check List

In addition to the daily (pre-operation) inspection items, it is recommended checking following items to ensure that the vehicle is ready for driving.

Refer to page
9-3 Perform Daily (Pre-operation) Inspections Before Driving

1. Before getting in the vehicle

Check item	Reference page
Look around the vehicle for thorough safety check.	4-13
Lay the floor mat properly.	4-7
Clean the floor around the driver's seat.	4-6

2. After getting in the vehicle

Check item	Reference page
Confirm that the doors are fully closed and locked.	2-25
Check for contamination, damage and obstruction of windows and mirrors.	2-45 10-116
Adjust the seat.	2-30
Adjust the steering wheel.	2-44
Adjust the mirrors.	2-45
Check for horn operation.	4-94
Fasten the seat belt.	1-2

3. Before starting the engine

Check item	Reference page
Confirm that each switch is set to "OFF".	26
Confirm that parking brake is applied.	4-57
Confirm that the gearshift lever is in the "N" position (manual transmission model) or the "N" position is selected on the selector button (automatic transmission model).	4-60 4-62

4. When starting the engine

Check item	Reference page
Check whether the operation check of each warning and indicator light and gauges are performed correctly.	3-2 3-8
Check the fuel level.	3-6

5. After starting the engine

Check item	Reference page
Check the function of defroster.	6-15

6. Before pulling away

Check item	Reference page
Release the parking brake.	4-57
Check around the vehicle.	4-13

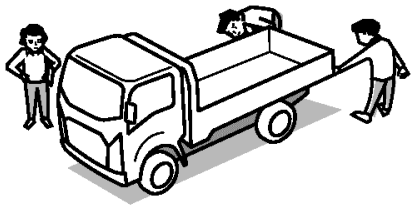
Others

If any of the following situations apply to you, please check according to the contents of the reference in addition to the items above.

Check item	Reference page
Driving on highways	4-19
Driving in winter and in cold regions	4-33
Using a vehicle that has not been used for a long period of time	4-4

Before Pulling Away

Check around the Vehicle



Before pulling away, perform a thorough safety check, making sure there are no children or obstructions around the vehicle.

⚠ WARNING

- **Before starting the engine, make sure there is no flammable material under or around the vehicle. The presence of any such material could lead to a fire. If there is any wood within 50 cm (approximately 20 in) from the vehicle's heat source, it would represent a severe hazard as the wood could deform or discolor from the heat or it could catch fire.**

Refer to page
4-49 Starting the Engine

Do not Forget to Release the Parking Brake

CAUTION

- **Pulling away with the parking brake still engaged can result in brake failure or a fire.**

Parking brake warning light



ADVICE

- Check that the parking brake warning light is not illuminated before pulling away.
- When the parking brake lever is pulled, the rear wheel brakes are activated to lock the rear wheels. An air exhaust sound is heard at this time.

Refer to page
4-57 Parking Brake Lever

Pulling Away in a Manual Transmission Model

ADVICE

- Pull away gently in the gear indicated below. Pulling away in a high gear, pulling away rapidly or slipping the clutch for a long time while pulling away would damage the clutch.

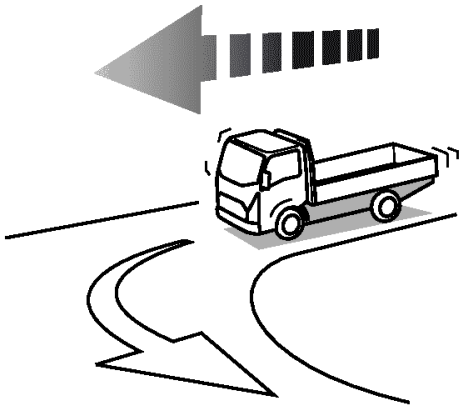
Transmission model	Pulling away on a level road	Pulling away on a slope
MJT7	2nd	1st
ZF9S1310	1st	Crawler

How to Drive Safely

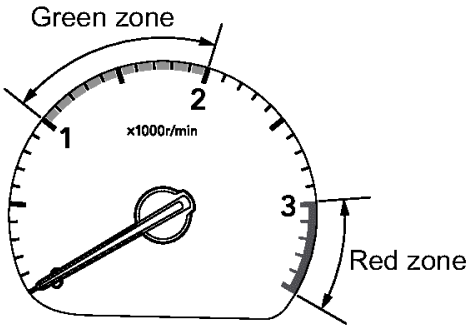
Remember the following when driving the vehicle.

- Concentrate on driving safely, obeying all legally designated speed limits, road signs and traffic signals.

- Do not put your foot on the clutch pedal except when using the gearshift lever. Doing so would cause premature clutch wear.



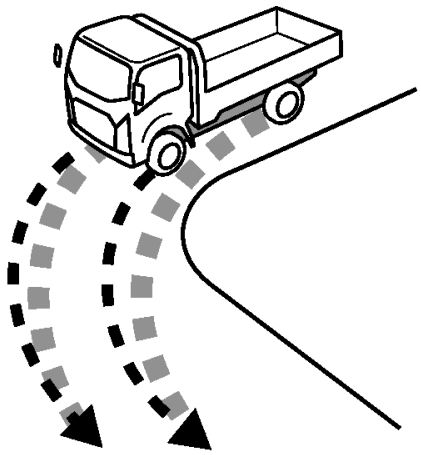
- Slow down sufficiently when approaching a curve. Applying the brakes or sharply turning the steering wheel while turning the curve could cause the cargo to shift, the tires to slip and the vehicle to tip onto its side.
- While driving, do not place your hand on the selector button or the gearshift lever except when changing gears. Doing so could cause the transmission to fail.
- Avoid scraping the tire sidewalls against curbstones or driving over dips and protrusions in the road surface.
  You could damage the tires, resulting in a blowout or flat tire.



- Drive at a speed that does not cause the tachometer needle to enter the red zone. The graduation and the red zone of tachometer are various depending on the models fitted.

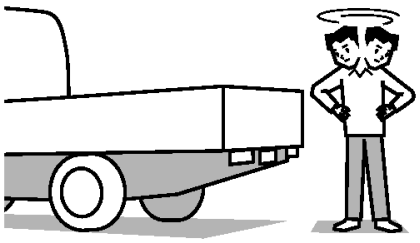
Refer to page
3-3 Tachometer

When Turning Right or Left



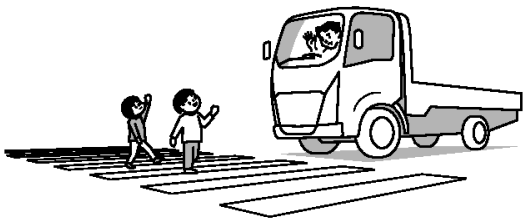
When turning, the rear wheels will follow tighter curves than the front wheels. Use the mirrors to confirm safety.

Reversing



If you cannot see the area behind your vehicle well enough to confirm it is safe to back up, get out of the vehicle and check behind it.

Pulling Away after a Temporary Stop



⚠ CAUTION

- **Make it a habit to look around and confirm that it is safe to pull away after a temporary stop (at traffic lights, for example).**

Be Sure to Have the Engine Running when the Vehicle is Moving

⚠ CAUTION

- **When the engine is not running, the power steering system does not work so the steering wheel is hard to turn. Also, the brake booster does not work so there is little braking ability. If you coast down a slope without the engine running, you would not be able to properly control the vehicle and could have an accident.**

If the Windshield Fogs Up



Refer to "Defogging" to clear fog from the front windshield and ensure a clear field of view.
Place the inside/outside air selector in the outside-air position. Also, use commercially available antifog spray.

Model with manual air conditioner

Refer to page
6-7 Defogging

Model with automatic air conditioner

Refer to page
6-15 Defogging

Driving Uphill or Downhill

When driving uphill or downhill, be sure to shift gears appropriately and observe the following precautions:

Refer to page
4-62 Selector Button [A/T]

Downshifts are performed for two main purposes:

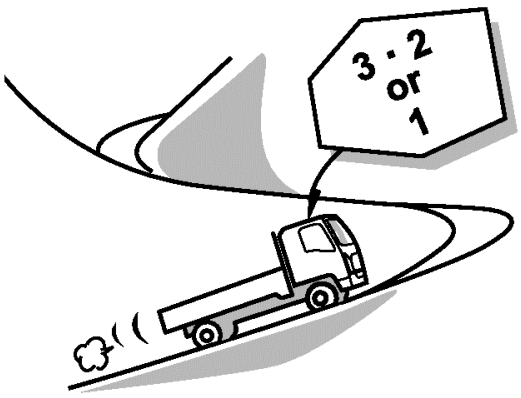
- For engine braking on a steep and/or long downward slope
- For responsiveness and economy on an uphill slope

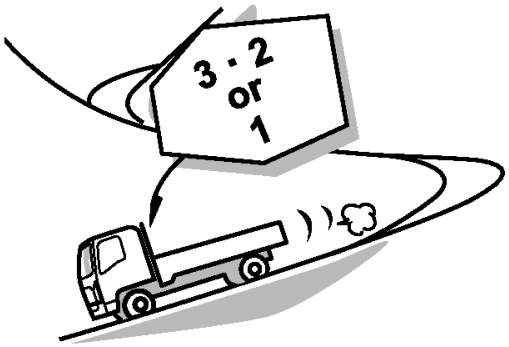
ADVICE

- Allowing the engine to overrun can result in engine damage. Do not allow the engine to overrun when downshifting.
- Downshift one gear at a time. Skipping gears when downshifting could result in damage to the transmission.

Uphill

Shift down well ahead of time in order to avoid a heavy load to the engine.





Downhill

- Be careful not to drive too fast on a downhill road.
- Use the same gear(s) that you used to drive up the hill. Also, use engine brake and auxiliary brake together with the foot brakes. Using the auxiliary brake and low-gear engine brake reduces the work load on the foot brakes and yields greater braking force.
- Do not let the engine overrun.

Refer to page
4-114 Exhaust Brake Switch

CAUTION

- **Frequent use of the foot brakes can cause brake fade, resulting in reduced brake effectiveness. Even so, you should be very careful when using engine braking in a low gear because the engine is likely to over-rev.**
- **Do not adjust the exhaust brake valve.**

NOTE

[What is engine brake?]

- Engine brake is the braking effect that occurs when you release the accelerator pedal while driving. The lower the gear, the stronger the engine brake.

[What is the exhaust brake?]

- The exhaust brake is a system that closes the exhaust pipe and uses the force of the exhaust emissions to enhance the effectiveness of engine brake.

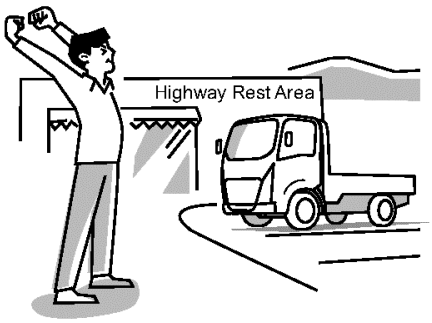
[What is brake fade?]

- Frequent use of the brakes can cause the brakes to overheat so that the frictional force of the friction surface decreases and the brakes become less effective than normal. This phenomenon is called brake fade.

[What is an engine overrun?]

- An engine overrun is an engine-speed increase that causes the tachometer needle to enter the red zone.

Take Breaks during Long Journeys



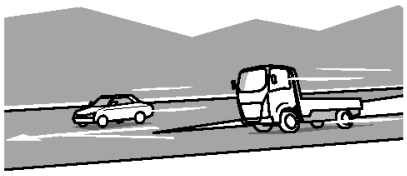
Driving long distances is tiring. Please take rest breaks from time to time.

Highways

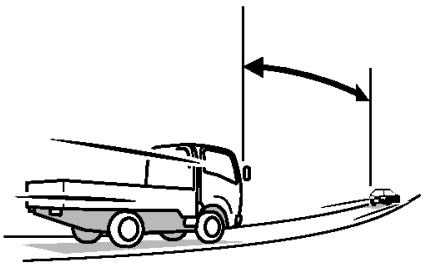
1. Speeds on highways are higher than those on regular roads, so there is more danger. Also, a breakdown on a highway represents a hazard to other vehicles and can cause an accident. Concentrate on safe driving. Remember to perform daily pre-operation inspections and use highway driving techniques.
   When performing daily pre-operation inspections, perform the checks shown in the table on the left with particularly great care.

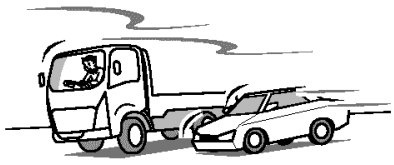
Tires	• Check that there is ample tread depth.
Engine	• Check that engine coolant is not leaking from the radiator and other parts of the cooling system • Check that the engine coolant level is high enough • Check that the fan belt is properly tensioned and free of damage. • Check that the engine oil level is correct.
Fuel tank	• Check that the fuel level is high enough.

Refer to page
9-3 Perform Daily (Pre-operation) Inspections Before Driving



2. When merging with traffic on a highway, use the turn signal lights to indicate your intentions ahead of time. Speed up sufficiently when you are in the acceleration lane. Pay attention to vehicles behind you and to conditions in the lane you are joining. Merge in such a way that you do not obstruct vehicles in the lane.





3. Your sense of how fast you are traveling becomes distorted on long highway drives. Constantly keep an eye on the speedometer, and maintain a suitable headway distance.

4. During high-speed driving, even a little turn of the steering wheel causes a big movement of the vehicle. Turn the steering wheel slowly.

5. Excessive use of the brake pedal is extremely dangerous because it rapidly wears the brake pads or brake linings and causes brake fade. Make effective use of the engine brake and the exhaust brake when you wish to decelerate.

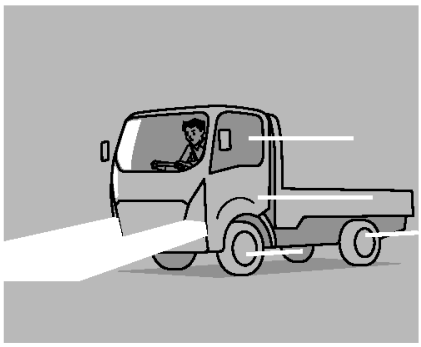
NOTE

[Brake fade]

- Frequent use of the brakes can cause the brakes to overheat so that the frictional force of the friction surface decreases and the brakes become less effective than normal. This phenomenon is called brake fade.

6. When you wish to turn off a highway, use the turn signal lights to indicate your intentions ahead of time. Paying attention to vehicles behind you, turn off the highway smoothly so as not to obstruct other vehicles.

Driving at Night



Nighttime driving is more dangerous than daytime driving because the field of view is narrower. Keep your speed down, and maintain an ample headway distance.

Nighttime Visibility



If there is an oil film on the windshield, the lights of oncoming traffic will be reflected in many directions, making it hard for you to see ahead. Use glass cleaner to clean the glass and the wiper blades.

NOTE

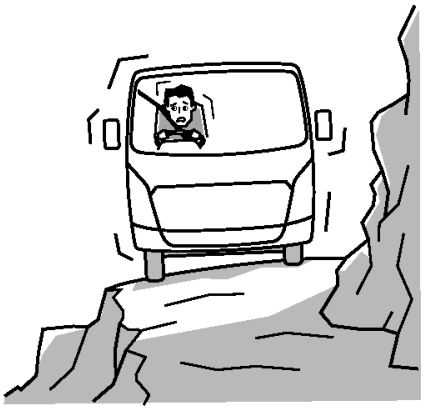
- Worn wiper blades cannot wipe the windshield clean and thus cannot maintain visibility. When the wiper blades become worn, replace them with new ones.

Refer to page
10-115 Wiper Rubber Insert Replacement

Roads That Need More Attention Than Usual

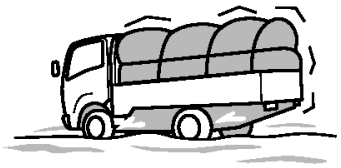
Be careful of the road conditions when driving following roads.

Narrow or Congested Roads



When passing or overtaking a vehicle on a narrow mountain road or on a narrow or congested urban road, pay careful attention to obstacles on either side and to the condition of the shoulder of the road.

Driving on Poor Road Surfaces (Sand or Mud)



If the vehicle gets stuck in mud, pressing the accelerator pedal more than necessary will simply dig the vehicle deeper into the mud and make it harder to extricate. Either put stones, tree branches or blankets under the tires to gain traction or repeatedly drive forward and backward to use the vehicle's momentum to extricate it.
When you cannot avoid driving through deep mud, using tire chains is an effective way to avoid getting stuck.

ADVICE

- When driving in sand or mud, avoid hard braking, sudden acceleration and sharp turns of the steering wheel. Such actions could get the vehicle stuck and make it impossible to extricate.
- After driving through deep mud, any mud stuck to the vehicle can harm the steering, brakes and powertrain. Wash the vehicle and remove all mud and other incrustation.

Refer to page
10-129 Exterior Maintenance

When Weather Conditions Are Bad

CAUTION

- **In bad weather, visibility is reduced and slippery road surfaces increase stopping distances. Drive more slowly than you would in good weather. Also, avoid sharp turns of the steering wheel and hard braking. Use engine brakes together with the foot brakes to decelerate. If your vehicle is equipped with an exhaust brake, using the exhaust brake on a slippery road surface could cause the tires to slip.**
- **If you cannot avoid driving on a flooded road, first check the depth of the water and then drive through the water at a slow, constant speed. There is a risk that water will get into the engine's cylinders and cause engine damage (water hammering). Keep your speed down, and drive with great care.**

ADVICE

- There is a risk of hydroplaning, particularly where water tends to collect on the road surface. Drive at speeds that allow you to stay in complete control.

NOTE

[What is hydroplaning?]

- If a vehicle is driven at high speed on a road that is covered with water, a layer of water can form between the tires and road surface, causing the tires to lose their grip and slide across the water. This phenomenon is called hydroplaning. It is dangerous because it makes the steering wheel and brakes useless.

Driving in Fog



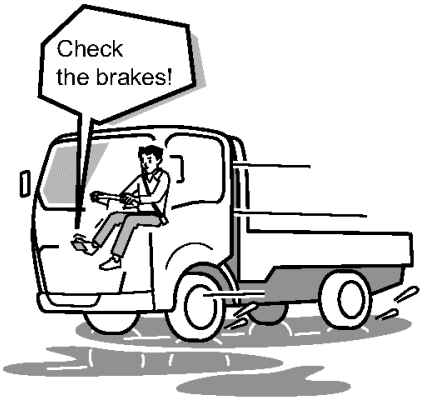
Turn on the fog lights and drive slowly, using the road's center line as a guide. It is dangerous only to follow the lights of the preceding vehicle because they can cause optical illusions. Drive with caution.

When Side Winds Are Strong

If the vehicle catches a sidewind and drifts sideways, firmly grip the steering wheel, decelerate to a speed that allows you to stay completely in control and make a directional correction. The vehicle may catch strong sidewinds in the following situations:

- emerging from a tunnel; driving over a bridge, driving on an embankment or driving through a cutting
- being overtaken by a large truck or bus
- overtaking a large truck or bus

After Driving on Flooded Roads and After Washing the Vehicle



CAUTION

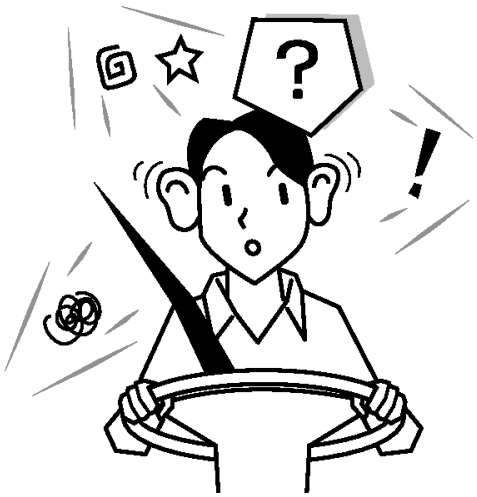
- **If the vehicle must be driven on a flooded road, is washed, or is parked in an area that becomes flooded, water can get into the brakes and reduce their effectiveness. If the brakes do not work well afterward, drive slowly and gently press the brake pedal several times until the brakes dry out and start working normally.**

ADVICE

- If the vehicle must be driven on a flooded road or is parked in an area that becomes flooded, promptly have your Isuzu Dealer perform a check for the following points:
  - Effectiveness of the brakes
  - Water-ingress or damage to drum brakes, disc brakes, brake chamber, wheel parking brake chamber or other brake parts
  - Engine damage due to water-ingress
  - Shorting of electrical components
  - Oil level and degradation (cloudiness) of the engine, transmission and differential
  - Greasing of each components (lubrication)
  - Water-ingress to clutch release bearing
    (When water ingress is suspected, replace the release bearing.)
  - Damage to other clutch parts

If You Notice Something Abnormal While Driving

If you notice something abnormal while driving, such as the following, take appropriate action.



- If you notice any abnormal noise, abnormal smell or abnormal vibration from any part of the vehicle, immediately stop the vehicle in a safe place and perform checks.
- If a warning light comes on or a buzzer sounds while you are driving, immediately stop the vehicle in a safe place and perform checks.
- If the underside of the vehicle receives a hard bump, stop in a safe place where the vehicle will not obstruct traffic and check for fuel leakage and component damage. If any part of the vehicle is damaged or broken, promptly have the vehicle inspected and repaired by the nearest Isuzu Dealer.

Never Stop the Engine While Driving

⚠ WARNING

- **While driving, do not move the starter switch out of the "ON" position. The following could happen and be very dangerous.**
  - **Braking performance will decrease**
  - **Steering wheel and clutch will become stiff and difficult to operate**
  - **All electric circuits, including warning lights and indicators, will stop operating**
- **Placing the starter switch in the "LOCK" position while driving would be extremely dangerous because the key could come out, causing the steering wheel to lock so that you could not turn it.**

Refer to page
4-46 Starter Switch

Do not Use the Bed While the Vehicle is Moving

⚠ CAUTION

- **It is not possible to hold a person's body in position on the bed. Using the bed while the vehicle is moving would be dangerous because the occupant of the bed could be thrown out of the bed in the event of a collision or hard braking.**

Precautions on Using Handheld Devices

Do not Use a Mobile Telephone while Driving



⚠ CAUTION

- **Drivers should never use mobile telephones or car phones in any mode other than Hands Free while driving. Doing so is dangerous.**
- **Using a mobile telephone while driving could result in an accident because you would not be paying full attention to your surroundings.**
- **If you are driving and you wish to use a mobile telephone, first stop the vehicle in a safe place.**

Be Careful of Using Lighters Too

⚠ WARNING

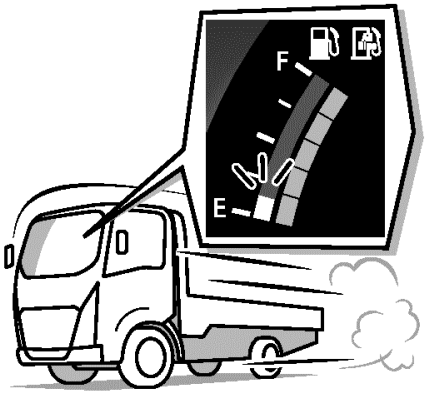
- **Do not put a lighter whose operating mechanism is exposed into the glove compartment or anywhere else, and do not leave it fallen between the seats or on the floor. It could release gas when baggage is squeezed in or the seats are moved, which could result in a fire.**

Never Throw Lit Cigarette Butts Out of the Window

⚠ WARNING

- **Never throw lit cigarette butts out the window. They not only litter the road and around but also can cause a fire.**

Economical Driving



Driving too fast or driving so slowly that the engine knocks can lead to poor fuel economy. In vehicles with exhaust brake, driving with the exhaust brake switched on all the time or using the exhaust brake frequently to adjust your speed can also lead to poor fuel economy.
Drive at a constant speed as much as possible. When accelerating, increase your speed gently and slowly, and up-shift early. Warming up the engine for longer than necessary and revving the engine are a waste of fuel. Driving with the vehicle overloaded is also a waste of fuel.
Frequently check the tire pressures and make sure they are always correct.

Stopping and Parking

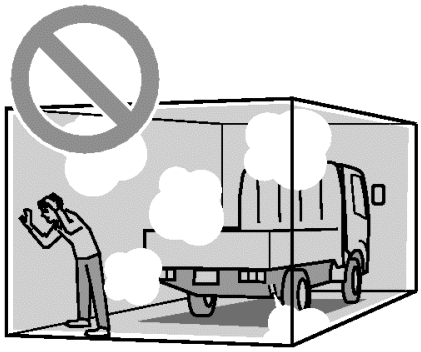
Choose a flat place where stopping and parking are permitted and where the vehicle will not obstruct traffic. Firmly apply the parking brake and make sure the vehicle does not move.

Refer to page
4-57 Parking Brake Lever

ADVICE

- Avoid parking for long periods with cargo on the vehicle.
- Remove all dirt from the vehicle's light lenses and reflectors to ensure that the vehicle can be seen from other vehicles.

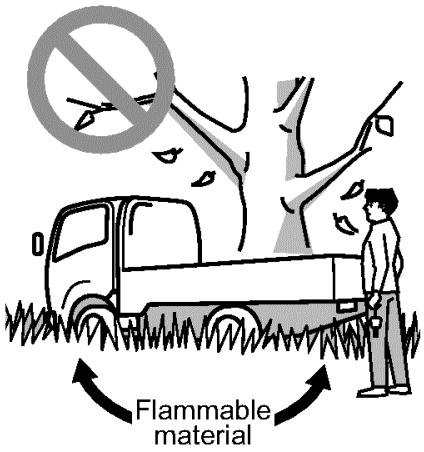
Be Careful about Exhaust Emissions



⚠ WARNING

- **Exhaust emissions contain carbon monoxide, which is colorless, odorless and poisonous. If you inhale exhaust emissions, you may suffer carbon monoxide poisoning.**
- **Do not keep the engine running for any length of time in a place that is poorly ventilated. It is particularly dangerous to run the engine in a garage or other indoor place that could easily fill with exhaust gases because you could suffer carbon monoxide poisoning.**
- **Inspect the exhaust pipe from time to time. If you notice any defect (for example, a damaged joint, or a hole or crack caused by corrosion), have checks and maintenance performed by the nearest Isuzu Dealer. Continuing to use the vehicle without having the defect repaired would be dangerous because exhaust gases could get into the cab and cause carbon monoxide poisoning.**
- **If exhaust gases get into the cab, completely open all of the windows and place the inside/outside air selector of the heater or air conditioner to outside air. Promptly have checks and maintenance performed by the nearest Isuzu Dealer. Continuing to use the vehicle without having the defect repaired would be dangerous because exhaust gases could get into the cab and cause carbon monoxide poisoning.**

Be Careful of Starting Fires and Being Burned

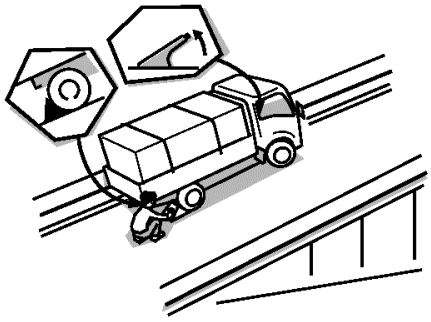


⚠ CAUTION

- **The exhaust pipe is extremely hot immediately after vehicle operation. Before parking, make sure the area is free of flammable material (for example, grass, waste paper, oil or old tires). Take particular care when parking in a garage.**
- **Use caution concerning hot exhaust gases while the engine is idling. Be particularly careful when the power take-off (PTO) is operating (if your vehicle is equipped with a PTO) or the diesel particulate defuser (DPD) is regenerating while the engine is idling.**
- **The DPD may automatically start regeneration when the vehicle is stopped and parked with the engine running. To prevent a fire, make sure there is no flammable material near the muffler, DPD, urea selective catalytic reduction (SCR) system, and exhaust pipe. Be careful not to get burned by hot exhaust gases.**
- **When the engine is running and immediately after vehicle operation, the diesel particulate defuser (DPD), urea selective catalytic reduction (SCR) system, silencer, and exhaust pipe are extremely hot. Be careful not to inadvertently touch them when working near them (for example, tilting the cab or operating an attachment). Otherwise, you could get burned.**

Refer to page
4-154 DPD Manual Regeneration Procedure
4-156 DPD Selectable Regeneration Procedure

Parking Safely on a Slope



CAUTION

- **Avoid parking your vehicle on a slope as much as possible and choose a level and flat place. If it is unavoidable to park your vehicle on a slope, be sure to set the parking brake fully, make sure that the vehicle does not move, and block the wheels with chocks for added safety. Also, leave the vehicle in gear to further ensure that it will not move.**
- **Leave the steering wheel turned such that the vehicle will be stopped by an obstruction (for example, the curb) in the unlikely event that it moves.**

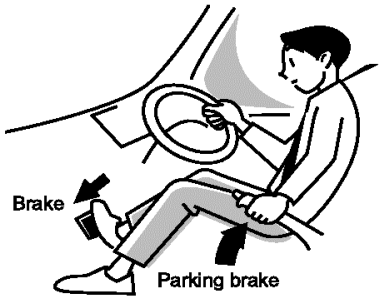
Applying the Parking Brake

ADVICE

- Except in an emergency, do not apply the parking brake until the vehicle has come to a complete stop. Applying the parking brake before the vehicle has stopped can cause the tires to lock or the vehicle to spin, possibly causing an accident.

Refer to page
4-57 Parking Brake Lever

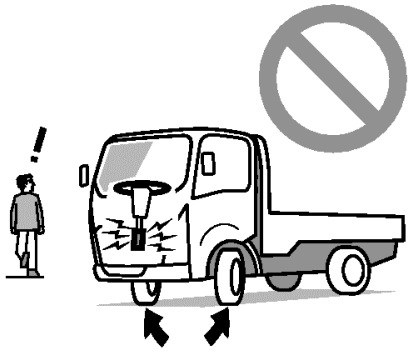
Do not Use the Hill Start Aid (HSA) for Parking



⚠ CAUTION

- **HSA is a device to stop the vehicle temporarily and cannot replace the parking brake. When parking, be sure to firmly apply the parking brake.**

Do not Leave the Steering Wheel Fully Turned for a Long Time



⚠ WARNING

- **If you leave the steering wheel fully turned for a long time, the oil in the power steering oil pump would become extremely hot. This would cause poor lubrication, oil tank damage and seal deterioration, leading to power steering oil pump damage, power steering unit damage and power steering hose damage. As a result the steering wheel could become extremely hard to turn and a fire or other accident could occur.**

Napping in the Vehicle



⚠ WARNING

- **Before taking a nap in the vehicle, be sure to stop the engine and place the starter switch in the "LOCK" position. Otherwise, any unintended contact with the gearshift lever, selector button or accelerator pedal while you are asleep could cause the vehicle to move, resulting in an accident.**
  - **If you leave the engine running and unintentionally keep the accelerator pedal pressed while asleep, the engine and exhaust pipe could become abnormally hot, resulting in a fire.**
  - **If you leave the engine running while taking a nap with the vehicle parked in a place where exhaust gases could get into the cab (for example, a place that is poorly ventilated), you could suffer carbon monoxide poisoning.**
- **In a vehicle with a bed, use the bed when you wish to take a nap.**

Stopping and Parking with the Engine Running

⚠ WARNING

- **When stopping and parking with the engine running, firmly apply the parking brake and do the following operations and checks. Unless you take these steps, any unintended pressure on the accelerator pedal could cause an accident.**
  - **For manual transmission models, be sure to place the gearshift lever in the "N" position to select neutral.**
  - **For automatic transmission models, make sure the shift selector display is showing "NN" (selector button type).**

Do not Touch the Gearshift Lever/Selector Button while the Vehicle is Stationary with the Engine Idling

⚠ WARNING

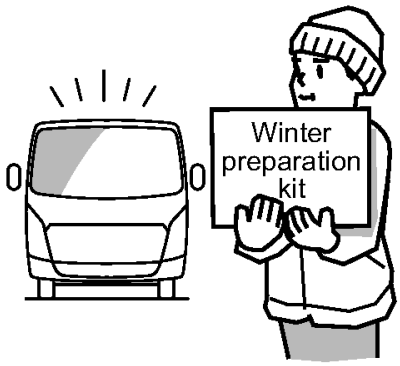
- **Do not touch the gearshift lever/selector button while the vehicle is stationary with the engine idling. If you touch the gearshift lever/selector button at this time, a gear could be selected and the vehicle could move even with the parking brake applied. The risk of knocking against the gearshift lever/selector button and causing an accident is particularly great when you move in or out of your seat.**

Leaving the Vehicle

⚠ WARNING

- **When leaving the vehicle, be sure to apply the parking brake, stop the engine and lock the doors. Do not leave valuables where they can be seen from outside the vehicle.**
- **If you are traveling with a child, do not leave the child alone in the vehicle. If the child touches the controls or equipment, an accident could occur. (For example, the vehicle could move or a fire could start.) Also, the cab inside could become dangerously hot in hot weather.**
- **Do not leave eyeglasses or a lighter in the vehicle. If the cab inside becomes hot, a lighter left there could explode and plastic eyeglass lenses or frames could deform or crack.**

Driving in Winter and in Cold Regions



The following cautions apply to snowbound regions and to mountainous regions, ski resorts and other areas of extreme cold and/or snowfall. Please use them also for reference in winter in other regions.
For the sake of your vehicle, have your Isuzu Dealer make the winter preparations described hereafter. Also have these preparations made before driving to a cold region.

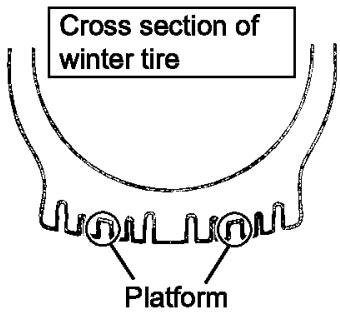
Refer to page
4-8 Using Tire Chains
10-4 Engine Oil
10-13 Engine Coolant
10-111 Windshield Washer Fluid
10-116 Battery

⚠ CAUTION

- **Do not cover the front of the radiator with newspapers, cardboard or any other flammable material to raise the engine coolant temperature.**
- **If you allow the engine to warm up but the engine coolant temperature does not rise, have the nearest Isuzu Dealer inspect the thermostat.**
- **If you park in a place where there is a lot of snowfall, snow accumulating around the vehicle could limit ventilation. Running the engine with the vehicle in such a situation could cause exhaust gases to enter into the cab, resulting in carbon-monoxide poisoning. Take preventive action by, for example, clearing the snow around the vehicle.**

Before Driving in Winter and in Cold Regions

Winter Tires

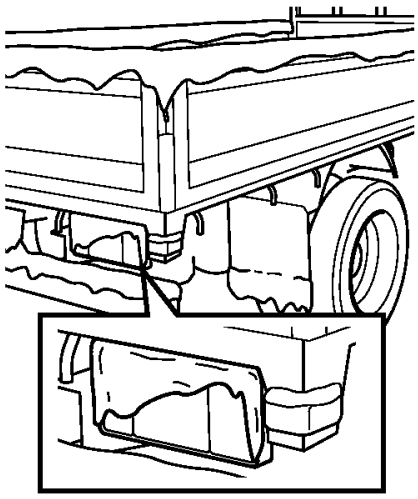


Use winter tires of the same sizes as the standard tires. Also, use wheels of the same size as those with the standard tires.
A winter tire has reached its wear limit when the tread grooves have worn to half of the depth of the new tire. At this time, platforms indicating that the tire can no longer give adequate performance on snow become visible in the grooves. Replace the tire with a new one.

⚠ CAUTION

- Use winter tires of the same sizes as the standard tires. Also, use wheels of the same size as those with the standard tires.
- Winter tires have wider contact areas, so they may interfere with other components. Consequently, it is necessary to adjust the steering angle. After putting winter tires on the vehicle, have the adjustment made by your Isuzu Dealer.
- Avoid sharp turns of the steering wheel and hard braking. Use the engine brake to decelerate. When applying the brakes on snowy or frozen road, lightly press the pedal several times rather than giving it one hard press. A single hard press of the pedal would be dangerous because it could cause the vehicle to slip or skid.
- If you use the exhaust brake on a slippery road when the vehicle is not loaded, the resulting hard deceleration can cause the back of the vehicle to swing sideways. Exercise caution.
- Avoid driving at high speeds on a dry road with winter tires.
- Comply with local legal requirements when using winter tires.

Taking Care of Lighting Equipment in Snowy Areas



⚠ CAUTION

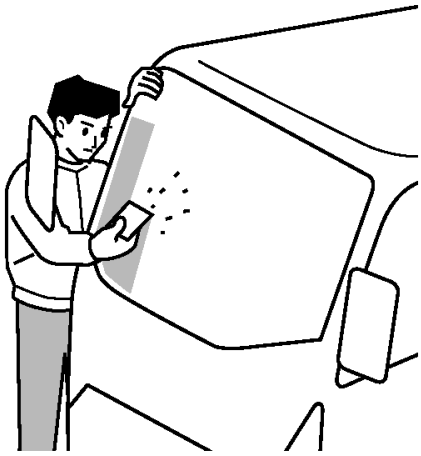
- Before driving, remove any snow or ice that may be stuck to the lighting equipment.
- While driving in snowy conditions, periodically remove any snow or ice that has stuck to the lighting equipment. Splashing water and snow may freeze and accumulate on the lamps while driving. This could reduce visibility from other vehicles and cause an unexpected accident.

For vehicles equipped with headlight washers, also remove any snow and ice that has accumulated around the washer nozzles.

[Vehicle with LED headlight]

- If your vehicle has headlight washers, use the washers to remove snow and ice from the lens surface.

Removing Snow from the Glass and Underbody

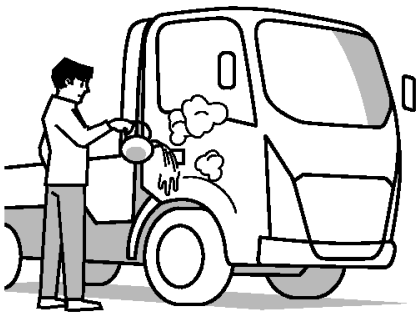


To maintain an adequate field of view, use a plastic scraper to remove snow and frost from the glass surfaces. By using a plastic scraper, you can remove the snow and frost without scratching the glass. At this time, check whether the wiper blades are frozen onto the glass.
Also, look under the vehicle and remove any lumps of ice that are stuck to the underbody. Be careful not to damage components.

ADVICE

- Do not use a sharp implement to remove snow. Sharp edges could damage rubber parts.

When Ice Prevents You from Putting the Key in the Door or Opening the Door



If you try to force the key into the door, you could bend it. And if you try to pull the door open with undue force, the rubber seal around the door could come unstuck or become damaged. Use warm water to melt the ice, then quickly wipe it away and open the door.
If the wipers, electric door mirrors, or power windows freeze up, also use warm water to melt the ice and then operate the system. Otherwise, you could damage the mechanism and drain the battery. After that, wipe the water away.

Getting In and Out of the Vehicle

The step can get icy in cold regions. Be careful not to slip when getting in and out of the vehicle.

Before Sitting in the Driver's Seat



Remove snow and ice from your shoes when getting into the vehicle. If you try to drive with snow on your shoes, your shoes would slip on the pedals and you would not be able to press the pedals properly, meaning that your driving would be inconsistent. Also, the cabin could become more humid, causing the glass to fog up.

Check the Accelerator Pedal Operation



When you start the engine, check that the accelerator pedal works smoothly.

Check the Fuel Level

Fuel consumption becomes higher when tire chains are used. Check how much fuel you need to reach your destination and top up the tank in advance.

Refer to page
4-42 Fuel

Precautions for Driving in Winter and Cold Regions

Driving on Snowy or Frozen Roads



CAUTION

- **On slippery roads, never accelerate rapidly, brake hard, decelerate rapidly or make sharp turns of the steering wheel.**
- **There is a risk of reduced grip between the tires and road surface and of increased braking distances. The danger of icy road surfaces is particularly great on bridges, in shady places and where there are puddles. Keep your speed down and be sure to use tire chains or winter tires on snowy or frozen road surfaces.**

Refer to page
4-8 Using Tire Chains

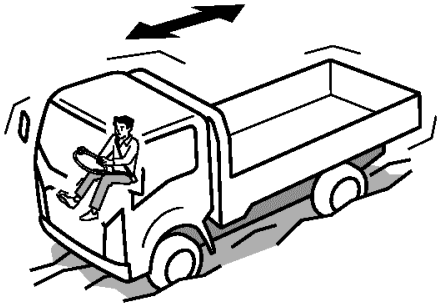
Pay Attention to the Way the Steering Wheel Turns and Feels



CAUTION

- **On snowy roads, water and snow splashed up by the tires can freeze and accumulate inside the fenders, making the steering wheel hard to turn. From time to time, get out of the vehicle and remove any accumulated snow. Do not use a sharp implement to remove the snow. Sharp edges could damage rubber parts.**

Check the Brakes from Time to Time



CAUTION

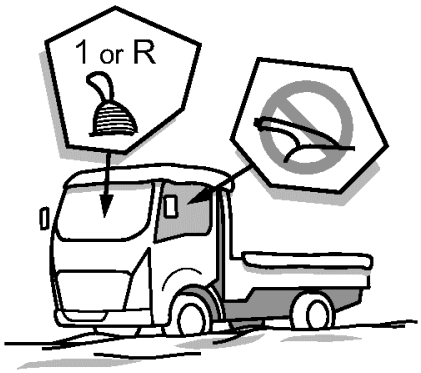
- When the vehicle is driven or parked on a snowy surface, ice can form on the brakes, decreasing their effectiveness. From time to time while you are driving, press the brake pedal lightly and check the brake's effectiveness. Pay attention to vehicles both ahead and behind you when checking the brakes in this way.
- Also, check the brake's effectiveness as soon as possible when starting to drive the vehicle after it has been parked. If the brakes do not work well, drive slowly and gently press the brake pedal several times until the brakes dry out and start working normally.

Parking in Winter and in Cold Regions

When snow collects around the wheels and lights, try to remove it before night falls.

CAUTION

- **When there is a risk that the parking brake will freeze in a cold region, dry the brake pads and rotors or brake linings and drums by lightly pressing the brake pedal five or six times while driving at a speed of 30 km/h (20 MPH) before bringing the vehicle to a halt; and apply the parking brake.**
- **For parking in gear: If the vehicle has a manual transmission, place the gearshift lever in the "1 (1st gear)" or "R (reverse)" position.**
- **Park your vehicle in a garage whenever possible to prevent parts from freezing and to improve startability.**
- **On ZF9S1310 transmission model, make sure low range is selected before parking. For parking in gear, select low range and place the gearshift lever in the "1 (1st)", "R (reverse)" or "R1 (reverse 1st)" position.**

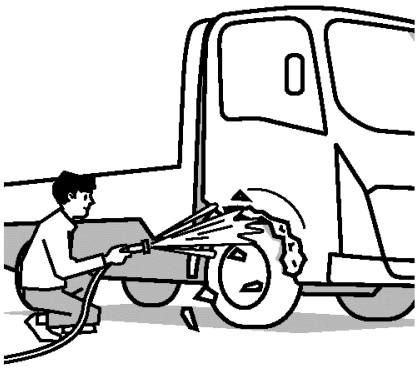


Refer to page
4-61 Manual Transmission Model (9 Speeds) [V]

NOTE

- When parking outdoors, take steps to prevent the engine from getting unnecessarily cold. For example, position the vehicle with the front end downwind.
- Do not park under trees or under the eaves of a building. Chunks of ice could fall on the vehicle if you park in such a place.

Cleaning the Vehicle after Driving on Snowy Roads



CAUTION

- **Remove snow that has stuck to the inside of the fenders and to the brake hoses. Otherwise, it may damage components. After driving on a salted road, wash the underside of the vehicle as soon as possible to prevent the salt from causing rust. Spraying water under high pressure is an effective way to get the salt off.**
- **After washing the vehicle, wipe the door openings dry.**

Refer to page
10-129 Washing

ADVICE

- Be careful not to allow water to enter the exhaust pipe. Failure to observe this precaution may expose the sensor installed inside the exhaust pipe to water, resulting in a failure of the sensor.
- On anti-lock brake system (ABS) equipped model, the vehicle speed sensors are fitted on the wheels. When removing snow, ice and other incrustation, take great care not to damage the components.
- Do not use a sharp implement to remove snow. Sharp edges could damage rubber parts.

Refer to page
4-120 Anti-lock Brake System (ABS)

Handling Fluids, Lubricants and Diesel Fuels in the Winter and in Cold Regions

Fuel

CAUTION

- **Be sure to use extra-low-sulfur diesel fuel (containing sulfur of 10 ppm or lower). If you supply the vehicle with poor-quality fuel, water-removing additive or other additive, gasoline, kerosene, or alcohol-based fuel, it could harm the fuel filter, prevent proper movement of fuel-lubricated parts in the injectors and adversely affect engine components, possibly resulting in a breakdown. If you accidentally put the wrong fuel in the tank, drain it all out. Starting the engine with the wrong fuel in the tank could result in a fire or engine damage.**
- **Using diesel fuel other than extra-low-sulfur diesel fuel or low-sulfur diesel fuel in a model conforming to Japan post-post new long term regulation emission standards could prevent the vehicle from complying with local legal requirements. Using diesel fuel other than extra-low-sulfur diesel fuel in a model conforming to EuroVI emission standards could prevent the vehicle from complying with local legal requirements.**
- **Open the fuel tank filler cap slowly. If you open it quickly, fuel may spurt out.**

If you drive to a cold region in winter while using diesel fuel for warmer regions that freezes at a relatively high temperature, the fuel may freeze. As the ambient temperature decreases, the fuel in the fuel tank and pipes may freeze like slush, making the engine hard to start.

NOTE

- The specifications of diesel fuel differ according to the season and region.
- When driving to a cold region, put just enough fuel to reach the destination in the tank. As soon as you reach the cold region, fill the tank with fuel that has a low freezing temperature.
- When taking the vehicle to a cold region on a ferry, board the ferry with only a minimal amount of fuel in the tank and then, after reaching the cold region, fill the tank with fuel that has a low freezing temperature.

Replacing the Engine Oil

The engine oil tends to harden with lowering temperatures. Use engine oil with a viscosity suited to ambient temperature.

Refer to page
8-40 Recommended Fluids, Lubricants and Diesel Fuels
8-44 Engine Oil and Gear Oil Viscosity Charts
10-8 Changing the Engine Oil and Oil Filter

Transmission Oil (ZF9S1310 Model Transmission)

When Starting the Vehicle in Cold Regions

The oil used in the ZF9S1310 transmission has a low-temperature limit. If you start to drive the vehicle under the ambient temperature of below -15°C (5°F), replace the transmission oil with an appropriate one which has sufficient low temperature performance. Another approach is to warm the transmission before starting the engine. When warming the transmission, do not use hot air with a temperature exceeding 130°C (266°F).

⚠ WARNING

- **If you leave the vehicle with the engine running, be sure to apply the parking brake to prevent the vehicle from rolling suddenly.**

Refer to page
8-15 Low Temperature Limits

Adding AdBlue® in Freezing Conditions

Be sure to add AdBlue® before finishing vehicle operations when the multi-information display shows that the AdBlue® level is at 0 or 1 under freezing conditions.

⚠ CAUTION

- **Do not warm up the AdBlue® tank using burners or heaters.**

ADVICE

- AdBlue® freezes at a temperature of -11°C (12°F). Since the urea SCR system is equipped with a heating function that utilizes the engine coolant, the engine will start even when AdBlue® is frozen.

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?
4-168 Refilling AdBlue®

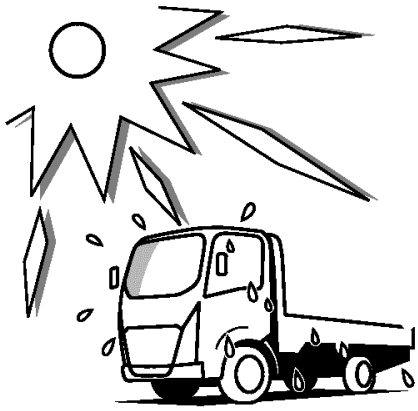
Engine Coolant in Cold Weather



To prevent the engine damage due to freezing of the engine coolant, mix the coolant and water to be an appropriate concentration.

Refer to page
8-40 Recommended Fluids, Lubricants and Diesel Fuels
10-15 Preparing Engine Coolant
10-17 Changing the Engine Coolant

Driving in Summer and in Hot Regions



The engine will be prone to overheating in an environment where the ambient temperature is high. To prevent the engine from overheating, pay attention to the following points:

- Use an appropriate concentration of coolant to prevent the engine from seizing due to overheating.

⚠ CAUTION

- **Do not put well water, river water or other hard water in the engine cooling system. It would hasten the formation of rust and scale.**

Refer to page
10-13 Engine Coolant

- If foreign matter (insects, mud, etc.) gets stuck in the radiator's air passages, the cooling system's performance will deteriorate. Check the air passages for clogging, and remove any foreign matter using water under low pressure.

Refer to page
10-22 Cleaning the Radiator and Intercooler

ADVICE

- When the ambient temperature is high, evaporation of battery fluid will become quicker. Frequently check the battery fluid level and, when necessary, add more fluid.

Refer to page
10-116 Battery

Starting and Stopping the Engine

Starting and Stopping the Engine

Starter Switch

ADVICE

- After starting the engine, do not turn the starter switch to the "START" position. Otherwise, the starter motor may be damaged.
- Using electrical devices such as the audio system for an extended time period with the engine stopped can completely discharge the battery.

Model without Passive Entry and Start System

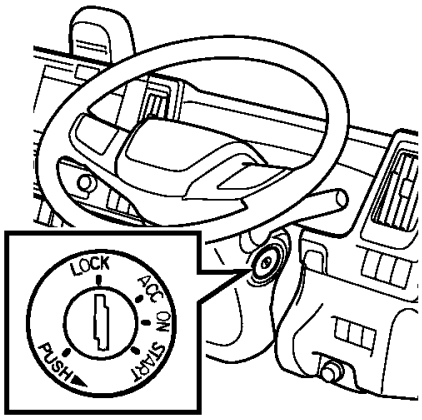
WARNING

- **While driving, never turn the starter switch to the "LOCK" position. The key could be removed from the switch, which then locks the steering wheel. This is extremely dangerous.**

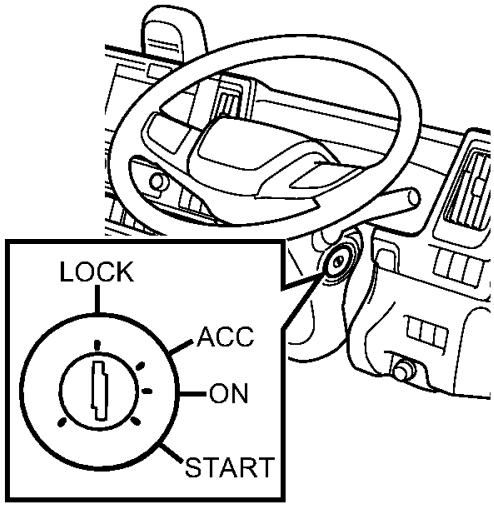
ADVICE

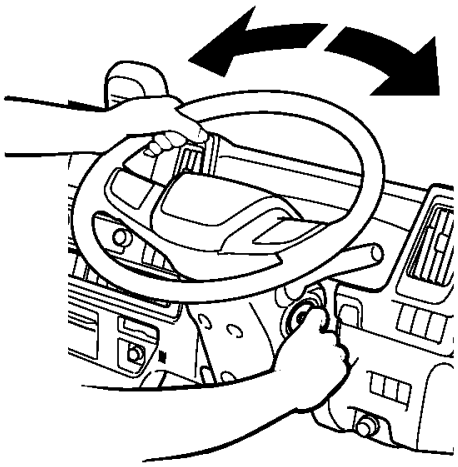
- Using a key sticking with dirt or dust, etc. may possibly damage the starter switch. Make sure to wipe off any dirt or dust, etc. before inserting the key.

Type 1



Type 2





LOCK

In this position, the key can be inserted or removed.

Remove the key and turn the steering wheel until it locks. The steering wheel will be locked to help prevent theft.

To place the starter switch in the "LOCK" position, press and hold the key in the "ACC" position and then turn it to the "LOCK" position.

ACC

In this position, the audio and other accessories can be used with the engine stopped.

ON

The key stays in this position while the engine is running. This position is also used for preheating before starting the engine.

START

The engine is started in this position. Release the key as soon as the engine has started. The key automatically returns to the "ON" position.

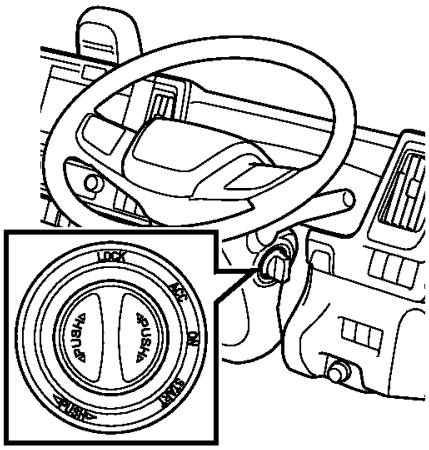
NOTE

- If the key cannot be turned from the "LOCK" position to the "ON" position, lightly move the steering wheel clockwise and counterclockwise while trying to turn the key.

Model with Passive Entry and Start System

⚠ WARNING

- **While driving, never turn the starter switch to the "LOCK" position. The key could be removed from the switch, which then locks the steering wheel. This is extremely dangerous.**



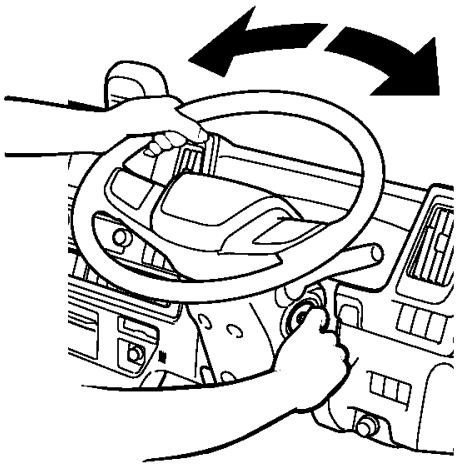
PUSH
When the starter switch is pressed, the passive entry and start system checks for the key, and once it is verified, the starter switch can be operated.

LOCK
In this position, the starter switch is locked. The steering wheel will be locked to help prevent theft.
To place the starter switch in the "LOCK" position, press and hold the key in the "ACC" position and then turn it to the "LOCK" position.

ACC
In this position, the audio and other accessories can be used with the engine stopped.

ON
The key stays in this position while the engine is running. This position is also used for preheating before starting the engine.

START
The engine is started in this position. Release the key as soon as the engine has started. The key automatically returns to the "ON" position.



NOTE

- When the remote control unit battery has run out or when the passive entry and start system fails to recognize the remote control unit due to the surrounding radio waves conditions, the starter switch cannot be turned.
- When you cannot turn the switch from the "LOCK" position to the "ON" position, turn it while gently moving the steering wheel from side to side.

Refer to page
2-9 Replacing the Battery of the Passive Entry and Start System Key
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

Starting the Engine

Make sure that the switches, including those for the windshield wiper, light control and air conditioner, are in the off position.
Turn the starter switch to the "ON" position to check that the warning and indicator lights turn on normally and the fuel level is proper.

WARNING

- **Do not keep the starter switch in the "START" position for more than about 10 seconds. Operating the starter for too long might cause battery failure or might result in overheating and even a fire.**

CAUTION

- **If your vehicle is equipped with a manual transmission, firmly engage the parking brake when you sit in the driver's seat before starting the engine. Also, be sure to start the engine while pressing the clutch pedal and after making sure that the gearshift lever is in the "N" position.**
  If your vehicle is equipped with an automatic transmission of the selector button type, firmly engage the parking brake when you sit in the driver's seat, check that the shift selector display shows "NN", and firmly press the brake pedal before starting the engine.
- **Be sure to sit in the driver's seat to start the engine. If you lean through the window from outside of the vehicle to start the engine, the vehicle may start moving if the gearshift lever is into any position other than "N" position (manual transmission models) or the selector button is set to any position other than "NN" (automatic transmission models). This is very dangerous. Never start the engine that way.**

ADVICE

- At low ambient temperatures, a cold engine may emit more smoke (white smoke) than usual.

NOTE

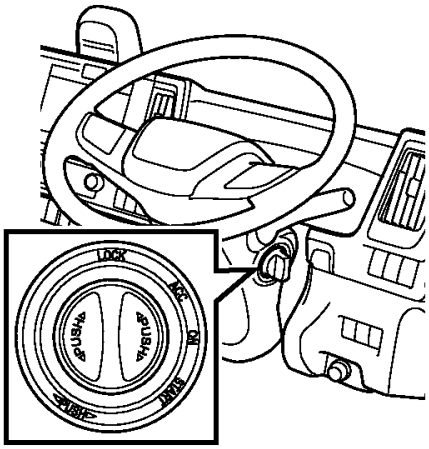
- When the engine is cold started, the engine speed may increase to 740 r/min or more, the exhaust brake may switch repeatedly between operation and non-operation, or the engine speed may fluctuate. This is part of a function to confirm that the engine is working properly, and is not malfunction.

Model without Passive Entry and Start System

1. In manual transmission models, place the gearshift lever in the "N" position, and fully depress the clutch pedal.
   In automatic transmission models with the selector button type, make sure that the shift selector display shows "NN" and firmly press the brake pedal.
2. Turn the starter switch to the "START" position to start the engine.

3. If the engine speed is unstable, turn the idling control knob to adjust it to be stable and let the engine warm up. After warming up, turn the idling control knob all the way to the left, and let the engine idle.

Model with Passive Entry and Start System



Passive entry and start system warning light



1. Make sure that the shift selector display shows "NN" and firmly press the brake pedal.
2. Turn the starter switch to the "START" position to start the engine.

NOTE

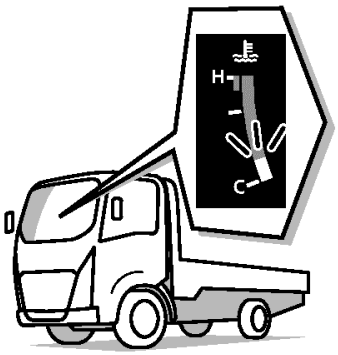
[When you cannot turn the starter switch]

- If the passive entry and start system fails to recognize the remote control key, such as when the remote control key is outside the operating range or when the battery has run out, the starter switch cannot be turned from the "LOCK" position.
- If the passive entry and start system fails to recognize the key when the starter switch is pressed, "Authenticate key" appears on the multi-information display and the buzzer sounds. At this time, check that you are carrying the remote control key.
- If "Authenticate key" appears on the multi-information display and the buzzer sounds even though you are carrying the remote control key, change the position of the key you are carrying and operate the starter switch again.
- If the engine cannot be started with the remote control key, refer to "When the Passive Entry and Start System Does Not Work Properly" to start the engine.

Refer to page
11-19 When the Passive Entry and Start System Does Not Work Properly [V]

3. If the engine speed is unstable, turn the idling control knob to adjust it to be stable and let the engine warm up. After warming up, turn the idling control knob all the way to the left, and let the engine idle.

Allow the Engine to Warm Up after Starting



The engine is sufficiently warmed up when the needle of the engine coolant temperature gauge starts to move.

Refer to page
4-54 Idling Control Knob

⚠ WARNING

- **Running the engine in a poorly ventilated place can lead to carbon monoxide poisoning. Start and warm up the engine only in places that have good ventilation.**

ADVICE

- Do not rev the engine or quickly accelerate before the engine has sufficiently warmed up (in other words, when the engine is cold). Oil would not have adequately reached and lubricated components, so a breakdown would result.
- The exhaust pipe becomes extremely hot while the engine is idling. Before warming up the engine, make sure there is no flammable material (for example, grass, waste paper, oil or old tires) near the exhaust pipe.

Stopping the Engine



Firmly apply the parking brake.
With the accelerator pedal released, turn the starter switch to the "ACC" or "LOCK" position.

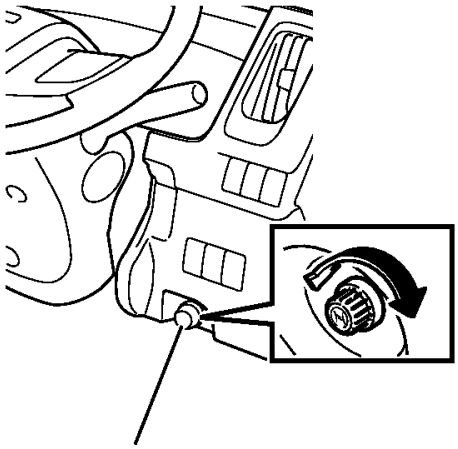
ADVICE

- Do not shut down the engine immediately after driving the vehicle, doing so could cause it to seize, or some other damage. Before stopping the engine, run the engine at idle for approximately 3 minutes to cool it down after applying the parking brake and doing the following operations and checks.
  - For manual transmission models, be sure to place the gearshift lever in the "N" position to select neutral.
  - For automatic transmission models, check that the shift selector display shows "NN".
- To prevent the battery from going dead, turn the starter switch to the "ACC" or "LOCK" position after stopping the engine. If you leave the vehicle for an extended period of time, place the starter switch in the "LOCK" position.

NOTE

- After driving with a heavy load, or after driving on a highway, let the engine idle for at least 3 minutes to cool it down. This allows the turbocharger to return to idle speed. Engine oil pressure is available for lubrication at this time and will prolong the life of the turbocharger bearings.
- Immediately after stopping the engine, you may hear a metallic plinking sound from the muffler. This sound occurs as the muffler cools down and contracts. It does not indicate an abnormality or breakdown.

Idling Control Knob



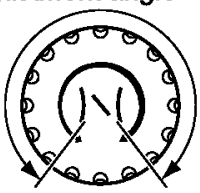
Idling control knob

This knob is used to warm up the engine. You can increase the engine speed by turning the knob clockwise without the need to use the accelerator pedal.
Turn the knob back fully counterclockwise after you have used it for engine warm-up and keep it in this position.

⚠ WARNING

- **Running the engine in a poorly ventilated place can lead to carbon monoxide poisoning. Choose a well ventilated place when starting and warming-up the engine. White smoke may be emitted for a short time during diesel particulate defuser (DPD) regeneration due to combustion of particulate matter (PM). Choose a well ventilated place to perform the manual regeneration.**
- **If you leave the idling control knob in a high speed position without returning it to the lowest speed position, the vehicle is likely to move suddenly during standing start or it will consume more fuel during subsequent driving or have a shortened clutch life.**
  Never forget to fully turn the idling control knob back to the lowest speed position before driving the vehicle.

Adjustment angle 300°



ADVICE

- The idling control knob is used to increase the efficiency of the heater and/or the defroster during engine idling, or to manually increase the engine idling speed.
- The idling control knob has an operating range of 300 degrees. Do not try to turn the knob beyond this range. Otherwise, the vehicle may develop a problem.

NOTE

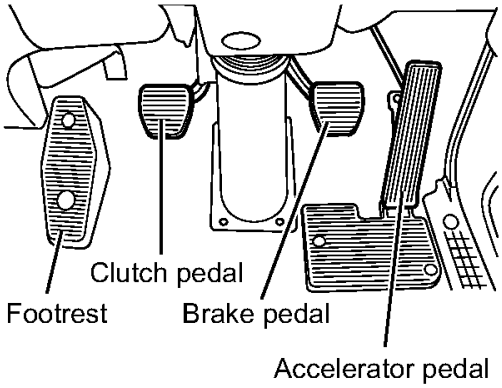
- Use the idling control knob to stabilize the engine speed at start when it runs rough.
- Turn the idling control knob fully counterclockwise when the DPD is manually regenerated in order to reduce the engine speed if the knob has been turned clockwise to increase the engine speed.

Refer to page
4-52 Allow the Engine to Warm Up after Starting
4-148 Diesel Particulate Defuser (DPD)

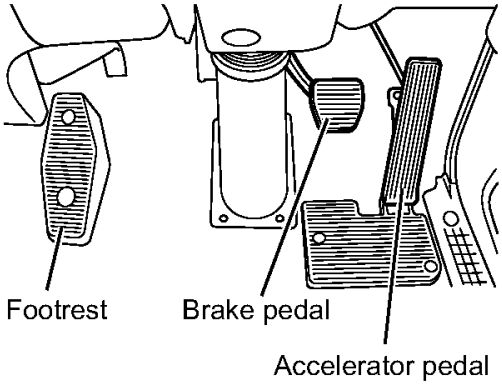
Operating the Vehicle

Pedals

Manual transmission model



Automatic transmission model



Sit in a correct driving position on the seat and operate the brake pedal and accelerator pedal with your right foot. To avoid accidentally pressing the wrong pedal, check the pedal positions and practice putting your foot on the desired pedal.

⚠ WARNING

- **A can or bottle rolling on the floor may prevent brake pedal operation if it is caught under the pedal. This is very dangerous.**
- **A floor mat must be placed correctly. An incorrectly installed floor mat may hinder the free movement of each pedal.**

ADVICE

- Do not race the engine; engine components as well as fuel economy may be badly affected.
- If your vehicle has a manual transmission, do not drive with your foot resting on the clutch pedal. If you rest your foot on the clutch pedal while driving, the clutch could partially disengage without you realizing it, causing the clutch plates to wear and the clutch to slip. Also, do not slip the clutch as a way to hold the vehicle in position (instead of using the brakes) on, for example, an uphill road.

Overriding accelerator with brakes

Depressing the accelerator pedal and brake pedal at the same time may suppress engine output.

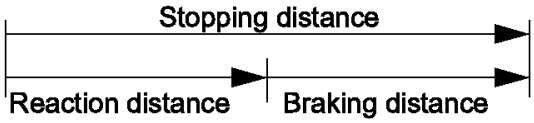
Brake Operation



The brakes give strong braking force with only light pressure on the pedal. Do not press the brake pedal hard except in the event of an emergency.

1. Braking distances vary according to the vehicle speed and road conditions. First, slow down sufficiently using the engine brake and (if your vehicle is so equipped) the exhaust brake.
2. Press the brake pedal and keep it pressed until the desired stopping point to bring the vehicle to a halt.

Stopping Distance



The vehicle's stopping distance consists of a reaction distance (from the point where the driver senses danger and presses the pedal to the point where the brakes start to work) and a braking distance (from the point where the brakes start to work to the point where the vehicle comes to a halt). When driving, bear the stopping distance in mind. Maintain a speed and headway distance that allow you to stop safely even if a hazard occurs.

Parking Brake Lever

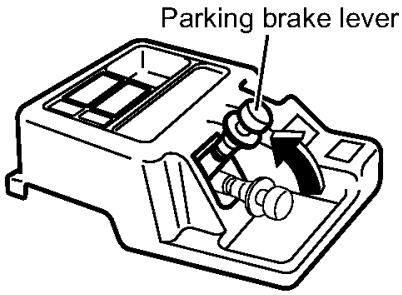
When parking or stopping your vehicle, pull the parking brake lever and make sure that the vehicle does not start moving.

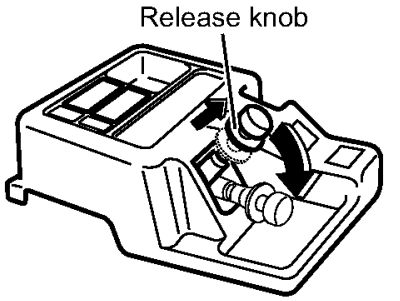
Refer to page
4-27 Stopping and Parking

⚠ CAUTION

- **Do not use the parking brake while the vehicle is in motion except in an emergency.**
- **Applying the parking brake before the vehicle has stopped can cause the tires to lock or the vehicle to spin, possibly causing an accident.**
- **Be careful not to drive the vehicle with the parking brake lever still pulled up. Unless the parking brake is fully released during driving, a fault and/or a fire may be caused.**
- **After using the parking brake during driving, be sure to check if any failure has been caused.**
- **When parking or stopping your vehicle, securely lock the parking brake lever by pulling it up to the lock position, and make sure that the vehicle does not start moving.**
- **When parking the vehicle on a slope, use the parking brake and chocks in combination.**

Operation of the Parking Brake





To set the parking brake

Raise the parking brake lever. The parking brake warning light will then come on. Make sure that you hear the air being released from the system.

To release the parking brake

Lower the parking brake lever while raising the release knob.
The parking brake warning light will then go out.

CAUTION

- **If the parking brake warning light remains on when the parking brake lever is lowered, a brake failure or drop in air pressure may be the cause. Check the air pressure for correct level.**
- **If the air pressure level is abnormal, immediately contact the nearest Isuzu Dealer.**
- **If the parking brake has no effect when the parking brake lever is pulled, then the parking brake has failed even if the warning light comes on and goes off normally.**
- **If the parking brake is abnormal, immediately contact the nearest Isuzu Dealer.**

Refer to page
4-59 Parking Brake Warning Light
3-4 Air Pressure Gauge
3-23 Air Pressure Warning Light [V]

NOTE

- When you pull up on the parking brake lever, the spring force applies the rear wheel brakes, causing them to work as a parking brake.
- When the air pressure in the brake chamber drops below the limit, the rear wheel brakes are automatically applied regardless of the parking brake lever position. If this happens, it becomes difficult to release the parking brake unless the vehicle's air pressure is returned to a normal level.

Parking Brake Warnings/Indicators

Parking Brake Warning Light



This warning light comes on when the parking brake lever is pulled up.

CAUTION

- **The illumination of the warning light does not necessarily ensure firm application of the parking brake. The parking brake lever must be sufficiently pulled up and locked.**

Parking Brake Warning Buzzers

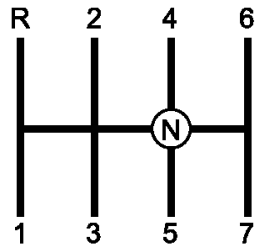
In the following cases, the buzzer sounds an alert.

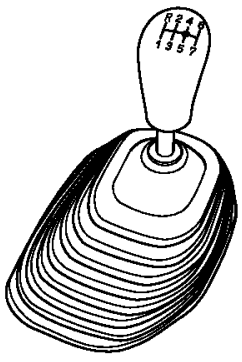
Warning light	Warning buzzer	Details	Action
(P) (comes on)	Continuous beep	**Warning for parking brake still applied** When driving while the parking brake is applied	Stop the vehicle and disengage the parking brake before driving the vehicle again.
—	Continuous beep	**Warning for parking brake not applied** When starter switch turned to "ACC" or "LOCK" position without applying the parking brake	Apply the parking brake.

Gearshift Lever [M/T]

Manual Transmission Model (7 Speeds) [V]

MJT7 model transmission shift pattern





MJT7 Model Transmission

A manual transmission model requires you to fully depress the clutch pedal when making a gear shift.

When the gearshift lever is placed into "R (Reverse)", the back up lights come on and, in a model with back up warning buzzer, the buzzer sounds as well.

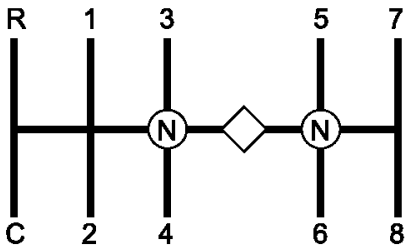
CAUTION

- **When reversing, be sure to check that the exterior reverse beeps are sounding after moving the select lever to the "R (reverse)" position. Even with the gearshift lever placed in the "R (reverse)" position, the reverse gear is not engaged and the vehicle may move down on a downhill slope if the beep cannot be heard. If this happens, move the gearshift lever back to the neutral position and then move it again to the reverse position.**

ADVICE

- Make a shift into the reverse gear from a forward gear or into a forward gear from the reverse gear only when the vehicle has come to a complete stop. Doing otherwise may damage the transmission.
- Shift gears one shift at a time when driving the vehicle. Skipping gears may cause a transmission failure.
- Operation of the gearshift lever may be difficult in cold weather, but does not constitute a malfunction. Make sure to sufficiently warm the engine before operating the vehicle.

Manual Transmission Model (9 Speeds) [V]



1-4 Low range change group
5-8 High range change group

ZF9S1310 Model Transmission with Double-H Shift Pattern

A total of 9 forward gears are available from the low and high speed ranges, the low range providing 5 gears consisting of "1 (1st)" to "4 (4th)" gears plus the "C (crawler)" gear, and a "R (reverse)", while the high range providing 4 speeds from "5 (5th)" to "8 (8th)".
Fully depress the clutch pedal before shifting into any gear.

ADVICE

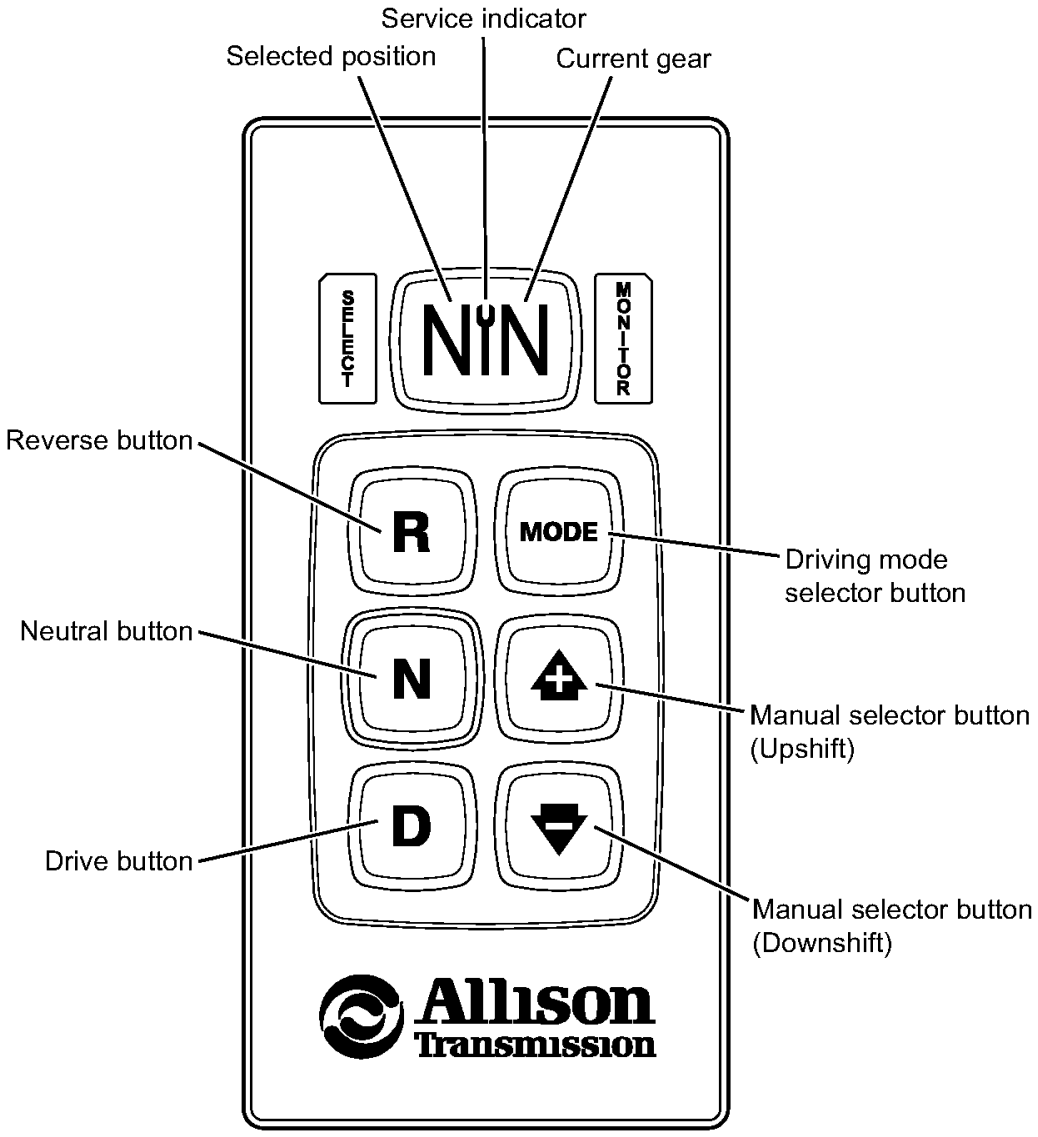
- Shift into "C (crawler)" or "R (reverse)" only after the vehicle has come to a complete stop.

Refer to page
4-65 Model with ZF9S1310 Model Manual Transmission [V]

Selector Button [A/T]

Automatic Transmission Model

The selected position and the current gear are displayed on the shift selector display at the upper part of the control panel.



Except models for Singapore

Selector button		Shift selector display		Description
		Selected position	Current gear	
MODE	Driving mode selector button	POWER		• Press this button when the vehicle is heavily loaded or traveling uphill. "POWER" will appear at the bottom of the range display. For power mode, refer to "Power Mode".
R	Reverse button	R	R	• Press this button when backing the vehicle up. • Operate the button after stopping the vehicle.
N	Neutral button	N	N	• Press this button when shifting into neutral. • Depress the brake pedal before you can press the "D" or "R" button when the neutral position has been selected.
D	Drive button	6	1 - 6	• Press this button for normal driving • The transmission makes shifts automatically between all gears from "1" (1st) and "6" (6th) ("D6" position).
⬆	Manual selector button (Upshift)	1,2,3 4,5,6	1 - 6	• Press either of these buttons to select an appropriate gear for the current driving condition • Press a manual selector button until the desired gear is indicated on the selected position display.
⬇	Manual selector button (Downshift)			

ADVICE

- The shift selector display warns of a serious fault that has occurred in the automatic transmission mechanism or the control unit if it indicates only the current gear without indicating the selected position.
  If this condition occurs, stop driving, do not press any button on the control panel and promptly contact the nearest Isuzu Dealer.

Refer to page
4-76 Power Mode

Models for Singapore

Selector button		Shift selector display		Description
		Selected position	Current gear	
MODE	Driving mode selector button	POWER		• Press this button when the vehicle is heavily loaded or traveling uphill. "POWER" will appear at the bottom of the range display. For power mode, refer to "Power Mode".
R	Reverse button	R	R	• Press this button when backing the vehicle up. • Operate the button after stopping the vehicle.
N	Neutral button	N	N	• Press this button when shifting into neutral. • Depress the brake pedal before you can press the "D" or "R" button when the neutral position has been selected.
D	Drive button	5	1 - 5	• Press this button for normal driving • The transmission makes shifts automatically between all gears from "1" (1st) and "5" (5th) ("D5" position).
⬆	Manual selector button (Upshift)	1,2,3 4,5	1 - 5	• Press either of these buttons to select an appropriate gear for the current driving condition • Press a manual selector button until the desired gear is indicated on the selected position display.
⬇	Manual selector button (Downshift)			

ADVICE

- The shift selector display warns of a serious fault that has occurred in the automatic transmission mechanism or the control unit if it indicates only the current gear without indicating the selected position.
  If this condition occurs, stop driving, do not press any button on the control panel and promptly contact the nearest Isuzu Dealer.

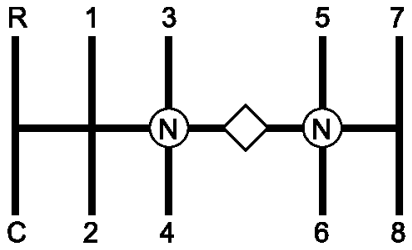
Refer to page
4-76 Power Mode

Model with ZF9S1310 Model Manual Transmission [V]

The ZF9S1310 manual transmission requires selection of the low range or the high range when operating the gearshift lever, unlike the 6-speed transmission. Fully understand how to operate the gearshift lever and form a habit of operating it correctly.

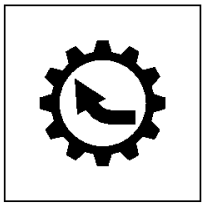
Operation Method

When Starting the Vehicle



1-4 Low range change group
5-8 High range change group

Low range indicator light



Double-H shift pattern
Make sure that the low range indicator light is on in the instrument panel.
After fully pressing the clutch pedal and while pressing the brake pedal, place the gearshift lever into the "1 (1st)", "C (crawler)" or "R (reverse)" position. When the gearshift lever is placed into the "R (reverse)" position, the back up light comes on and a warning buzzer sounds in a model with back up warning.

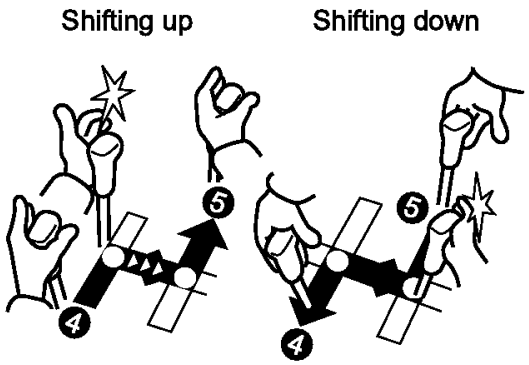
CAUTION

- **You may shift into "C (crawler)" only when starting the vehicle from a standstill. Shifting into the "C" position during driving will cause damage to the transmission.**
- **Shift into "C (crawler)" or "R (reverse)" only when the vehicle has come to a stop completely. Doing otherwise may cause damage to the transmission.**
  Shift into the reverse gear from a forward gear or vice versa only after bringing the vehicle to a complete stop. Doing otherwise may damage the transmission.
- **Fully depress the clutch pedal before operating the gearshift lever.**

ADVICE

- Use the "C (crawler)" position when you need powerful driving forces such as when the vehicle is loaded.
- Use the 1st gear for normal starting.

Shifting gears from 3rd/4th to 5th/6th



When moving the gearshift lever from the 3rd/4th gear (3/4) gate into the 5th/6th gear (5/6) gate or vice versa, tap the lever with your palm lightly (do not use undue force) to move the lever quickly toward the target gear position.

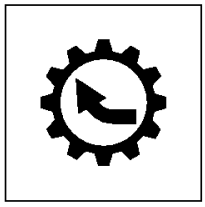
CAUTION

- **Fully depress the clutch pedal before operating the gearshift lever.**
- **Do not change to the low range at 30 km/h (19 MPH) or higher speeds. Doing so may cause a failure in the transmission.**
- **The gearshift lever is harder to move when the transmission temperature is still low. If high-to-low range group switching is impossible when making a downshift from the 5th/6th gear (5/6) gate to the 3rd/4th gear (3/4) gate, slow down the vehicle and then select a gear appropriate for the lower vehicle speed.**

NOTE

- If low-high range switching becomes impossible
  - If low-to-high range switching is impossible, you can still drive the vehicle. Have your vehicle inspected at the nearest Isuzu Dealer promptly.
  - If high-to-low range switching becomes impossible, you cannot drive the vehicle. Immediately stop your vehicle at a safe place and contact the nearest Isuzu Dealer.

Low Range Indicator Light [V]



This indicator light stays on while the gearshift lever is in the low range.

Refer to page
4-61 Manual Transmission Model (9 Speeds) [V]

Automatic Transmission Model [A/T]

On an automatic transmission model, there is no need to use a clutch pedal; you can pull away, change gears and stop the vehicle using the selector buttons, accelerator pedal, and brake pedal. Be sure to learn the characteristics of the automatic transmission and how to correctly operate it. When the vehicle is stationary, remember to keep the brake pedal firmly pressed and, if necessary, press the neutral button, make sure the shift selector display is showing "N", and apply the parking brake. Immediately after engine startup, while the air conditioner is running, the engine speed rises, making creep stronger than it is at other times. When you press a selector button other than the neutral button, firmly press the brake pedal.



NOTE

[Creep]

- When the engine running and a selector button other than "N" is pressed, power reaches the wheels even when the accelerator pedal is not pressed, causing the vehicle to tend to move. This phenomenon is called creep. The higher the engine speed, the stronger the creep and the greater the vehicle's tendency to move.

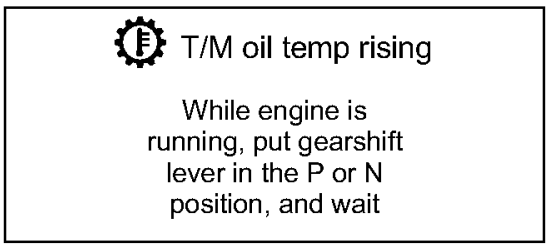
Automatic Transmission Warnings/Indicators

Check Trans Warning Light



This warning light should remain on for approximately 2 seconds after the starter switch is turned to the "ON" position, and then should go out.
If this light comes on after the engine has started, there is something wrong with the transmission electronic control system. Contact the nearest Isuzu Dealer as soon as possible.

Automatic Transmission Fluid (ATF) Temperature Warning Light



This message appears on the multi-information display when the temperature of the automatic transmission fluid is abnormally high.
If the message appears while driving, immediately pull safely off the road out of the way of any traffic. Then check the problem and take corrective actions as follows:

Check and Corrective Actions

1. Put the transmission in neutral by pressing the "N" selector button. Run the engine at approximately 1,000 r/min until the warning light goes out, indicating that the engine has cooled down.
2. After confirming that the warning light has gone out, check the automatic transmission fluid level.

Refer to page
10-83 Checking the Fluid Level

3. If the fluid level is correct, the abnormally high fluid temperature may have been caused by a clogged ATF filter or because the vehicle was driven in a way that imposed too much of a load on it.
   If you have failed to replace the filter regularly, replace the filter.

Refer to page
10-89 Changing the Transmission Fluid

Before Driving

⚠ WARNING

- **Fully depress the brake pedal to prevent the vehicle from moving even if it is stopped on a level road, and press the selector button "N" and set the parking brake as needed.**
- **The engine speed is higher immediately after its start, while the air conditioning is in operation. This makes the transmission produce stronger creeping force than usual. You need to firmly depress the brake pedal.**

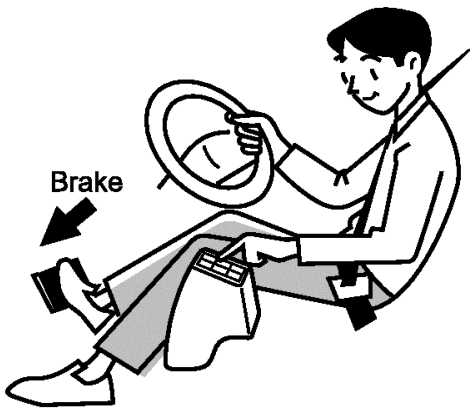
ADVICE

- When changing gears from "N" to move the vehicle, press the selector button while depressing the brake pedal. Otherwise the gear is not engaged.
  If the gear is not engaged, reselect "N", and press the selector button while depressing the brake pedal.
- When the engine is running at approximately 900 r/min or higher, the transmission does not engage any drive gear and thus the vehicle does not move.
  If this happens, release the accelerator pedal. Then, depress the brake pedal and press the desired selector button.
- When shifting from "N" to "R", the gear is not engaged unless the vehicle is stopped. Being stopped means that the vehicle speed is lower than approximately 9 km/h (approximately 6 MPH).
- When shifting from a forward gear to the reverse gear or vice versa, stop the vehicle and then press the selector button.
- If the gear does not shift even when you follow the steps described above, the accelerator sensor system or the automatic transmission system is likely to be faulty. Please contact the nearest Isuzu Dealer.

NOTE

- You can utilize the creeping effect of the transmission to move your vehicle smoothly in a traffic jam or in a narrow space by controlling the speed without using the accelerator pedal but using only the brake pedal.
- The lockup clutch does not work in "R".

Brake Operation

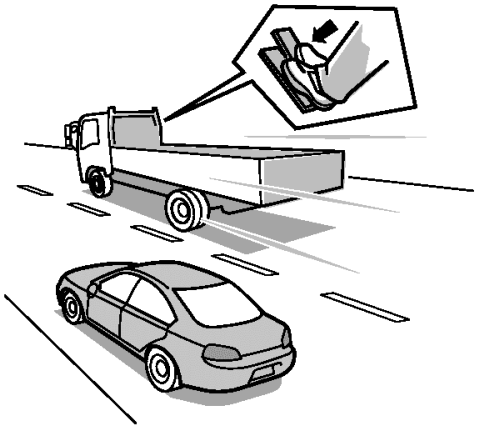


Make it habit to use only your right foot to operate the brake pedal to avoid depressing a wrong pedal.

WARNING

- **Sit on the seat in the correct position and operate the brake and accelerator pedals with your right foot. Check the position of each pedal visually and learn their positions by feel, to avoid pressing the wrong pedal.**

Kickdown



When you depress the accelerator pedal forcibly when driving with the "D" position selected, the transmission automatically shifts into a lower speed gear.
You can use this kickdown effect to smoothly pass other vehicles or merge with another road during highway driving.

⚠ CAUTION

- **If you slowly step on the accelerator pedal on an uphill slope to keep the speed constant, kickdown may take place, causing the vehicle to suddenly accelerate.**
- **Be aware that kickdown on a slippery road or while driving through a curve may cause the vehicle to tilt.**

How to Use the Selector Buttons

Except models for Singapore

Press the button	Selected position	Current gear	Operation method
MODE	POWER		Power mode: Used when the vehicle is heavily loaded or traveling uphill.
R	R	R	Reverse: Used when backing up the vehicle.
N	N	N	Neutral: The engine can be started in this position.
D	1,2,3 4,5,6	1,2,3 4,5,6	Automatic mode (automatic gear shift): The system automatically selects an optimum gear (1st to 6th) according to the vehicle speed.
⬆, ⬇	1,2,3 4,5,6	1,2,3 4,5,6	Manually selecting the "⬆" (upshift) or the "⬇" (downshift) position allows the driver to select the desired gear (1st to 6th).

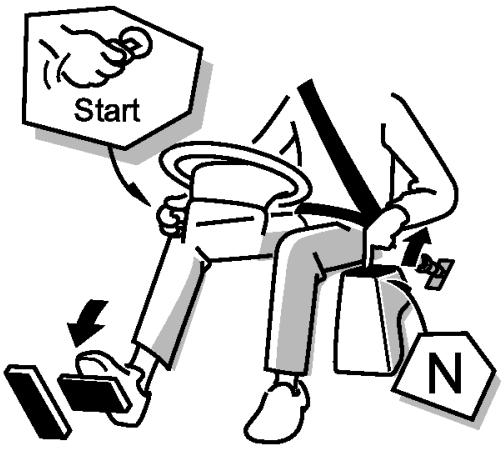
Models for Singapore

Press the button	Selected position	Current gear	Operation method
MODE	POWER		Power mode: Used when the vehicle is heavily loaded or traveling uphill.
R	R	R	Reverse: Used when backing up the vehicle.
N	N	N	Neutral: The engine can be started in this position.
D	1,2,3 4,5	1,2,3 4,5	Automatic mode (automatic gear shift): The system automatically selects an optimum gear (1st to 5th) according to the vehicle speed.
⬆, ⬇	1,2,3 4,5	1,2,3 4,5	Manual mode (manual gear shift): Manually selecting the " ⬆ " (upshift) or the " ⬇ " (downshift) position allows the driver to select the desired gear (1st to 5th).

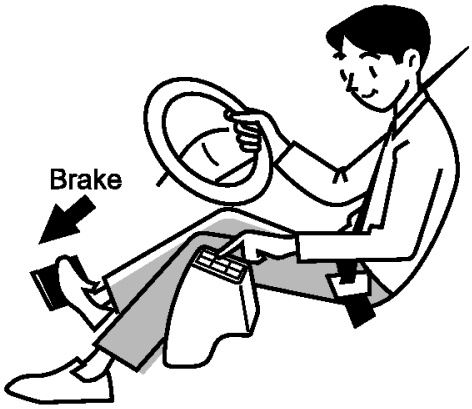
⚠ CAUTION

- **When starting the engine of an automatic transmission model, sit on the driver seat, fully pull up the parking brake lever, press the "N" button, and fully depress the brake pedal before starting the engine.**
- **If you start the engine through the window, the vehicle may start moving if any position other than "N" is selected on the selector button. This is very dangerous. Never start the engine in that way.**

To Start Your Vehicle - on Normal Roads

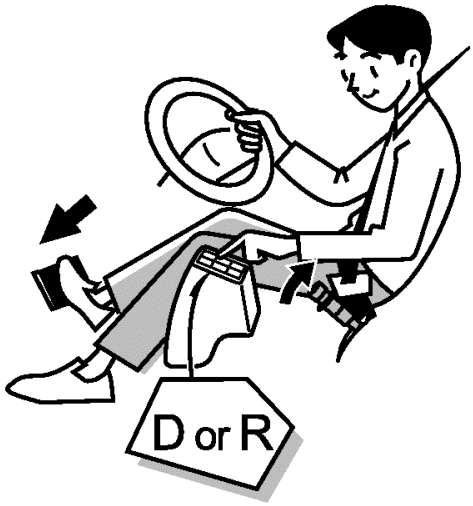


1. Fully depress the brake pedal, make sure that "N" is selected and the parking brake lever is fully pulled up, and then turn the starter switch to the "ON" position.

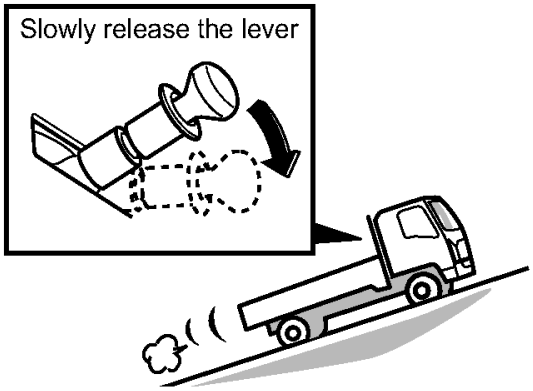


2. Start the engine while fully depressing the brake pedal with your right foot, and press the "D" button for forward movement or the "R" button for backward movement.
3. Check the safety of the surrounding area and the position of the selector button visually before releasing the parking brake lever.
4. Gradually ease your right foot pressure off the brake pedal while slowly depressing the accelerator pedal to start the vehicle.

To Start Your Vehicle - on a Steep Slope



1. Make sure that the parking brake lever is fully pulled up.
2. While firmly depressing the brake pedal with your right foot, press the "D" button position for forward movement or the "R" button for backward movement.



3. Check for safe conditions in the surrounding area, ease your right foot pressure off the brake pedal, and then slowly depress the accelerator pedal.
4. After you feel the vehicle start moving, slowly release the parking brake lever and start the vehicle.

⚠ WARNING

- **If any position other than "N" is selected on the selector button, the vehicle starts moving due to the creeping effect of the transmission. When starting the vehicle, be sure to operate the selector button with the brake pedal depressed.**
- **When moving an automatic transmission vehicle from a standstill, you must control the speed using only the accelerator pedal. Operate the accelerator pedal carefully.**
- **Do not operate the selector button while depressing the accelerator pedal. The vehicle may move suddenly, possibly causing an accident.**

Automatic Mode Driving

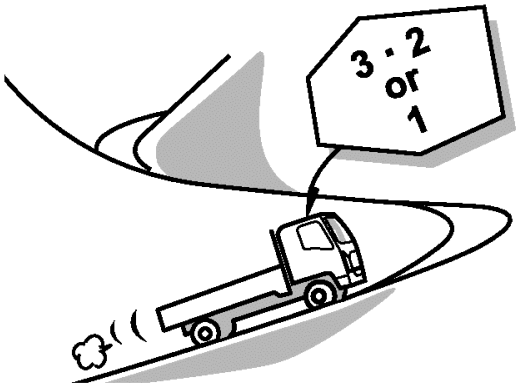


Control the vehicle speed using the accelerator pedal and brake pedal with "D" selected on the selector button. The transmission automatically shifts according to the driving conditions.

⚠ WARNING

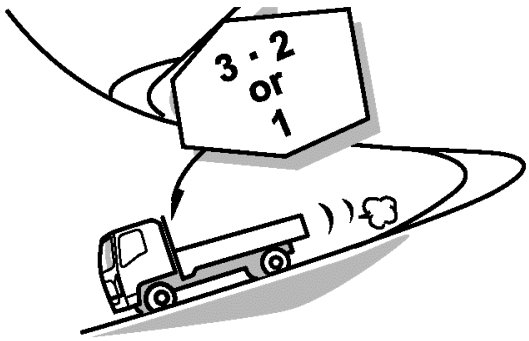
- **Do not press the "N" button while driving. The engine brake does not work at all, possibly causing an accident. Doing so may also cause a failure in the automatic transmission.**

Manual Mode Driving



You shift gears manually according to the vehicle speed and accelerator pedal position.

- You can drive on a moderate uphill slope with "D" selected, but on a steep slope or mountainous road with a lot of sharp curves, you can maneuver the vehicle more accurately by selecting "3", "2" or "1".



- When driving on a downhill slope, select "3" or "2" to use engine braking. When stronger engine braking is required, select "1".
  Use the exhaust brake for a more powerful engine braking effect.

To select the range

When in the "D" range, you can manually change the range by pressing the manual selector button (upshift) or the manual selector button (downshift).

1. Press the manual selector button (downshift) while the vehicle is running or stopped. The "selected position" display switches to the gear shown in the "current gear" display.
2. Then, operate the vehicle in the desired range.
   - Each time you press the manual selector button (upshift), the “selection range” display increases by one gear.
   - Each time you press the manual selector button (downshift), the “selected range” display decreases by one gear.

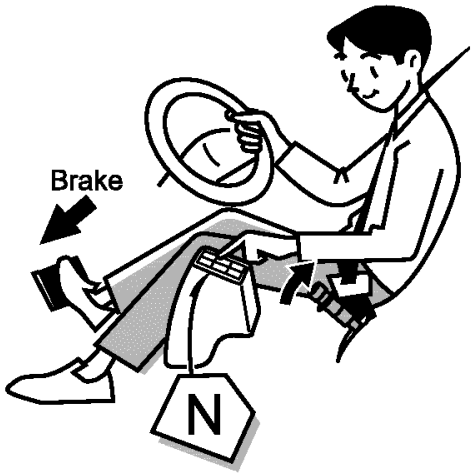
CAUTION

- **The system may prevent a downshift at high vehicle speed. This is to avoid engine overrunning. If this happens, depress the brake pedal to reduce the vehicle speed.**

NOTE

- When driving downhill, if you select a lower range with the manual selector button to try to slow down, but the engine is predicted to overrun, then the transmission will stay in the current gear.
- Even when you are driving downhill in a lower range, if the engine is likely to overrun, the transmission will switch to a higher gear than the selected range for safety reasons.

To Stop the Vehicle

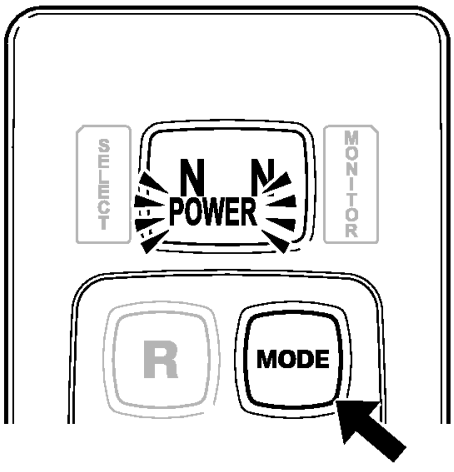


1. When you make a short stop, depress the brake pedal with your right foot. You do not need to select "N".
2. For longer stops, select "N" and set the parking brake while keeping the brake pedal depressed.

To Park Your Vehicle

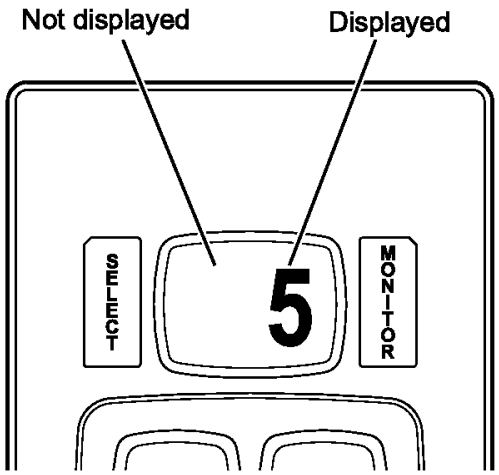
1. Set the parking brake with the brake pedal depressed with your right foot.
2. Select "N" and slowly ease your right foot pressure off the brake pedal.
3. Stop the engine.

Power Mode



By pressing the power mode button, the driving mode can be switched to power mode. Use this mode when the vehicle is heavily loaded or traveling uphill. When the power mode button at the range selector is pressed, "POWER" will appear at the bottom of the range display, and the mode will be switched to power mode.
If the power mode button is pressed while "POWER" is displayed, the mode will return to normal mode (regular driving mode) after "POWER" disappears.

In the Event of Failure

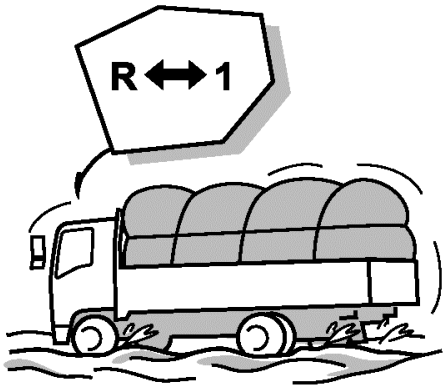


If the selected position indication goes out and the current gear display comes on while driving or a stop, a failure has occurred in the automatic transmission mechanism or its control system.
Although limited driving is still possible, a serious failure having occurred in the system prevents the selector buttons from being used. If this happens, stop the vehicle at a safe place and contact the nearest Isuzu Dealer. (When the current gear displayed is one from "1" to "6" (except models for Singapore) or "1" to "5" (models for Singapore) , driving is possible by using only the gear displayed until you turn the starter switch to the "LOCK" position.)

ADVICE

- When the automatic transmission system has failed, any one of "R", "N" and "1" to "6" (except models for Singapore) or "1" to "5" (models for Singapore) is indicated on the current gear display. When any position other than "N" is displayed, driving is possible provided only the gear displayed is used.

Moving the Vehicle Out of Mud



When driving in mud or sand, on soft ground or on a snow-covered road, select the lowest possible gear position and drive slowly.
If the wheels get stuck in mud and the vehicle is unable to move, use the following method to move the vehicle out of the mud.

1. Depress the accelerator pedal half way.

2. Pressing the selector button "D" and "R" alternately to rock the vehicle back and forth. Operate the selector button in synchronization with the vehicle movement.
3. After repeating the above operation several times, depress the accelerator pedal to move the vehicle out of the mud.

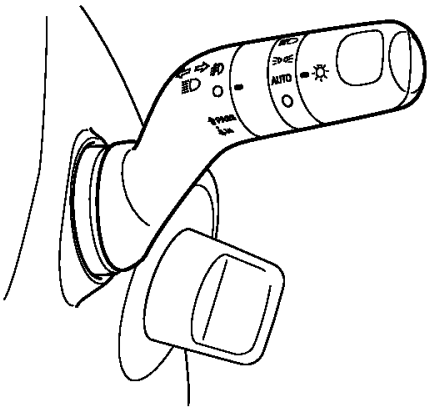
⚠ CAUTION

- **Do not fully depress the accelerator pedal when rocking the vehicle back and forth. In addition, check the engine coolant temperature gauge and the automatic transmission fluid temperature warning light to make sure the engine and transmission are not overheating.**

Driving Systems

Exterior Lights

Light Control Switch



Turning the light control switch to the position indicated in the table causes the relevant lights to illuminate.
If they do not light correctly, then inspect and replace the lights.

Refer to page
10-124 Lighting Equipment

ADVICE

- Even if the starter switch is in the "OFF" position, rotating the knob to the " " or " " position makes the headlight or taillight come on.
- With the light control switch in the "AUTO" position, the lights go out automatically when the engine is stopped.
- The light control switch can be used when the starter switch is placed in the "LOCK" or "ACC" position. Do not operate the combination lights for an extended time period with the engine stopped. Otherwise, the battery may go dead, making it impossible to restart the engine.

Name	Position			
	O	AUTO [V]	≡DC≡	≡D
Headlight	Off	On / Off*2	Off	On
Clearance light			On	
Tail light				
License plate light				
Roof-mounted clearance light [V]				
Lights on indicator light				
Daytime running light [V]*1	On		On	Off

*1: The daytime running light will come on when the following conditions are met.
1) The engine has been started.
2) The light control switch is "O (off)" position, "AUTO" (with the headlight off) position (if equipped) or "≡D" position (model with "AUTO" position).
3) The parking brake has been released.
4) The front fog lights are turned off (model with "AUTO" position).

*2: When the light control switch is in the "AUTO" position, the lights come on or go out automatically depending on the brightness outside the vehicle.

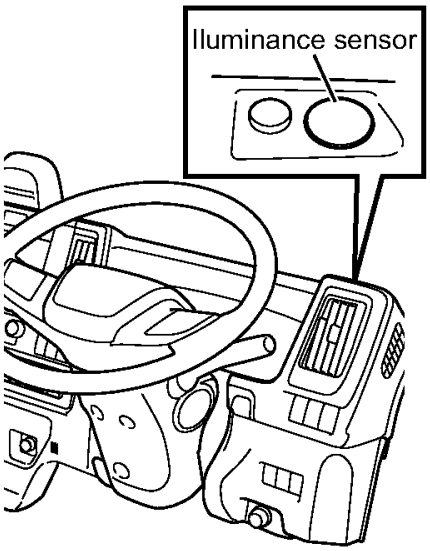
NOTE

["AUTO" function model]

- When the light control switch is in the "AUTO" position, the lights come on whenever the outside of the vehicle becomes dark (such as inside a long tunnel or in indoor parking lot, etc.). Then, the lights may not go out immediately after the outside of the vehicle becomes bright again. In this case, the lights will go out when the light control switch is turned to the "O (off)" position.
- Even when the visibility is poor due to fog, snow, etc., if the outside of the vehicle is bright with the daylight or due to other conditions, the lights may not come on even when the light control switch is in the "AUTO" position. If the lights do not come on, turn on the lights manually for safety.
- Do not cover the illuminance sensor. If the illuminance sensor is covered, the lights may not come on properly even when the light control switch is in the "AUTO" position.

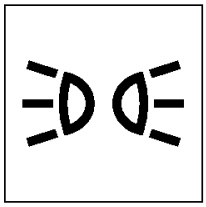
NOTE (Continued)

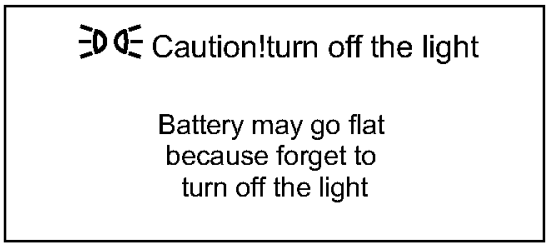
NOTE (Continued)



- If an abnormality occurs in the illuminance sensor and the light control switch is set to the "AUTO" position, the headlights will automatically come on regardless of the brightness of the outside. In this case, contact the nearest Isuzu Dealer.

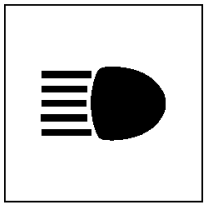
Lights On Indicator Light





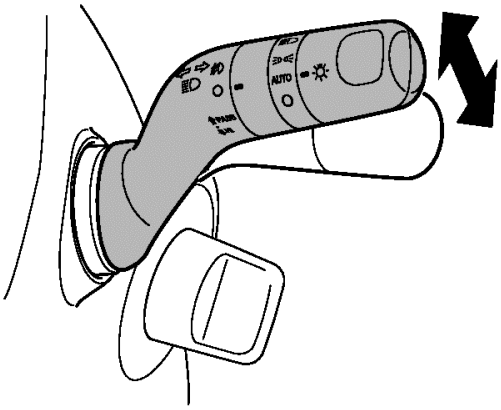
This indicator light comes on when the light control switch is turned to the " " or " " position and when the tail light is illuminated with the light control switch in the "AUTO" position.
In addition, when the door is opened with the starter switch in the "LOCK" position while the lights on indicator light is illuminating, the "Caution! turn off the light" message is displayed, and continuous short beeps sound.

High Beam Indicator Light



This indicator light comes on when high beam is selected or the headlights are cycled between high and low beams (passing signal).

Switching between High Beam and Low Beam

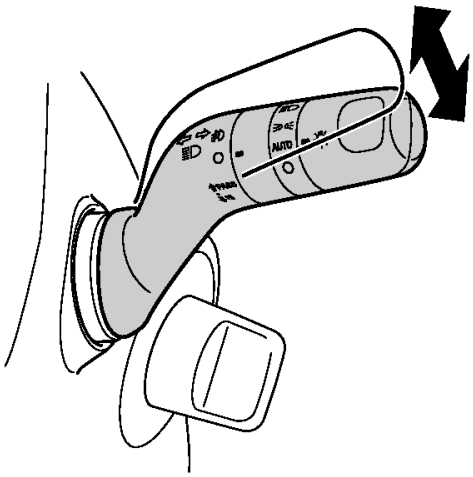


With the headlights on, move the lever forward and backward to switch between the high beam and low beam.
Moving the lever forward selects high beam; moving the lever backward selects low beam.
While the headlights are on high beam, the high beam indicator light on the instrument panel remains on.

NOTE

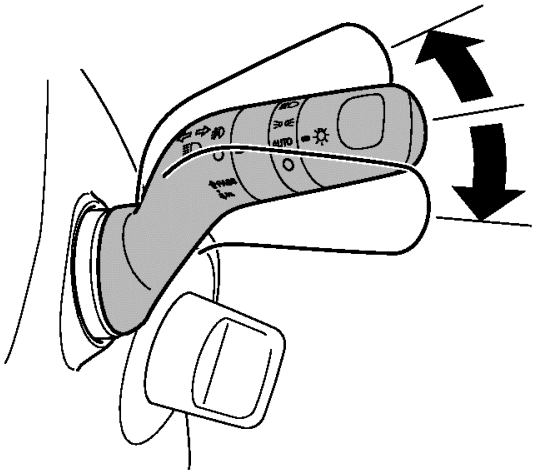
- Use low beam whenever there are vehicles ahead in the same lane or oncoming vehicles in the opposite lane.

Switching between High and Low Beams (Flash-to-Pass Signal)



By lightly pulling the light control switch lever and releasing it, the high beam comes on and off. At the same time, the high beam indicator light on the instrument panel comes on and off. Use this function as a signal for flash-to-pass a vehicle or other purposes.

Turn Signal Switch



When turning left or right, move the lever up or down to flash the turn signal light.
If they do not light correctly, then inspect and replace the lights.

Refer to page
10-124 Lighting Equipment

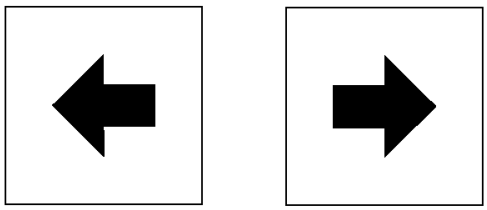
ADVICE

- The turn signal lights come on even when the starter switch is in the "LOCK" or "ACC" position. Do not operate the turn signal lights for an extended time period with the engine stopped. Otherwise, the battery may go dead, making it impossible to start the engine.

NOTE

- If the steering wheel is only turned a small amount, turn off the signal manually. Lightly press and hold the lever up or down when overtaking or changing lanes. The turn signal light continues flashing as long as the lever is held up or down. The lever moves back to neutral as soon as it is released.

Turn Signal and Hazard Warning Flasher Indicator Light



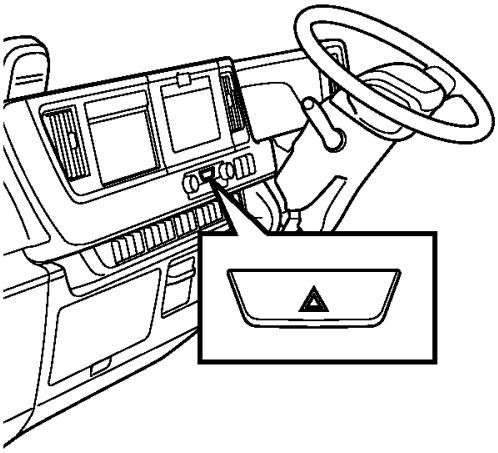
Either of these indicator lights flashes when the turn signal switch is operated with the starter switch in the "ON" position.
Both indicator lights flash when the hazard warning flasher switch is operated irrespective of the position of the starter switch.

ADVICE

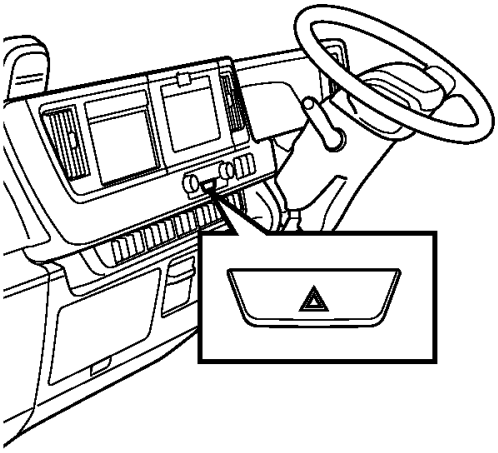
- These indicator lights will not flash if the bulbs are blown, or may flash abnormally if bulbs of incorrect wattage are used.
- These indicator lights will not flash if the bulbs are blown, or may flash abnormally if bulbs of incorrect wattage are used.

Hazard Warning Flasher Switch

Model with manual air conditioner



Model with automatic air conditioner

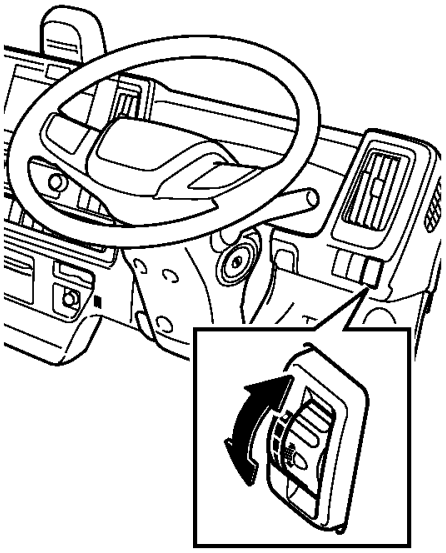


The hazard warning flasher is used to signal other vehicles that your vehicle is stationary on the road because of an accident or component failure.
With the starter switch in any position, when this switch is pressed, all of the turn signal lights and the turn signal indicator lights flash to signal an emergency. To turn off the hazard lights, press the switch again.

ADVICE

- Do not leave the hazard warning flasher operating for an extended time period with the engine stopped. Otherwise, the battery may go dead, making it impossible to restart the engine.

Headlight Leveling Switch [V]



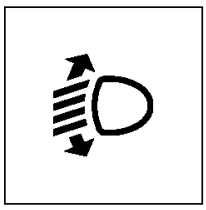
The headlight aim can be adjusted at four different angles. When the cargo load causes the headlights to aim upwards, this feature can be used to lower the aiming angle.
When your vehicle is not loaded with cargo, the switch should be set at the uppermost position. ("0" position)

⚠ CAUTION

- **Do not lower the aiming angle too much.**
  Otherwise, the illuminated range may be so reduced that you may be involved in an accident.

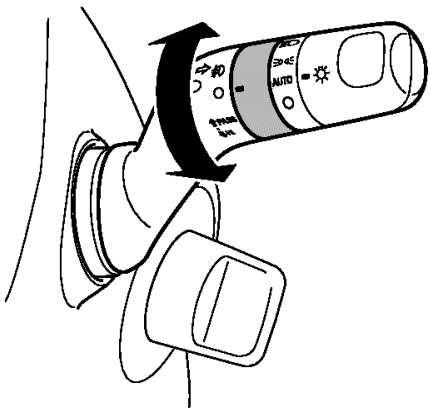
Headlight Automatic Leveling [V]

Headlight Automatic Leveling Warning Light



This light turns on if a problem occurs in the headlight automatic leveling system. When it turns on, contact the nearest Isuzu Dealer.

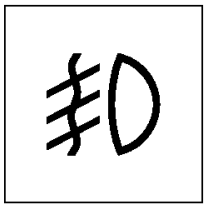
Front Fog Light Switch



When this switch is turned to the "≢D" position with the light control switch positioned in "≡DO≡" or "≡D", or when this switch is in the "AUTO" position with the lights on indicator light on, the front fog lights come on and the front fog indicator light comes on. To turn off the lights, return the switch to "O" (off) position. Use this feature in low visibility such as in fog.

Refer to page
4-81 Lights On Indicator Light
10-124 Lighting Equipment

Front Fog Light Indicator Light



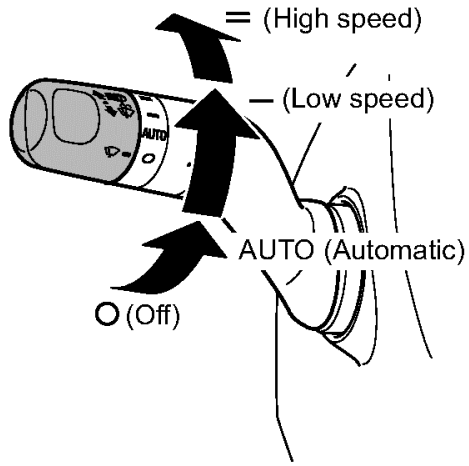
This indicator light stays on while the front fog lights are on.

Windshield Wiper and Windshield Washer Switch

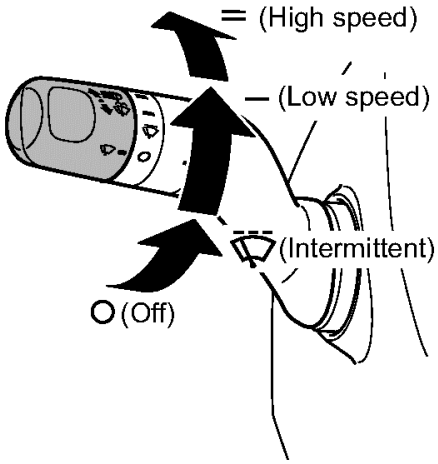
To use the windshield wiper and washer switches, the starter switch must be in the "ON" position.

Windshield Wiper Switch

Models with automatic windshield wipers



Models without automatic windshield wipers



ADVICE

- The safety system may work to stop the wiper when excessive load is applied on the motor. In this case, turn the switch to the off position and, a few minutes later, check to see if the wiper is back to normal operation. If the wiper frequently stops operation, refrain from using it and contact the nearest Isuzu Dealer.
- Before operating the wiper, ensure that the wiper rubber is not stuck on to the windshield. If the wiper rubber is stuck to the windshield and you still operate the wiper, the wiper may break or the wiper motor may fail.
- Do not operate the wiper on a dry windshield surface. Otherwise, the windshield surface may sustain damage. Always use the windshield washer when wiping a dry glass surface.

The windshield wiper switch has the following positions, which correspond to the states of the wiper.

Models with automatic windshield wipers

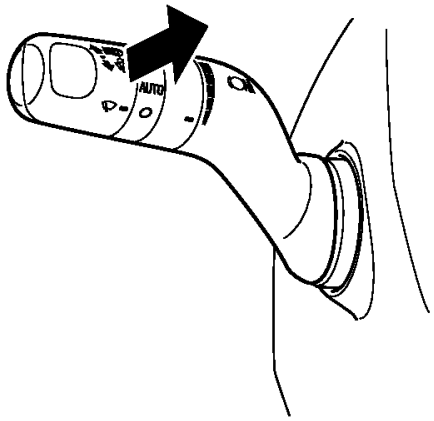
Automatic windshield wiper settings	Lever position			
	O	AUTO	–	=
On	Stopped	Automatic operation depending on rainfall	Low speed	High speed
Off	Stopped	Intermittent	Low speed	High speed

Models without automatic windshield wipers

Lever position	O		–	=
Wiper state	Stopped	Intermittent (Light rain)	Low speed (Moderate rain)	High speed (Heavy rain)

Refer to page
4-89 Automatic Windshield Wiper

Windshield Washer Switch



Windshield washer fluid is sprayed over the windshield when the windshield washer switch is pulled. At the same time, the windshield wiper operates.
The windshield washer is used when wiping the windshield clean.

⚠ CAUTION

- **At extremely low temperatures, washer fluid may freeze on the windshield after being sprayed, obstructing your forward view. In such a case, warm up the windshield with defroster before using the windshield washer.**

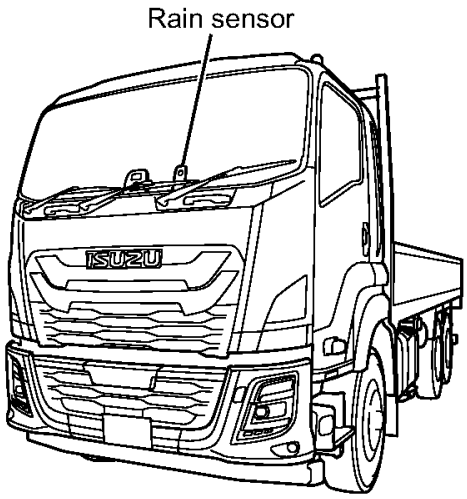
Refer to page
6-15 Defrosting

ADVICE

- If windshield washer fluid does not come out in sufficient quantity, immediately release the switch. Otherwise, the windshield surface may sustain damage.
- Do not hold the switch pressed for more than 30 seconds. Otherwise, the washer pump may sustain damage.
- If windshield washer fluid does not come out, release the windshield washer switch immediately. Otherwise the motor may seize up.
- When the vehicle is used in a cold-climate region, use washer fluid with appropriate concentration for the season to prevent frozen fluid.

Refer to page
10-111 Windshield Washer Fluid

Automatic Windshield Wiper



When rainfall is detected by the rain sensor, the wipers are automatically activated according to the rainfall.

Rainfall	Wiper state
Light rain	Intermittent
Moderate rain	Low speed
Heavy rain	High speed

⚠ CAUTION

- Automatic windshield wipers may also be activated in the following cases. If your hands or fingers get caught, it could result in injury or a wiper malfunction. We recommend that the wiper switch be set to the " ○ (off)" position except during rainy weather.
  - If something touches the top of the sensor
  - When wiping the upper part of the windshield rain sensor with a cloth or something
  - When the rain sensor or windshield was vibrating
  - When insects, mud, ice, or other foreign objects become stuck to the top of the rain sensor
  - When the windshield is frozen
  - When strong light, electromagnetic waves or infrared rays are detected
- When washing the vehicle or performing maintenance, turn the wiper switch to the " ○ (off)" position.
- In order to prevent the automatic windshield wipers from malfunctioning or failing, always observe the following.
  - The windshield should always be clean. Performance may be decreased by the presence of rain, frost, or snow.
  - Use the heater or air conditioner to clear the windshield when it is fogged.
  - Do not subject the radar sensor or windshield to powerful impacts.
  - Do not change the mounting position of the rain sensor, or remove or disassemble it. If the sensor is removed, have it inspected/repaired at your Isuzu Dealer.
  - Do not put stickers, labels, or smoky-tinted laminates (films), etc. on the windshield in such a way that they cover the rain sensor. Doing so would prevent the rain sensor from detecting rainfall in the atmosphere and the automatic windshield wipers may not operate properly.
  - Do not replace the windshield with anything other than a genuine Isuzu windshield. Replacing the windshield with anything other than a genuine Isuzu part may prevent the system from operating normally.
  - When repairing or replacing the front windshield, contact the nearest Isuzu Dealer.

NOTE

- Under the following circumstances, the rain sensor may not be able to accurately sense rain and the automatic windshield wipers may not operate properly.
  - When anything other than a genuine Isuzu water repellent coating is used on the windshield.
  - When the windshield is intermittently exposed to the morning or evening sun.
  - When the top of the windshield is dirty.
  - When the top of the windshield is icy.
- When the temperature of the rain sensor is below -40°C (-40°F) or above 95°C (203°F), the automatic windshield wipers cannot be used even if the lever is operated.
- If washer fluid is sprayed while the automatic windshield wipers are operating, the wipers will operate continuously and then operate several more times to prevent dripping.
- The rain sensor is in the center of the windshield.

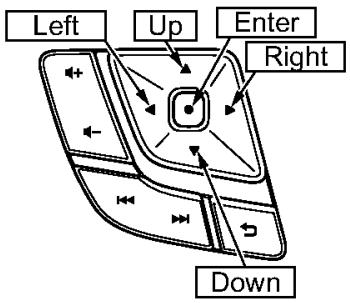
Operating Conditions of the Automatic Windshield Wiper

All of the following conditions must be met for the automatic windshield wiper to operate:

- When the automatic windshield wiper setting is "ON"
- When the wiper switch is in the "AUTO" position

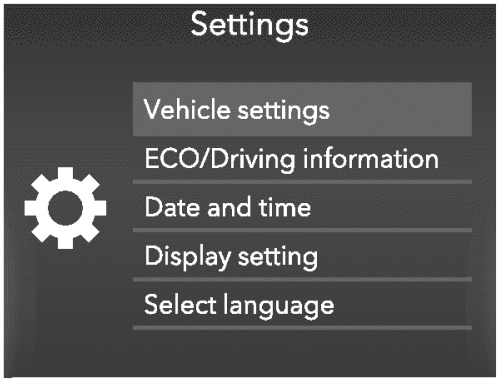
Turning On and Off the Automatic Windshield Wiper

From the "Vehicle settings" screen on the multi-information display, you can switch the automatic windshield wiper between on and off.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

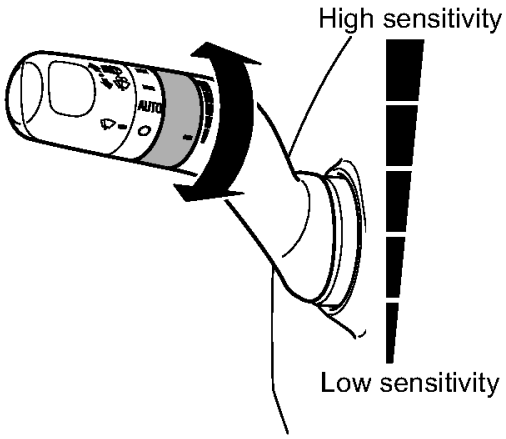


2. On the setting screen, select in order, "Vehicle settings" → "Automatic wiper → "Automatic wiper settings".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

NOTE

- After the engine has been started, automatic windshield wiper will have the same settings as when the starter switch was last set to the "LOCK" position.

Automatic Windshield Wiper Adjustment

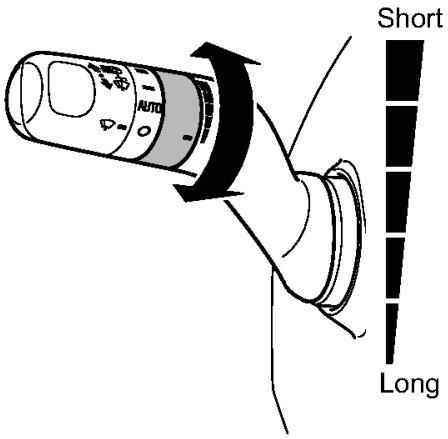


When the automatic windshield wiper setting is "ON"

The sensitivity of the reaction to rain when the wiper switch is in the "AUTO" position can be adjusted.

High sensitivity: Increases the sensitivity of the rain sensor.

Low sensitivity: Decreases the sensitivity of the rain sensor.



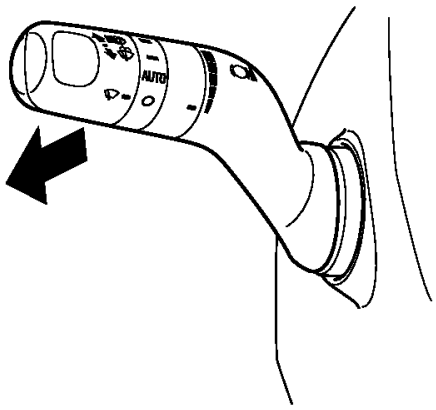
When the automatic windshield wiper setting is "OFF"

You can adjust the intermittent time when the wiper switch is in the "AUTO" position.

NOTE

- When the automatic windshield wiper setting is set to "OFF", intermittent operation occurs when the wiper switch is in the "AUTO" position.

Headlight Washer Switch [V]



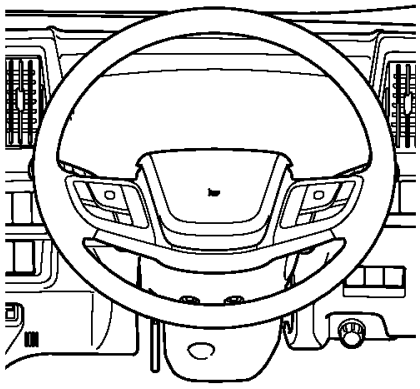
With the headlights on, when the windshield wiper switch is pushed down, the headlight washer operates. Washer fluid comes out the nozzles on the front bumper and is sprayed against the headlights.

Release the switch to stop.

NOTE

- Even if the headlight washer switch is kept pressed, the washer fluid will stop spraying after one second, but this is not a malfunction.

Horn Button



To sound the horn, press the pad with a horn symbol on the steering wheel.

Cruise Control [V]

The cruise control is a system that allows you to drive, maintaining a fixed speed (about 30 km/h (20 MPH) or more), without depressing the accelerator pedal. It is used on expressways where starting and stopping is rare.

⚠ WARNING

- **Do not use the system in the following situations because doing so is dangerous:**
  - **On roads where there is heavy traffic, such as urban areas**
  - **On sharp curves or steep slopes**
  - **In slippery road conditions, such as when the road is frozen or covered with snow**
  - **When it is necessary to frequently accelerate and decelerate due to traffic conditions**
  - **When driving repeatedly up or down steep slopes**
  - **When merging onto or exiting highways or when driving through toll booths**
- **When it is raining, foggy, snowy or in any adverse weather, the traffic conditions often change significantly. In such situations, we ask drivers to drive safely on their own. Do not use the cruise control.**

CAUTION

[Model with Speed Limit Device]

- **An upper speed limit that exceeds the set speed of the speed limit device cannot be set.**

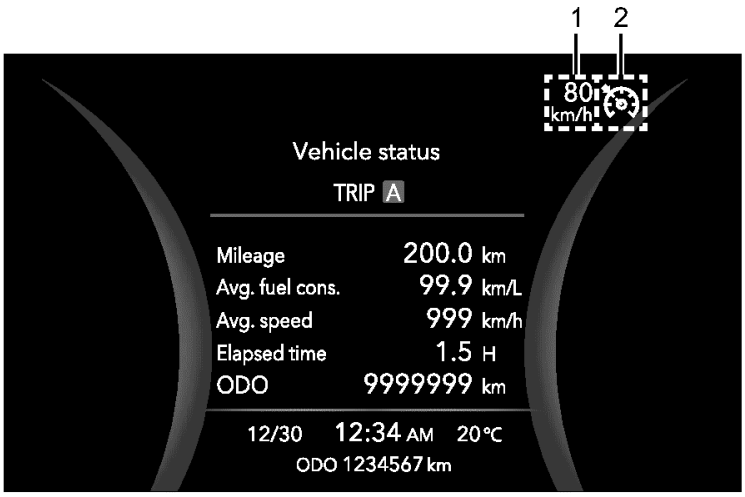
Refer to page
4-137 Speed Limit Device [V]

NOTE

- The maximum speed of the vehicle varies by your country.

Details of Cruise Control on Multi-information Display

When the cruise control is turned on, the multi-information display automatically changes to the following screen.



No.	Name	Indication details
1	Set vehicle speed	This indicates the set speed and the maximum cruising speed of cruise control.
2	Cruise control main display	This displays the system settings and operating status of cruise control.

The following cruise control shows the following in the multi-information display according to the conditions.

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Cruise control mode	Cruise control Driver assistance mode changed	—	When switching to the cruise control
Cruise control mode OFF	—	 (Gray)	When the cruise control mode is off
Standby	—	 (White)	When the cruise control is in a standby state
Cruise control active	—	 (Green)	Cruise control active
Cruise control temporarily deactivated (override)	—	 (Green, flashes)	When the accelerator pedal is depressed while the cruise control is active and the cruise driving is temporarily deactivated
Cruise control temporarily deactivated	Cruise control canceled Cruise control has been canceled	 (White)	When cruise control is operating and the cancel switch is pressed to temporarily cancel cruising
Cruise control deactivated	Cruise control canceled Cruise control has been canceled	 (Gray)	When the cruise control is deactivated

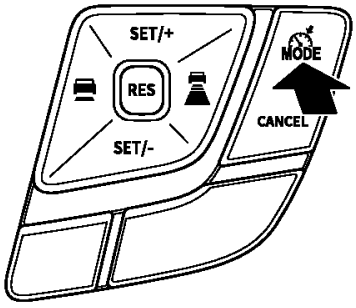
Buzzer Sounds During Cruise Control

During cruise control, the following buzzers will sound.

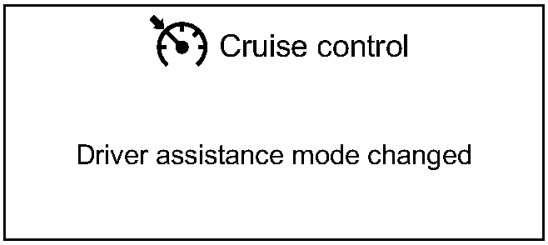
Name	Warning	Description
Operation refusal sound	Two short beeps	Requested operation could not be made
Operation sound	One short beep	Requested operation was made
Failure sound	Two short beeps	A device abnormality was detected
Canceling sound	Two short beeps	Deactivating the cruise control

Starting the Cruise Control

Setting Cruise Control While Driving

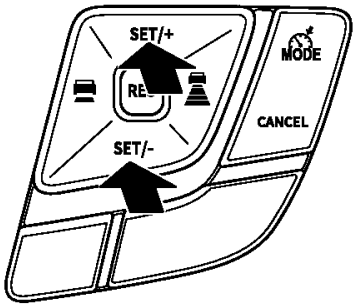


1. Press the mode switch and confirm that "Cruise control" appears in the multi-information display. If "Intelligent speed limiter" appears, press the mode switch again to switch to cruise control mode. If a set vehicle speed has been registered, then pressing the resume switch at this time starts cruise control driving.





2. Depress the accelerator pedal to adjust to your desired speed (about 30 km/h (20 MPH) to the speed set for the speed limit device). Once the vehicle reaches a speed that can be set, cruise control icon comes on in white on the multi-information display.



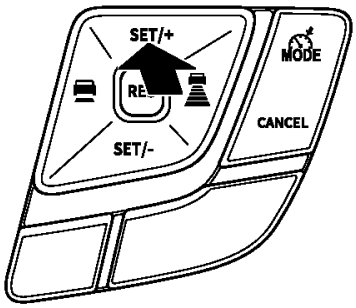
3. Press the "+" or "-" side of the set switch to set the vehicle speed and cruise control starts. The set vehicle speed is displayed in multi-information display.

NOTE

- The vehicle speed setting for cruise control cannot be set while the vehicle is stopped.

Changing the Set Vehicle Speed

To Accelerate

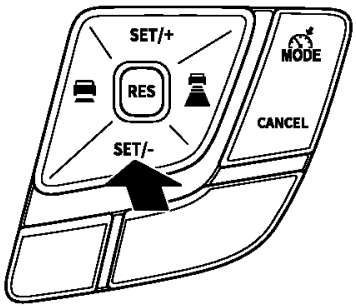


Pressing the "+" side of the set switch increases the vehicle speed set for the cruise control that is displayed in the multi-information display.
By pressing and immediately releasing the switch, the set vehicle speed can be increased by 1 km/h*1 or 1 MPH*2 per operation. By holding down the switch, the set vehicle speed can be increased in increments of 5 km/h*1 or 5 MPH*2.
*1: when "km/h" display is selected on the multi-information display
*2: when "MPH" display is selected on the multiinformation display

NOTE

- When you want to increase the speed quickly, depress the accelerator pedal, then after accelerating to the desired speed, press the set switch.

To Decelerate



Pressing the "-" side of the set switch decreases the vehicle speed set for the cruise control that is displayed in the multi-information display.
By pressing and immediately releasing the switch, the set vehicle speed can be decreased by 1 km/h*1 or 1 MPH*2 per operation. By holding down the switch, the set vehicle speed can be decreased in increments of 5 km/h*1 or 5 MPH*2.
*1: when "km/h" display is selected on the multi-information display
*2: when "MPH" display is selected on the multiinformation display

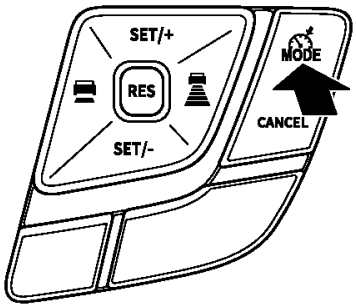
NOTE

- When you want to decrease the speed quickly, depress the brake pedal to temporarily cancel cruise control, then after decelerating to the desired speed, press the set switch.

Accelerating during Cruise Control Driving

If you want to accelerate temporarily to pass another vehicle while driving using the cruise control, depress the accelerator pedal. When you release the accelerator pedal, the speed returns to the original set vehicle speed.

Deactivating the Cruise Control



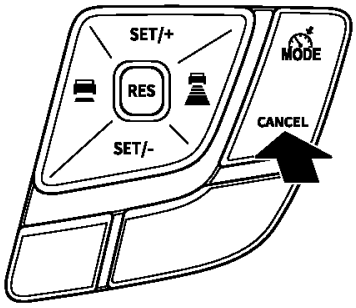
Press the mode switch to deactivate the function. At this time, a warning buzzer sounds and the cruise control icon on the multi-information display goes off.

NOTE

- Deactivate the cruise control by pressing the mode switch when the function is not to be used.

Temporarily Deactivating the Cruise Control

Temporarily Deactivating and Reactivating the Cruise Control



Cruise control canceled

Cruise control has been canceled

If the cancel switch is pressed, the cruise control will be temporarily deactivated. At this time, the cruise control icon comes on in white on the multi-information display and "Cruise control canceled" will be displayed for a few seconds.

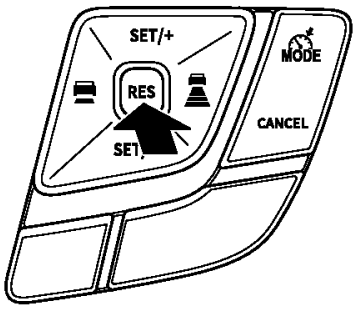
In addition, the function will also be deactivated in the following cases:

- When the brake pedal is depressed
- When the clutch pedal is depressed (manual transmission models)
- When the parking brake is applied
- When the exhaust brake is applied
- When the vehicle speed falls to 30 km/h (20 MPH) or less
- When the vehicle speed falls below the set vehicle speed by approximately 40 km/h (25 MPH) or more
- When any of the following warnings occur: Check engine warning light, brake system warning light
- When any position other than "D" is selected on the selector button (automatic transmission model)
- When gear shifting operations is applied (manual transmission models)
- When entering into a steep uphill/downhill
- When the ESC/ASR is activated

NOTE

- If the engine or engine related equipment malfunctions, then the cruise control is completely deactivated and the master warning light turns on. When the master warning light turns on then the cruise control mode cannot be selected and the equipment cannot be operated until the starter switch is temporarily put in the "LOCK" position.
- Deactivate the cruise control by pressing the mode switch when the function is not to be used.

Reactivating the Cruise Control



If the cruise control is deactivated, the cruise control setting used before the deactivation will be recovered by pressing and then releasing the resume switch. Once the resume switch is released, cruise control icon will come on in green on the multi-information display.
Also, cruise control does not return even when the conditions to temporarily deactivate it are removed.

Refer to page
4-97 Setting Cruise Control While Driving

Auxiliary Brake Function

Automatic activation of the auxiliary brake (exhaust brake) during cruise control driving suppresses an increase in the speed on a downhill slope, decreasing the need for the driver to apply the regular brake pedal.
The exhaust brake will activate even when the exhaust brake switch is in the off position.

CAUTION

- **The maximum slope angle at which the system can control the vehicle speed increase is different depending on the load the vehicle is carrying.**

Automatic Activation and Automatic Release of Auxiliary Brake

- The auxiliary brake is engaged when the vehicle speed exceeds the set speed on a downhill slope.
- The auxiliary brake is disengaged when the vehicle slows down close to the set speed.

Hill Start Aid (HSA) [M/T]

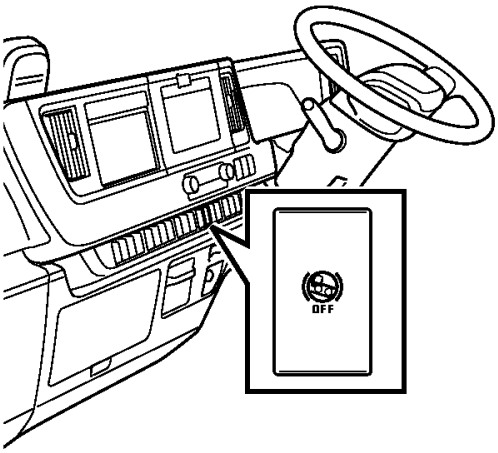
When the HSA is not activated, the service brake system retains a certain level of hydraulic pressure (braking pressure) only while the brake pedal is being depressed. When HSA is activated, the system retains the braking pressure that is produced when the brake pedal is depressed during a stop even after the brake pedal is released. The vehicle is then held stopped for the period of time until the HSA is deactivated. (The HSA works only while the engine is in operation.)

⚠ CAUTION

- **When leaving the driver's seat, be sure to firmly set the parking brake.**
- **Since the HSA no longer provides braking pressure if the starter switch is turned to the "ACC" or the "LOCK" position, the HSA OFF switch is pressed, or the fuse for the HSA circuit is removed while the HSA is activated, the vehicle will move down a slope and a very dangerous situation may result.**
- **When the engine is not in operation, the brake system air pressure is low or the battery voltage is low, do not use the HSA because its ability to retain the brakes applied is decreased.**
- **If the vehicle rolls while the HSA is activated, either push the brake pedal further down or ensure that the parking brake is fully applied.**
- **Use the parking brake when stopping the vehicle with a gradient of 10% or higher if the vehicle is loaded up to the rating limit.**
- **When stopping the vehicle for a long time, set the parking brake rather than relying on the HSA.**
- **If you suspect a problem with the HSA, press the HSA OFF switch to turn it off. Normal braking will be restored.**
- **When the parking brake lever is pulled up while the HSA is activated, the HSA is automatically canceled.**
- **Even while the HSA stays activated, the stop lights go out when you release the brake pedal.**
- **HSA does not operate when the engine is stopped.**
- **When the vehicle stops after strong braking or due to the wheels being locked, the HSA may temporarily not operate. If this happens, use the parking brake or keep depressing the brake pedal to hold the vehicle in place.**

Refer to page
4-40 Parking in Winter and in Cold Regions

HSA OFF Switch



Press this switch when deactivating the HSA.
The HSA stops working.
Pressing the switch again activates the HSA.

CAUTION

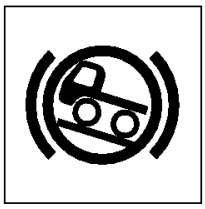
- **Deactivate the HSA on a snowy, icy or otherwise slippery road. When the wheels are locked on a slippery road, the HSA may activate, keeping the wheels locked.**

ADVICE

- Deactivating the HSA returns the brake system to normal operation. The hydraulic pressure of the brake is not retained when you release the brake pedal.

HSA Warnings/Indicators

HSA Warning Light (Amber)



When the HSA is activated, the warning light (amber) turns on if the driver is away from their seat, the vehicle starts moving, or if the HSA malfunctions.

ADVICE

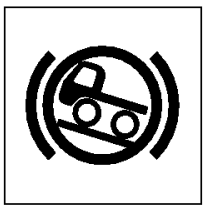
- If there is a problem with the HSA, disengage the system and have the vehicle inspected at the nearest Isuzu Dealer as soon as possible.

NOTE

- Operation can be considered to be normal if the HSA warning light (amber) and HSA indicator light (green) illuminate in that order and then turn off approximately 3 seconds after the starter switch is placed in the "ON" position.

Refer to page
4-105 HSA Warning Displays

HSA Indicator Light (Green)



This indicator light (green) turns on when the HSA is operating.

NOTE

- Operation can be considered to be normal if the HSA warning light (amber) and HSA indicator light (green) illuminate in that order and then turn off approximately 3 seconds after the starter switch is placed in the "ON" position.

HSA Warning Displays

In the following cases, the HSA warning light (amber) turns on, and the multi-information display appears and a buzzer sounds an alert.

Multi-information display	Warning light	Buzzer	Detail	Action
Caution! Driver not seated HSA system is operating When releasing, apply the parking brake	On	Long, repeated beeps	**Door open warning** A door is opened without pulling the parking brake while the HSA is activated.	Apply the parking brake and then open the door.
Caution! HSA long operation HSA system is operating for a long time Apply the parking brake	On	Long, repeated beeps	**Too long activation warning** The vehicle is stopped a long time with the HSA activated.	Either engage the parking brake to stop or depress the brake pedal more.
Vehicle rolling forward Apply the parking brake	On	Continuous beep	**Vehicle movement warning** The vehicle starts moving during a stop using the HSA.	
HSA abnormal Restart engine, if it appears again, contact the dealer	On	— (When HSA is not operating) Long, repeated beeps (When HSA is operating)	**Failure warning** When the HSA warning light or buzzer is activated for reasons other than those above	Stop the vehicle safely and deactivate the HSA using the HSA OFF switch.

⚠ CAUTION

- **When a failure warning is issued, immediately stop the vehicle in a safe place, engage the parking brake, and place the starter switch into the "LOCK" position. If the HSA warning light (amber) still illuminates when the starter switch is placed in the "ON" position again, this means that the HSA itself has malfunctioned. Press the HSA OFF switch to deactivate the HSA, and have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.**

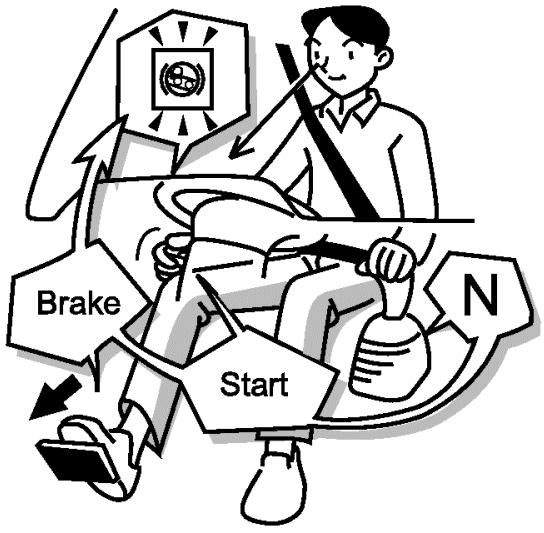
NOTE

- A buzzer sounds when you open the door without pulling the parking brake lever with HSA activated.

How to Use HSA

HSA warning light (amber)/
HSA indicator light (green)





1. Place the starter switch into the "ON" position.
   Confirm that the HSA warning light (amber) and HSA indicator light (green) illuminate in that order and then turn off after approximately 3 seconds.
2. Start the engine.
3. Place the gearshift lever in the "N" position, or place it in a position other than "N" and fully depress the clutch pedal.
4. Release the parking brake and fully depress the brake pedal for at least 1 second. Confirm activation of the HSA by checking that the HSA indicator light (green) in the meter panel comes on. When the HSA OFF switch remains "ON", the HSA indicator light (green) does not come on.

Refer to page
4-103 HSA OFF Switch

5. Pull the parking brake. Confirm deactivation of the HSA by checking that the HSA indicator light (green) in the meter panel goes out.

CAUTION

- **If the HSA indicator light (green) flashes or remains off or the buzzer continues to sound, the HSA system may have a problem. Deactivate the HSA and have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.**
- **An HSA failure may have occurred if the HSA warning light (amber) illuminates or the warning buzzer continues to sound. Stop the vehicle in a safe place to inspect the vehicle and perform the necessary corrective actions. If the failure cannot be remedied, press the HSA OFF switch to deactivate the HSA, and have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.**

Refer to page
4-103 HSA Warnings/Indicators

To Activate the HSA

1. Stop the vehicle.

NOTE

- Place the gearshift lever in the "N" position. Or, if you depress the clutch pedal, then the HSA can be activated regardless of the position of the gearshift lever.

2. Fully depress the brake pedal for at least 1 second. At this time the HSA indicator light (green) in the instrument panel comes on, indicating that the HSA is activated.

CAUTION

- **The HSA is a device to retain the vehicle in a stopped position for a short time and cannot replace the parking brake. When leaving the vehicle, be sure to set the parking brake. If the door should be opened with the HSA activated, a buzzer sounds to alert you.**
- **If the brake pedal is not pressed down sufficiently when on a steep downslope, the vehicle may move. In such a case, depress the brake pedal down further.**
- **The HSA is activated about 1 second after the brake pedal is depressed. Keep fully depressing the brake pedal during this period.**
- **If the HSA system is not working normally, deactivate the HSA and have it inspected at the nearest Isuzu Dealer as soon as possible.**
- **When the vehicle stops after strong braking or due to the wheels locking, the HSA may temporarily not operate. If this happens, use the parking brake or keep depressing the brake pedal to hold the vehicle in place.**

Refer to page
4-103 HSA Warnings/Indicators

NOTE

[This symptom is not abnormal]

- When the HSA is operating, the brake pedal may move and you may hear sounds as the brake force is adjusted to prevent the vehicle from moving.

To Deactivate the HSA



The HSA cancels its operation and releases the brakes in any of the following cases.

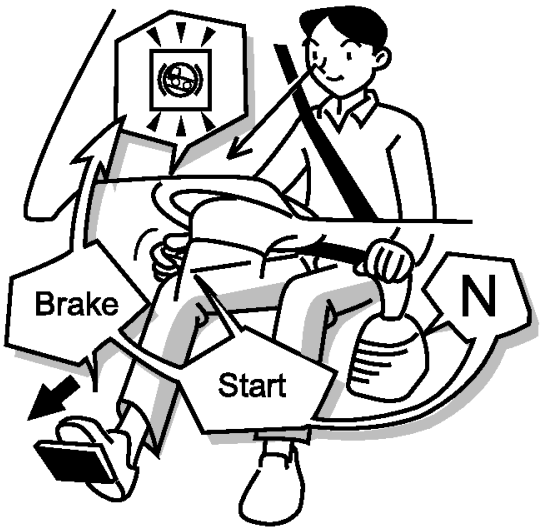
- When the gearshift lever is placed into a position other than "N" and the clutch is engaged while the engine is running.
- When the parking brake lever is pulled up.
- When the HSA OFF switch is pressed into the "ON" position.
- When the starter switch is placed into the "ACC" or "LOCK" position.

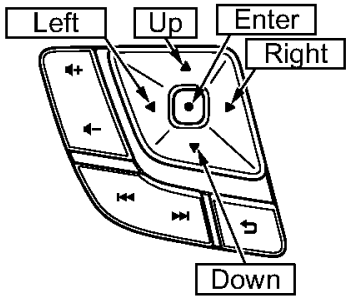
Adjustment of HSA

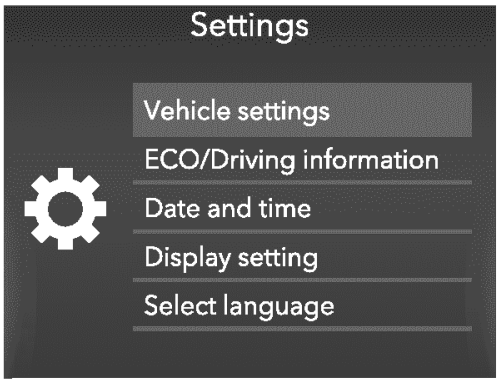
Make a fine adjustment of HSA in the following cases.

- If the brakes drag when restarting the vehicle.
- When the vehicle moves down a slope when the HSA is activated.
- When the brakes are not released when desired.

Adjustment



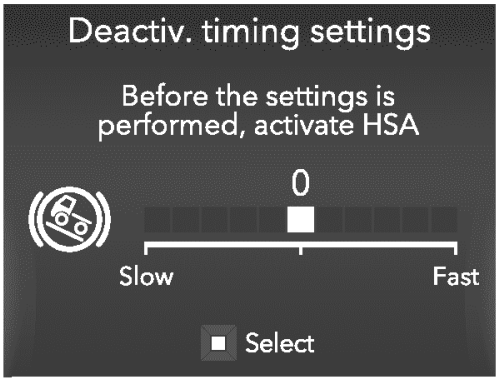




1. Pull the parking brake lever, make sure the gearshift lever is placed in the "N" position and then start the engine. At this time make sure that the HSA OFF switch is placed in "OFF" and that HSA is enabled.
2. Fully depress the brake pedal and release the parking brake lever.
   Check that the HSA indicator light (green) comes on.
   Depress the clutch pedal and place the gearshift lever into a position other than "N".
3. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

4. On the setting screen, select in order, "Vehicle settings" → "Brake → "HSA settings" → "Deactiv. timing settings" to open the adjustment screen.



5. If the timing of brake release is too slow and dragging of the brake is felt when starting the vehicle, press the "Right" multi-information display switch. If the timing of brake release is too early and the vehicle moves down on a slope when starting the vehicle, press the "Left" multi-information display switch. Every time the switch is pressed, a buzzer sounds.
   Refer to the following table for the operation counts.

Situation	Operation count
Fine adjustment is required.	Press "Right" or "Left" once or twice.
Brakes seem to be dragging.	Press "Right" two to three times.
Vehicle tends to move down on a slope.	Press "Left" two to three times.
Brakes are dragging.	Press "Right" three to five times.
Vehicle moves down on a slope.	Press "Left" three to five times.

NOTE

- The range shown for the adjustment bar is 5 levels each on the "Fast" and "Slow" sides, but you can adjust it until the buzzer sounds.

6. Confirm the setting by pressing the "Enter" switch.

CAUTION

- **If the fine adjustment is made on either the "Fast" side or "Slow" side excessively, the HSA may not be activated or canceled properly. Adjust it to an appropriate release timing position for the braking force.**

NOTE

- If the braking force release timing is still very misadjusted even after adjusting it to the "Fast" or "Slow" side five times (level 5 on the adjustment bar) or more, do the initial adjustment of the HSA.

Refer to page
4-111 Initial Adjustment of HSA

Initial Adjustment of HSA

ADVICE

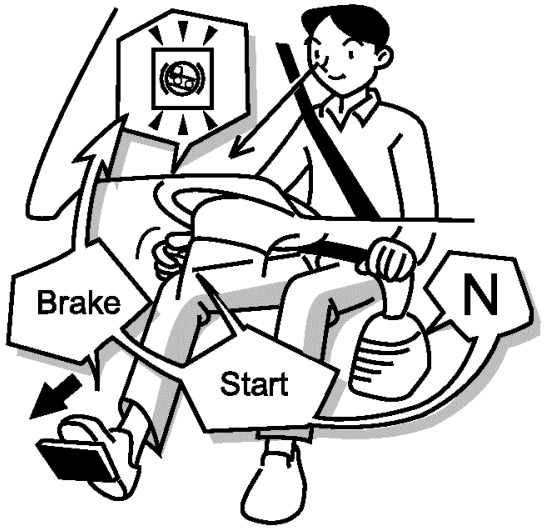
- Adjustment is not possible during a malfunction warning. Press the HSA OFF switch to release the HSA, and then contact the nearest Isuzu Dealer.

Refer to page
4-103 HSA Warnings/Indicators

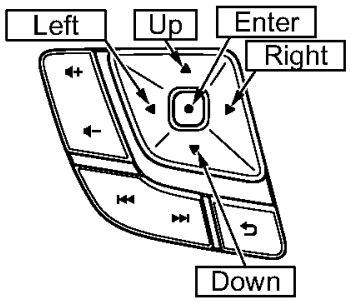
If your vehicle has a manual transmission, make an initial adjustment of the HSA in the following cases.

- The clutch is replaced or play of the clutch pedal is adjusted.
- The HSA releases the brakes much too slowly or much too quickly when the vehicle is started.
- The control unit of the HSA is replaced.

Adjustment

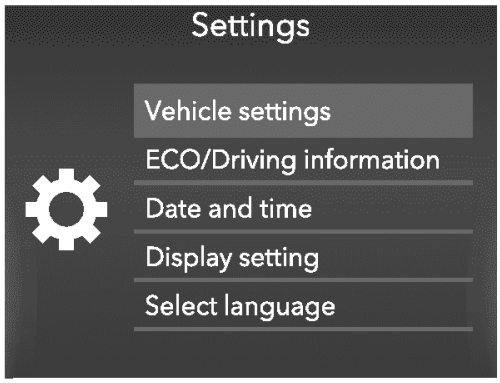


1. Pull the parking brake lever, make sure the gearshift lever is placed in the "N" position and fully depress the clutch pedal. Then start the engine.

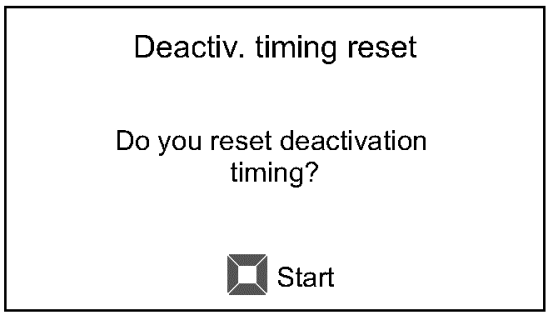


2. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area



3. On the setting screen, select in order, "Vehicle settings" → "Brake → "HSA settings" → "Deactiv. timing reset" to open the reset screen.

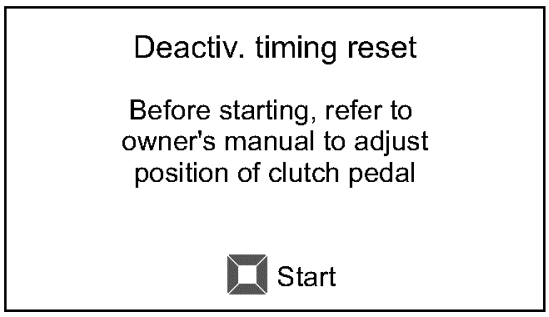


4. Press "Enter" on the multi-information display switch. When this happens, the buzzer sounds and the HSA warning light (amber) turns on.

NOTE

- If the release timing cannot be reset, then return to step 4 and reset it again. If the release timing cannot be reset even after doing the reset procedure again, contact the nearest Isuzu Dealer.

5. Disengage the clutch and place the gearshift lever in 2nd gear.



6. Slowly release the clutch pedal and when the engine speed drops 30 to 50 r/min from the idle speed, press "Enter" on the multi-information display switch. The buzzer then stops sounding.

7. Shift the gearshift lever into neutral and slowly engage the clutch pedal. The correct initial adjustment value may not be stored unless the clutch pedal is engaged slowly.

⚠ CAUTION

- **Failing to correctly store the initial adjustment values may result in the HSA not operating correctly as follows. Be sure to return the clutch pedal slowly.**
  - **HSA cannot be finely adjusted.**
  - **HSA does not operate.**
  - **HSA is released too quickly and the vehicle rolls back.**
  - **HSA is released too slowly and the brakes drag.**

8. Operate the HSA once and then pull away. At this time, if the brake release timing is not correct, adjust the HSA.

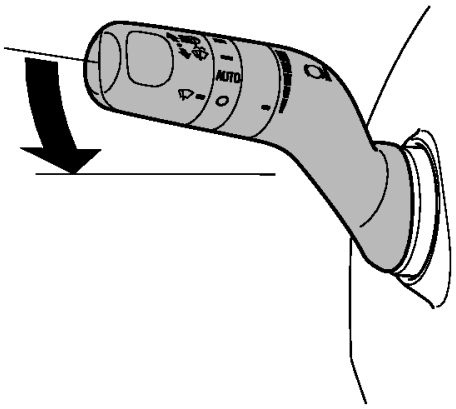
Refer to page
4-108 Adjustment of HSA

⚠ CAUTION

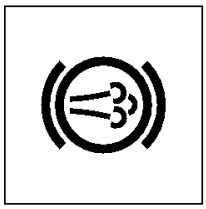
- **Be sure to make an adjustment of the HSA after adjusting clutch pedal play.**
- **If the amount of free play in the clutch pedal exceeds the standard value, the HSA may not be able to operate and release normally. Refer to "Checking the Clutch Pedal Free Play and Stroke" to inspect and adjust it.**

Refer to page
10-69 Checking the Clutch Pedal Free Play and Stroke

Exhaust Brake Switch



Exhaust brake indicator light



To apply the exhaust brake while driving, pull the lever backward. The exhaust brake indicator light comes on. The indicator light comes on white while not operating and comes on green while operating. To disengage the exhaust brake, press the accelerator pedal or the clutch pedal (if your vehicle is a manual transmission vehicle). Releasing the pedal reengages the exhaust brake.

CAUTION

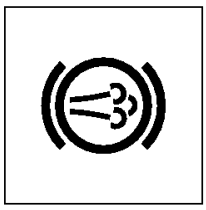
- **It is extremely dangerous to apply the exhaust brake on slippery roads (with their surfaces being wet, frozen, or covered with compacted snow) as the tires can skid.**

ADVICE

- If a warning buzzer sounds when the exhaust brake is in operation, promptly pull the vehicle over safely and contact the nearest Isuzu Dealer for inspection.
- The exhaust brake indicator light comes on in amber if there is a problem with the exhaust brake system. Have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.

Exhaust Brake Warnings/Indicators

Exhaust Brake Indicator Light



The indicator light comes on in green while operating and comes on in white while not operating. Also, it comes on in amber in the following cases:

- When there is an abnormality in the exhaust brake system
- When there is an abnormality with the exhaust throttle system

ADVICE

- If the exhaust brake indicator light comes on in amber, immediately have the vehicle inspected at an Isuzu Dealer.

Conditions for Inoperable Exhaust Brake

Under the following conditions, the exhaust brake does not engage even if the exhaust brake indicator light comes on.

- The accelerator pedal or the clutch pedal (manual transmission models) is pressed.
- The gearshift lever (manual transmission models) or the selector button (automatic transmission models) is in the "N" position.
- The vehicle is traveling at 5 km/h (3 MPH) or lower speeds, or the engine speed drops to a value where the exhaust brake does not engage.

NOTE

- The exhaust brake may disengage during ABS operation even when the exhaust brake switch is in the "ON" position and the exhaust brake indicator light is on. The exhaust brake may disengage temporarily as the vehicle passes over a bump even when the brake pedal is not depressed. When this happens, the exhaust brake indicator light changes from green to white temporarily.

When Using Differential Lock Switch/ Inter-Differential Lock Switch [V]

When encountering poor road or highway conditions where maximum traction is required, perform the following:

- When approaching poor traction conditions, first engage the inter-differential lock switch. (FXZ/FYHmodel)

Refer to page
4-119 Inter-Differential Lock Switch [V]

- As conditions worsen and when vehicle travel speed is 40 km/h (25 MPH) or less, the differential lock can then be engaged.

Refer to page
4-117 Differential Lock Switch [V]

CAUTION

- **When the differential is locked, the vehicle must be operated at 40 km/h (25 MPH) or less. Lock the differential only when maximum traction is needed.**

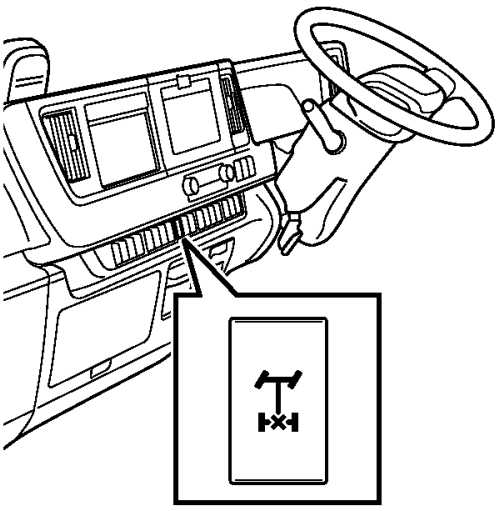
ADVICE

- There are no speed or handling restrictions for vehicle operation with the inter-differential lock engaged. But for best axle performance and minimum tire wear, always unlock the inter-differential lock when favourable road conditions return.

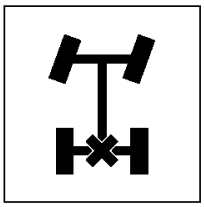
NOTE

- When the differential is locked, the vehicle's turning radius will increase. This condition is called "understeer". The driver must use caution, good judgment and drive at low speeds when operating the vehicle with the differential locked.

Differential Lock Switch [V]



Differential lock indicator light



Use the differential lock only when one or more than one of the tires on the drive axle is on a muddy or sandy road surface, frozen and sloped road surface, or other slippery road surfaces.

To Engage the Differential Lock

Press the differential lock switch on the "ON" side. The differential lock indicator light comes on.

NOTE

- To use the differential lock and the inter-differential lock together, first use the inter-differential lock switch to activate the inter-differential lock. Then, use the differential lock switch to activate the differential lock.

Refer to page
4-119 Inter-Differential Lock Switch [V]

To Disengage the Differential Lock

When the vehicle can safely operate at speeds above 40 km/h (25 MPH) and driving conditions have improved, disengage the differential lock following the recommended procedures:

1. Flip the differential lock switch to the "OFF" position when the vehicle is stopped or when the wheels are not spinning, slipping, or losing traction.
2. Let up momentarily on the accelerator to relieve torque on the gearing, allowing the differential lock to unlock. It may take up to 0.5 km (0.31 miles) of driving before the differential unlocks.

NOTE

- Depending on the conditions, the differential lock may not disengage immediately after the differential lock switch is turned off, but this is not a malfunction. If this happens, repeatedly turning the vehicle left and right will make it easier to release the differential lock.

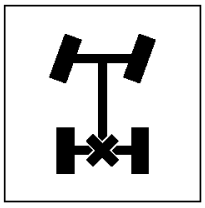
3. When the differential lock is deactivated, the differential lock indicator light goes out. Resume driving at normal speed using good driving judgement.

⚠ CAUTION

- **The differential may develop a problem if the rear wheels are allowed to spin repeatedly without using the differential lock.**
- **To engage the differential lock, stop the vehicle and then press the differential lock switch on the "ON" side.**
- **With the differential lock engaged, the turning radius of the vehicle increases.**
- **Do not engage the differential lock unless needed. Use of differential lock on dry pavement hastens tire wear, increases noise and vibration, and can cause damage to the differential lock system.**

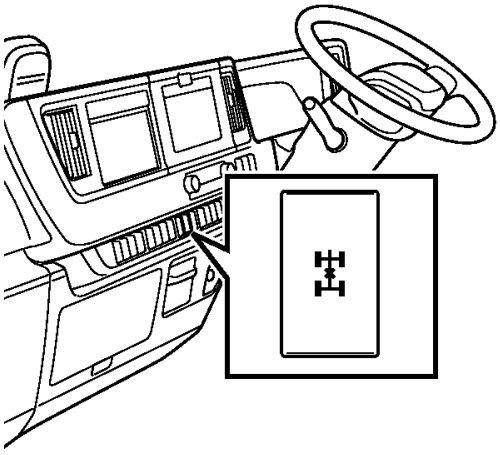
Differential Lock Warnings/Indicators

Differential Lock Indicator Light

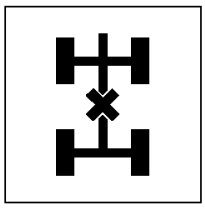


This indicator light comes on when the differential lock switch is placed in the "ON" position.

Inter-Differential Lock Switch [V]



Inter-differential lock indicator light



Use the inter-differential lock only when one or more than one of the tires on the drive axle is on a muddy or sandy road surface, frozen and sloped road surface, or other slippery road surfaces.

To Engage the Inter-Differential Lock

Stop the vehicle. Press the switch on the "ON" side. The inter-differential lock engages and the inter-differential lock indicator light comes on.

NOTE

- To use the differential lock and the inter-differential lock together, first use the inter-differential lock switch to activate the inter-differential lock. Then, use the differential lock switch to activate the differential lock.

Refer to page
4-117 Differential Lock Switch [V]

To Disengage the Inter-Differential Lock

Press the switch on the "OFF" side. The inter-differential lock indicator light goes out.

CAUTION

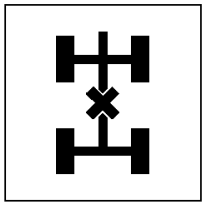
- **The differential may develop a problem if the rear wheels are allowed to spin repeatedly without using the inter-differential lock.**
- **To engage the inter-differential lock, stop the vehicle and then press the inter-differential lock switch on the "ON" side.**
- **With the inter-differential lock engaged, the turning radius of the vehicle increases.**
- **Do not engage the inter-differential lock unless needed. Otherwise, tire wear, noise and vibration will result.**

NOTE

- The inter-differential lock directly connects the forward rear axle with the rearward rear axle.

Inter-Differential Lock Warnings/Indicators

Inter-Differential Lock Indicator Light



This indicator light comes on when the inter-differential lock switch is placed in the "ON" position.

Anti-lock Brake System (ABS)

Wheels may be locked and slip during sudden braking or braking on a slippery road surface such as a snowy road. ABS is a device to prevent the wheels from locking by detecting a slippery condition during braking and to secure directional stability and handling stability of the vehicle. ABS is only to assist in slippery conditions and will not prevent an accident if you exceed safe driving speeds for road conditions. Always drive safely.

⚠ CAUTION

- **The braking distance on slippery road surfaces is longer than that on a normal dry paved road even with an ABS-equipped vehicle. In addition the braking distance can be slightly longer in deep snow and on a gravel road when ABS is activated. Therefore, always keep in mind the road condition and tire condition (type of tires and worn condition), observe safe driving habits and drive the vehicle while keeping a proper distance between vehicles.**
- **ABS does not prevent accidents if you do not drive safely. Drive the vehicle at a safe speed.**
- **Install tires of the specified size, same brand and same tread design (including winter tires) on all wheels. If different tires are installed, the braking distance becomes longer and directional control stability of the vehicle decreases. This is very dangerous.**
- **Steering during sudden braking (when the ABS is working) will feel slightly different than it does when the brakes are not applied. Operate the steering wheel carefully keeping this in mind.**

ADVICE

- Driving in sand or on a muddy road may adversely affect the brakes and ABS sensors. Wash the vehicle to remove sand and mud after operating the vehicle in sandy or muddy conditions.
- Before washing the vehicle, provide necessary protection to prevent water from being splashed on the ABS components (sensors and actuators). Especially when using high-pressure washing, be careful not to allow water to be directly sprayed onto the ABS components and their harness connectors.

NOTE

[These are not signs of ABS malfunction]

- Soon after you start the engine and the vehicle starts moving, the sound of motor and valve working may be heard from the rear of the vehicle or underside of the cab. This sound is from a self-check by the ABS system and is normal.
- When ABS is properly operating, vibration is felt on the steering wheel or a mechanical operating sound is heard.
- When ABS is activated while the exhaust brake is in operation, the exhaust brake may disengage.
- ABS is more likely to be activated when the brake is applied during cornering or driving over a bump. This is because inside wheels or wheels that have gone over a bump tend to lock.
- ABS is not activated immediately after starting the vehicle. It is activated only when the vehicle speed reaches approx. 10 km/h (6 MPH). ABS operation is inactive when the vehicle speed reduces to approx. 5 km/h (3 MPH).

ABS Operation and Abnormal Warnings

Operation of the ABS

When ABS is activated, slight vibration is transmitted to the steering wheel and operating sound can be heard from the ABS components.

Brake Warning Light



Refer to page
3-22 Brake Warning Light

Precautions for Driving an ABS-Equipped Vehicle

ABS is not a device that enables driving and stopping under conditions exceeding safe driving limits. Always drive safely.

⚠ CAUTION

- **The braking distance on slippery road surfaces is longer than that on a normal dry paved road even with an ABS-equipped vehicle. When ABS is activated in the following road surface conditions, the braking distance may be slightly longer compared to that of vehicles not equipped with an ABS. Therefore, always be aware of the road and tire condition (tire type and wear condition), observe safe driving habits and drive the vehicle while keeping a safe following distance.**
  - **When driving on a gravel road, or a road with a deep snow covering**
  - **When tire chains are used**
  - **When driving over road joints or steps such as cat's-eyes**
  - **When driving on a bumpy road, stone-paved road or track**
  - **When driving over an iron plate or manhole lid**
- **ABS does not work for wheel skid during a standing start, acceleration and cornering which do not involve braking. On a very slippery icy road, tires may lose grip and steering wheel operation may not be able to control the vehicle's direction, resulting in very unstable driving. Always drive the vehicle observing a safe speed well matched with both road surface and tire conditions, and avoid sudden braking.**
- **If powerful engine braking is applied on a very slippery icy road, the drive wheels may be locked (the ABS then does not work), resulting in loss of vehicle control. If this happens with a manual transmission vehicle, disengage the clutch or place the gearshift lever into the "N" position to prevent engine braking from acting on the drive wheels. Then, drive the vehicle with the gearshift lever placed in an appropriate gear.**
- **ABS operation consumes the brake system air. When the air pressure drops and the brake warning light or the air pressure warning light comes on, "Low air pressure" is shown on the instrument panel, and the buzzer are activated, immediately stop the vehicle at a safe place and wait for the required air pressure to be recovered before driving.**
- **When ABS is activated, a slight vibration (especially when the road surface is different between right and left wheels) and pulling may be felt on the steering wheel. In addition, an operating sound is produced from the ABS actuators. This does not indicate any abnormal condition. Stay calm and operate the steering wheel properly.**

Anti-Slip Regulator (ASR)

ASR is a device that helps prevent the drive wheels from spinning and improve vehicle motion stability when driving on a snowy or otherwise slippery road surface. The ASR is automatically activated when the engine is started. You may cancel the ASR operation using the ESC OFF switch.

⚠ CAUTION

- **When ASR is activated, the ESC warning light flashes. The road surface at this time is very slippery. If the indicator light comes on, drive carefully and reduce the speed sufficiently before negotiating a curve.**
- **Even with the ASR-equipped model, when driving on a snowy or icy road, carefully drive the vehicle, installing tire chains or winter tires.**
- **ASR is not a device to drastically improve the vehicle starting performance. Carefully operate the accelerator pedal when moving on an icy slope.**
- **When tire chains are installed, it may be easier for you to start the vehicle to move on an icy slope if the ASR is canceled. Be aware, however, that ASR deactivation will result in reduced stability of vehicle operation.**

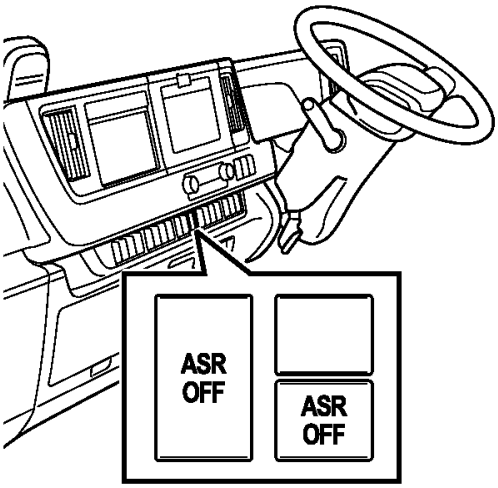
NOTE

[This is not a sign of ASR malfunction]

- You may notice minimal vibrations or operating sound when starting and accelerating the vehicle on a slippery road. This sound is generated when ASR is operating.
- The engine speed may suddenly decrease, but this is because the ASR device is operating.

Refer to page
4-132 ESC OFF Switch

ASR OFF Switch [V]



Use this switch when you want to cancel the ASR. When you press this switch while the ASR is active after the engine is started, the ASR is canceled and the ASR OFF warning light will be displayed in the multi-information display. When the switch is pressed again, the ASR function turns back on.

ADVICE

- When you turn off ASR, it will not be available to assist you in slippery driving conditions. Always use caution when driving on slippery roads.
- Be sure to enable ASR during normal driving.

NOTE

- If ASR is off when the engine is turned off, it is automatically re-enabled when you restart the engine.

ASR Warnings/Indicators

ESC Warning Light



When the ASR is operating, the ESC warning light flashes.

Refer to page
4-131 ESC Warning Light

Precautions for Driving an ASR-equipped Vehicle

ASR is not a device that enables driving under conditions exceeding safe limits. Always drive safely.

CAUTION

- **The ASR does not increase the road grip of tires although it improves the starting and accelerating performance on a slippery road surface when compared to a model without ASR. On an icy or otherwise slippery road, the grip of tires decreases which also reduces steering control, resulting in unstable vehicle behavior. Always drive the vehicle observing a safe speed well matched to the road surface and tire conditions, and also avoid speeding.**
- **ASR operation consumes the brake system air. When the air pressure drops and the brake warning light or the air pressure warning light comes on, "Low air pressure" is shown on the instrument panel, and the buzzer are activated, immediately stop the vehicle at a safe place and wait for the required air pressure to be recovered before driving.**
- **Even if ASR is equipped, avoid sudden operation of the accelerator pedal, clutch pedal (manual transmission models) and steering wheel. Especially when starting the vehicle on a slippery road, start up slowly as you would in a vehicle without ASR.**

NOTE

- When you drive up a slippery, long slope by increasing the engine speed, where the tires may slip, or when you want to dislodge the vehicle from a deep snowy road or mud, you can press the ESC OFF switch to disable the ESC/ASR system.

Refer to page
4-132 ESC OFF Switch

Electronic Braking System (EBS)

EBS (Electronic Brake System) is a system that adds electronic signals to the brake air control system (sent by the brake pedal when it is depressed) in order to improve air brake responsiveness. The EBS maintains the same brake feel regardless of whether the trailer is loaded or not and is a device that enhances driver operability and safety.

⚠ CAUTION

- **The EBS is not a device to counteract unsafe driving practices. Always maintain a safe speed as well as a safe distance between yourself and other vehicles.**
- **All tires installed to the vehicle should be of the specified size, as well as be of the same brand and with the same tread design (this includes winter tires). Installing different types of tires to the vehicle is dangerous and could result in reduced braking ability and unstable vehicle operability.**

EBS Operation Check, Operation, Malfunction

Brake warning light



EBS operation check

When the starter switch is turned to the "ON" position, the brake warning light comes on before going out approximately 3 seconds later. The EBS is normal if the warning light goes out.

If the warning light does not come on even when the starter switch is turned to the "ON" position, it may be possible that the bulb has burned out or there is an EBS malfunction.

EBS operation

When EBS is operating, operating sounds can be heard from the EBS components.

EBS brake abnormal

Stop in a safe place
Contact the dealer

EBS malfunction

If "EBS brake abnormal" is shown on the multi-information display and the brake warning light comes on during driving, the EBS, ABS, or ESC/ASR may be malfunctioning. Please contact the nearest Isuzu Dealer.

Brake warning light



NOTE

- Even if the EBS has malfunctioned, the regular brakes will still operate normally. At this time, the EBS will not function, thus a larger amount of brake pedal depression will be required. The braking force can be ensured by depressing the pedal further.

Driving Precautions for Vehicles Equipped with EBS

The EBS is not so versatile that it enables driving under conditions that exceed safe limits. Always drive safely.

WARNING

- **If the starter switch is turned to the "ON" position (engine start-up) on a slope, etc., the EBS may be affected due to a battery voltage decrease, resulting in the vehicle moving down the slope. After either pulling the parking brake lever or fully depressing the brake pedal, turn the starter switch to the "ON" position (engine start-up).**

CAUTION

- **Although models with EBS may have enhanced brake responsiveness when compared to models without EBS, the EBS is not a device to counteract unsafe driving practices. Always drive the vehicle while observing a safe speed.**
- **In models with EBS, the EBS is activated when the brake pedal is depressed, regardless of whether the starter switch is turned to the "LOCK" position. Even if the starter switch is turned to the "ON" position with the brake pedal depressed, emissions from the EBS device are not vented. (In this case, the EBS system operation check will not be performed.)**
  If exhaust sounds cannot be heard from the EBS system when the brake pedal is depressed and released, the EBS exhaust port may be frozen or blocked by snow or ice which must be removed. In addition, ice may form and clog the exhaust port if the vehicle is washed in cold weather, causing brake functionality to stop. When this occurs, remove the ice immediately.
- **If battery voltage becomes low, EBS operation may be affected. Periodically inspect the battery.**
- **In models equipped with EBS, the vehicle's computer detects loading conditions, making it unnecessary for drivers to adjust how they depress the brake pedal, regardless of whether or not the vehicle is loaded or empty. However, as with vehicles not equipped with an EBS system, braking distance will be increased if the brake pedal is not sufficiently depressed when the vehicle is empty.**
- **The EBS will not function to its full capacity if the driver pumps the brake pedal instead of depressing it fully. Pumping the brakes will also lead to a decrease in brake performance caused by an increase in air. ("Pumping" the brakes is defined as continually depressing the brakes at a rate of once or more each second.)**
- **In models equipped with EBS, it may be difficult to notice brake fading because the brake pedal stroke does not change under any circumstances. When driving down a long downhill slope or on an expressway, refrain from using the foot brake frequently and use engine brake and auxiliary brake.**

Refer to page
4-114 Exhaust Brake Switch

ADVICE

- When installing an electronic device such as a radio, pay attention to the installation position and routing so that EBS functionality is not affected. Also, when installing, please contact the nearest Isuzu Dealer.

How to Make the EBS Function Correctly

Using the brake pedal stroke amount together with the vehicle deceleration rate, the EBS calculates loading conditions and determines the braking strength. If loading conditions change, the EBS recalculates the weight. This recalculation will be completed only after the vehicle has been brought to a complete stop from a speed of 30 km/h (20 MPH) or more a total of three to four times without the brakes being pumped.

⚠ CAUTION

- **When the brake warning light is illuminated, it signals that an EBS malfunction has occurred. In this case, although the feeling of the brakes will change considerably due to the in operation of the EBS, the regular brakes will still operate normally. If the EBS malfunctions, firmly depress the brake pedal, stop the vehicle, and contact your nearest Isuzu Dealer.**

Electronic Stability Control (ESC) [V]

The ESC improves safety and a vehicle's stability. The ESC controls the engine power and applies the brakes to the wheels that need it in order to suppress wheelspin when starting or accelerating on slippery road surfaces, maintain drive power, prevent skidding to the side and improve vehicle stability. The ESC has various sensors that detect rapid changes in the vehicle conditions while driving. The ESC is automatically activated when the engine is started. However, the ESC OFF switch can be used to disable ESC and ASR operation.

⚠ CAUTION

- **When the ESC is activated, the ESC warning light flashes.**
- **The ESC warning light will also flash when only the ASR function is operating.**
- **When the ESC warning light is flashing, the road surface is slippery or acceleration is too fast. Loosen pressure on the accelerator pedal and drive conservatively.**
- **The ESC warning light may also flash when fully depressing the accelerator pedal on roads that are not slippery such as dry asphalt roads. This is a normal condition that predicts slipping and operates control.**
- **Even with an ESC-equipped model, when driving on a snowy or icy road, install tire chains or winter tires, and carefully drive the vehicle. The ESC is not a device for drastically improving the vehicle stability when driving or starting performance, so drive carefully on snowy or icy roads.**
- **When tire chains are installed, it may be easier for you to start the vehicle to move on an icy slope if just the ASR is canceled. Be aware, however, that ASR deactivation will result in reduced vehicle stability.**
- **Install tires of the specified size, same brand, same type and same tread design (including winter tires) on all wheels. In addition, do not install or use tires with significantly varying degrees of wear. If tires other than the specified size, different types, or tires with significantly varying degrees of wear are used, the ESC may not operate properly.**
- **If the tire diameter is different such as when installing tire chains or a spare tire, the ESC may not operate properly.**
- **If suspension-related parts, brake-related parts, or engine-related parts are replaced with parts other than Isuzu genuine parts or modified, the ESC may not operate properly.**
- **Be sure to consult with your Isuzu Dealer for replacement or repair of the steering wheel or steering-related parts. There is a sensor on the steering wheel that detects driving operation conditions, and the ESC may not operate properly if the steering wheel center position is misaligned.**
- **Do not tow the vehicle with the starter switch in the "ON" position with only the front or rear wheels raised. Also, if the vehicle is towed without the ASR being disabled, the ASR may operate, possibly resulting in an accident.**

NOTE

[These are not signs of ESC malfunction]

- Immediately after the engine is started, a sound may be heard from the area around the air tank. This sound is from a self-check by the ABS and ASR, ESC.
- When the ESC is operating, the brake pedal movement may wiggle or feel tight. In addition, the vehicle body may vibrate or you may hear operating sounds. This is normal for ESC operation.
- The ESC will not operate immediately after starting until the vehicle reaches approximately 15 km/h (9 MPH).

ESC Warnings/Indicators

ESC Warning Light



This warning light comes on whenever there is a problem in the electronic stability control (ESC). When the ESC is operating, the ESC warning light flashes.
The ESC warning light will also flash when only the anti-slip regulator (ASR) function is operating inside the ESC system.
When the ESC warning light does any of the following, the ESC may be faulty. Please contact the nearest Isuzu Dealer.

- When the ESC warning light remains on while driving.
- The ESC warning light does not turn on when the starter switch is turned to the "ON" position.

NOTE

- When the ESC warning light is on, the ESC/ASR will not operate, but this has no effect on normal driving.
- If the warning light does not go out or comes on repeatedly, have the vehicle inspected/serviced at the nearest Isuzu Dealer as soon as possible.
- The ESC warning light may turn on when the battery cables are disconnected or the battery voltage is low. The ESC function turns off while the ESC warning light is on, but the ESC warning light will turn off by driving the vehicle normally for a while, then the ESC function will resume. If the ESC warning light remains on even after driving for a while, contact the nearest Isuzu Dealer.
- When the ESC OFF switch is pressed for 5 seconds or more, the operating status will be switched to Roller Testing Bench Mode which is used for testing braking force, and the ESC warning light will come on.

Refer to page
4-132 ESC OFF Switch

ESC OFF Indicator Light



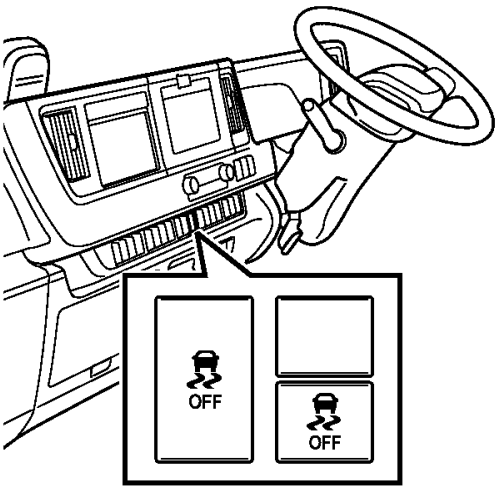
When you wish to cancel the ESC after the engine is started, press and release the ESC OFF switch.
When the ESC OFF indicator light does any of the following, the ESC function may be faulty. Please contact the nearest Isuzu Dealer.

- When the ESC OFF indicator light comes on during driving (when the ESC OFF switch is not operated).

Refer to page
4-132 ESC OFF Switch

ESC OFF Switch

When getting unstuck from mud or fresh snow with the ESC and ASR operating, the engine output may not rise even when the accelerator pedal is depressed, making getting unstuck difficult. In times like this, pressing the ESC OFF switch will make getting unstuck easier. The ESC can be turned off using the ESC OFF switch, or just the ASR (function for suppressing tire spinning when starting or accelerating) in the ESC system can be turned off.



ESC OFF indicator light



After the engine is started, press the ESC OFF switch. Once the ESC is disabled, the ESC OFF indicator light (amber) in the meter panel will illuminate. When the switch is pressed again, the ESC/ASR function will once again be enabled, after which the ESC OFF indicator light will turn off.

⚠ CAUTION

- **When the ESC is disabled, its functions will cease to be active. In such cases, please use caution when driving on slippery roads.**
- **During normal driving, confirm that the ESC OFF indicator light is turned off and that the ESC is enabled.**

NOTE

- When attempting to free the vehicle from mud or snow, the ESC and ASR may operate even though the accelerator pedal is being depressed, resulting in restricted engine output and making it difficult to free the vehicle. In such cases, use the ESC OFF switch to disable the ESC.
- Deactivating the ESC function will deactivate the ASR function as well.
- The ESC will automatically become operable if the engine is stopped and then restarted with the ESC function deactivated.
- Do not continue pressing the ESC OFF switch for 5 seconds or more. If pressed for 5 seconds or more, the ESC operating status will be switched to Roller Testing Bench Mode which is used for testing braking force, after which the following conditions will occur. To cancel the Roller Testing Bench Mode, firmly apply the parking brake and turn the starter switch to the "LOCK" position without depressing the brake pedal.
  - The brake warning light, HSA warning light, AEBS OFF indicator light, and ESC warning light will come on and "HSA abnormal" will be shown on the multiinformation display.
  - A buzzer will sound (only during HSA operation).

ESC Operation Check, Operation, Error

ESC warning light



(amber)

ESC operation check

The ESC warning light turns on when the starter switch is turned to the "ON" position. If it turns off after approximately 3 seconds, the ESC is working normally.

When the ESC is operational

When the ESC is operating, the ESC warning light (amber) flashes.

ESC faulty

When the ESC warning light does any of the following, the ESC may be faulty. Please contact the nearest Isuzu Dealer.

- The ESC warning light (amber) continues to flash when driving, even when the vehicle is not being turned or being driven on a slippery road.
- The ESC warning light (amber) turns on when driving.
- The ESC warning light (amber) does not turn on when the starter switch is turned to the "ON" position.

NOTE

- If the ESC is faulty, it does not interfere with normal driving. However, the ESC will not function.

Precautions for Driving an ESC-equipped Vehicle

⚠ CAUTION

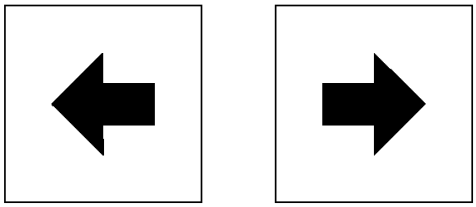
- **The ESC is not a device that enables driving under conditions exceeding safe limits. Always drive safely.**
- **Always concentrate on driving safely and do not be overconfident just because the vehicle is equipped with the ESC, so do not drive too fast and turn the steering wheel too sharply.**
- **The ESC does not increase the road grip of tires although it controls slipping and sliding of vehicles and improves the vehicle stability on a slippery road surface during starting and acceleration when compared to a model without ESC. On an icy or otherwise slippery road, the grip of the tires decreases which also reduces steering control, resulting in unstable vehicle behavior. Always drive the vehicle observing a safe speed well matched to the road surface and tire conditions, and also avoid speeding.**
- **The ESC is a system for maintaining drive power and vehicle stability. Turn the system on even when it is not needed. When the system is turned off, drive carefully at a safe speed well matched to the road surface.**
- **Even if ESC is equipped, avoid sudden operation of the accelerator pedal, clutch pedal (manual transmission models) and steering wheel. Especially when starting the vehicle on a slippery road, start up slowly as you would in a vehicle without ESC.**
- **When the ESC is activated, the ESC warning light flashes.**
- **The ESC warning light will also flash when only the ASR function is operating.**
- **When the ESC warning light is flashing, the road surface is slippery or acceleration is too fast. Loosen pressure on the accelerator pedal and drive conservatively.**
- **The ESC warning light may also flash when fully depressing the accelerator pedal on roads that are not slippery such as dry asphalt roads. This is a normal condition that predicts slipping and operates control.**
- **ESC operation consumes the brake system air. When the air pressure drops and the brake warning light or the air pressure warning light comes on, "Low air pressure" is shown on the instrument panel, and the buzzer are activated, immediately stop the vehicle at a safe place and wait for the required air pressure to be recovered before driving.**
- **Even with an ESC-equipped model, when driving on a snowy or icy road, carefully drive the vehicle, and install tire chains or winter tires.**
- **When tire chains are installed, it may be easier for you to start the vehicle to move on an icy slope if just the ASR is canceled. Be aware, however, that ASR deactivation will result in reduced vehicle stability.**
- **Do not install a commercially available limited slip differential (LSD). The ESC may not operate properly.**

NOTE

- If there is significant wear or degradation on parts related to the suspension, tires, brakes, etc., the ESC warning light may turn on. In such cases, the ESC may not function properly.
- The ESC warning light may turn on when the vehicle is on a turntable at the entrance of a parking garage or on a moving object, etc. In such cases, re-start the engine after the vehicle has left the turntable.
- The ESC warning light may turn on when driving on roads with extreme inclines (the banks seen on race tracks, etc.). In such cases, the ESC may not function properly, so do not drive on such roads.
- The ESC warning light may turn on when the battery cables are disconnected or the battery voltage is low. The ESC function turns off while the ESC warning light is on, but the ESC warning light will turn off by driving the vehicle normally for a while, then the ESC function will resume. If the ESC warning light remains on even after driving for a while, contact the nearest Isuzu Dealer.

Emergency Stop Signal (ESS)

Hazard warning flasher indicator light



To mitigate rear-end collisions, the emergency stop signal (ESS) is a system that quickly alerts the vehicle behind by flashing the hazard lights at high frequency when you brake suddenly to greatly reduce speed while driving at approximately 50 km/h (31 MPH) or more. After the high-speed flashing ends, the hazard lights flash at the normal interval if it is determined necessary to continue alerting the vehicle behind.
While the emergency stop signal is operating, the hazard warning flasher indicator lights flash.

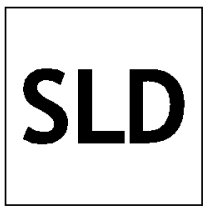
NOTE

- When braking on a slippery road causes the ABS to operate, the emergency stop signal may also operate.
- If the following operations are done while the hazard lights are flashing at regular intervals, after having finished flashing at high speed, the emergency stop signal is canceled and the hazard lights go out.
  - When driving with an accelerator opening of 20% or more
  - When either the left or right turn signal indicator light or hazard lights are operating
  - If the starter switch is set to the "LOCK" position

Speed Limit Device [V]

Characteristics of the Speed Limit Device

SLD indicator light



The speed limit device restricts excessive speed to prevent a serious accident. The SLD indicator light comes on, on the multi-information display, for approximately 15 seconds when the starter switch is turned to the "ON" position.
The speed limit device sticker is attached to the door of the driver's side.

⚠ CAUTION

- **The speed limit device does not control braking, so it is possible for the vehicle to exceed the set speed on downhill slopes.**
- **If the tire size is changed, the speed limit device may not work normally. Have adjustments made by your Isuzu Dealer.**
- **The speed limit device is standard equipment for vehicles subject to legal speed limits. It can also be set according to your needs by your Isuzu Dealer.**
- **On vehicles that are not equipped with a speed limit device, the SLD indicator light does not come on and the vehicle speed is not limited.**

NOTE

- The speed limit device restricts the vehicle's speed by controlling the fuel injection volume. It prevents the speed from exceeding a certain, predetermined level regardless of the pressure on the accelerator pedal.
- To set the speed limit device, or to check or change the set speed, contact your Isuzu Dealer.

Adjustable Speed Limitation Device [V]

The vehicle speed upper limit (from approximately 30 km/h or 20MPH to the speed set for the speed limit device) can be set freely. While the speed limit device is working, the vehicle speed is automatically controlled.

⚠ CAUTION

- **The adjustable speed limitation device does not respond to the changes in the surrounding and the road environment. Always pay attention to the speed and keep a sufficient following distance from the vehicle ahead.**
- **When the adjustable speed limitation device icon is displayed in the multi-information display, check the set vehicle speed upper limit before starting to drive.**
- **If the vehicle is stopped or if a vehicle speed of 30 km/h or 20MPH or less is set, then 30 km/h or 20MPH is set automatically.**
- **When any other person drives the vehicle, always deactivate the adjustable speed limitation device. Driving a vehicle without knowing that this function is on may cause unexpected trouble.**
- **In case of driving on an expressway or a limited-access road, do not set a speed lower than the specified minimum speed. Otherwise, the vehicle cannot be driven according to the road conditions, which may cause an unexpected accident.**

[Model with Speed Limit Device]

- **An upper speed limit that exceeds the set speed of the speed limit device cannot be set.**

Refer to page
4-137 Speed Limit Device [V]

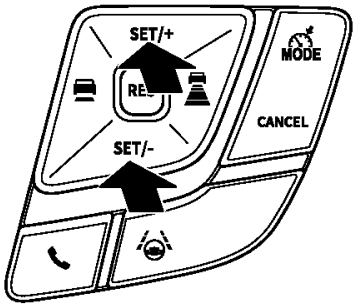
Switches of the Adjustable Speed Limitation Device

NOTE

- The mode switch, "+" and "-" of the set switches, the resume switch, and cancel switch are shared with the cruise control.
- The intelligent speed limiter and adjustable speed limitation device cannot be turned on at the same time. Please change the settings according to your purpose. Refer to "Switching the Intelligent Speed Limiter and Adjustable Speed Limitation Device" for details.

Refer to page
5-72 Switching the Intelligent Speed Limiter and Adjustable Speed Limitation Device

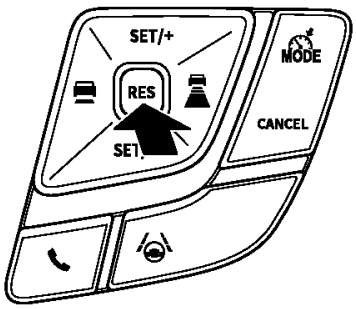
Set Switch



This switch is used to set the vehicle speed upper limit or adjust the vehicle speed upper limit.

Refer to page
4-142 Setting the Desired Vehicle Speed Upper Limit (While Driving)
4-143 Setting the Desired Vehicle Speed Upper Limit (While Stopped)
4-144 Changing the Vehicle Speed Upper Limit

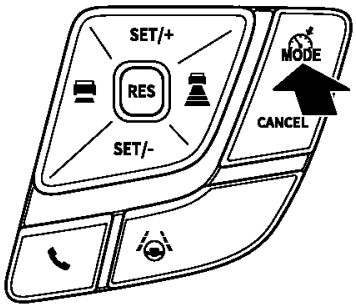
Resume Switch



This switch is used for resuming the adjustable speed limitation device setting after the setting has been canceled.

Refer to page
4-144 Changing the Vehicle Speed Upper Limit
4-146 Resuming the Adjustable Speed Limitation Device

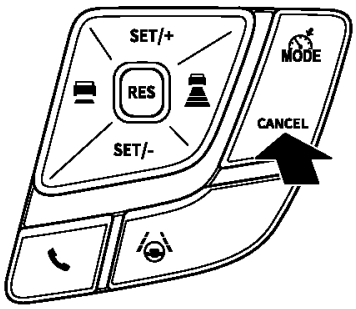
Mode Switch



This switch is used to cancel the adjustable speed limitation device setting.

Refer to page
4-146 Canceling the Adjustable Speed Limitation Device

Cancel Switch



This switch is used to cancel the adjustable speed limitation device setting.

Refer to page
4-146 Canceling the Adjustable Speed Limitation Device

Adjustable Speed Limitation Device Warnings/Indicators

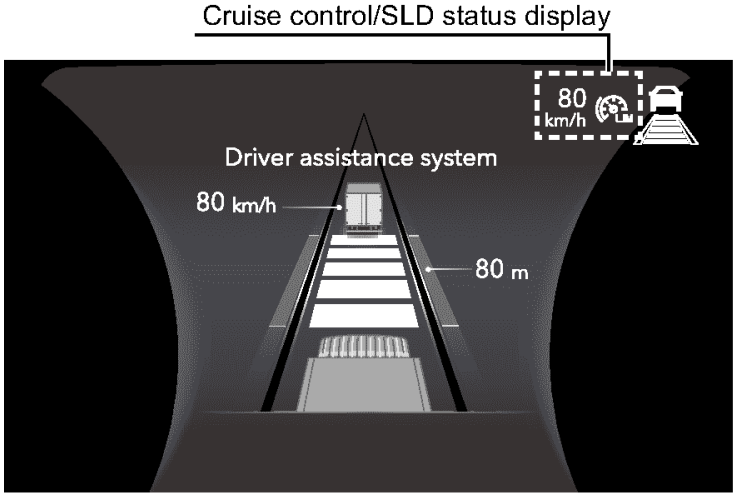
Adjustable Speed Limitation Device Warnings



If the vehicle is driven faster than the speed limit that was set, the adjustable speed limitation device icon flashes on the multi-information display. The flashing continues until the vehicle speed is reduced to below the set maximum speed.
While checking the surrounding conditions, use the brake pedal, etc., to decelerate.

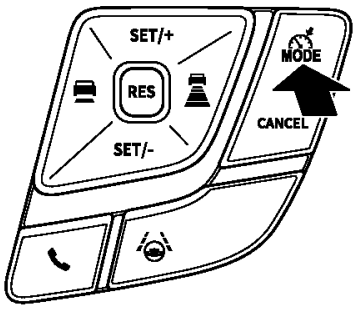
Details of Adjustable Speed Limitation Device on Multi-Information Display

The following adjustable speed limitation device information is shown on the multi-information display depending on the conditions.



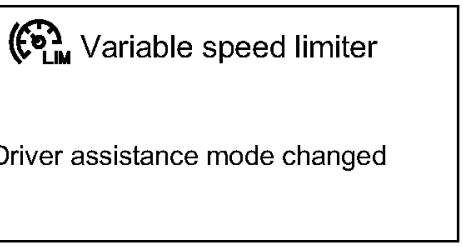
Main display area/ Drive assist display area	Name	Display details
 (Gray)	Adjustable speed limitation device - inoperative	If the starter switch is set to the "ON" position
 (White)	Adjustable speed limitation device - standby	When the adjustable speed limitation device is in standby (when cancel switch is operated)
 (Green)	Adjustable speed limitation device - operating	The adjustable speed limitation device is in operation (vehicle speed upper limit is set).
	Set vehicle speed was exceeded	When your vehicle exceeds the set vehicle speed (the icon flashes)
	Adjustable speed limitation device - temporarily canceled	The adjustable speed limitation device has been temporarily deactivated by the accelerator pedal being further depressed when almost fully depressed (the icon flashes)
Variable speed limiter Driver assistance mode changed	Adjustable speed limitation device mode	Press the mode switch to change to the adjustable speed limitation device mode

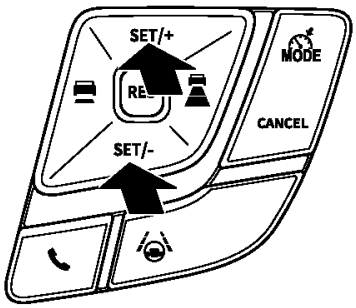
Setting the Desired Vehicle Speed Upper Limit (While Driving)





1. Press the mode switch to change to the adjustable speed limitation device mode. At this time, the adjustable speed limitation device icon appears on the multi-information display. Also, "Adjustable speed limitation device" appears for a few seconds.





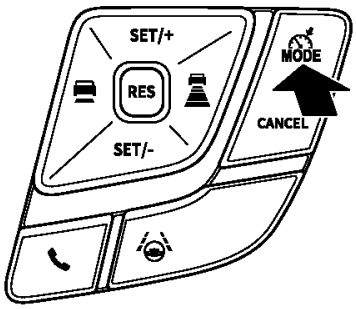


2. Adjust the depression on the accelerator pedal, and when the desired speed (approximately 30 km/h or 20MPH or more) is reached, press the "+" or "-" of the set switch.
   The vehicle speed when the switch is pressed is set as the vehicle speed upper limit. The set vehicle speed is displayed in the multi-information display.
   After this setting, the vehicle speed is automatically controlled not to exceed the set vehicle speed even when the accelerator pedal is continuously depressed.

NOTE

- If a vehicle speed lower than 30 km/h or 20MPH is set, 30 km/h or 20MPH is automatically set.

Setting the Desired Vehicle Speed Upper Limit (While Stopped)



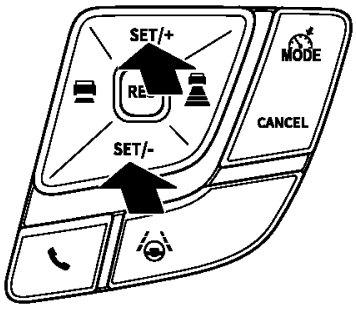


1. Press the mode switch to change to the adjustable speed limitation device mode. At this time, the adjustable speed limitation device icon appears on the multi-information display. Also, "Adjustable speed limitation device" appears for a few seconds.

Refer to page
4-139 Mode Switch

LIM Variable speed limiter

Driver assistance mode changed



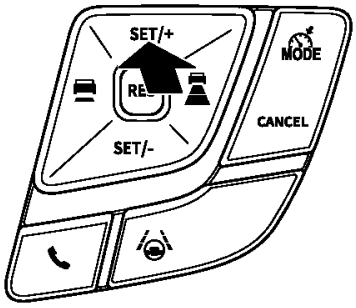


2. Press the "+" or "-" of the set switch. At this time, 30 km/h or 20MPH is set as the vehicle speed upper limit. At the same time, the set vehicle speed appears in the multi-information display.
When setting a speed higher than 30 km/h or 20MPH, change the speed according to the procedure under "Changing the Vehicle Speed Upper Limit".

Refer to page
4-144 Changing the Vehicle Speed Upper Limit

Changing the Vehicle Speed Upper Limit

Setting a Higher Vehicle Speed Upper Limit



Pressing the "+" side of the set switch increases the vehicle speed, and the vehicle speed upper limit that is displayed in the multi-information display also increases.
By holding down the "+" side of the set switch, the set vehicle speed can be increased in increments of 5 km/h*1 or 5 MPH*2.
Stop operating the switch when the desired speed is indicated.

Finely adjusting for a higher vehicle speed upper limit

Operate and then immediately release the "+" side of the set switch. The vehicle speed upper limit increases 1 km/h*1 or 1 MPH*2 for each operation.
The degree of vehicle speed upper limit varies depending on the unit selected on the multi-information display.

*1: when "km/h" display is selected on the multi-information display
*2: when "MPH" display is selected on the multi-information display

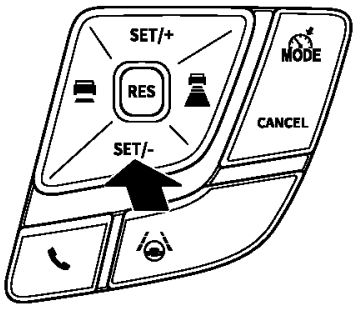
Refer to page
3-41 Display Settings

NOTE

- Changing the vehicle speed upper limit is also possible when the vehicle is stopped.

Refer to page
4-143 Setting the Desired Vehicle Speed Upper Limit (While Stopped)

Setting a Lower Vehicle Speed Upper Limit



Pressing the "-" side of the set switch decreases the vehicle speed, and the vehicle speed upper limit that is displayed in the multi-information display also decreases.
By holding down the "-" side of the set switch, the set vehicle speed can be decreased in increments of 5 km/h*1 or 5 MPH*2.
Stop operating the switch when the desired speed is indicated.

Finely adjusting for a lower vehicle speed upper limit

Operate and then immediately release the "-" side of the set switch. The vehicle speed upper limit decreases by 1 km/h*1 or 1 MPH*2 for each operation for each operation.
The degree of vehicle speed upper limit varies depending on the unit selected on the multi-information display.

*1: when "km/h" display is selected on the multi-information display

*2: when "MPH" display is selected on the multi-information display

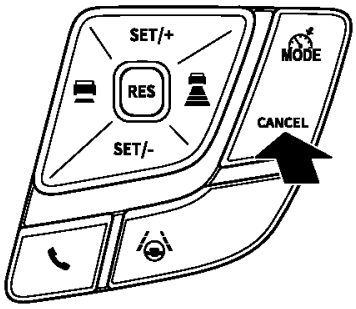
Refer to page
3-41 Display Settings

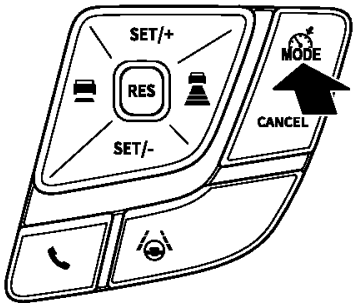
NOTE

- Any speed lower than 30 km/h or 20MPH cannot be set.
- Changing the vehicle speed upper limit is also possible when the vehicle is stopped.

Refer to page
4-143 Setting the Desired Vehicle Speed Upper Limit (While Stopped)

Canceling the Adjustable Speed Limitation Device





This is canceled when the following procedure is performed.

- When the cancel switch is operated
- If the starter switch is set to "ACC" or "LOCK" position
- When the mode switch is pressed

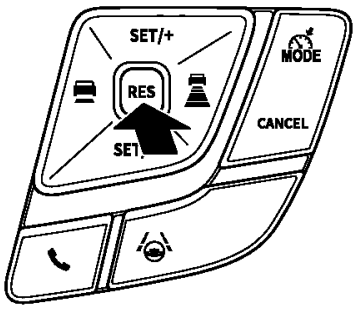
Refer to page
4-140 Cancel Switch
4-139 Mode Switch

- While the adjustable speed limitation device is in operation and the accelerator pedal is fully-depressed, and then it is depressed further again (return the accelerator pedal and it resumes).

ADVICE

- If the adjustable speed limitation device is not used, be sure to cancel it by operating the cancel switch.

Resuming the Adjustable Speed Limitation Device





When the resume switch is operated, the vehicle speed upper limit is set to what it was before being canceled. At the same time, the adjustable speed limitation device icon appears on the multi-information display.

ADVICE

- The vehicle speed upper limit is stored in the memory even after the adjustable speed limitation device is canceled and the starter switch is set to the "LOCK" position. When the operation is started by using the resume switch for the next operation, the vehicle speed is controlled under this vehicle speed upper limit.

Aftertreatment System

Diesel Particulate Defuser (DPD)

The DPD purifies particulate matter (PM) in exhaust gases. The DPD collects PM in the DPD filter and when PM is collected in the filter to the predetermined level, the DPD automatically burns PM (regeneration the filter). We recommend that you observe the following instructions to keep the DPD in order.

Refer to page
3-46 Vehicle Information

⚠ WARNING

- **The DPD, urea selective catalytic reduction (SCR) system, and exhaust pipe are extremely hot while the engine is running, during DPD filter regeneration (PM combustion), and immediately after vehicle operation. Be careful not to inadvertently touch them. Otherwise, you could be burned.**
- **Any grass, waste paper or other flammable material near the vehicle could catch fire.**
- **Before doing maintenance work on the vehicle, shut down the engine and allow it to cool down. Otherwise, you could be burned.**
- **White smoke may be produced during manual regeneration; do not perform manual regeneration in a poorly ventilated indoor place.**

Refer to page
4-28 Be Careful about Exhaust Emissions

⚠ CAUTION

- **Using diesel fuel other than extra-low-sulfur diesel fuel or low-sulfur diesel fuel in a model conforming to Japan post-post new long term regulation emission standards could prevent the vehicle from complying with local legal requirements. Using diesel fuel other than extra-low-sulfur diesel fuel in a model conforming to EuroVI emission standards could prevent the vehicle from complying with local legal requirements.**

ADVICE

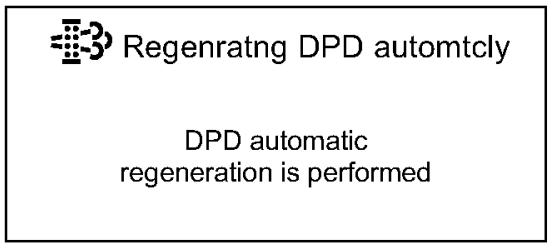
- Use Isuzu genuine engine oil compatible with the DPD. Using oil other than Isuzu genuine engine oil compatible with the DPD would shorten the time between DPD filter cleaning and could deteriorate fuel consumption.
- Be sure to use extra-low-sulfur diesel fuel (containing sulfur of 10 ppm or lower). If you fill the vehicle with poor-quality fuel, water-removing additive or other additive, gasoline, kerosene or alcohol-based fuel, it could harm the fuel filter, prevent proper movement of fuel-lubricated parts in the injectors and adversely affect engine components, possibly resulting in a breakdown.
- Do not modify the DPD, urea SCR, or exhaust pipe. Changing the alignment, length or diameter of the exhaust pipe would adversely affect the exhaust system's exhaust emission reduction function. If any modification is necessary to install a component to the rear of the vehicle, consult your Isuzu Dealer.

Refer to page
10-4 Engine Oil

NOTE

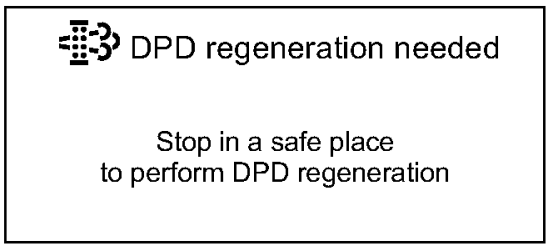
- Although the DPD filter automatically undergoes regeneration (burning of the accumulated PM) when a certain amount of PM has accumulated, driving conditions can prevent completion of regeneration. In this case, "DPD regeneration needed" (amber) is displayed and a warning sounds at the same time. Perform manual regeneration in accordance with the proper procedure. This is to restore DPD function and is normal.
- If the vehicle is stationary with the engine idling during DPD regeneration, the exhaust brake or exhaust throttle operates. Operating sounds will be heard when the exhaust brake or exhaust throttle is activated or deactivated. The sounds do not indicate a fault.
- Combustion of PM during DPD regeneration can cause white smoke to be briefly emitted from the exhaust pipe. The white smoke does not indicate a fault. Do not perform manual regeneration in any poorly ventilated indoor place.
- When a new vehicle has been driven a certain distance, it can emit white smoke during DPD regeneration. The white smoke does not indicate a fault. The vehicle may not emit white smoke during its initial operation when new.
- Although white smoke may be emitted from the muffler body when the DPD is regenerated for the first time, this does not indicate a malfunction.
- Owing to the exhaust emission reduction function, the exhaust gases emitted by the exhaust pipe smell different from those emitted by the exhaust pipes of earlier diesel vehicles.
- If the vehicle is left in gear during regeneration, the regeneration time could be extended, possibly having an effect on fuel consumption. Leave the transmission in neutral when idling the vehicle for extended periods of time.

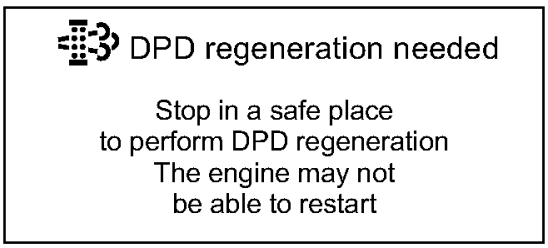
DPD Warnings/Indicators



Regenerating DPD automatically display

Refer to page
4-152 Automatic Regeneration of DPD



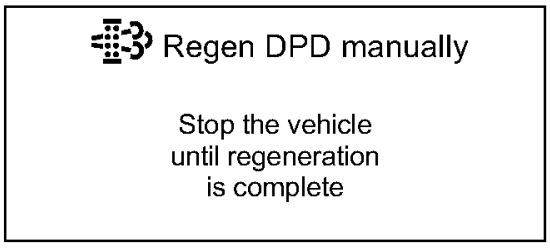


DPD regeneration needed display

DPD regeneration needs to be performed if the "Stop in a safe place to perform regeneration" message appears and a warning sounds at the same time. After you finish driving and park, follow the "DPD Manual Regeneration Procedure" to do regeneration.

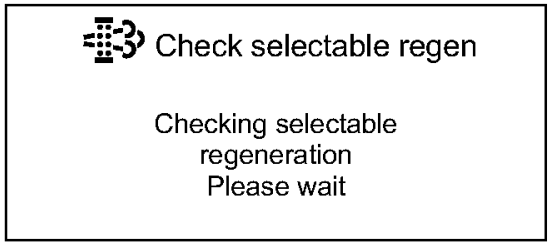
If you continue driving while this is displayed, then "The engine may not be able to restart" appears and a warning sounds at the same time. If you continue driving in this condition, the DPD may malfunction. Stop immediately in a safe place and perform the regeneration operation.

Refer to page
4-154 DPD Manual Regeneration Procedure



Regenerating DPD manually display

When the "Regen DPD manually" display (amber) appears, then DPD is being manually regenerated.



Check selectable regeneration display
Push the DPD switch until the "Check selectable regen" display (amber) appears on the multi-information display. While the display remains on, the system is checking if selectable regeneration can be performed. If the system determines that selectable regeneration can be performed, the display changes to the "DPD regeneration needed". If it does not change to the "DPD regeneration needed" display, selectable regeneration does not need to be performed.

ADVICE

- Continuing driving without performing the regeneration will cause the check engine warning light to come on. The DPD then must be repaired at the nearest Isuzu Dealer.
- If your vehicle is a PTO-equipped model, check that the "DPD regeneration needed" display (amber) is not displayed when you use the PTO for an extended time period.

Refer to page
3-27 Check Engine Warning Light

NOTE

- Depending on load conditions during prolonged idling or PTO continuous operation, DPD regeneration may be initiated automatically. In this case, the "Regenratng DPD automtcly" display (green) or the "Regen DPD manually" display (amber) may appear. This is not an abnormality.
- Automatic regeneration occurs during normal driving. However the following driving conditions may cause automatic regeneration to be incomplete, so the "DPD regeneration needed" display (amber) appears and an alarm sounds at the same time. Perform the manual regeneration according to the procedure.
  - When the vehicle is driven only at low speeds below 15 km/h (9 MPH).
  - When the engine is frequently started and stopped.
  - When the engine is always stopped before it finishes warming up.
  - When there are frequent long periods of idling operation (more than one hour).

Refer to page
3-31 Multi-information Display Functions

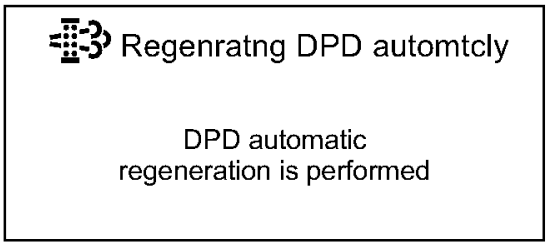
DPD Warning Buzzers

In the following cases, the buzzer sounds an alert.

Immediately do a regeneration operation according to the manual regeneration procedure for the DPD.

Multi-information display	Warning buzzer	Condition
DPD regeneration needed Stop in a safe place to perform DPD regeneration	Three short beeps	When the manual regeneration procedure is necessary
DPD regeneration needed Stop in a safe place to perform DPD regeneration The engine may not be able to restart	Three short beeps	When continuing to drive without doing the manual regeneration procedure

Automatic Regeneration of DPD



When the "Regenratng DPD automtcly" display (green) appears, then DPD is being automatically regenerated.
Regeneration starts automatically and when regeneration is complete, it turns off. You do not need to operate the DPD switch.
If you stop the engine while automatic regeneration is in progress, then regeneration is interrupted, but when you restart the engine regeneration restarts automatically.
If this situation is repeated, then automatic regeneration cannot be completed, so the "DPD regeneration needed" display (amber) appears and an alarm sounds at the same time. Not stopping the engine during automatic regeneration is preferable because otherwise manual regeneration will be required.

ADVICE

- Continuing driving without performing the manual regeneration will cause the check engine warning light to come on. The DPD then must be repaired at the nearest Isuzu Dealer.

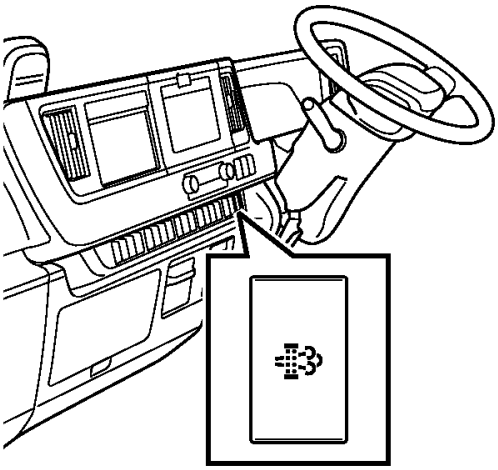
NOTE

- The engine speed may increase and the exhaust brake may activate while the vehicle is stopped with the engine idling. When this occurs, the DPD is automatically regenerated. This does not indicate a failure.
- The system generates a sound during the automatic regeneration and its cancellation. This does not indicate a failure.
- Depending on load conditions during prolonged idling or PTO continuous operation, DPD regeneration may be initiated automatically. In this case, the "Regenratng DPD automtcly" display (green) or the "Regen DPD manually" display (amber) may appear in the multi-information display. This is not an abnormality.
- Automatic regeneration occurs during normal driving. However the following driving conditions may cause automatic regeneration to be incomplete, so the "DPD regeneration needed" display (amber) appears and an alarm sounds at the same time. Perform the manual regeneration according to the procedure.

DPD regeneration needed	DPD regeneration needed
Stop in a safe place to perform DPD regeneration	Stop in a safe place to perform DPD regeneration The engine may not be able to restart

- When the vehicle is driven only at low speeds below 15 km/h (9 MPH).
- When the engine is frequently started and stopped.
- When the engine is always stopped before it finishes warming up.
- When there are frequent long periods of idling operation (more than one hour).

DPD Switch



The DPD switch is used to manually burn PM (regenerate the filter).
DPD regeneration needs to be performed if the "Stop in a safe place to perform regeneration" message appears and a warning sounds at the same time. After you finish driving and park, follow the "DPD Manual Regeneration Procedure" to do regeneration.
If you continue driving in this state too long, the DPD may fail. Stop immediately in a safe place and perform the regeneration operation.
Furthermore, follow the "DPD Selectable Regeneration Procedure" to do regeneration when performing selectable regeneration.

Refer to page
4-154 DPD Manual Regeneration Procedure
4-156 DPD Selectable Regeneration Procedure

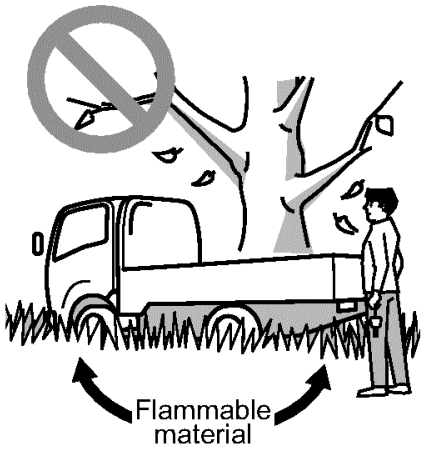
DPD regeneration needed

Stop in a safe place
to perform DPD regeneration

DPD regeneration needed

Stop in a safe place
to perform DPD regeneration
The engine may not
be able to restart

DPD Manual Regeneration Procedure



1. Stop the vehicle at a safe place free of flammable materials such as grass or wastepaper.

CAUTION

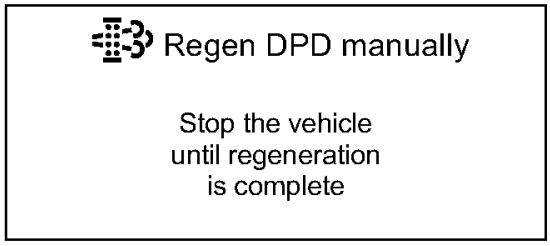
- **To prevent a fire, make sure that there is no flammable material near the muffler, DPD, urea selective catalytic reduction (SCR) system, and exhaust pipe. Remember that the temperature of exhaust gases is high enough to burn you.**

2. In a manual transmission model, place the gearshift lever into "N" and firmly engage the parking brake.
   In an automatic transmission model, Check that the "N" indication appears on the shift selector display and firmly engage the parking brake.
3. Run the engine at idle. Return it fully counterclockwise to decrease the engine speed when the engine speed has been increased using the idling control knob.
4. If your vehicle is a PTO-equipped model, disengage the PTO. Return the PTO switch and external accelerator control.

Refer to page
4-171 Power Take-Off (PTO) [V]

5. Press the DPD switch.

Refer to page
4-154 DPD Switch



6. The "DPD regeneration needed" display (amber) changes to the "Regen DPD manually" display (amber), and the engine speed automatically increases as regeneration starts.
7. Do not leave the vehicle during the regeneration. Regeneration normally completes in about 15 to 20 minutes.
8. When the "Regen DPD manually" display (amber) goes out, regeneration is completed. Normal driving is then possible.

ADVICE

- If your vehicle is a PTO-equipped model, check that the "DPD regeneration needed" display (amber) is not displayed when you use the PTO for an extended time period.

NOTE

- The time needed to complete regeneration differs depending on the outside temperature.
- The exhaust brake or exhaust throttle is activated during DPD regeneration. The exhaust brake or exhaust throttle starting to operate or being disengaged will produce a sound, but this does not indicate a failure.
- During regeneration, white smoke may be temporarily produced from the exhaust pipe. This results from combustion of PM, it does not indicate a failure.
- Manual regeneration will complete earlier immediately after driving than when the engine is cold.
- The engine coolant temperature may rise during manual regeneration.

Interruption of Manual Regeneration

If you must interrupt regeneration for an unavoidable reason, press the DPD switch again.
The "Regen DPD manually" display (amber) changes to the "DPD regeneration needed" display (amber). Then, you can drive the vehicle. If you interrupt regeneration, you need to perform regeneration again. Perform manual regeneration beginning with Step 1 as soon as possible.

ADVICE

- Continuing driving without performing the manual regeneration will cause the check engine warning light or SVS indicator light to come on. The DPD then must be repaired at the nearest Isuzu Dealer.

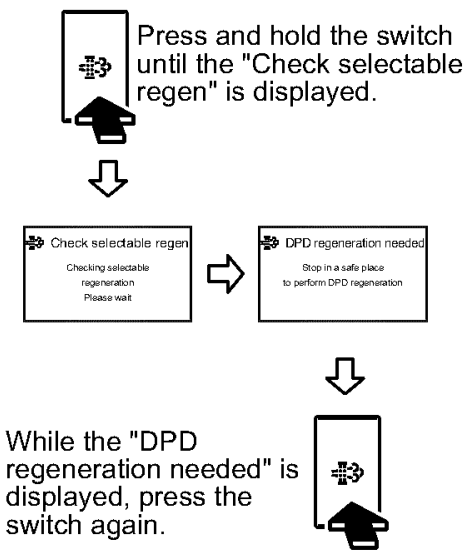
DPD Selectable Regeneration Procedure

This is a function that initiates manual regeneration of the DPD at any time before PM accumulates in the DPD filter and the "Regenratng DPD automtcly" display (green) or "DPD regeneration needed" display (amber) appears.
Perform the manual regeneration of the DPD during breaks between operation or when the engine (coolant temperature) and exhaust pipe are still warm such as when the day's operation is finished.

⚠ CAUTION

- **Perform the selectable regeneration until it is completed without interruption.**
- **Do not leave the vehicle during the regeneration.**
- **To prevent a fire, make sure that there are no flammables near the muffler, DPD, urea SCR, and exhaust pipe.**
- **Remember that the temperature of exhaust gases is high enough to burn you.**

1. Stop the vehicle at a safe place free of flammable material such as grass or wastepaper.
2. Run the engine at idle.
   In a manual transmission model, place the gearshift lever into the "N" position and firmly engage the parking brake.
   In an automatic transmission model, check that the "N" indication appears on the shift selector display and firmly engage the parking brake.
3. If the engine speed has been increased by operating the idling control knob, return the engine speed to normal idle.
   Make sure that the operation of PTO is stopped if your vehicle is equipped with a PTO.



4. Press and hold the DPD switch until "Check selectable regen" (amber) appears in the multi-information display. The "Check selectable regen" display (amber) changes to "DPD regeneration needed" display (amber).

Refer to page
4-154 DPD Switch

5. Press the DPD switch again.
6. The "DPD regeneration needed" display (amber) changes to the "Regen DPD manually" display (amber), and the engine speed automatically increases as regeneration starts.
7. Do not leave the vehicle during regeneration. Regeneration normally completes in about 15 to 20 minutes.

8. When the "Regen DPD manually" display (amber) goes out, regeneration is completed. Normal driving is then possible.

ADVICE

- When the PM level in the DPD filter is lower than the preset level, the "Check selectable regen" display (amber) does not change to the "Regen DPD manually" display (amber) even if the DPD switch is kept pressed. In either case, the DPD does not require regeneration, so it ignores the DPD switch operation.
- Should the selectable regeneration be interrupted due to restart of driving, the "Regen DPD manually" display (amber) changes to the "DPD regeneration needed" display (amber). In this case, stop the vehicle safely immediately, press the DPD switch again, and wait until the selectable regeneration is completed. Do not continue driving or using the PTO.

NOTE

- The time needed to complete regeneration differs depending on the outside temperature.
- The exhaust brake or exhaust throttle is activated during DPD regeneration. The exhaust brake or exhaust throttle starting to operate or being disengaged will produce a sound, but this does not indicate a failure.
- During regeneration, white smoke may be temporarily produced from the exhaust pipe. This results from combustion of PM, it does not indicate a failure.
- Regeneration is finished earlier immediately after driving than when the engine is cold.
- The engine coolant temperature may rise during regeneration.

DPD Regeneration during Prolonged Idling and during Use of the PTO

NOTE

- DPD regeneration may be initiated automatically during prolonged idling. At such times, the "Regenratng DPD automtcly" display (green) or the "Regen DPD manually" display (amber) comes on but this is normal and does not indicate a failure.
- If the "Regenratng DPD automtcly" display (green) appears, then you do not need to operate the DPD switch. Normal driving is also possible.
- If the "Regen DPD manually" display (amber) appears, then while driving it will change to the "DPD regeneration needed" display (amber), and regeneration will be interrupted.
  Regeneration is also interrupted when the PTO is connected or when PTO work is stopped after continuous PTO operation.
  Initiate manual regeneration by following the "DPD Manual Regeneration Procedure".
- When DPD regeneration has been initiated repeatedly during prolonged idling, the likelihood of the "DPD regeneration needed" display (amber) displaying may increase for a while, necessitating manual regeneration, even for DPD regeneration, which accompanies driving.

Refer to page
4-154 DPD Manual Regeneration Procedure

Inspection and Maintenance of DPD

Performing regular inspections and maintenance prevents damage. Be sure to perform inspections and maintenance at regular intervals. Also, quickly rectify any fault in the vehicle (even a small fault) to prevent it from becoming more serious.
If a symptom shown in the following table occurs, perform inspections and take corrective action in accordance with the table.
If you are unable to perform a repair, the corrective action shown in the table does not eliminate a symptom or you cannot locate a fault, contact the nearest Isuzu Dealer.

Symptom	Cause	Corrective action	Reference page
White exhaust smoke	Engine not sufficiently warming up	Allow the engine to warm up.	4-54
	Too much engine oil	Correct the oil level.	9-10
	Engine control system faulty	◎	—
	Fuel system faulty	◎	—
	Continuous idling for a long period (more than 2 hours)	With the vehicle stationary in a place where it will not obstruct traffic, hold down the accelerator pedal and check that white smoke is not emitted.	—
Black exhaust smoke	Engine control system faulty	◎	—
	Air cleaner clogged	Clean or replace the element.	10-30
	Air inlet opening disconnected	◎	—
	Fuel system faulty	◎	—
	Exhaust system clogged	◎	—
	DPD faulty	◎	—

ADVICE

- Any item for which there is a ◎ in the "Corrective action" column requires repairs and adjustments. Contact the nearest Isuzu Dealer.

Urea Selective Catalytic Reduction (SCR)

The urea SCR system reduces nitrogen oxides (NOx) in exhaust emissions. The system uses AdBlue® as a reducing agent and hydrolyzes it into ammonia (NH3) using the heat from exhaust emissions. The nitrogen oxides (NOx) are then reduced to nitrogen and water and purified by the generated ammonia.

CAUTION

- **Do not touch any water discharged from the muffler. In case of contact with skin, wash off thoroughly with water.**

ADVICE

- Do not modify the exhaust pipe or muffler, or change the location of any items including the AdBlue® tank. Doing so could affect exhaust emission reduction capabilities. If any modifications or relocation is necessary, consult your nearest Isuzu Dealer.

NOTE

- Do not continue driving the vehicle if the remaining amount of AdBlue® is small or if there is an abnormality in the urea SCR system. Driving the vehicle with the urea SCR system not operating properly may violate the regulatory requirements of your country.
- Exhaust emissions from the tailpipe have a smell different from those emitted from vehicles without urea SCR systems due to the exhaust emission reduction functions of the exhaust system.

[Urea SCR]

- Urea SCR stands for "Urea Selective Catalytic Reduction". In this technology, urea is used as the selective catalytic reducing agent.

[AdBlue®]

- AdBlue® is an aqueous solution especially for use with urea SCR systems.
- AdBlue® freezes at a temperature of -11°C (12°F). Since the urea SCR system is equipped with a heating function that utilizes the engine coolant, the engine will start even when AdBlue® is frozen.
- AdBlue® is a registered trademark of Verband der Automobilindustrie (VDA).

Refer to page
4-28 Be Careful about Exhaust Emissions

Handling of AdBlue®

AdBlue® is a clear, colorless, and harmless aqueous solution. It is normal for AdBlue® to emit an odor in some circumstances.

⚠ CAUTION

- **AdBlue® is harmless to the human body even if touched. However, it may cause inflammation in rare circumstances depending on its constitution. In such cases, take the following actions.**
  - **In the case of contact with skin, wash off with water. Failure to do so may result in irritation for those with sensitive skin.**
  - **In the case of accidental ingestion, drink one or two glasses of water or milk and consult your physician immediately.**
  - **In the case of contact with eyes, immediately wash out with large amounts of water for at least 15 minutes and consult your physician.**

Is a Specified AdBlue® Being Used?

Use AdBlue® specified by Isuzu.

- Use AdBlue® that is compliant with the DIN (Deutsche Industrie Normen) 70070 or the ISO (International Organization for Standardization) 22241 standard defined for AUS 32.

Storing AdBlue®

Seal the AdBlue® container to prevent evaporation and store it indoors or in places that are well ventilated and not exposed to direct sunlight.
When stored, the expiration date of AdBlue® varies depending on the temperature of the storage location. Contact your Isuzu Dealer for details.

NOTE

- Even if frozen, AdBlue® retains the same quality as when thawed and is usable as is.
- When storing or carrying AdBlue®, use the container in which the AdBlue® was contained when purchased. If not, use a dedicated polyethylene tank (PE) or stainless steel container that is free from any adhesion of foreign materials such as water or dust.

AdBlue® Level Display

Refer to page
3-7 AdBlue® Level Gauge

SCR System Warnings/Indicators

AdBlue level low

Fill with specified AdBlue

AdBlue® Level Low Warning

This warning message appears on the multi-information display when the remaining AdBlue® reaches level 1.
Set the starter switch to the "LOCK" position and add AdBlue® up to the full level.
Afterward, set the starter switch to the "ON" position and check if the warning on the multi-information display has turned off.

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?
4-168 Refilling AdBlue®

Fill up AdBlue

Fill with specified AdBlue
Engine torque and
vehicle speed are restricted
if AdBlue is empty

AdBlue® Refill Warning

If the vehicle continues to operate without AdBlue® being added even after the AdBlue® level low warning is illuminated on the multi-information display with the remaining amount of AdBlue® at very low level.

CAUTION

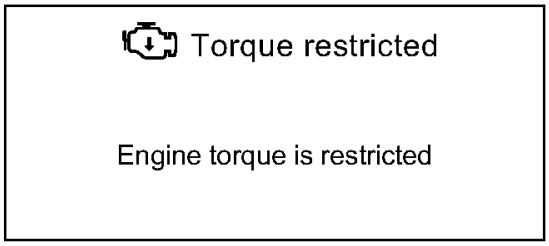
- **This vehicle consume AdBlue® to comply with emission regulation. Therefore, it may be a criminal offence to use a vehicle that does not consume AdBlue®.**
  If this vehicle use continuously in case of ignoring this warning, the engine torque will reduce.
  When the engine torque has been reduced, engine torque will not recover, if the amount of AdBlue® added is too little. Add at least 3.0 liters (0.79 US gal./0.66 Imp gal.) of AdBlue®.

ADVICE

- Engine torque will be restricted if the level of AdBlue® is low. Vehicle speed will also be restricted if there is no AdBlue®.

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?
4-168 Refilling AdBlue®

Engine Torque Restricted Warning



This warning will be indicated on the multi-information display when the vehicle continues to be driven without having the AdBlue® refilled, despite the AdBlue® level low warning being displayed.

CAUTION

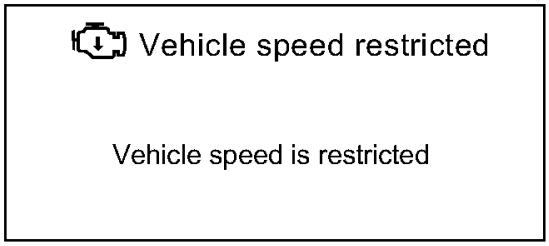
- **When this warning appears, engine torque is restricted to 75% of its maximum output.**

ADVICE

- Add at least 3.0 liters (0.79 US gal./0.66 Imp gal.) of AdBlue® when this warning light comes on.

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?
4-168 Refilling AdBlue®

Vehicle Speed Restricted Warning



This warning will be indicated on the multi-information display when the vehicle continues to be driven without having the AdBlue® refilled and the amount of AdBlue® remaining becomes level 0, despite the engine torque reduction warning light being displayed.

CAUTION

- **When this warning light appears, maximum vehicle speed is restricted to 20 km/h (12 MPH).**

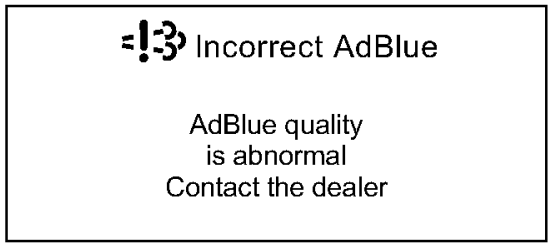
ADVICE

- Add at least 7.0 liters (1.85 US gal./1.54 Imp gal.) of AdBlue® when this warning light is displayed.

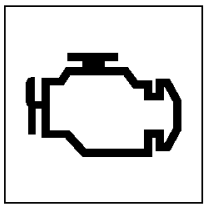
Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?
4-168 Refilling AdBlue®

Incorrect AdBlue® Warning

If liquids, etc., other than the specified AdBlue® are added or the AdBlue® is diluted with liquids such as water, the "Incorrect AdBlue" warning will be displayed on the multi-information display and the check engine warning light will illuminate at the same time.



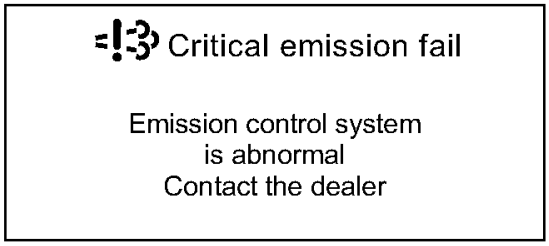
Check engine warning light



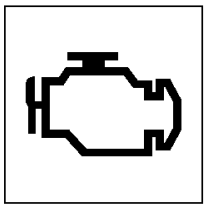
ADVICE

- If the vehicle continues to be operated without the appropriate actions being taken even after the "Incorrect AdBlue" warning is displayed, the urea SCR system may be damaged. Immediately contact the nearest Isuzu Dealer for inspection and repair.
- If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
  Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?



Check engine warning light



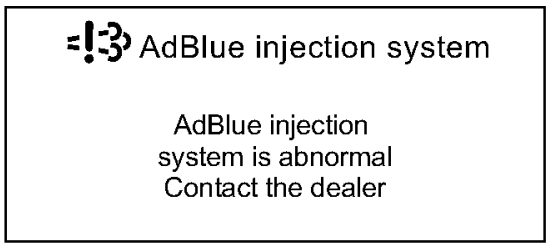
Critical Emission Fail Warning

When there is an abnormality with the emission control system, this warning will be indicated on the multi-information display and the check engine warning light will illuminate also at the same time. If the vehicle continues to be operated without the appropriate actions being taken even after this warning is displayed, the emission control system may be damaged.

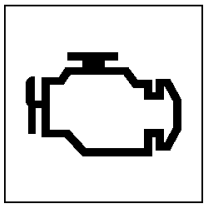
Have the emission control system inspected/ serviced immediately at the nearest Isuzu Dealer.

ADVICE

- If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
  Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).



Check engine warning light



AdBlue® Injection System Warning

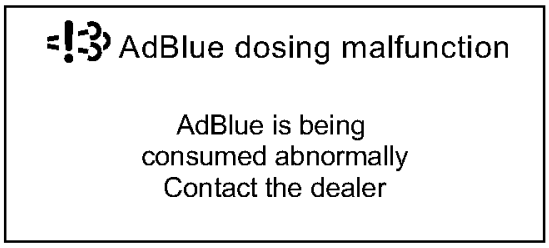
When there is an abnormality with the urea SCR system, this warning will be indicated on the multi-information display and the check engine warning light will illuminate also at the same time.

ADVICE

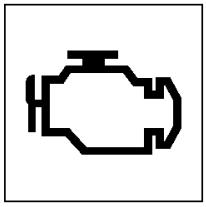
- If the vehicle continues to be operated without the appropriate actions being taken even after the "AdBlue injection system" warning is displayed, the urea SCR system may be damaged. Have the urea SCR system inspected/serviced immediately at the nearest Isuzu Dealer.
- If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
  Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

AdBlue® Dosing Malfunction Warning

When there is an abnormality with the AdBlue® consumption, this warning will be indicated on the multi-information display and the check engine warning light will illuminate also at the same time.



Check engine warning light



ADVICE

- If the vehicle continues to be operated without the appropriate actions being taken even after the "AdBlue dosing malfunction " warning is displayed, the urea SCR system may be damaged. Immediately contact the nearest Isuzu Dealer for inspection and repair.
- If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
  Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

Refilling AdBlue®

⚠ WARNING

- **Do not put anything other than AdBlue® in the AdBlue® tank. Refill the AdBlue® tank with AdBlue® specified by Isuzu.**
- **Adding liquids, etc., other than AdBlue® may result in a malfunction of the urea SCR system.**
- **When refilling AdBlue®, doing any of the following may cause a fire or malfunction of the urea SCR system.**
  - **Diluting with water or other liquids**
  - **Adding gasoline or diesel fuel**
- **If liquids, etc., other than the specified AdBlue® have been accidentally added, the urea SCR system must be inspected. Have the urea SCR system inspected/ serviced at your Isuzu Dealer.**

⚠ CAUTION

- **AdBlue® rarely emits an odor when the tank cap is opened. Do not attempt to smell the tank from the supply inlet.**

ADVICE

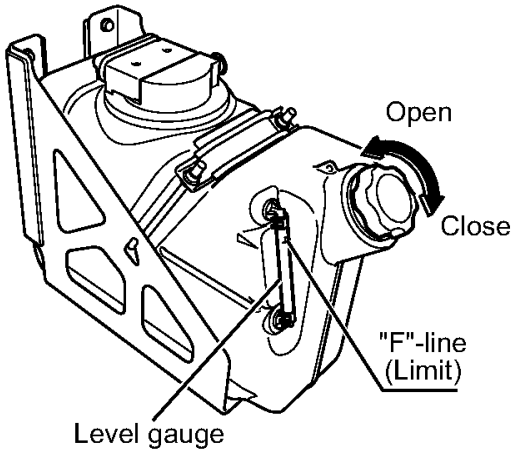
- Remember to add AdBlue® early so that the tank is always fully filled with AdBlue®.
- Make sure that the inside the AdBlue® tank is not contaminated by materials such as dirt when opening the AdBlue® tank cap. Contaminants such as dirt may clog the AdBlue® filter or change the quality of the AdBlue®, possibly resulting in a malfunction of the urea SCR system.
- Do not fill with AdBlue® over the "F" line on the level gauge. Doing so may result in leakage of AdBlue® from the breather hose during driving. In addition, if AdBlue® freezes, sensors may be damaged.
- AdBlue® spilled on the vehicle body or frame, etc., may cause rust. In such cases, wipe it off and wash with water.
- Do not step or ride on the AdBlue® tank. Doing so may result in damage to the AdBlue® tank, pipe, and sensors.
- The urea SCR system will continue to operate for approximately 3 minutes after the starter switch is set to the "LOCK" position. Wait for 3 minutes or more before removing the battery or power line for inspection or repair.

NOTE

- The level gauge, mounted in front of the AdBlue® tank, is intended to prevent oversupply and overflow of AdBlue®, not to measure the remaining amount of AdBlue®. Even when the surface level of the AdBlue® reaches the lower end of the level gauge, the AdBlue® amount display on the meter panel still indicates levels 4 or 5. Check the remaining amount of AdBlue® on the AdBlue® amount display, not using the level gauge.
- Operating noises may be heard from the AdBlue® tank or supply module after the engine stops. This is the sound of AdBlue® returning from the pipe to the AdBlue® tank and is normal.
- It is normal for white powder deposits to form when AdBlue® adheres and dries in such places as the supply inlet. Wipe off to prevent it from entering the AdBlue® tank.
- After AdBlue® is added, it takes time before the amount of AdBlue® is displayed correctly after the starter switch is set to the "ON" position.
- To refill AdBlue® in cold weather, refer to "Adding AdBlue® in Freezing Conditions".

Refer to page
4-43 Adding AdBlue® in Freezing Conditions

How to Add AdBlue®



1. Set the starter switch to the "LOCK" position and stop the engine.
2. Slightly loosen the cap of the AdBlue® tank and wipe off any dust or dirt adhered to the cap or supply inlet.
3. Turn the tank cap slowly to open the tank.
4. Add AdBlue® up to the "F" line while viewing the level gauge mounted in front of the AdBlue® tank.
5. Turn the tank cap to securely install it to the AdBlue® tank.
6. Confirm that the tank cap is securely installed.

AdBlue® tank usable capacity [Reference value]
23.0 liters (6.08 US gal./**5.06 Imp gal.**)

Refer to page
4-162 Handling of AdBlue®
4-162 Is a Specified AdBlue® Being Used?

Disposing of AdBlue®

Do not dispose of AdBlue® or its empty containers into lakes, seas, rivers, or other such places.
Dispose of in an appropriate way complying with local legal requirements.

Special Equipment

Power Take-Off (PTO) [V]

PTO is a device that is used to provide engine power to special equipment directly from the engine or through the transmission.
This manual describes an operation of PTO, but for an operation of special equipment other than the PTO lever and PTO switch, consult **[Instruction Manual for Special Equipment]**.

When Operating the PTO

⚠ CAUTION

- **Make sure that there are no persons or objects around and above the vehicle before operating PTO.**
- **Operate PTO on a level surface.**
- **Before operating the PTO and special equipment, put the gearshift lever in the "N" position for manual transmission models, then firmly depress the brake pedal with your right foot, and securely engage the parking brake.**
- **While operating the PTO, especially during DPD regeneration, the DPD, urea SCR, muffler, exhaust pipe, and exhaust gas are very hot. There is a risk of burns, so be careful not to touch them. Also, be very careful of people walking near the vehicle, as well as flammable things, such as greenery, dried grass, and waste paper. They could cause burns or fire.**
- **Do not operate PTO and/or special equipment while the vehicle is moving.**
- **For operation of special equipment, consult the separate [Instruction Manual for Special Equipment].**

NOTE

- Refer to "DPD Regeneration during Prolonged Idling and during Use of the PTO" regarding DPD regeneration while using the PTO.

[Fast idle control]

- A supplementary function to warm up the engine by automatically increasing the idling speed while the engine is cold.

Refer to page
4-159 DPD Regeneration during Prolonged Idling and during Use of the PTO

PTO Warnings/Indicators

Multi-information display	Warning buzzer	Display details
PTO operating Operating	—	While the PTO is operating, the message appears on the multi-information display.

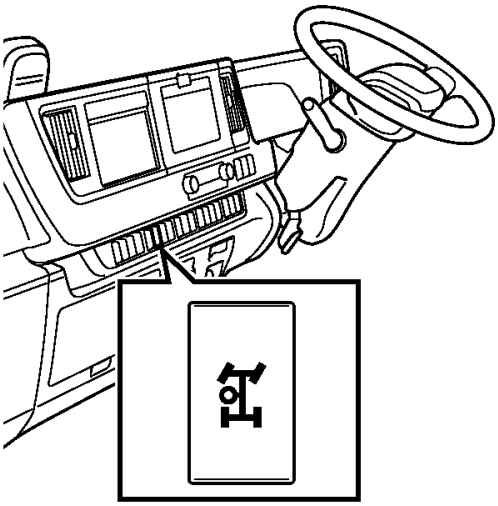
PTO Switch

This is a switch to engage and disengage the PTO. When PTO is engaged, the PTO indicator light is displayed on the multi-information display.
When engaging the PTO, be sure to stop the vehicle before operating the switch.

ADVICE

- For models with a diesel particulate defuser (DPD), if the PTO switch is operated while the DPD is being manually regenerated, the PTO may not engage or DPD regeneration may be interrupted. Operate the PTO switch only after regeneration of the DPD has completed.

Engaging PTO

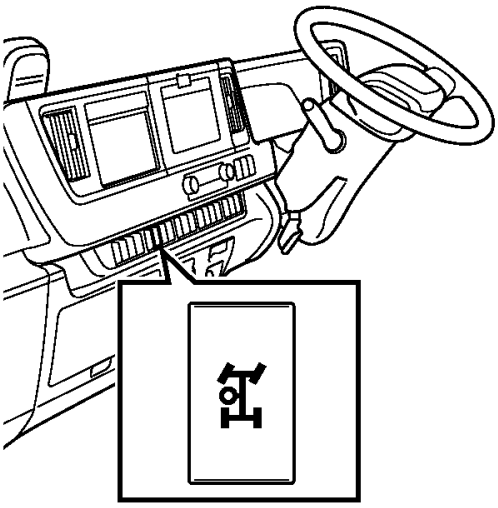


1. Set the parking brake and place the gearshift lever into "N".
2. Fully depress the clutch pedal, pause for a moment, and press the PTO switch to turn it on. Make sure that "PTO operating" is displayed on the multi-information display and gently engage the clutch.

CAUTION

- **Be sure to disengage the clutch before operating the PTO switch; otherwise damage to the gears will result.**

Disengaging PTO



Fully depress the clutch pedal, press the PTO switch to turn it off, and then make sure that "PTO operating" is off on the multi-information display.

Dump Control Lever [V]

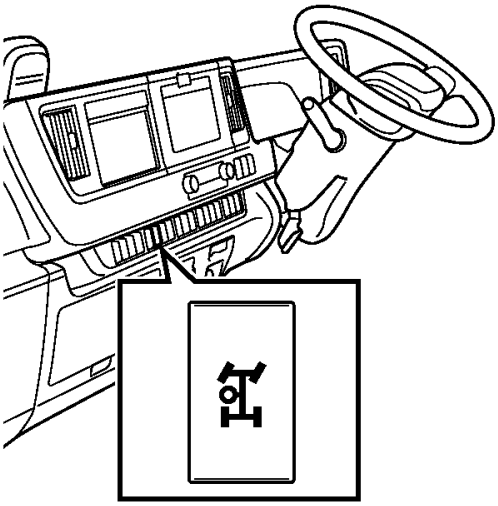
The dump control lever is used to raise or lower the dump body.
This section describes how to use the dump control lever of a dump truck.
For operation of the controls other than the dump control lever, please refer to the separate "Instruction Manual for Dump Truck".

⚠ CAUTION

- **While driving and during maintenance of the vehicle, be sure to place the dump control lever in the "down" position. Make sure the dump control lever is held in position by the lock button and does not move.**
- **When climbing into and out of the cab, never hold the dump control lever. Doing so is very dangerous should the lever be moved accidentally.**

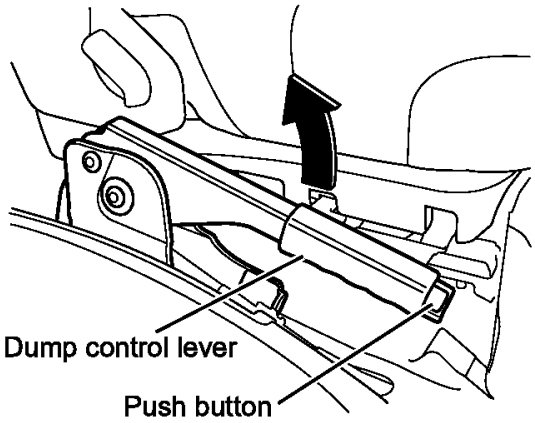
Basic Operation of Dump Control Lever

To Raise the Dump Body



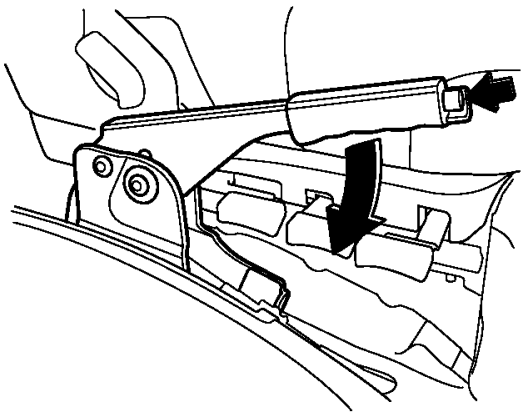
1. Press the PTO switch to engage the PTO.

Refer to page
4-172 PTO Switch



2. Pull up the lever while pressing the push button. The dump body will rise. The lever is automatically locked when the dump body reaches the fully raised position.

To Lower the Dump Body



Move the lever down while pressing the push button.

NOTE

- For handling and more detailed instructions about the dump body, please refer to the dump body manufacturer's Instruction Manual

Advanced Driver Assistance System 5

- Before Using the Advanced Driver Assistance System 5-2
- Advanced Emergency Braking System (AEBS) [V] 5-11
- Following Distance Warning 5-17
- Preceding Vehicle Departure Notification Function 5-24
- Full Speed Range Adaptive Cruise Control [V] 5-30
- Traffic Sign Recognition System [V] 5-53
- Intelligent Speed Limiter [V] 5-65
- Lane Departure Warning System (LDWS) [V] 5-74
- Lane Keep Assist [V] 5-81
- Attention Assist 5-92
- Adaptive Driving Beam (ADB) [V] 5-96

5-2 Advanced Driver Assistance System

Before Using the Advanced Driver Assistance System

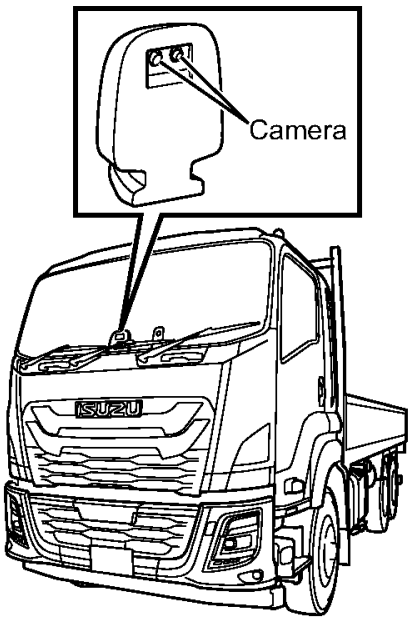
The advanced driver assistance system is a driving support system with multiple functions to assist driver judgement to reduce fatigue to make driving safer and more comfortable. It increases operating performance and driving safety based on information detected by its camera and radar sensor.

⚠ WARNING

- **The ADAS is not an autonomous driving/collisions avoidance system. When driving, always pay attention to your surroundings and drive safely.**
- **You are responsible for controlling your vehicle at all times. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.**

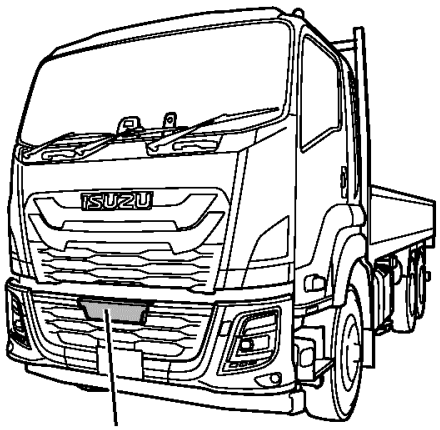
NOTE

- ADAS stands for Advanced Driver Assistance System.



Camera installation position

The camera is equipped on top of the dashboard.



Radar sensor installation position
Radar sensor is installed on the front of the vehicle.

ADAS Installed in Your Vehicle

Advanced Emergency Braking System (AEBS) [V]

The advanced emergency braking system (AEBS) uses milliwave radar and a camera to detect the preceding vehicle and the stopping vehicle at the end of a line of cars in traffic jams or similar situations, and prompts the driver to avoid the danger. When the vehicle is closely approaching the other vehicles, the system prompts the alert by warning buzzers and an indication on the multi-information display. Moreover, in the situations where the collision cannot be avoided, the system automatically applies brakes to reduce the collision speed to mitigate the damage.

Refer to page
5-11 Advanced Emergency Braking System (AEBS) [V]

Following Distance Warning

This system uses milliwave radar and a camera to detect the following distance with vehicles located in the forward direction and alerts the driver when the proximity of these vehicles becomes unsafe using audible warnings and multi-information display messages, encouraging the driver to avoid danger.

Refer to page
5-17 Following Distance Warning

5-4 Advanced Driver Assistance System

Preceding Vehicle Departure Notification Function

The preceding vehicle departure notification function notifies the driver with warning buzzers and an indication on the multi-information display if the vehicle remains stopped after the preceding vehicle has departed.

Refer to page
5-24 Preceding Vehicle Departure Notification Function

Full Speed Range Adaptive Cruise Control [V]

In addition to the cruise control function, the full speed range adaptive cruise control includes accelerating, decelerating and braking functions by means of engine, auxiliary brake and other systems to maintain the set distance to the preceding vehicle when it is detected by milliwave radar and camera.

Refer to page
5-30 Full Speed Range Adaptive Cruise Control [V]

Traffic Sign Recognition System [V]

The traffic sign recognition system supports safe driving by showing traffic signs, which are recognized by the camera, on the multi-information display to prevent the driver from overlooking traffic signs. If the system determines that a recognized traffic sign is being violated, it notifies the driver with a warning buzzer and indicators on the multi-information display.

Refer to page
5-53 Traffic Sign Recognition System [V]

Intelligent Speed Limiter [V]

The intelligent speed limiter is a system that limits the speed according to the speed limits posted for each road. The maximum speed of your vehicle can be set in a range from approximately 30 km/h or 20MPH to the speed set for the speed limit device according to limits detected by the camera using traffic sign recognition system.

Refer to page
5-65 Intelligent Speed Limiter [V]

Lane Departure Warning System (LDWS) [V]

The lane departure warning uses a camera installed in the vehicle to detect the vehicle position with respect to a lane. When the vehicle deviates from the lane, it prompts warning buzzers and an indication on the multi-information display, contributing to suppresses accidents caused by inattentive driving and drowsy driving.

Refer to page
5-74 Lane Departure Warning System (LDWS) [V]

Lane Keep Assist [V]

Lane keep assist is a system that uses camera to detect lane markers and vehicles to help the driver stay within the lane markers when driving on roads that have lane markers. In addition, if lane keep assist determines that the vehicle is being driven and may leave its lane, it warns the driver with a warning sound and an indicator on the instrument display, and assists the wheel operation to avoid lane departure.

Refer to page
5-81 Lane Keep Assist [V]

Attention Assist

The attention assist detects when the vehicle is weaving on a road that has lane markers, and alerts the driver with an indicator on the multi-information display and a warning sound.

Refer to page
5-92 Attention Assist

Adaptive Driving Beam (ADB) [V]

Adaptive driving beam is a system that uses a camera to determine the conditions ahead when driving at night and automatically changes the illumination range, illumination area, and brightness of the headlights.

Refer to page
5-96 Adaptive Driving Beam (ADB) [V]

Precautions for ADAS

Be careful of the following points to use the Advanced Driver Assistance System correctly.

⚠ CAUTION

- Observe the following in order to prevent failure or malfunction of the camera.
  - The windshield should always be clean. The performance may decrease if the windshield is scratched, cracked or if rain drops, dew drops, ice, or snowflakes are on the windshield.
  - If the windshield fogs, use the heater or A/C to defog.
  - Inspect your windshield wipers regularly to ensure they completely wipe the windshield when in operation. If the wipers leave portions of the windshield unwiped, the camera system may not be able to properly detect objects in front of the vehicle and thus may not function properly.
  - Do not subject the camera to strong impacts.
  - Do not change the mounting position of, remove, or disassemble the camera. If the camera is removed, have it inspected/repaired at your Isuzu Dealer.
  - Do not place any objects on the dashboard as they may be reflected on the windshield and cause misrecognition.
  - Do not apply stickers, etc., to the area of the windshield in front of the camera lenses.
  - Do not use any glass coating agents on the windshield.
  - Do not replace the windshield with anything other than a genuine Isuzu windshield. Replacing the windshield with anything other than a genuine Isuzu part may prevent the system from operating normally. Please note that Isuzu cannot guarantee the performance of any non-genuine windshield glass.
  - To repair or replace the windshield, contact your nearest Isuzu Dealer.
- To prevent the radar sensor from malfunctioning or failing, always observe the following.
  - Always keep the cover of the radar sensor clean.
  - Do not use lacquer thinner or benzine, etc., to clean the cover of the radar sensor. Detection performance may be decreased due to deformation, etc.
  - Do not apply stickers to or paint the radar sensor cover. Doing so may result in decreased detection performance.
  - Do not place items in front of the radar sensor. Doing so would result in radio waves being blocked, preventing objects located in the forward direction from being detected.
  - Do not subject the radar sensor to powerful impacts. If an impact misaligns the position or direction of the radar sensor, the system may not operate correctly. If it is subjected to a strong impact, have it inspected/repaired at the nearest Isuzu Dealer.
  - Any irregularities to the radar sensor's installation conditions (changes to mounting direction, etc.) may prevent objects ahead from being detected correctly. Do not disassemble or adjust the installation of the radar sensor.
  - If it is necessary to adjust the radar sensor, have it inspected/repaired at the nearest Isuzu Dealer.

CAUTION (Continued)

CAUTION (Continued)

- **Do not touch the technical standards compliance mark stamped on the main body of the radar sensor.**

Refer to page
10-134 Interior Maintenance

When There Is a Problem in the ADAS

The following ADAS functions stop operating if the camera temporarily stops or has a problem.

- Following distance warning
- Preceding vehicle departure notification function
- Full speed range adaptive cruise control [V]
- Traffic sign recognition system [V]
- Intelligent speed limiter [V]
- Lane departure warning system (LDWS) [V]
- Lane keep assist [V]
- Attention assist
- Adaptive driving beam (ADB) [V]

Next, the following ADAS functions stop operating if the radar sensor temporarily stops or has a problem.

- Advanced emergency braking system (AEBS) [V]
- Following distance warning
- Preceding vehicle departure notification function
- Full speed range adaptive cruise control [V]

If the camera or radar sensor has an abnormality or stops temporarily, the following indicators appear on the multi-information display.

Front Camera Unavailable Warning

Front camera unavailable Camera cannot be used

This message appears on the multi-information display and the camera temporarily stops in the following conditions.

[Conditions under which displayed]

- The camera lenses are dirty.
- The windshield (outside) is dirty.
- The front side of the camera is blocked by an object.
- The camera is too hot or too cold.
- The power supply voltage of the camera system is low.

[Take this action]

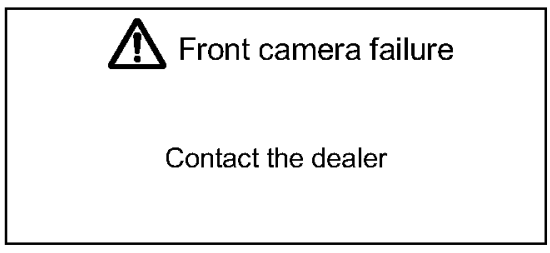
- Do not attempt to clean the camera lenses. Contact your nearest Isuzu Dealer.
- Clean the windshield (outside).
- Remove the object blocking the camera view.
- Wait until the camera reaches its operating temperature.
- Wait until the supply voltage reaches the voltage that enables the camera to operate.

If this message is displayed on the multi-information display, even after taking the above measures, immediately have the vehicle inspected/serviced at the nearest Isuzu Dealer.

NOTE

- When driving on snow covered roads, "Front camera unavailable" will be shown in the multi-information display when the windshield has been blocked by snow. However, this does not indicate a failure.
- In the following conditions, even when the camera is temporarily halted, the "Front camera unavailable" message may not be displayed:
  - The vehicle speed is 15 km/h (9 MPH) or less
  - The movement of the target cannot be recognized during a turn
  - It is hard to recognize the target due to poor visibility caused by rain, snow, or other similar reasons at a vehicle speed of 15 km/h (9 MPH) or more

Front Camera Failure Warning



When the camera system malfunctions, this message appears on the multi-information display.

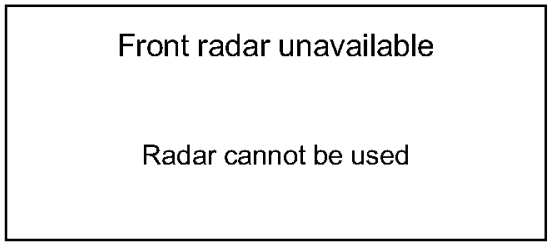
[Conditions under which displayed]

The system has malfunctioned.

[Take this action]

Contact your nearest Isuzu Dealer.

Front Radar Unavailable Warning



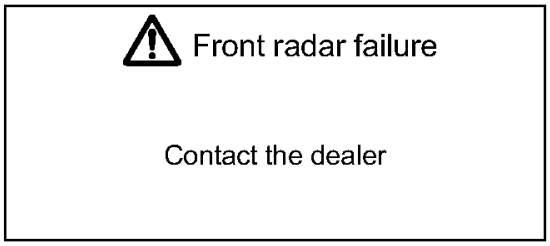
This message appears on the multi-information display and the radar sensor temporarily stops in the following conditions.

[Conditions under which displayed]
The temperature around the radar sensor becomes extremely high.

[Take this action]
Wait until the radar sensor reach a temperature at which they can be used.

If this message is displayed on the multi-information display, even after taking the above measures, immediately have the vehicle inspected/serviced at the nearest Isuzu Dealer.

Front Radar Failure Warning



This message appears on the multi-information display if the radar sensor system malfunctions.

[Conditions under which displayed]
- The system has malfunctioned.
- The battery voltage is below or above specifications.

[Take this action]
Check whether the battery voltage is normal.

If the display does not turn off even though conditions are normal, immediately have the vehicle inspected/serviced at the nearest Isuzu Dealer.

Front Radar is Blocked Warning

Front radar is blocked Remove snow and dirt from the radar surface If it appears again, contact the dealer

This message appears on the multi-information display in the following conditions.

[Conditions under which displayed]

- The front radar sensor is dirty.
- Driving on snow covered roads or in an environment where there is nothing around for a long time

[Take this action]

Wipe any dirt, water droplets, or snow from the radar sensor.

If this message is displayed on the multi-information display, even after taking the above measures, immediately have the vehicle inspected/serviced at the nearest Isuzu Dealer.

Master Warning Light



Refer to page
3-28 Master Warning Light

Advanced Emergency Braking System (AEBS) [V]

This system autonomously applies the brakes when the milliwave radar and camera detects objects (mostly other vehicles) in the forward direction with which your vehicle could possibly collide to mitigate the damage caused by the collision.

Refer to page
5-5 Precautions for ADAS

⚠ WARNING

- **Limits of the AEBS**
  - **Do not overly rely on the AEBS. When driving, always pay attention to your surroundings and drive safely.**
- **In order to use safely**
  - **Objects located in the forward direction may not be detected correctly or objects located on the side of the road may detected erroneously if cargo loading is performed unevenly (only on one side, only to the front or rear), if the vehicle attitude is excessively tilted, or depending upon surrounding road conditions. The AEBS may not function effectively in such circumstances.**
  - **The AEBS is not for avoiding collisions by compensating driver operation or for bringing the vehicle to a safe stop. Do not overly rely on this system and always drive safely.**
- **Consult your Isuzu Dealer when performing either of the following, as they will result in changes to the vehicle attitude and require special procedures to be taken. If the vehicle is driven without the required procedures being taken, the AEBS may not operate correctly or may malfunction.**
  - **Changing the tire sizes**
  - **Replacing leaf springs**

⚠ CAUTION

- **In the following cases, be sure to cancel the AEBS.**
  - **When towed**
  - **When loaded to a carrier car**
  - **Boarding and driving on a ferry**
  - **When using a speed tester or brake tester**
  - **An object that blocks the camera's field of view is installed**
  - **When the running of your vehicle is unstable due to an accident or a malfunction**

Refer to page
5-14 Setting the AEBS

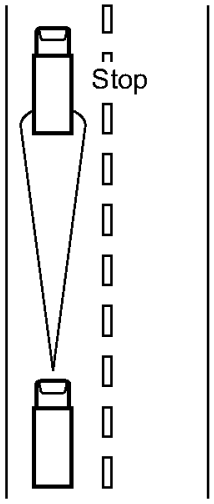
5-12 Advanced Driver Assistance System

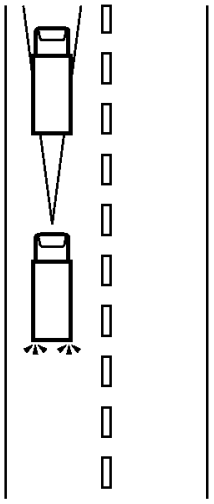
NOTE

• AEBS stands for "Advanced Emergency Braking System".

Operation of the AEBS

AEBS operation flow is shown below.

1. Driver attention alert	
AEBS detects obstacles located in the forward direction and sounds a warning to alert the driver.	
Multi-information display ⚠ Warning Brake!	
Warning Buzzer Short, repeated beeps	
Brake Lamps Off	

2. Autonomous brake	
When the vehicle gets too close to the detected obstacles, AEBS determines that there is a strong possibility of collision and autonomously operates the brakes.	
Multi-information display Brake! ⚠	
Warning Buzzer Rapidly repeated beep	
Brake Lamps Come on	

CAUTION

- **If a warning is issued when you try to overtake a vehicle in the forward direction, you must not further reduce the distance from the vehicle; otherwise, the emergency brakes may be applied.**

NOTE

- You may hear a noise while the AEBS is operating. This is caused by controlling and does not indicate a malfunction.

Operating Conditions of the AEBS

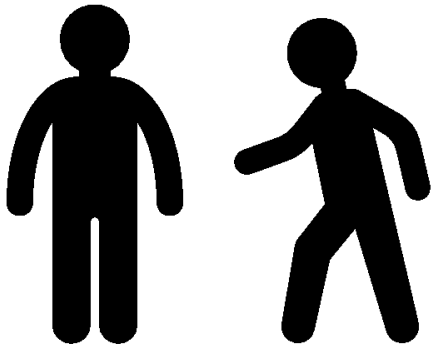
Operating Conditions When Going Straight

When going straight, all of the following conditions must be met for the AEBS to operate:

- The starter switch is in the "ON" position.
- The AEBS setting is not off.
- The vehicle is traveling in the forward direction at a speed of approximately 10 km/h (6 MPH) or more.
- The speed difference with the obstacle ahead is approx. 5 km/h (3 MPH) or more.
- "Front radar failure", "Front radar unavailable" and "Front radar is blocked" are not shown in the multi-information display.
- The AEBS OFF indicator light is not on.

Refer to page
5-14 Setting the AEBS
5-15 When the AEBS May Not Operate Correctly

Recognizing Pedestrians



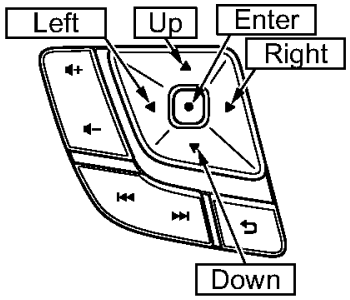
The AEBS recognizes pedestrians based on their size, form, and movement.
Recognition is only possible when the contours of the pedestrian's head and shoulders are clear, and the right-left balance is symmetrical.

WARNING

- **The AEBS cannot always recognize pedestrians. In the following situations, it may not recognize pedestrians.**
  - **When a pedestrian is walking in a group.**
  - **When a pedestrian is near a wall or another obstacle.**
  - **When a pedestrian is holding an umbrella or something similar.**
  - **When the color of the pedestrian's clothes is similar to the background and they blend into the landscape.**
  - **When a pedestrian is carrying large luggage.**
  - **When a pedestrian is slouching, crouching, or lying down.**
  - **When a pedestrian is in a dark place.**
  - **When a pedestrian runs out from the side.**

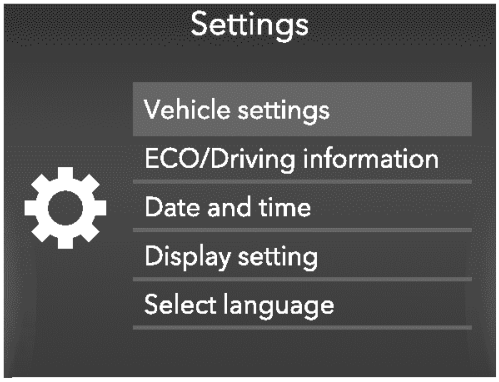
Setting the AEBS

Turning On and Off the AEBS



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area



2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Advanced Emergency Brake".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

NOTE

- The AEBS will always turn on after the engine is started.

AEBS OFF Indicator Light



The indicator light comes on when the AEBS is set to off. Also, it comes on if the AEBS stops due to an AEBS malfunction.

NOTE

- After the engine stops due to engine stalling, it is not abnormal if the AEBS OFF indicator light comes on momentarily when the engine is restarted.

Stopping or Automatic Deactivation of AEBS Operation

The AEBS will not operate or will be automatically deactivated under the following conditions. At this time, the system will not operate even when the possibility of a collision occurring exists.

- When the turn signal switch is operated (except when turning right or left in an intersection or during emergency braking)
- When accelerator pedal is released and then depressed forcefully
- When the brake pedal is depressed (excluding when the emergency brake is applied)
- When an AEBS abnormality is detected

When the AEBS May Not Operate Correctly

The AEBS is one of the advanced driver assistance systems. It may not operate correctly if the system has a problem. Also, it cannot always recognize pedestrians and bicycles.

Refer to page
5-7 When There Is a Problem in the ADAS
5-13 Recognizing Pedestrians

In the following situations, the AEBS may not operate normally.

- When driving on sharp curves or undulating roads
- When driving slippery roads that are icy or snow covered
- When pedestrians suddenly run out into the street
- When other vehicles suddenly cut in front of your vehicle
- When obstacles located in the forward direction are difficult to detect due to bad weather (rainstorms, blizzards, snow)
- When vehicle movement is unstable (skidding, etc.)
- When the steering wheel is turned sharply
- When the steering wheel is turned suddenly
- When the condition of the suspension is abnormal
- When the wipers are blocking the camera's view due to a wiper malfunction, etc.
- When there is interference at the same frequency, such as that caused by roadway infrastructure, etc.

In the following situations, the milliwave radar may not detect objects.

- When the objects are those which do not reflect radio waves
- When the objects are too small to be detected, such as motorcycles
- When the objects are covered in snow, preventing them from being detected

In the following situations, the AEBS may operate even when there is no possibility of collision.

- Driving on a road surface with a metallic object that reflects radio waves
- When the vehicle suddenly comes in close proximity to another vehicle in the forward direction
- When a vehicle traveling in a straight line comes to a curve or turn in which an obstacle is located in the forward direction
- When the vehicle is turning at an intersection, etc., and comes in close proximity with an opposing vehicle
- When the existence of a road shoulder is minimal and the vehicle is driven in close proximity with structures such as a guard railing or windbreak wall
- When passing through narrow tunnels, under railway bridges or overpasses, or when going through highway toll stations
- When the condition of the suspension is abnormal

Following Distance Warning

This system measures the distance to the preceding vehicle on the same lane using milliwave radar and camera, and alerts the driver with a warning buzzer and multi-information displays when the vehicle gets too close to the preceding vehicle.
This system operates in all speed ranges while driving except when the vehicle is stopping.

Refer to page
5-5 Precautions for ADAS

⚠ WARNING

- **The following distance warning aims at reducing the mental burden of drivers, and is not a device to avoid collisions that requires applying emergency brakes. When driving, always pay attention to your surroundings and drive safely.**

Operation of the Following Distance Warning

i Attention

Keep distance
from Preceding Vehicle

The following distance warning starts operating at the previously set volume and warning distance when the vehicle starts being driven, and then continues operating while the vehicle is driven.
When the vehicle is approaching a preceding vehicle and the driver needs to operate the brakes, "Attention" is displayed on the multi-information display and three short beeps.

5-18 Advanced Driver Assistance System

⚠ CAUTION

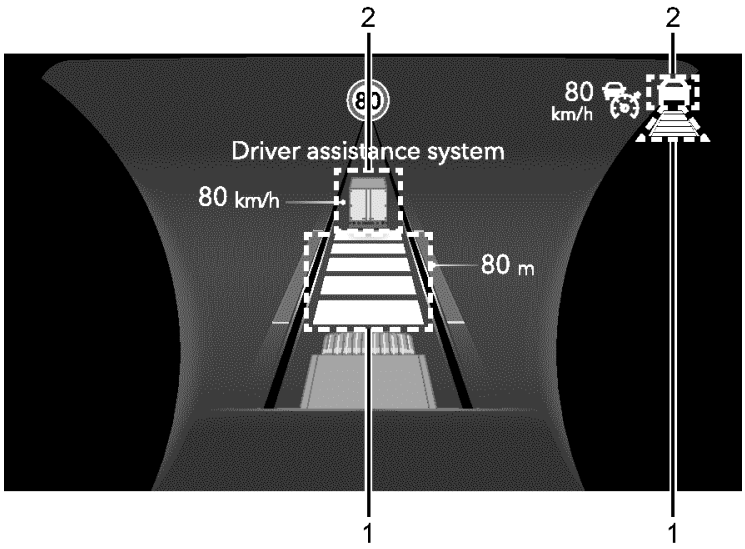
- **If a warning is issued when you try to overtake the vehicle in front of you, you must not get any closer to that vehicle. Otherwise, the emergency brakes may be applied.**
- **The following distance warning is not displayed and the warning does not sound in the following situations.**
  - **When the brake pedal is depressed**
  - **While your own vehicle is stopped**
  - **When the preceding vehicle is driving toward your own vehicle**
  - **When the following distance is too far and the preceding vehicle cannot be identified**
  - **When your own vehicle is not approaching the preceding vehicle**
  - **When driving on sharp curves**
  - **When your own vehicle is being reversed**

Refer to page
5-23 When the Following Distance Warning May Not Operate Correctly

Following Distance Warning Warnings/Indicators

Details of Following Distance Warning on Multi-Information Display

You can check the display of the main display area when "Advanced driver assistance systems display" is selected.



No.	Name	Display details
1	Following distance to preceding vehicle	This displays the following distance to the preceding vehicle.
2	Preceding vehicle detection status	This displays the detection status of the preceding vehicle.

When the following distance warning is operating, the following is shown on the multi-information display according to the conditions.

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Following distance warning in operation [vehicle located in forward direction]	—		Following distance warning operation when a vehicle is detected in the forward direction

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Following distance warning in operation [no vehicle located in forward direction]	—		Following distance warning operation when no vehicle is detected in the forward direction
Following distance warning	Attention Keep distance from Preceding Vehicle		When the following distance with vehicles in the forward direction is too short

Buzzer Sounds during Following Distance Warnings

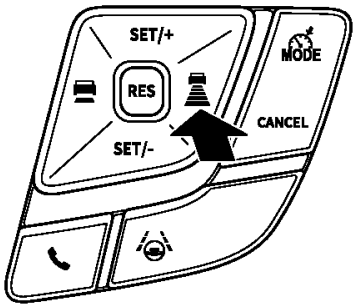
During following distance warnings, the following buzzers will sound from the instrument.

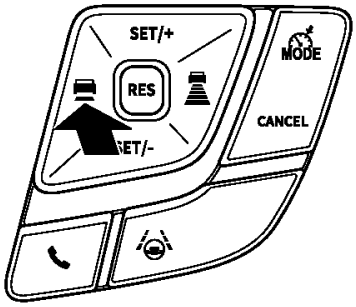
Name	Warning buzzer	Condition
Operation refusal sound	Two short beeps	Requested operation could not be made
Operation sound	One short beep	Requested operation was made
Failure sound	Two short beeps	A device abnormality was detected
Following distance warning	Three short beeps	A following distance warning was issued

Setting the Following Distance

When Setting the Desired Following Distance

Following distance setting switch

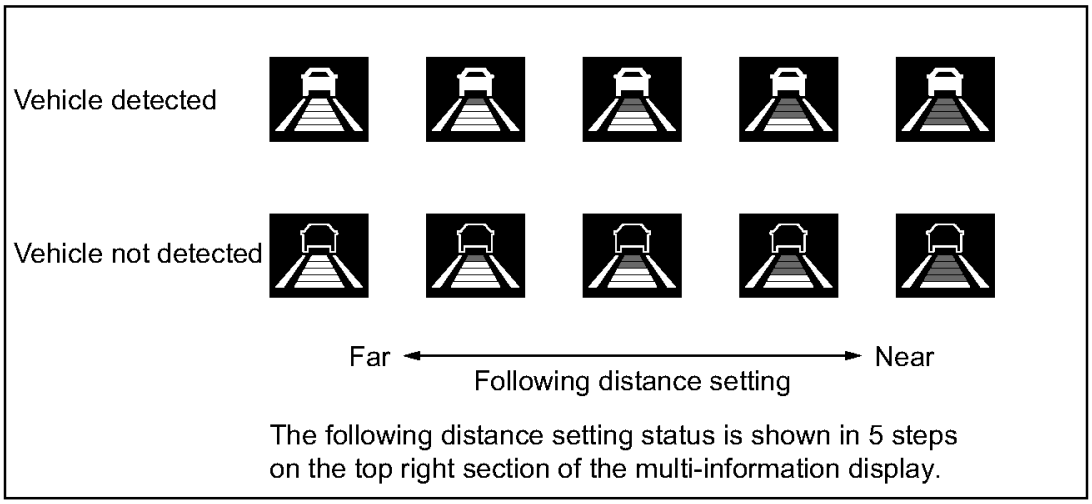




The following distance can be adjusted by pressing the side of the following distance switch (to increase the following distance) or the side (to decrease the following distance), either the closer side or farther side can be pressed.

NOTE

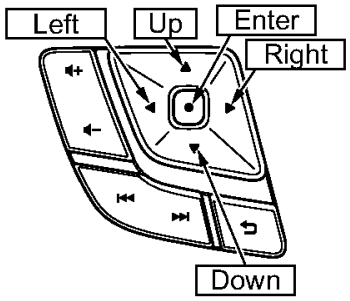
- When the following distance setting switch is operated, a short beep sound can be heard.
- If the following distance is at the minimum and you operate the side, or if the following distance setting is at the maximum and you operate the side, rather than the normal switch operation sound, the operation rejected buzzer sounds.
- Following distance at which the warning sounds may vary depending on differences in speed with the vehicle in the forward direction.
- After the engine has been started, following distance warning has the same settings as when the starter switch was last set to the "LOCK" position.

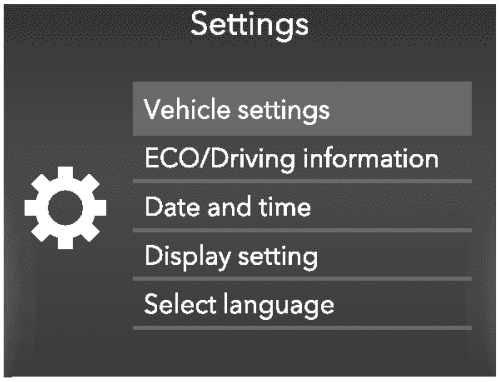


The following distance setting status is shown in 5 steps on the top right section of the multi-information display.

Adjusting the Following Distance Warning Volume

From the "Vehicle settings" screen on the multi-information display, you can adjust the volume of the following distance warning.





1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Following distance warning" → "Volume settings".
3. Press either "Up" or "Down" on the multi-information display switch and then confirm your selection by pressing "Enter". The volume can be adjusted to 4 levels, "Mute" (no sound), "Low", "Medium", and "High".
4. Press the "Up" or "Down" multi-information display switches, and then confirm by pressing "Enter". T

NOTE

- When the warning volume is set to "Mute" and the cruise control or full speed range adaptive cruise control is activated, the warning volume changes to "High".

When the Following Distance Warning May Not Operate Correctly

The following distance warning is one of the advanced driver assistance systems. It may not operate correctly if the system has a problem.

Refer to page
5-7 When There Is a Problem in the ADAS

In the following situations, the system may not detect preceding vehicles correctly.

- On roads where there is heavy traffic, such as urban areas
- On sharp curves or steep slopes
- In slippery road conditions, such as when the road is frozen or covered with snow
- When it is raining, foggy, snowy or in any adverse weather
- When it is necessary to frequently accelerate and decelerate due to traffic conditions
- When driving repeatedly up or down steep slopes
- When merging onto or exiting highways or when driving through toll booths

The following distance warning is limited by the following functional limitations. Do not overly rely on this system and always keep a sufficient inter-vehicular distance for safe driving.

- The system may not be able to detect smaller objects, such as motorcycles.
- Depending on how the road curves, steering wheel operation, and vehicle's position in the lane, the system may temporarily detect vehicles in an adjacent lane or objects around the road.
- The system may not be able to detect preceding vehicles on uphill slopes and downhill slopes, depending on the conditions.
- The system may not be able to detect preceding vehicles when there is a tunnel, or an obstacle on the shoulder, such as a soundproof wall.
- If the radar sensor receives interference of the same frequency, such as that caused by roadway infrastructure, the system operations may be affected and preceding vehicles may not be detected correctly.

If the cargo is loaded lopsided (extremely to one side, the front, or the rear) so that the vehicle attitude is extremely tilted, preceding vehicles may not be detected correctly.

Preceding Vehicle Departure Notification Function

The preceding vehicle departure notification function notifies the driver with warning buzzers and an indication on the multi-information display if the own vehicle remains stopped after the preceding vehicle has departed. When the vehicle stopped after the preceding vehicle stopped (the distance to the preceding vehicle is approximately 14 m (46 ft) or less, and your vehicle has been stopped for a certain period of time), the system continues to recognize the preceding vehicle. Then if the preceding vehicle moves forward for approximately 5 m (16 ft) or more but your vehicle does not start off, this function operates.

Refer to page
5-5 Precautions for ADAS

⚠ WARNING

- **Limitation in preceding vehicle departure notification function**
  - **Do not rely entirely on the preceding vehicle departure notification function. When starting off the vehicle, be sure to carefully check the safety in the surrounding area.**
- **The preceding vehicle departure notification function does not include the function to recognize the traffic lights and road signs. Follow the indication of the traffic lights and road signs for safe driving.**

Operation of the Preceding Vehicle Departure Notification Function

Preceding vehicle departure notification

Preceding vehicle start

When not driving with full speed range adaptive cruise control

When the preceding vehicle moved forward for approximately 5 m (16 ft) but your vehicle does not start off, "Preceding vehicle start detection" is displayed on the multi-information display and the one short beeps.

When driving with full speed range adaptive cruise control

After following and then stopping behind a preceding vehicle, when the preceding vehicle pulls away, "Preceding vehicle start detection" is displayed on the multi-information display and the one short beeps. Press the resume switch or depress the accelerator pedal to pull away.

Refer to page
5-33 To start off the vehicle again after stopping following the preceding vehicle

Preceding Vehicle Departure Notification Function Warnings/ Indicators

Details of Preceding Vehicle Departure Notification Function on Multi-Information Display

When the preceding vehicle departure notification function is operating, the following is shown on the multi-information display.

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Preceding vehicle not detected	—		When the preceding vehicle is not detected
Preceding vehicle detected	—		When the preceding vehicle is detected
Preceding vehicle pulling away	Preceding vehicle start		When the vehicle is at a standstill and then the preceding vehicle has departed but the vehicle does not depart

*: The preceding vehicle icon is displayed only during full speed range adaptive cruise control, following distance warning, or while AEBS is operating.

NOTE

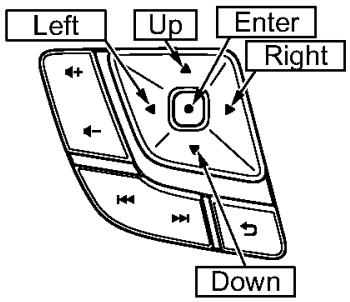
- A buzzer sounds when the preceding vehicle is not detected and when detected. The timing of the buzzer sounding can be changed on the multi-information display.

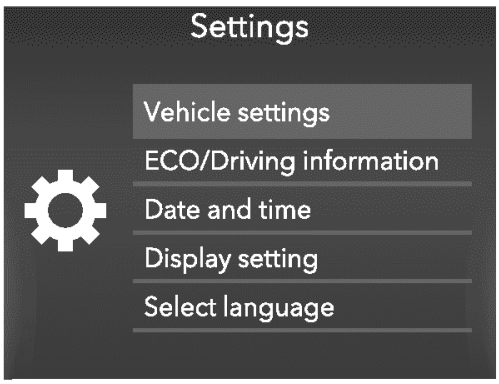
Refer to page
5-27 Setting of the Preceding Vehicle Detection Sound

Setting of Preceding Vehicle Departure Notification Function

Turning On and Off the Preceding Vehicle Departure Notification Function

The preceding vehicle departure notification function can be turned on and off using the multi-information display switch.





1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

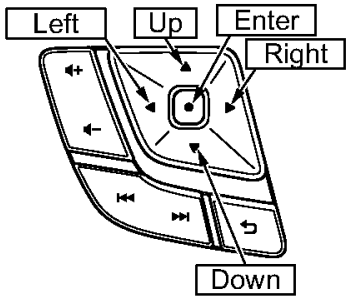
2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Preceding vehicle informations" → "Vehicle start information".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

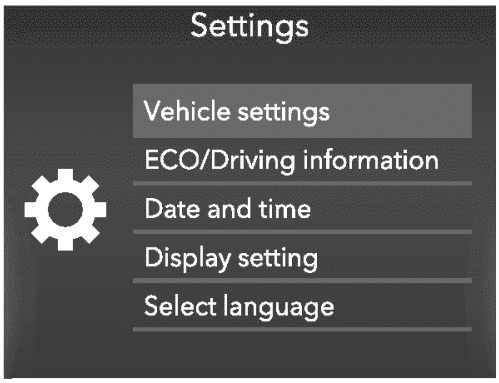
NOTE

- After starting the engine, the setting of the preceding vehicle departure notification function will be the same as when the starter switch was previously set to the "LOCK" position.

Setting of the Preceding Vehicle Detection Sound

You can set the preceding vehicle detection sound by using the multi-information display switch.





1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Preceding vehicle informations" → "Vehicle detection sound".
3. Press either "Up" or "Down" on the multi-information display switch to select "OFF", "detected", and "detected & lost", and then confirm your selection by pressing "Enter".

Operation Stop and Automatic Deactivation of Preceding Vehicle Departure Notification Function

The preceding vehicle departure notification function does not operate or is automatically deactivated under the following conditions. At this time, the system does not operate even when the preceding vehicle departed.

- When the preceding vehicle departure notification function has been canceled on the setting screen of the multi-information display
- When the selector button is placed into the "R" position
- When the parking brake is engaged
- When the driver depresses the accelerator pedal or shifts into gear to pull away

When the Preceding Vehicle Departure Notification Function May Not Operate Correctly

The preceding vehicle departure notification function is one of the advanced driver assistance systems. It may not operate correctly if the system has a problem.

Refer to page
5-7 When There Is a Problem in the ADAS

In the following cases, the function may operate even though the preceding vehicle is not starting off, or may not operate even though the preceding vehicle is starting off.

- When a motor bike or the like cuts in between the your vehicle and the preceding vehicle
- When the preceding vehicle is difficult to detect due to severe weather (such as rainstorms, blizzards, or snow)
- When driving through a sharp curve or a road with ups and downs
- When the camera stopped recognizing the preceding vehicle
- The cargo is loaded lopsided (extremely to one side, the front, or the rear) so that the vehicle attitude is extremely tilted
- When there is interference at the same frequency, such as that caused by roadway infrastructure, etc.

The preceding vehicle departure notification function is limited by the following functional limitations. Do not overly rely on this system and always keep a sufficient inter-vehicular distance for safe driving.

- The system may not be able to detect smaller objects, such as motorcycles
- Depending on how the road curves, steering wheel operation, and your vehicle's position in the lane, the system may temporarily detect vehicles in an adjacent lane or objects around the road.
- The system may not be able to detect preceding vehicles on uphill slopes and downhill slopes, depending on the conditions.

Full Speed Range Adaptive Cruise Control [V]

This system assists driving operations by allowing the driver to drive, without depressing the accelerator pedal, at a fixed speed following a preceding vehicle. While it is operating, press and hold the mode switch to change between cruise control mode and full speed range adaptive cruise control mode.

Cruise control

The cruise control is a system that allows you to drive, maintaining a fixed speed (about 30 km/h or more or 20 MPH or more), without depressing the accelerator pedal. It is used on expressways where starting and stopping is rare.

Full speed range adaptive cruise control

This system detects the distance to and the speed difference of the preceding vehicle on the same lane by means of milliwave radar and camera. It maintains the proper following distance, and automatically accelerates, decelerates and stops the vehicle. In addition, when the preceding vehicle is not in the same lane, it keeps the vehicle at a set speed constantly to achieve the following effects:

- Mitigate driver's stress by reducing the necessary braking operation
- Improve the fuel efficiency by reducing the weaving of the vehicle
- Mitigate the collision accident by means of automatic following distance control, stopping the vehicle and warning the driver.

Use this system only on expressways and controlled-access road.

Refer to page
5-5 Precautions for ADAS

⚠ WARNING

- This system is not intended to prevent collisions. Do not rely entirely on the system and drive safely.
- Full speed range adaptive cruise control is intended to assist a certain part of the driver's operation. It is not an autonomous driving system. Do not rely entirely on the system. Always drive safely.
- This system is limited due to the following mechanical restrictions. Do not overly rely on this system and always drive safely while maintaining an adequate following distance.
  - Smaller objects, such as motorcycles, may not be detected.
  - Depending on the curves in the road, steering wheel operation, or the location of the vehicle within the lane, vehicles in adjacent lanes or objects in the areas around the road may be momentarily detected.
  - On uphill or downhill slopes, vehicles in the forward direction may not be detected under certain circumstances.
  - Vehicles in the forward direction may not be correctly detected when in tunnels or if there are obstacles on the road shoulder such as sound insulation walls
  - When the preceding vehicle is stopping at a traffic light or at the end of a line of cars in a traffic jam, the vehicle may not be detected properly.
  - If the radar sensor receives interference of the same frequency, such as that caused by roadway infrastructure, the system operations may be affected and preceding vehicles may not be detected correctly.
- Do not use the system in the following situations because doing so is dangerous:
  - On roads where there is heavy traffic, such as urban areas
  - On sharp curves or steep slopes
  - In slippery road conditions, such as when the road is frozen or covered with snow
  - When it is necessary to frequently accelerate and decelerate due to traffic conditions
  - When driving repeatedly up or down steep slopes
  - When merging onto or exiting highways or when driving through toll booths
- When it is raining, foggy, snowy or in any adverse weather, the traffic conditions often change significantly. In such situations, we ask drivers to drive safely on their own. Do not use the full speed range adaptive cruise control and cruise control.

⚠ CAUTION

- An upper speed limit that exceeds the set speed of the speed limit device cannot be set.

Refer to page
4-137 Speed Limit Device [V]

NOTE

- The maximum speed of the vehicle varies by your country.

Operation of the Full Speed Range Adaptive Cruise Control

Full speed range adaptive cruise control operates differently depending on whether there is a preceding vehicle.

Refer to page
5-52 When the Full Speed Range Adaptive Cruise Control Does Not Operate Properly

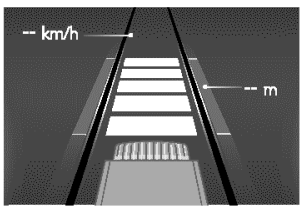
When There is No Preceding Vehicle

Cruise control icon



Without depressing the accelerator pedal, the automatic cruising is performed at the set speed.

Advanced driver assistance system designated screen

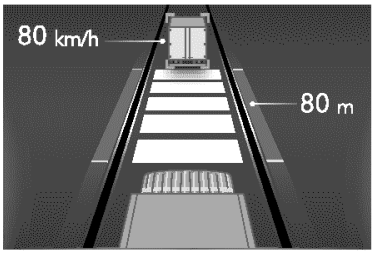


When There is a Preceding Vehicle

Cruise control icon



Advanced driver assistance system designated screen



The preceding vehicle is followed as shown below while maintaining an appropriate distance from the preceding vehicle.

- When the preceding vehicle is slower than the set vehicle speed, your vehicle automatically decelerates to match the speed of the preceding vehicle.
- When the preceding vehicle stops, the vehicle also decelerates and stops according to the preceding vehicle.
- After the preceding vehicle starts again, if the driver operates the vehicle to start again, the vehicle also starts and resumes cruise driving.

When the accelerator pedal is depressed to overtake the preceding vehicle or to shorten the following distance, the pedal operation is prioritized. This time, the cruise control icon in the multi-information display flashes.
If the accelerator pedal is released, it returns to the cruising state, and the cruise control icon in the multi-information display changes from flashing to remaining on.

NOTE

- The following distance warning function activates a warning if the following distance suddenly shrinks, such as if the preceding vehicle suddenly decelerates or another vehicle cuts in. Depress the brake pedal to keep a safe following distance.

To start off the vehicle again after stopping following the preceding vehicle

If the vehicle stops following the preceding vehicle, "Brake Hold" is displayed on the multi-information display.
If either of the following operations are performed after the preceding vehicle has started off, traveling following the preceding vehicle with the adaptive cruise control resumes.

- Slightly depress the accelerator pedal
- Operate the resume switch

If the operation for starting off again is not performed, "Preceding vehicle start" is displayed on the multi-information display to alert the driver.

WARNING

- **Always check the safety of the surrounding area before performing the operation for starting off again.**
- **Do not leave the driver's seat while the vehicle is stationary following the preceding vehicle.**

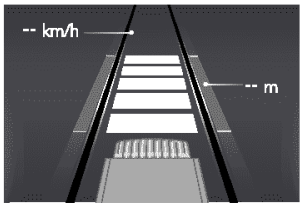
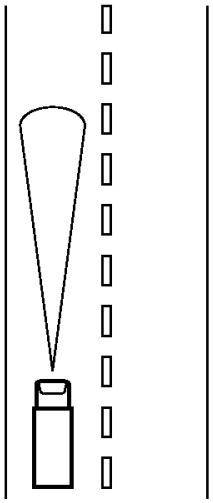
NOTE

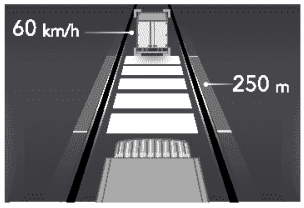
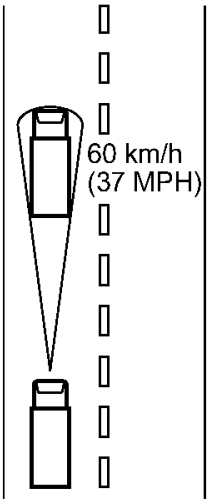
- When "Brake Hold" is displayed on the multi-information display, the brake is applied and the brake lights illuminate. At this time, even if the driver depresses the brake pedal, the adaptive cruise control will not be deactivated.
- When starting off the vehicle again by operating the resume switch, the vehicle will not start off unless a certain distance from the preceding vehicle is achieved.
- When the adaptive cruise control is temporally deactivated while "Brake Hold" is displayed on the multi-information display, the vehicle's stopped state is retained, but it is not possible to start off with the resume switch. Depress the accelerator pedal to start off the vehicle. In addition, when the following operation is performed after deactivating the adaptive cruise control while the vehicle is stationary following the preceding vehicle, the vehicle's stopped state will be canceled.
  - Depressing the accelerator pedal to start off the vehicle
  - Applying the parking brake
  - Depressing the brake pedal
  - Operating the selector button
  - When the mode switch has been pressed to change the cruise mode
  - Depressing the cancel switch
- When the vehicle is stopped following the preceding vehicle, and if the preceding vehicle started off again within 3 seconds after that, the traveling following the preceding vehicle resumes without performing any restarting operation.

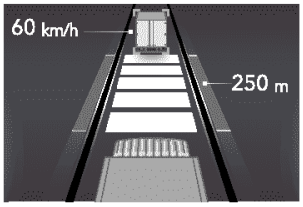
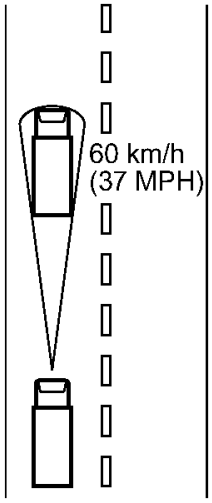
When the Preceding Vehicle is No Longer Detected

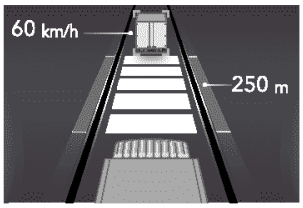
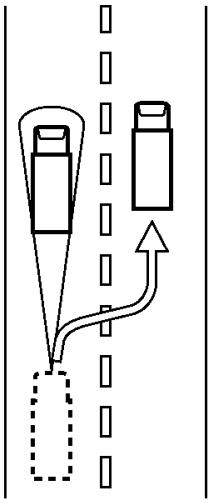
When the preceding vehicle disappears from view, the vehicle accelerates up to the set speed and performs the normal cruising driving.

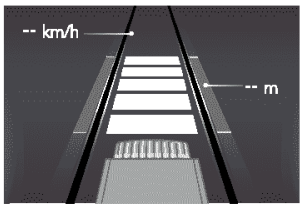
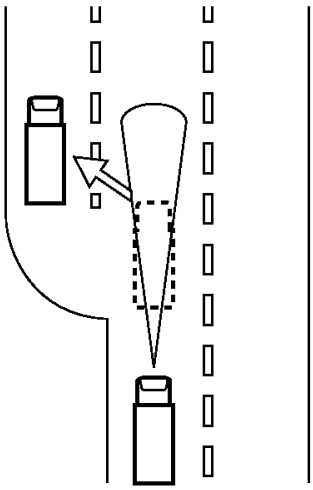
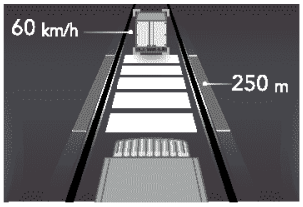
Example of Operation When Driving with Full Speed Range Adaptive Cruise Control (Set Vehicle Speed of 75 km/h (47 MPH))

1. Traveling at a constant speed [when there is no preceding vehicle]	
Constantly travels at a set speed 75 km/h (47 MPH)	
Multi-information display Drive assist display area  Main display area  	
Vehicle speed 75 km/h (47 MPH)	

2. Decelerated traveling [when a preceding vehicle which travels at a lower speed than the set vehicle speed appears]	
Decelerates from the set vehicle speed 75 km/h (47 MPH) to the preceding vehicle's speed 60 km/h (37 MPH)	
Multi-information display Drive assist display area  Main display area  	
Vehicle speed 75 km/h (47 MPH)→ 60 km/h (37 MPH)	

3. Driving following the preceding vehicle [when there is a preceding vehicle 60 km/h (37 MPH)]	
Maintains the following distance and follows the vehicle according to its speed	
Multi-information display Drive assist display area  Main display area  	
Vehicle speed 60 km/h (37 MPH)	

4. Driving with priority on the accelerator pedal operation [when overtaking the preceding vehicle]	
Accelerates with priority on pedal operation, and when the pedal is released, constantly travels at the set vehicle speed 75 km/h (47 MPH)	
Multi-information display Drive assist display area  Main display area  	
Vehicle speed Accelerates by pedal operation to faster than 75 km/h (47 MPH) →75 km/h (47 MPH)	

5. Accelerated traveling [when the preceding vehicle disappears]	
Accelerates to the set vehicle speed 75 km/h (47 MPH) and travels at the speed constantly	
Multi-information display Drive assist display area  Main display area  	
↑	
Multi-information display Drive assist display area  Main display area  	
Vehicle speed 60 km/h (37 MPH)→ 75 km/h (47 MPH)	

6. Stopping by following the preceding vehicle [when stopping following the preceding vehicle]

The vehicle decelerates and stops following the preceding vehicle.

Multi-information display

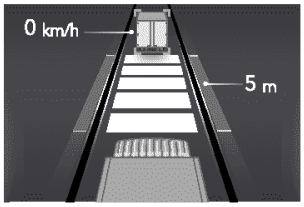
Drive assist display area



Warning/operation display

Brake Hold

Main display area



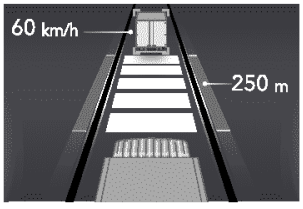
↑

Multi-information display

Drive assist display area

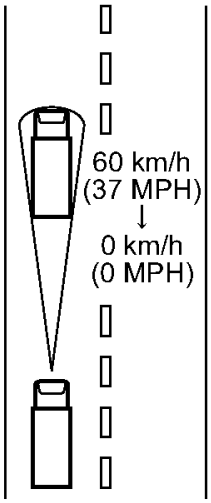


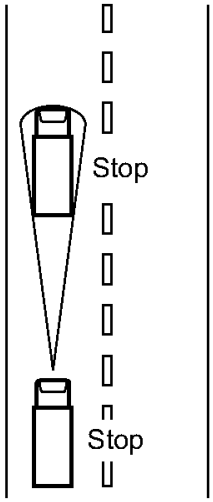
Main display area

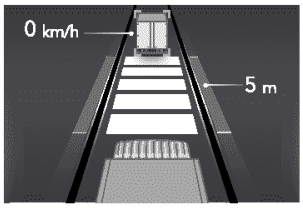
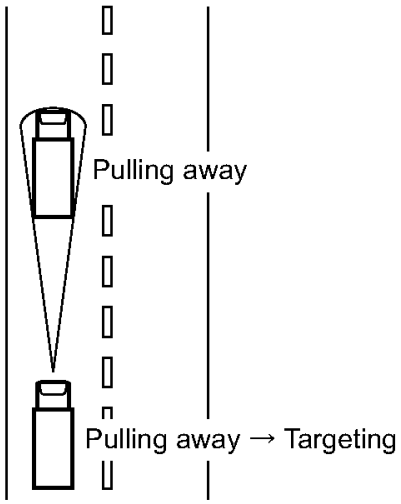


Vehicle speed

60 km/h (37 MPH)→ 0 km/h (0 MPH)



7. The vehicle is stopped	
Both the preceding vehicle and the vehicle are stopped	
Multi-information display Drive assist display area  Warning/operation display Brake Hold	
Vehicle speed 0 km/h (0 MPH)	

8. Starting off the vehicle again and traveling following the preceding vehicle [when the preceding vehicle has departed]	
After the preceding vehicle has departed, the vehicle also starts off when the accelerator pedal is depressed or the resume switch is operated, and resumes traveling following the preceding vehicle.	
Multi-information display Drive assist display area  Warning/operation display Preceding vehicle start Main display area  	
Vehicle speed Resumes traveling following the preceding vehicle according to the speed of the preceding vehicle.	

Systems/Functions Operating in Conjunction with Full Speed Range Adaptive Cruise Control

Following Distance Warning

When the full speed range adaptive cruise control operates, the following distance warning also operates accordingly.
Regardless of the volume setting of the following distance warning, the volume is automatically set to "High" while using full speed range adaptive cruise control.

Refer to page
5-17 Following Distance Warning

⚠ WARNING

- **If the "Attention" is displayed while driving with full speed range adaptive cruise control activated, your vehicle may get too close to the preceding vehicle and there is a risk of collision. Operate the brake pedal to have sufficient inter-vehicular distance appropriate to the traffic condition.**

⚠ CAUTION

- **The following distance warning while the full speed range adaptive cruise control operates is not activated in the following situations**
  - **When the preceding vehicle is traveling toward the vehicle**
  - **When the following distance is too far and the preceding vehicle cannot be identified**
  - **When the vehicle is not approaching the preceding vehicle**
  - **When driving on sharp curves**

Automatic Foot Brake/Auxiliary Brake Function

Automatic Operation/Release of the Foot Brake and Auxiliary Brake

This function automatically activates the foot brake and auxiliary brake during traveling with the full speed range adaptive cruise control to maintain a proper following distance and reduces the driver's burden.

⚠ CAUTION

- **Depending on the vehicle's loading condition, the effectiveness of the automatic foot brake/auxiliary brake may be insufficient, and thus sufficient deceleration may not be achieved. If the following distance is shortened, depress the brake pedal to decelerate the vehicle and maintain the proper following distance.**

LDWS While the Full Speed Range Adaptive Cruise Control Is Active

The lane departure warning system (LDWS) is automatically turned on when the full speed range adaptive cruise control is started with the LDWS off.

Refer to page
5-74 Lane Departure Warning System (LDWS) [V]

AEBS While the Full Speed Range Adaptive Cruise Control Is Active

The advanced emergency braking system (AEBS) is automatically turned on when the full speed range adaptive cruise control is started with the AEBS off.

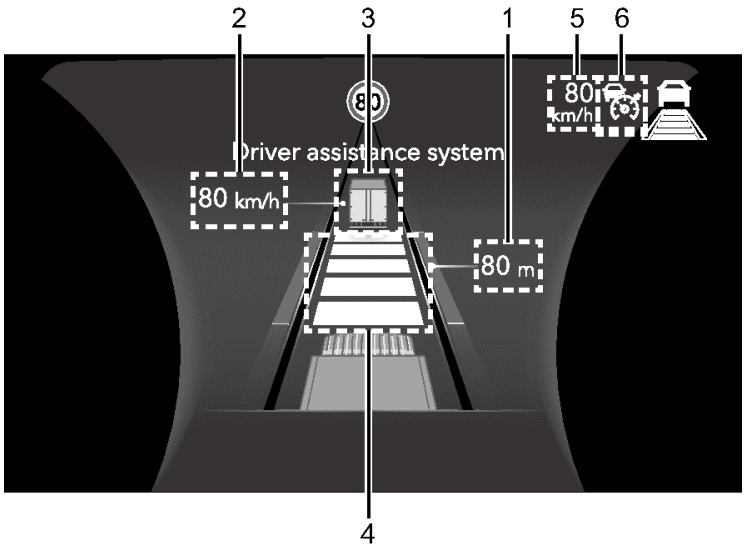
⚠ CAUTION

- **When driving in full speed range adaptive cruise control, if the AEBS is turned off in the setting menu on the multi-information display, then the full speed range adaptive cruise control is deactivated.**

Refer to page
5-14 Setting the AEBS

Details of Full Speed Range Adaptive Cruise Control on Multi-Information Display

You can check the display of the main display area when "Advanced driver assistance systems display" is selected.



No.	Name	Display details
1	Following distance with the preceding vehicle*	This indicates the following distance with the preceding vehicle.
2	Preceding vehicle speed*	This indicates the speed of the preceding vehicle.
3	Preceding vehicle detected state*	This indicates the detected state of the preceding vehicle.
	State of control by full speed range adaptive cruise control*	If there is a preceding vehicle, then the green frame indicates the full speed range adaptive cruise control is in control
4	Following distance setup*	This indicates the set condition of the following distance with the preceding vehicle in 5 levels.
5	Set vehicle speed	This indicates the set speed of cruise control.
6	Adaptive cruise control main display	This displays the system settings and operating status of cruise control or full speed range adaptive cruise control.

*: Only when full speed range adaptive cruise control, following distance warning or AEBS is operating

NOTE

- Even when the vehicle is following the preceding vehicle, there may be a difference between the indicated preceding vehicle speed in the multi-information display and the vehicle speed displayed on the speedometer.

The full speed range adaptive cruise control shows the following in the multi-information display according to the conditions.

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Cruise control mode	 Adaptive cruise control Driver assistance mode changed	—	When switching to the full speed range adaptive cruise control
Cruise control mode off	—	 (Gray)	When the full speed range adaptive cruise control is off

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Standby	—	 (White)	When the full speed range adaptive cruise control is in a standby state
Cruise control active [No preceding vehicle]	—	 (Green)	Full speed range adaptive cruise control active when no preceding vehicle is detected
Adaptive cruise control active [Preceding vehicle detected]	—	 (Green)	Full speed range adaptive cruise control active when the preceding vehicle is detected
Cruise control temporarily deactivated (override)	—	 (Green, flashes)	When the accelerator pedal is depressed while the full speed range adaptive cruise control is active and the cruise driving is temporarily deactivated
Cruise control temporarily deactivated	 Cruise control canceled Cruise control has been canceled	 (White)	When the full speed range adaptive cruise control is operating and the cancel switch is pressed to temporarily cancel cruising
Following distance warning display	Attention Keep distance from Preceding Vehicle	—	• When the following distance warning is activated while the full speed range adaptive cruise control is activated • When the following distance with the preceding vehicle is too short
Keeping vehicle stopped	Brake Hold	—	When the vehicle stops following the preceding vehicle while the full speed range adaptive cruise control is active

Name	Multi-information display		Display details
	Main display area	Drive assist display area	
Preceding vehicle pulling away	Preceding vehicle start	—	When the vehicle stops following the preceding vehicle while the full speed range adaptive cruise control is active, then the preceding vehicle starts
Cruise control deactivated	Cruise control canceled Cruise control has been canceled	 (Gray)	When the full speed range adaptive cruise control is deactivated

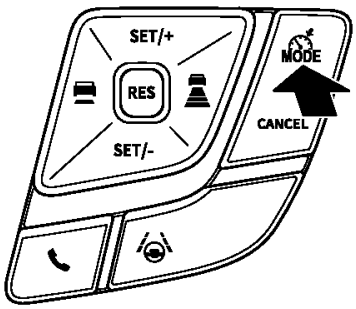
Buzzer Sounds During Full Speed Range Adaptive Cruise Control

During adaptive cruise control, the following buzzers will sound.

Name	Warning buzzer	Description
Operation refusal sound	Two short beeps	Requested operation could not be made
Operation sound	One short beep	Requested operation was made
Failure sound	Two short beeps	A device abnormality was detected
Following distance warning sound*	Three short beeps	A following distance warning was issued
Canceling sound	Two short beeps	Deactivating the full speed range adaptive cruise control

Starting the Full Speed Range Adaptive Cruise Control

Setting Full Speed Range Adaptive Cruise Control While Driving



Adaptive cruise control

Driver assistance mode changed

1. Press the mode switch and confirm that "Adaptive cruise control" appears in the multi-information display. If "Intelligent speed limiter" appears, press the mode switch again to switch to cruise control mode.
   If a set vehicle speed has been registered, then pressing the resume switch at this time starts cruise control driving.

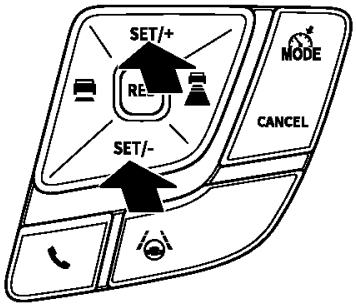
NOTE

- Press and hold the mode switch to change between full speed range adaptive cruise control and cruise control. There is a buzzer sound when they are switched. The cruise control mode cannot be switched while driving.

Refer to page
4-94 Cruise Control [V]

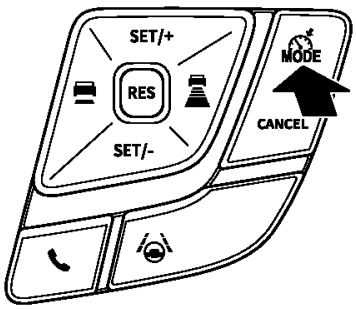


2. Depress the accelerator pedal to adjust to your desired speed (about 30 km/h or 20 MPH) to the speed set for the speed limit device). Once the vehicle reaches a speed that can be set, cruise control icon comes on in white on the multi-information display.



3. Press the "+" or "-" side of the set switch to set the vehicle speed and adaptive cruise control starts. The set vehicle speed is displayed in multi-information display.

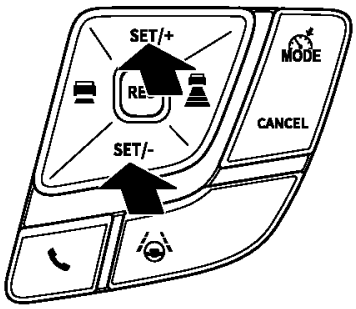
Setting Full Speed Range Adaptive Cruise Control While Stopped



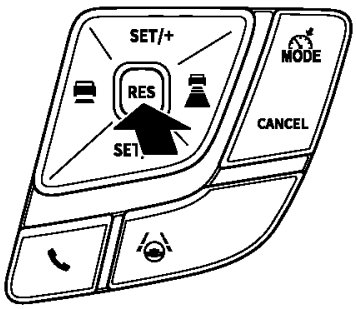
1. Press the mode switch and confirm that "Adaptive cruise control" appears in the multi-information display. If "Intelligent speed limiter" appears, press the mode switch again to switch to cruise control mode.



2. While a preceding vehicle is present, depress the brake pedal and cruise control icon comes on in white on the multi-information display.



3. Use one of the following methods to set the desired vehicle speed.
   - Press the "+" or "-" side of the set switch to set the vehicle speed to 30 km/h or 20 MPH.
   - Press the resume switch to set the vehicle speed that was previously set.



Once the vehicle speed is set, "Brake Hold" appears in the multi-information display, and adaptive cruise control starts.

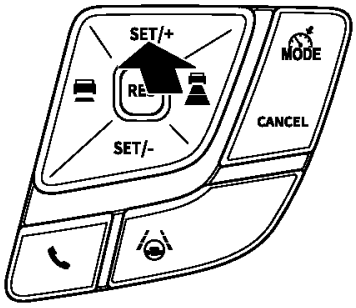
4. When full speed range adaptive cruise control is operating, after the preceding vehicle pulls away, press the resume switch or depress the accelerator pedal to pull away and start following the preceding vehicle.

NOTE

- The vehicle speed setting for cruise control cannot be set while the vehicle is stopped.

Changing the Set Vehicle Speed

To Accelerate



Pressing the "+" side of the set switch increases the vehicle speed set for the cruise control that is displayed in the multi-information display.
By pressing and immediately releasing the switch, the set vehicle speed can be increased by 1 km/h*1 or 1 MPH*2 per operation. By holding down the switch, the set vehicle speed can be increased in increments of 5 km/h*1 or 5 MPH*2.

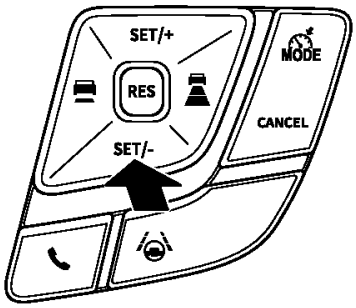
*1: when "km/h" display is selected on the multi-information display

*2: when "MPH" display is selected on the multi-information display

NOTE

- When you want to increase the speed quickly, depress the accelerator pedal, then after accelerating to the desired speed, press the set switch.

To Decelerate



Pressing the "-" side of the set switch decreases the vehicle speed set for the adaptive cruise control that is displayed in the multi-information display.
By pressing and immediately releasing the switch, the set vehicle speed can be decreased by 1 km/h*1 or 1 MPH*2 per operation. By holding down the switch, the set vehicle speed can be decreased in increments of 5 km/h*1 or 5 MPH*2.

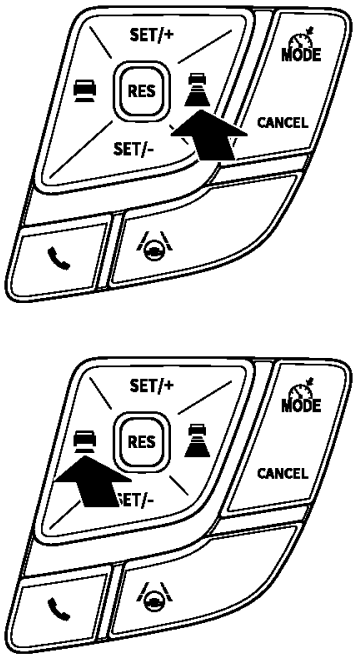
*1: when "km/h" display is selected on the multi-information display

*2: when "MPH" display is selected on the multi-information display

NOTE

- When you want to decrease the speed quickly, depress the brake pedal to temporarily cancel cruise control, then after decelerating to the desired speed, press the set switch.

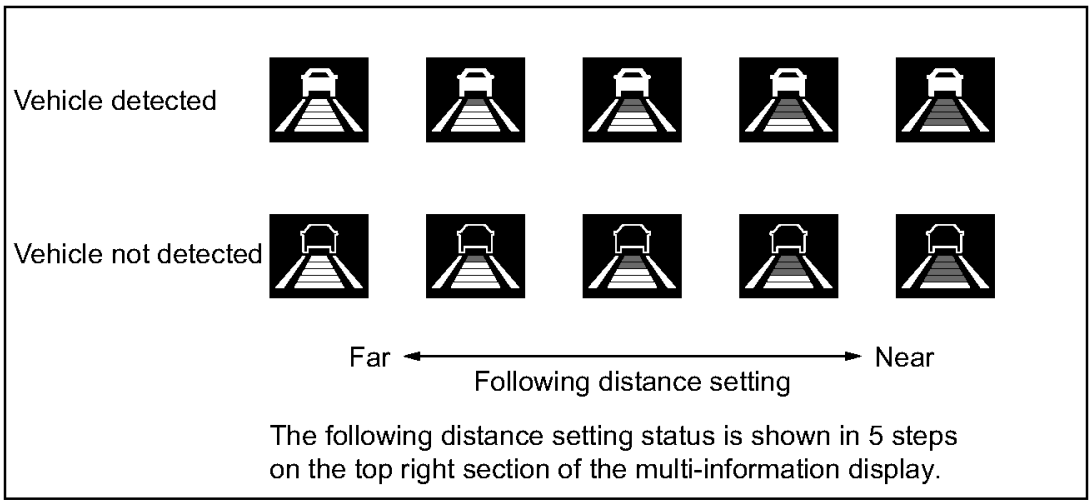
Setting the Desired Following Distance for Full Speed Range Adaptive Cruise Control



It is possible to adjust the following distance by pressing the " " side (extend following distance) or the " " side (shorten following distance) of the following distance setting switch.

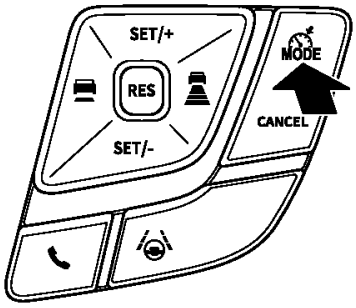
NOTE

- When the following distance setting of the adaptive cruise control is changed, the warning distance setting for the following distance warning is also changed accordingly.



The following distance setting status is shown in 5 steps on the top right section of the multi-information display.

Deactivating the Full Speed Range Adaptive Cruise Control

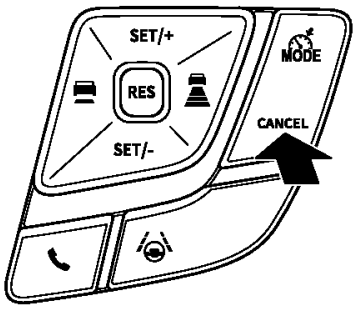


Press the mode switch to deactivate the function. At this time, a warning buzzer sounds and the cruise control icon on the multi-information display goes off.

NOTE

- Deactivate the cruise control by pressing the mode switch when the function is not to be used.

Temporarily Deactivating the Full Speed Range Adaptive Cruise Control



Cruise control canceled

Cruise control has been canceled

If the cancel switch is pressed, the adaptive cruise control will be temporarily deactivated. At this time, the adaptive cruise control icon comes on in white on the multi-information display and "Cruise control canceled" will be displayed for a few seconds.

In addition, the function will also be deactivated in the following cases:

- When the brake pedal is depressed (except while the vehicle is stationary following the preceding vehicle)
- When the parking brake is applied
- When the exhaust brake is applied
- When the vehicle speed falls to 30 km/h (20 MPH) or less
- When the vehicle speed falls below the set vehicle speed by approximately 40 km/h (25 MPH) or more
- When any of the following warnings occur: Radar failure warning, check engine warning light, brake system warning light
- When the preceding vehicle disappears (while the vehicle is stationary following the preceding vehicle)
- When the driver side door is opened (only while the vehicle is stationary following the preceding vehicle)
- When the driver side seat belt is unfastened (only while the vehicle is stationary following the preceding vehicle)
- When any position other than the "D" position is selected (automatic transmission models)
- When both the turn signal switch and the steering wheel are operated while traveling at a low speed (such as when turning right or left) (Only while the vehicle is following the preceding vehicle)

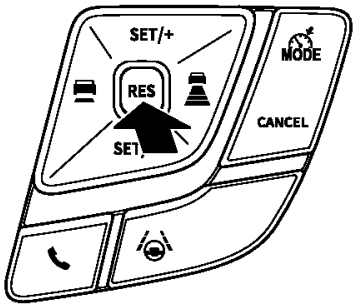
- When entering into a steep uphill/downhill
- When the ESC/ASR is activated

When you want to overtake the preceding vehicle, depress the accelerator pedal to temporarily cancel the cruise mode. At this time, the cruise icon flashes green.

NOTE

- If the engine or engine related equipment malfunctions, the full speed range adaptive cruise control is completely deactivated and the master warning light comes on. When the master warning light turns on, the cruise control mode cannot be selected and the equipment cannot be operated until the starter switch is put in the "LOCK" position once.
- Deactivate the adaptive cruise control by pressing the mode switch when the function is not to be used.

Reactivating the Full Speed Range Adaptive Cruise Control



If the adaptive cruise control is temporarily deactivated, the adaptive cruise control setting used before the deactivation will be recovered by pressing and then releasing the resume switch. Once the resume switch is released, adaptive cruise control icon will come on in green on the multi-information display.
Also, the system will return to cruise control driving when the temporary deactivation condition is no longer met.

Refer to page
5-46 Setting Full Speed Range Adaptive Cruise Control While Stopped

When the Full Speed Range Adaptive Cruise Control Does Not Operate Properly

The full speed range adaptive cruise control is one part of the advanced driver assistance system. It does not operate normally if there is a system abnormality.

Refer to page
5-7 When There Is a Problem in the ADAS

- Depending on the vehicle's load conditions, or on the degree of the inclination of a road, sufficient decelerating may not be achieved. If the inter-vehicular distance is shortened, use the foot brake to maintain the safe following distance.
- Sufficient deceleration may not be possible when the deceleration of the preceding vehicle is large, or when another vehicle cuts in front of the vehicle. Do not rely entirely on the system. Always keep sufficient following distance appropriate for the traffic conditions and drive safely.
- The system may not detect the preceding vehicle properly when the vehicle position is extremely tilted due to uneven loads placed on the vehicle (the loads are placed too much only on one side, in the front or rear).

Traffic Sign Recognition System [V]

The traffic sign recognition system supports safe driving by showing traffic signs, which are recognized by the camera, on the multi-information display to prevent the driver from overlooking traffic signs. If the system determines that a recognized traffic sign is being violated, it notifies the driver with a warning buzzer and indicators on the multi-information display.

Refer to page
5-5 Precautions for ADAS

WARNING

- **The traffic sign recognition system is a system that supports safe driving. During bad weather or if there is a problem with a road sign, the system may not be able to recognize the road sign or may display a road sign that is different from the actual situation. The driver must take responsibility to confirm the actual road signs, because a failure to confirm road signs could lead to an unexpected accident.**
- **If the camera cannot detect traffic signs, or if the camera temporarily stops or malfunctions, then the traffic sign recognition system does not operate.**

NOTE

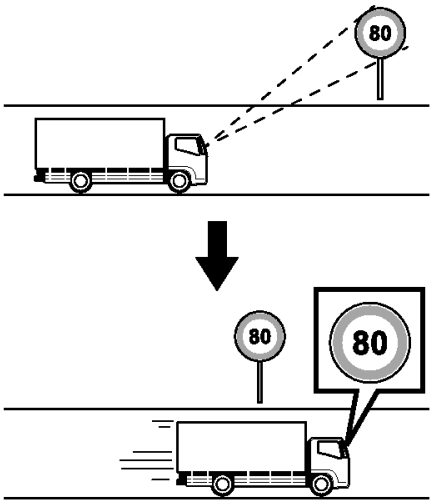
- The traffic sign recognition system is available only in Europe, Australia, Hong Kong, Singapore, Taiwan, Israel and New Zealand. The traffic sign recognition system is not available in other regions because it cannot identify road signs there.
  Contact the nearest Isuzu Dealer for details.

Operation of the Traffic Sign Recognition System

The speed limit sign icon appears in the multi-information display when the starter switch is turned to the "ON" position.

Refer to page
5-63 When the Traffic Sign Recognition System Does Not Operate Normally

Speed Limit Signs



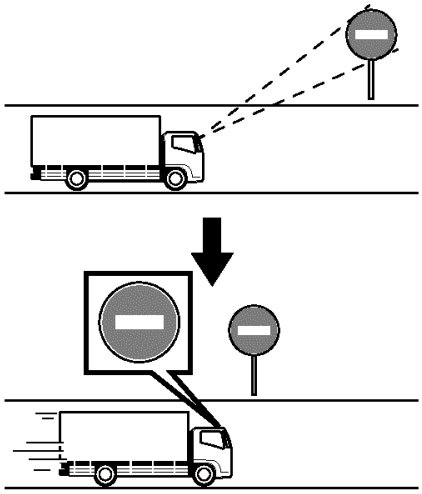
When the camera recognizes a speed limit sign in your lane while driving, the sign appears on the multi-information display after it is passed. The buzzer sounds when the sign is displayed. In the following cases, the display of the signs is terminated.

- Driving a certain distance or passing of a certain period of time after passing the sign
- When the camera recognizes a new speed limit sign
- When an auxiliary sign indicating the end of regulation by the recognized sign is passed
- When turning right or left at an intersection
- When the selector button is placed into the "R" position
- When the parking brake is being operated

NOTE

- If there are two speed limit signs beside each other, the sign with lower speed is targeted.

No Entry



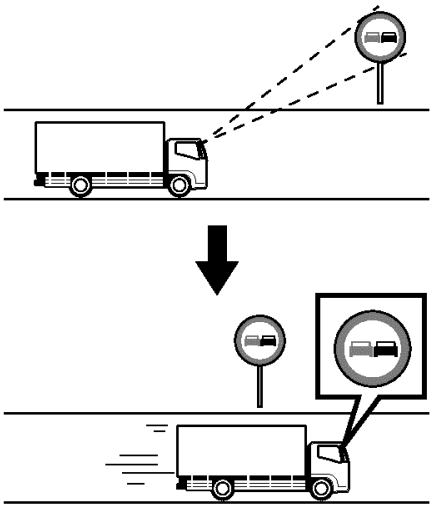
When the camera recognizes a no entry sign while driving, the sign appears on the multi-information display before it is passed. In the following cases, the display of the signs is terminated.

- When a no entry sign is passed
- When turning right or left at an intersection
- When the selector button is placed into the "R" position
- When a no overtaking sign or a stop sign is recognized
- When the parking brake is being operated

NOTE

- A no entry sign is recognized while at a vehicle speed of approximately 40 km/h or less.

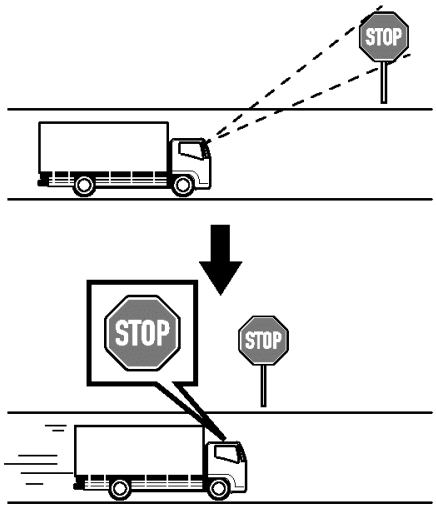
No Overtaking



When the camera recognizes a no overtaking sign while driving, the sign appears on the multi-information display after it is passed. In the following cases, the display of the signs is terminated.

- Driving a certain distance or passing of a certain period of time after passing the sign
- When an auxiliary sign indicating the end of regulation by the recognized sign is passed
- When a stop sign or a no entry sign is recognized
- When turning right or left at an intersection
- When the selector button is placed into the "R" position
- When the parking brake is being operated

Stopping Temporarily



When the camera recognizes a stop sign while driving, the sign appears on the multi-information display before it is passed. In the following cases, the display of the signs is terminated.

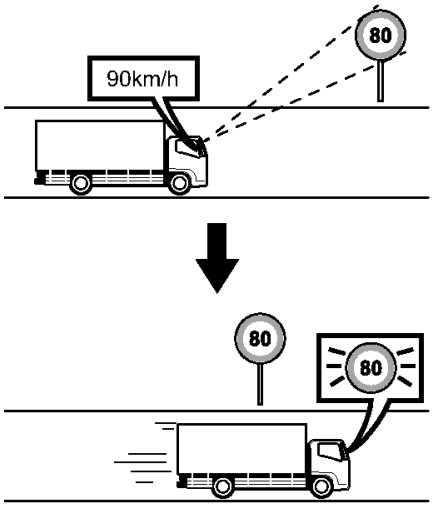
- Driving a certain distance after passing a sign
- When turning right or left at an intersection
- When the selector button is placed into the "R" position
- When a no entry sign or a no overtaking sign is recognized
- When the parking brake is being operated

NOTE

- A stop sign is recognized while at a vehicle speed of approximately 40 km/h or less.

Warnings by Traffic Sign Recognition System Function

Warning of Exceeding the Maximum Speed Limit



When the speed limit detected by the camera is exceeded while driving, the "Speed limit sign" displayed on the multi-information display flashes and a buzzer sounds at the same time. While checking the surrounding conditions, use the brake pedal, etc., to decelerate to within the range of the legal speed limit.
In the following situations, the warning of exceeding the maximum speed limit is terminated.

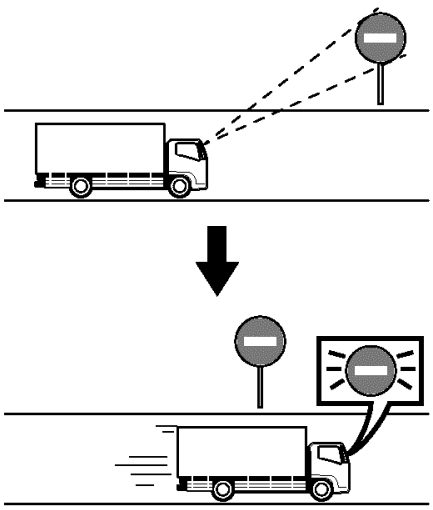
- The vehicle decelerates to below the speed limit on the traffic sign
- When the "Speed limit sign" is updated so the vehicle is driving below the updated speed limit
- When the "Speed limit sign" display ends

NOTE

- When the camera recognizes that the speed limit is lower than the actual display, the speed limit warning may activate even though the speed of your vehicle is within the legal range.

Multi-information display	Warning buzzer	Conditions
Display area 1  (Flashing)	Continuous beep	If your vehicle speed exceeds the speed of the traffic sign detected by the camera

No Entry Warning

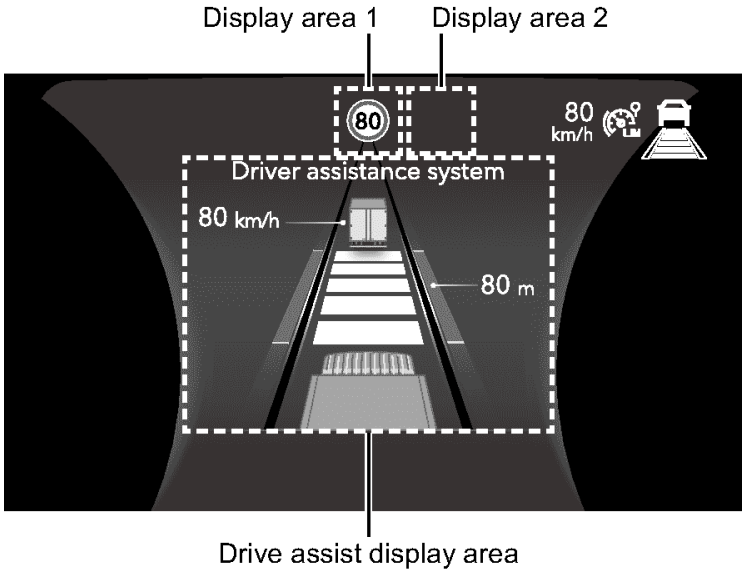


When a no entry sign recognized by the camera is passed while driving, then "No entry" flashes and "No entry" is displayed on the multi-information display and a warning buzzer sounds at the same time. The warning ends after a certain period of time.

Multi-information display	Warning buzzer	Conditions
Display area 2  (Flashing)	One short beep	When the vehicle passes a no entry sign and then enters the restricted area
Drive assist display area No entry 		

Description of Traffic Sign Recognition System on the Multi-Information Display

You can check the display of the driver assistance display area when "Advanced driver assistance systems display" is selected.



Name	Display area 1	Display area 2	Drive assist display area
Traffic sign recognition system on	-- (Red)	—	—
Traffic sign recognition system off	-- (Gray)	—	—
Traffic sign recognition system abnormality	-- (Amber)	—	—
Speed limit signs	80	—	—

Name	Display area 1	Display area 2	Drive assist display area
No entry	—		No entry 
No overtaking	—		—
Stopping temporarily	—		—

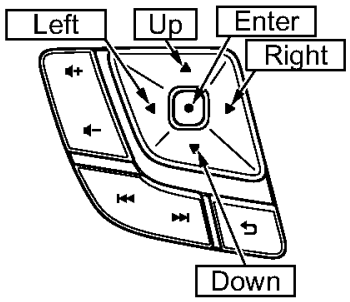
NOTE

- Up to two traffic signs are displayed on the normal screen.
- If the engine is stopped while a traffic sign is displayed, the sign does not reappear when you restart the engine.

Setting the Traffic Sign Recognition System

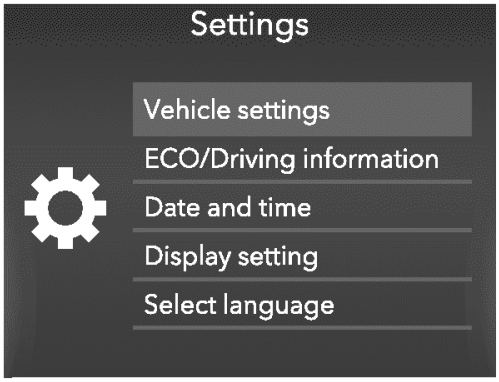
Turning On and Off the Traffic Sign Recognition System

From the "Vehicle settings" screen on the multi-information display, you can deactivate traffic sign recognition system.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area



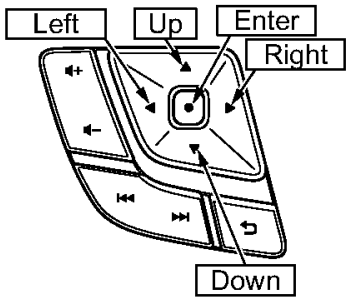
2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Traffic sign recognition system" → "Traffic signs ON/OFF".
3. Press either "Up" or "Down" on the multi-information display switch to switch the traffic sign recognition system function between "ON" or "OFF". And then confirm your selection by pressing "Enter".

NOTE

- Traffic sign recognition system always turns on after the engine is started.
- When the system temporarily stops operations, the multi-information display may not be able to switch on and off.
- When traffic sign recognition system is set to off, the other traffic sign recognition system settings cannot be operated.

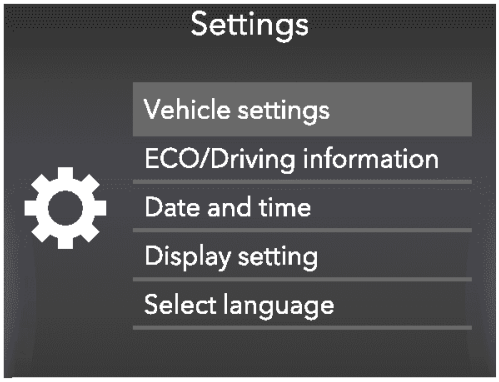
Changing the Notification Method for the Warning of Exceeding the Maximum Speed

You can use the multi-information display switch to change the notification method for the warning of exceeding the maximum speed.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

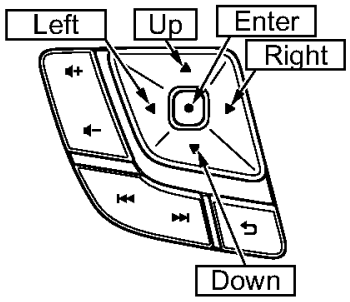
Refer to page
3-33 Main Display Area



2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Traffic sign recognition system" → "Speed limit alert".
3. Press either "Up" or "Down" on the multi-information display switch to select the notification method and then confirm your selection by pressing "Enter". You can adjust it to 3 levels, "OFF", "Alert display only", and "Alert display and sound".

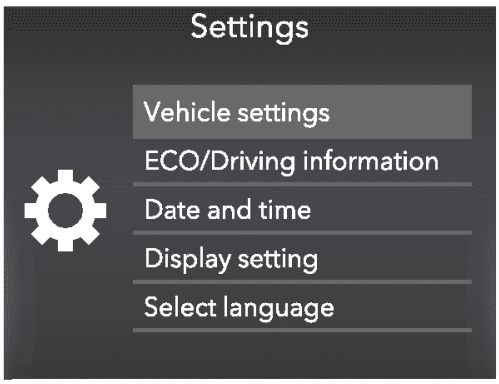
Turning On and Off the Speed Limit Sign Notification Sound

You can use the multi-information display switch to set the notification sound when a speed limit sign is recognized.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

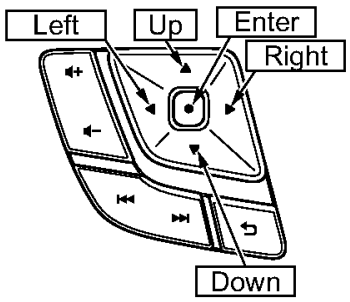
Refer to page
3-33 Main Display Area

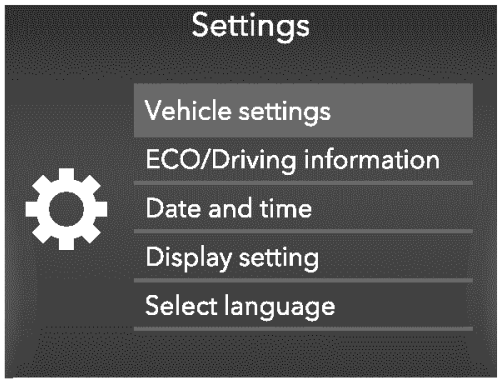


2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Traffic sign recognition system" → "Alert speed".
3. Press either "Up" or "Down" on the multi-information display switch to switch the notification sound. And then confirm your selection by pressing "Enter".

Changing the Notification Method for the No Entry Warning

You can use the multi-information display switch to change the notification method for the no entry warning.





1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Traffic sign recognition system" → "No entry alert".

3. Press either "Up" or "Down" on the multi-information display switch to select the notification method and then confirm your selection by pressing "Enter". You can adjust it to 3 levels, "OFF", "Alert display only", and "Alert display and sound".

When the Traffic Sign Recognition System Does Not Operate Normally

The traffic sign recognition system is one part of the advanced driver assistance systems. It does not operate normally if there is a system abnormality.

Refer to page
5-7 When There Is a Problem in the ADAS

In the following situations, the traffic sign recognition system may not operate properly because the camera cannot recognize a traffic sign accurately.

- When a traffic sign is dirty due to mud, sand, etc.
- When a traffic sign is hidden by trees, other vehicles, etc.
- When part of a traffic sign has different brightness due to shadows or other factors
- When a traffic sign is bent or distorted
- When a traffic sign is too high or too low
- When a traffic sign is too large or small
- When a traffic sign (including electric traffic signs) is too bright or too dark
- When something similar in shape and color to a traffic sign is in a recognizable position (traffic signs not targeted to be recognized, or sign boards, etc.)
- When the time for the camera to recognize traffic signs is short
- When the system incorrectly judges the driving situation (turning, changing lanes, etc.)
- When a traffic sign is located just after a road junction on an expressway or just before where adjacent lanes merge
- When, on the back of the preceding vehicle, there is a sticker (which is similar in color or shape to a traffic sign, or is reflective, etc.) that prevents recognition of traffic signs
- When a speed limit sign on a side road is within the recognition range of the camera
- When driving in a rotary (roundabout)
- When the camera recognizes objects on the instrument panel cluster which are reflected off the windshield
- When the vehicle is tilted because of rough roads
- When tire air pressure is not appropriate
- When special tires are installed
- When driving through or near parking area exits or expressway tollbooths
- When driving on sharp curves
- When the surrounding brightness rapidly changes, such as when entering or exiting a tunnel
- When the headlight beams are misaligned or their light is weak, because the lenses are dirty
- When the windshield is dirty or foggy
- When there is condensation on the windshield and/or camera

- When the vehicle is subject to strong light from the forward direction (backup lights, high beam, etc.)
- When strong light is reflected on the road
- When a traffic sign is located outside the range of your headlights, such as at night or in a tunnel
- When driving in poor weather conditions (rain, snow, or fog)

Intelligent Speed Limiter [V]

The intelligent speed limiter is a system that limits the speed according to the speed limits posted for each road. The maximum speed of your vehicle can be set in a range from approximately 30 km/h or 20MPH to the speed set for the speed limit device according to limits detected by the camera using traffic sign recognition system.

Refer to page
5-5 Precautions for ADAS
5-53 Traffic Sign Recognition System [V]

⚠ WARNING

- **Set the vehicle speed within an appropriate speed range for road conditions and environment, and observe the speed limit.**
- **If a vehicle speed lower than the speed while driving is set, the system decelerates the vehicle. Always check the surrounding area to be safe when using the system.**

⚠ CAUTION

- **When the intelligent speed limiter icon is displayed in the multi-information display, check the set vehicle speed upper limit before starting to drive.**
- **When any other person drives the vehicle, always deactivate the intelligent speed limiter. Driving a vehicle without knowing that this function is on may cause unexpected trouble.**
- **In case of driving on an expressway or a limited-access road, do not set a speed lower than the specified minimum speed. Otherwise, the vehicle cannot be driven according to the road conditions, which may cause an unexpected accident.**
- **An upper speed limit that exceeds the set speed of the speed limit device cannot be set.**

Refer to page
4-137 Speed Limit Device [V]

NOTE

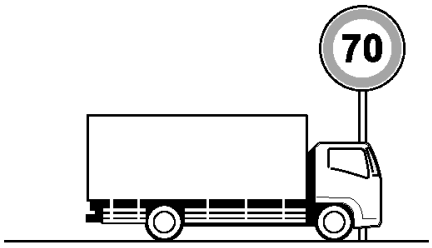
- The intelligent speed limiter does not operated if traffic sign recognition system cannot be used.
- The system is temporarily deactivated when the accelerator pedal is depressed strongly and the vehicle accelerates. When the vehicle speed reaches the set speed or less, the system reactivates.
- On a downhill slope, the vehicle speed may exceed the set speed.

Operation of the Intelligent Speed Limiter

The intelligent speed limiter uses traffic sign recognition system or the steering wheel switch to set and change the upper speed limit.

Refer to page
5-73 When the Intelligent Speed Limiter Does Not Operate Normally

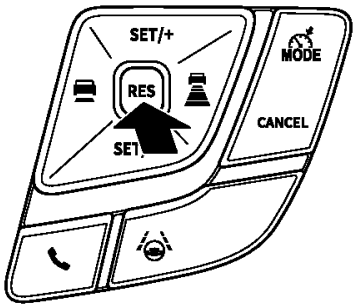
Setting Vehicle Speed Upper Limit (Traffic Sign Recognition System)





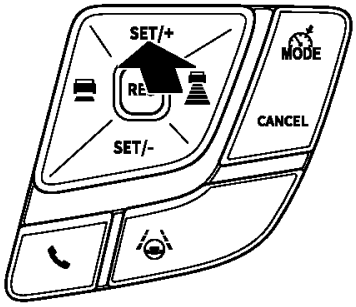
1. If the camera recognizes a speed limit sign when the speed limit device is set while driving, the speed limit sign mark appears on the multi-information display after passing the sign, and the "RES" icon (white) turns on under the speed limit sign mark.
2. When the resume switch is pressed, the vehicle speed upper limit is set. Also, "RES" on the multi-information display turns green.

Changing Vehicle Speed Upper Limit (Traffic Sign Recognition System)



If a speed limit sign that is different from the set vehicle speed upper limit is recognized, then after passing the sign, the "RES" icon (white) turns on under the speed limit sign mark on the multi-information display. Pressing the resume switch while "RES" is displayed changes the vehicle speed upper limit. Also, "RES" on the multi-information display turns green.

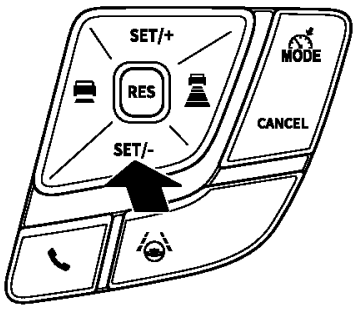
Changing Vehicle Speed Upper Limit (Set By Switch)



Pressing the "+" side of the set switch increases the vehicle speed, and the vehicle speed upper limit that is displayed in the multi-information display also increases.
By holding down the "+" side of the set switch, the set vehicle speed can be increased in increments of 5 km/h*1 or 5 MPH*2.
Stop operating the switch when the desired speed is indicated.Operate and then immediately release the "+" side of the set switch. The vehicle speed upper limit increases by 1 km/h*1 or 1 MPH*2 for each operation.

*1: when "km/h" display is selected on the multi-information display

*2: when "MPH" display is selected on the multi-information display



Pressing the "-" side of the set switch decreases the vehicle speed, and the vehicle speed upper limit that is displayed in the multi-information display also decreases.
By holding down the "-" side of the set switch, the set vehicle speed can be decreased in increments of 5 km/h*1 or 5 MPH*2.
Stop operating the switch when the desired speed is indicated.
Operate and then immediately release the "-" side of the set switch. The vehicle speed upper limit decreases by 1 km/h*1 or 1 MPH*2 for each operation.

*1: when "km/h" display is selected on the multi-information display

*2: when "MPH" display is selected on the multi-information display

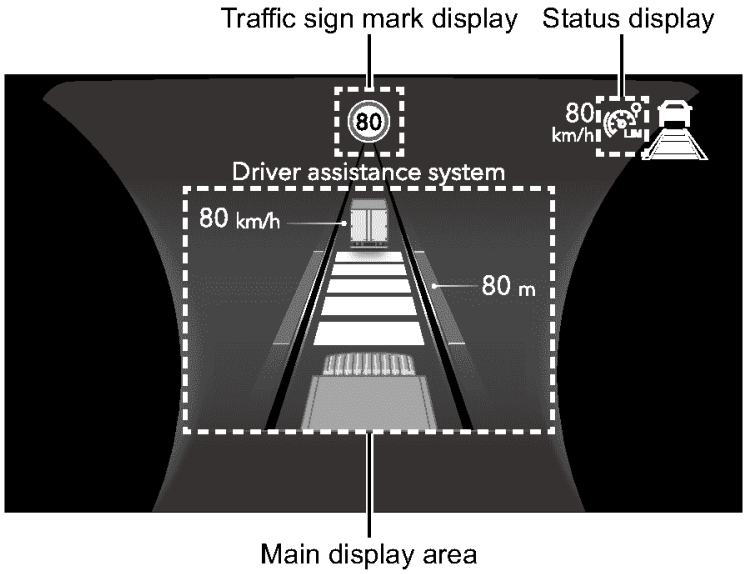
NOTE

- Changing the vehicle speed upper limit is also possible when the vehicle is stopped.

Intelligent Speed Limiter Warnings/Indicators

Details of Intelligent Speed Limiter on Multi-Information Display

You can check the display of the main display area when "Advanced driver assistance systems display" is selected.



Name	Multi-information display			Display details
	Traffic sign mark	Status display	Main display area	
Intelligent speed limiter off	*	—	—	When the intelligent speed limiter is off
Intelligent speed limiter on	*	LIM (White)	Intelligent speed limiter Driver assistance mode changed	• If the starter switch is set to the "ON" position • The intelligent speed limiter turns on when no speed limit sign is detected
Speed limit setting	*	LIM (Green)	—	When a vehicle speed upper limit is set
Request to change speed limit	80 RES (White)	LIM (Green)	—	When a speed limit sign is recognized and the driver is requested to change the upper speed limit

Name	Multi-information display			Display details
	Traffic sign mark	Status display	Main display area	
Approval to change speed limit	 (Green)	 (Green)	—	Request to change the upper speed limit has been approved by the driver ("RES" turns green)
Set vehicle speed was exceeded	*		—	When your vehicle exceeds the set vehicle speed (the icon in the status display area flashes)
Intelligent speed limiter temporarily canceled	*	(Flashing)	—	The intelligent speed limiter has been temporarily deactivated by the accelerator pedal being further depressed when almost fully depressed (the icon in the status display area flashes)

*: The sign mark is displayed according to the operating status of traffic sign recognition system.

Warning of the Intelligent Speed Limiter

Intelligent speed limiter icon

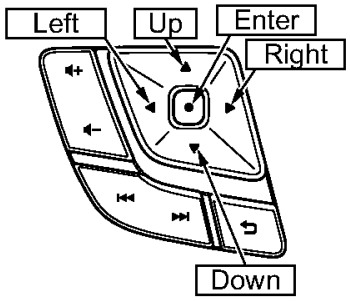


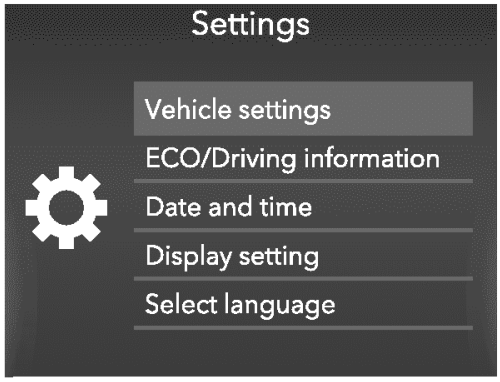
If the vehicle is driven faster than the speed limit that was set, the status display area icon flashes on the multi-information display. The flashing continues until the vehicle speed is reduced to below the set speed limit.
While checking the surrounding conditions, use the brake pedal, etc., to decelerate.

Setting the Intelligent Speed Limiter

Turning On and Off the Intelligent Speed Limiter

You can set the intelligent speed limiter to on/off by the multi-information display switch.





1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area

2. On the setting screen, select in order, "Vehicle settings" → "Driver assist functions in front" → "Intelligent speed limiter".

3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

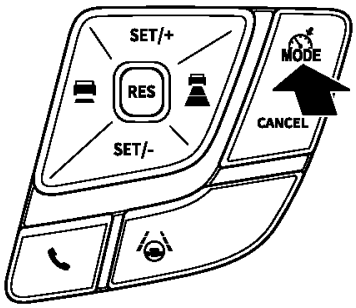
NOTE

- When the intelligent speed limiter is turned off, it switches to the adjustable speed limitation device.

Refer to page
4-138 Adjustable Speed Limitation Device [V]

Deactivating the Intelligent Speed Limiter

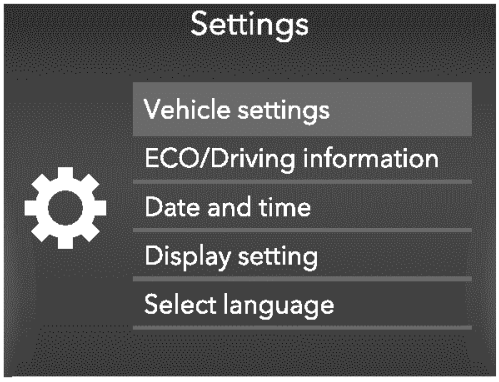
Mode switch



This is canceled when one of the following procedures is performed.

- If the starter switch is set to "ACC" or "LOCK" position
- When the mode switch is pressed
- While the intelligent speed limiter is in operation and the accelerator pedal is fully-depressed, and then it is depressed further again (return the accelerator pedal and it resumes)

Switching the Intelligent Speed Limiter and Adjustable Speed Limitation Device



By turning the intelligent speed limiter ON/OFF on the multi-information display (MID), you can switch between the intelligent speed limiter and the adjustable speed limitation device.
When the intelligent speed limiter is set to "ON", the intelligent speed limiter is activated.
When the intelligent speed limiter is set to "OFF", the adjustable speed limitation device is activated.

NOTE

- The intelligent speed limiter and adjustable speed limitation device cannot be turned on at the same time. Change the settings according to your purpose.

Refer to page
4-138 Adjustable Speed Limitation Device [V]
5-71 Turning On and Off the Intelligent Speed Limiter

When the Intelligent Speed Limiter Does Not Operate Normally

The intelligent speed limiter is one part of the advanced driver assistance systems. It does not operate normally if there is a system abnormality.

NOTE

- When "Front camera unavailable" is displayed, then traffic sign linked speed limit device is canceled, and it automatically switches to the adjustable speed limitation device. After cleaning the windshield (outside), redo the settings from the multi-information display.

Refer to page
4-138 Adjustable Speed Limitation Device [V]
5-7 When There Is a Problem in the ADAS

Lane Departure Warning System (LDWS) [V]

When the LDWS detects that the vehicle has deviated from the lane, it will alert the driver by audible warnings and indications on the multi-information display.
This system operates at speeds of approximately 60 km/h (37 MPH) and above.

Refer to page
5-5 Precautions for ADAS

WARNING

- **The LDWS is designed to support driving within the lanes, and is not meant as a substitute for paying attention to the road or keeping your hands on the wheel. Always keep your hands on the steering wheel and drive safely.**

NOTE

- LDWS stands for "Lane Departure Warning System".

Operating Conditions of the LDWS

All of the following conditions must be met for the LDWS to operate:

- The LDWS OFF indicator light is not on.
- "Front camera failure" and "Front camera unavailable" are not shown in the multi-information display.
- The vehicle speed is above approximately 60 km/h (37 MPH).
- Lane markers can be recognized during vehicle operation.

NOTE

- LDWS does not operate for approximately 10 seconds after the engine is started.
- If the vehicle is parked in the sun for an extended period of time, the LDWS may not operate immediately after the vehicle is started, but this is normal. The camera will resume operation once the temperature around the camera has returned to a normal level.
- After the LDWS operates, the function will be temporarily halted. The function will recover a few seconds after it is halted.
- LDWS warnings will be temporarily disabled in the following cases.
  - One of the turn signals is on
  - The brake pedal is depressed
  - When driving on sharp curves
  - The vehicle speed is below approximately 60 km/h (37 MPH)
  - The lane markers cannot be detected while driving
  - The hazard warning flasher switch is operated

Refer to page
5-75 LDWS OFF Indicator Light
5-80 When the LDWS May Not Operate Correctly

LDWS Warnings/Indicators

LDWS OFF Indicator Light



The light will come on when the LDWS function is stopped or when there is an LDWS malfunction.
If the light does not turn off, stays illuminated even though the LDWS has not been turned off, or does not illuminate when the starter switch is turned to the "ON" position, contact your nearest Isuzu Dealer.

NOTE

- After the engine stops due to engine stalling, it is not abnormal if the LDWS OFF indicator light comes on momentarily when the engine is restarted.

Details of LDWS on Multi-Information Display

Depending on the LDWS status, the following will be shown on the multi-information display.

Name	Multi-information display Drive assist display area*2	Indication details
LDWS off		When the LDWS function has been turned off using the LDWS switch.*1
LDWS on		The LDWS is operating.
Warning display		When the lane departure warning system senses that the vehicle is departing its lane and issues a warning (either the left or right warning sounds)
Vehicle lane cannot be detected		When the camera cannot detect the vehicle lane or the vehicle speed is below approximately 60 km/h (37 MPH).

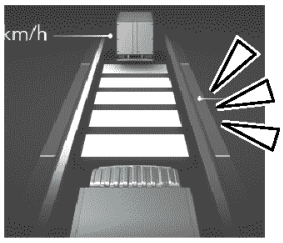
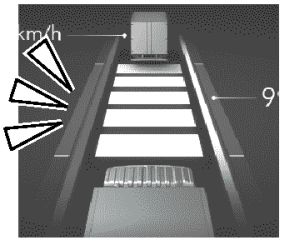
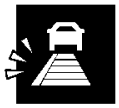
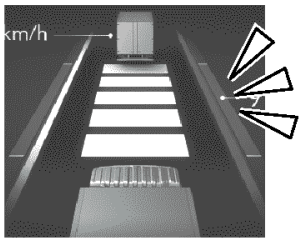
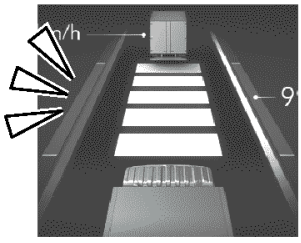
*1: On lane keep assist equipped vehicles, this display turns off only when lane keep assist and LDWS are both turned off.

*2: The preceding vehicle icon is displayed only during full speed range adaptive cruise control, following distance warning, or while AEBS is operating.

Refer to page
3-31 Multi-information Display Functions
5-24 Preceding Vehicle Departure Notification Function

Warning of the LDWS

When the LDWS detects the vehicle deviating from a lane, it alerts the driver with messages in the multi-information display and warning sounds.

Warning timing	Multi-information display		Warning buzzer	Condition
	Main display area*	Drive assist display area		
Fast			Rapidly repeated beeps	Warning buzzer sounds when the vehicle tire in contact with right lane marker.
			Rapidly repeated beeps	Warning buzzer sounds when the vehicle tire in contact with left lane marker.
Standard			Rapidly repeated beeps	Warning buzzer sounds when the vehicle tire crossed right lane marker.
			Rapidly repeated beeps	Warning buzzer sounds when the vehicle tire crossed left lane marker.

*: You can check the display of the main display area when "Advanced driver assistance systems display" is selected.

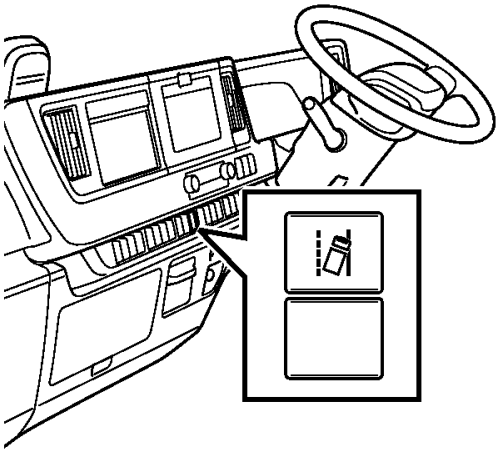
NOTE

- The warning will sound if the driver changes lanes without operating the turn signal switch.

Setting of the LDWS

Turning On and Off the LDWS

LDWS switch



Use the LDWS switch to turn the LDWS off. Pressing and holding the LDWS switch switches the lane departure warning between on and off. When the LDWS is stopped, the LDWS OFF indicator light comes on.

NOTE

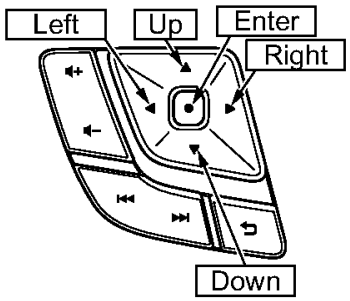
- If the engine is stopped and restarted while the LDWS is stopped, then the lane departure warning will be activated at the previously set warning timing.

LDWS OFF indicator light



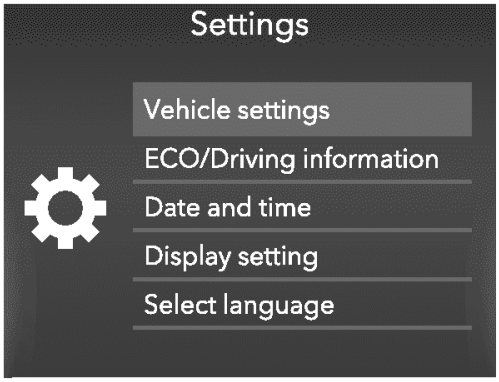
Changing the Warning Timing of LDWS

From the "Vehicle settings" screen on the multi-information display, you can switch the timing for the lane departure warning.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area



2. In the settings screen, select in order, "Vehicle settings" → "Driver assist functions for side" → "Lane departure warning" → "Warning timing".
3. Press either "Up" or "Down" on the multi-information display switch to switch the timing of the lane departure warning to "Fast" or "Standard", and then confirm your selection by pressing "Enter".

NOTE

- When the engine is stopped while "Fast" or "Standard" is selected for the warning timing, then the warning timing that is set before the engine is stopped is maintained.

When the LDWS May Not Operate Correctly

The LDWS is one of the advanced driver assistance systems. It may not operate correctly if the system has a problem.

Refer to page
5-7 When There Is a Problem in the ADAS

The system may not be able to recognize lanes and therefore may not function properly under the following conditions:

- Lane markers are blurred or dirty
- Lane markers are hard to detect due to rain, snow, fog, reflective light, etc.
- Lane markers can not be easily recognized due to being faded from road construction, or due to shadows, snow, puddles, etc.
- Lane markers are drawn close to each other
- Lane markers are excessively narrow or wide
- Driving on forked roads, on-ramps/off-ramps, or sharp curves
- Driving across lane markers because of lane restrictions due to construction or within temporary markers that have been drawn for construction purposes
- Driving on twisting or rough roads
- Driving outside of main highway lanes such as when in the cruising or passing lanes (e.g. on the shoulder, etc.)
- The speed to cross the road lane markers is low
- Headlight illumination is weak or unfocused due to dirty headlight lenses, etc.
- Sudden or continuous changes in brightness occur
- The vehicle is tilted significantly due to unevenly loaded cargo, incorrectly adjusted tire pressure, etc.

Lane Keep Assist [V]

Lane keep assist is the collective name of the system for assisting steering wheel operations to keep the vehicle driving safely within the lane markers. The system assists steering wheel operations to keep the vehicle driving in the center of the lane by using camera to detect the lane markers on roads with well-maintained lane markers while driving at a constant speed of 60 to 90 km/h (37 to 56 MPH) by using full speed range adaptive cruise control.
This system is used on expressways and motorways.

Refer to page
5-30 Full Speed Range Adaptive Cruise Control [V]

⚠ WARNING

- **Do not overly rely on the lane keep assist.**
- **The lane keep assist is designed to support driving within the lane and in traffic jams. It is not a system for automatic driving/attention assist to the road ahead/ hands-off driving. The driver must check the surrounding conditions and take responsibility to keep your hands on the steering wheel and drive safely.**
- **Driving inappropriately or without caution may lead to an unexpected accident.**

⚠ CAUTION

- **If the assisting force and timing of the steering wheel controls make driving operations feel different, then do not use lane keep assist.**
- **Do not use the system in such conditions as shown below because doing so is dangerous.**
  - **When towing a disabled vehicle, etc.**
  - **When the wheels are not balanced correctly**
  - **When the wheel alignment is not adjusted correctly**
  - **When tires that are not the designated size are installed**
  - **When tire chains are installed**
  - **When the steering wheel abnormally vibrates or feels heavy**
  - **When a non-genuine Isuzu steering wheel is used**
  - **When driving on a road other than an expressway or a motorway**
  - **When driving on slippery road surfaces, such as icy or snowy roads**

NOTE

- In the following situations, the system may take several minutes to operate.
  - When the engine is stopped and restarted

[Assisted steering]

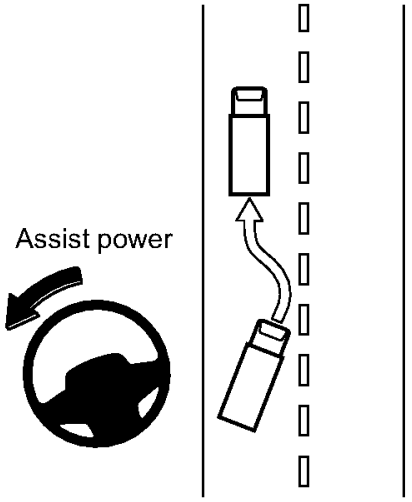
- Steering wheel operations are assisted during normal driving so that little force is needed to steer, even when lane keep assist is off in vehicles that have lane keep assist.

Refer to page
3-30 Steering Assist Motor Warning Light

Operation of the Lane Keep Assist

NOTE

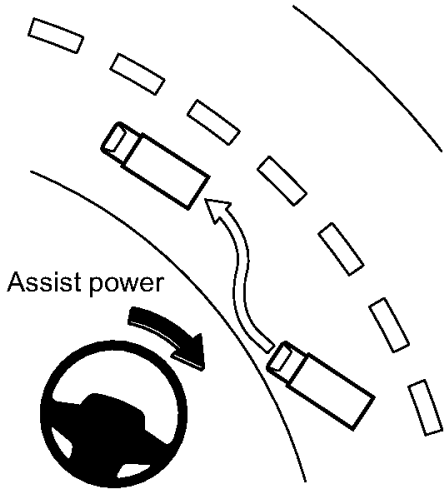
- The lane keep assist may not operate immediately after starting the engine after the vehicle has been parked in the hot sun, but this is not a malfunction. The function will recover when the area around the camera reaches normal temperatures.
- The timing of the lane departure mitigation warning and the timing of assisting the steering wheel operation differ.
- Steering in the center of the lane may not be possible, even when steering wheel operations are being assisted, due to the road conditions and vehicle speed.
- If the system malfunctions, the various functions of lane keep assist do not operate.



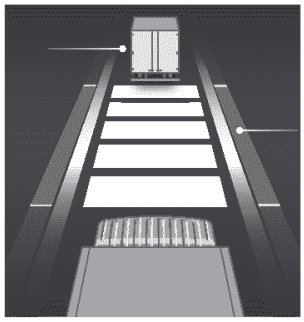
In the following conditions, the lane keep assist system assists steering wheel operation so the vehicle is easy to keep in the center of the lane.

- When the white lines are correctly detected
- When using full speed range adaptive cruise control
- When driving on a straight or gently curved road

Refer to page
5-30 Full Speed Range Adaptive Cruise Control [V]



Also, when operating, the lane markers appear green in the main display area of the instrument display, and the lane keep assist system operating status display and the lane marker recognition status display in the drive assist display area light green.

Instrument display indicators while lane keep assist system is operating		
Drive assist display area		Main display area*
Lane marker recognition status  (Green)	System operation status  (Green)	Lane marker display  (Green)

*: You can check the display of the main display area when "Advanced driver assistance systems display" is selected.

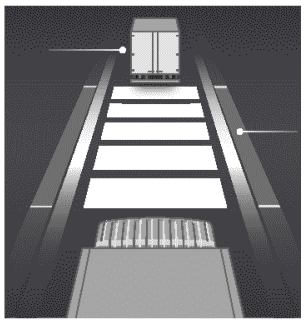
Refer to page
5-84 Instrument Display Indications for Lane Keep Assist

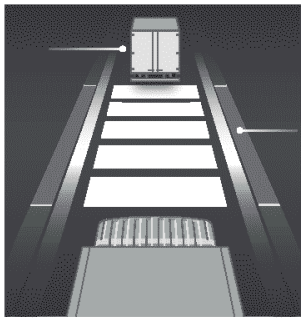
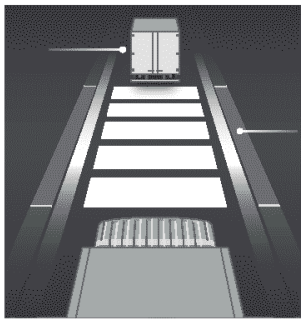
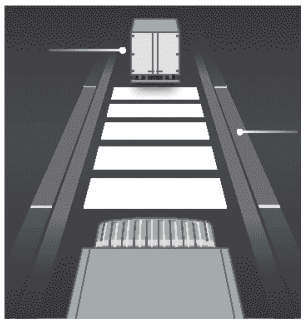
ADVICE

- You can temporarily drive along the edge of the lane if you keep operating the steering wheel to do so even while the lane keep assist system is operating. After a certain period of time, steering support starts again to keep driving in the center of the lane.
- While the lane keep assist system is operating, if the vehicle pulls to either the left or right side of the lane even though the steering wheel is not being operated, have it inspected/repaired at the nearest Isuzu Dealer.

Instrument Display Indications for Lane Keep Assist

Lane keep assist displays the following indications, according to the conditions, on the instrument display.

Name	Instrument display			Display details
	Main display area	Drive assist display area		
Lane keep assist system off	— *1	— *1	 (Gray)	The lane keep assist system is off.
Lane keep assist system on - standby	 Lane marker display (white)	 (White)	 (White)	The lane keep assist system is on and standing by.

Name	Instrument display			Display details
	Main display area	Drive assist display area		
Lane keep assist system on - operating	 Lane marker display (Green)	 (Green)	 (Green)	The lane keep assist system is on and operating.
Lane departure warning display when lane keep assist system is operating	 Lane marker display (amber) *2	 (Amber) *2	 (Green)	The lane keep assist system detects lane departure and sounds a warning.
Lane markers unrecognizable	 No lane marker displayed	 No lane marker display	 (White)	The lane keep assist system is on, but the camera cannot recognize the lane markers.

*1: The content shown in the instrument display varies according to the other functions that are on/off, and the line marker and preceding vehicle detection states.

*2: The lane marker on which departure is detected is displayed in amber.

Lane Keep Assist Warnings/Indicators

Instrument Display

The state of lane keep assist can be confirmed from the indications in the instrument display.

Refer to page
5-84 Instrument Display Indications for Lane Keep Assist

Hands-Off Warning

If driving without hands is detected while the lane keep assist system is operating, the driver is alerted via the instrument display indicators and an alarm sound.

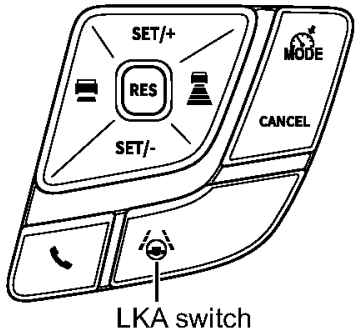
Instrument display indication		Warning buzzer	Display details
Main display area	Drive assist display area		
Hold steering wheel Grip the steering wheel (Amber)	 (Green)	—	The driver's hands are off the steering wheel for about 10 seconds while the lane keep assist system is on.
Hold steering wheel Grip the steering wheel (Red)	 (Green)	Rapidly repeated beeps	The driver's hands are off the steering wheel for about 20 seconds while the lane keep assist system is on.
Hold steering wheel Grip the steering wheel (Red)	 (White)	Short, repeated beeps	The driver's hands are off the steering wheel for about 25 seconds while the lane keep assist system is on.

NOTE

- If hands-off driving continues for about 15 seconds after the hands-off warning is displayed, the lane keep assist system is temporarily canceled and goes into standby.

Turning On and Off the Lane Keep Assist

LKA switch



Lane keep assist system display



Lane keep assist system

Pressing the LKA switch turns the lane keep assist system on, and the lane keep assist system display appears white in the drive assist display area.

After that, pressing the LKA switch again turns it off, and the lane keep assist system display in the drive assist display area turns from white to gray.

Also, when the LKA switch is operated, a buzzer sounds to indicate the following.

Warning buzzer	Details
One short beep	When there is notification that the system/function has been switched ON/OFF
Two short beeps	When there is notification that the system/function has not been switched ON/OFF (when the system fails, etc.)

NOTE

- Even if lane keep assist is turned off, when the LDWS is on, the lane recognition status display remains on in the main display area and drive assist display area.

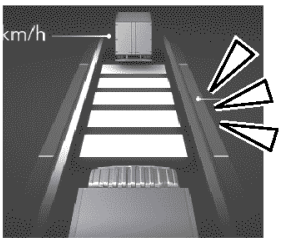
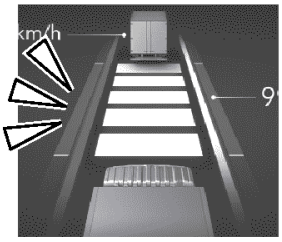
Lane Departure Warning System (LDWS) When the Lane Keep Assist System Is On

When the lane keep assist system is started while the LDWS is off, the LDWS turns on automatically.

NOTE

- The LDWS may not operate immediately after starting the engine after the vehicle has been parked in the hot sun, but this is not a malfunction. The function will recover when the area around the camera reaches normal temperatures.
- After the LDWS is activated, the warning function stops temporarily. After stopping, the function returns to normal after a few seconds.
- When the lane keep assist system is operating, the LDWS is temporarily canceled under the following conditions.
  - When the turn signal switch is operated
  - When the brake pedal is depressed
  - When driving on sharp curves
  - When the lane cannot be detected while driving

If a lane departure is detected while the lane keep assist system is operating, the driver is warned via the instrument display and an alarm sounds. The lane marker display on the side of the departure is displayed in amber.

Instrument display		Warning buzzer	Condition
Main display area	Drive assist display area		
 Lane marker display (amber)	 (Amber)	Continuous beep	When the right lane marker is crossed. The right lane marker, which was crossed, turns amber and a warning sounds.
 Lane marker display (amber)	 (Amber)	Continuous beep	When the left lane marker is crossed. The left lane marker, which was crossed, turns amber and a warning sounds.

NOTE

- A warning sounds when changing lanes without operating the turn signal switch.
- The lane departure warning system cannot be turned off while using the lane keep assist system.

Refer to page
5-74 Lane Departure Warning System (LDWS) [V]

Deactivating the Lane Keep Assist

In the following cases, the functions of lane keep assist are deactivated. To turn the system "ON",press the LKA switch again.

- When extreme force is used on the steering wheel
- When the ABS/ASR/ESC is operating
- When the AEBS is operating

NOTE

- If the lane keep assist system is deactivated without the driver being aware, a warning is sounded to notify the driver that the function was deactivated.

Temporarily Deactivating the Lane Keep Assist

In the following cases, the functions of lane keep assist are temporarily canceled and put in standby.

- When the ASR/ESC function is disabled
- When driving on sharp curves
- When there is a large difference between the center of the lane and the center of the vehicle
- When the white (yellow) lines are not recognized
- When the turn signal switch is operated
- When the steering wheel is turned quickly or sharply
- When the vehicle lane is wide or narrow
- When the wipers are operating at a high speed

NOTE

- If the lane keep assist system is deactivated without the driver being aware, a warning is sounded to notify the driver that the function was deactivated.

Lane Keep Assist Malfunction

When lane keep assist malfunctions, the master warning light and the OFF indicator for each function come on.

Name	Screen display	Display details	Procedure
Master warning light	 (Amber)	There is notification that a malfunction occurred in lane keep assist	Contact the nearest Isuzu Dealer.
Lane keep assist system indicator "OFF"	 (Gray)		

Refer to page
3-28 Master Warning Light

When the Lane Keep Assist Does Not Operate Properly

The lane keep assist is one part of the advanced driver assistance system. It does not operate normally if there is a system abnormality.

Refer to page
5-7 When There Is a Problem in the ADAS

In the following situations, the system may not operate normally.

- When the vehicle lane markers are faded or dirty
- In rain, snow, fog or backlight
- When there are lines that look like lanes, such as leftover lines from road construction, shadows, remaining snow, tire tracks filled with rain, etc., or the road surface is shining after rain, etc.
- When two or more lanes are adjacent
- When the vehicle lane is wide or narrow
- When driving on forked roads, on-ramp/off-ramps or sharp curves
- When driving across a lane due to lane restrictions caused by construction or driving in a temporary lane
- When driving on rough or wavy roads
- When driving in a lane other than the main lane (cruising lane, passing lane) when on an expressway, etc.
- When sudden changes in brightness are continuous
- The vehicle is tilted significantly due to cargo being loaded in a lopsided condition, or the tire air pressure is improperly adjusted
- When roadside objects have structures or patterns that can be mistaken for white (yellow) lines (such as guardrails, curbs, or reflective poles)
- The white (yellow) line is drawn on a curbstone, etc.
- When driving on slopes
- When driving on a road tilted left or right
- When driving at very high speeds
- When the following distance with vehicles in the forward direction is too short

Attention Assist

The attention assist detects when the vehicle is weaving within the lane markers and alerts the driver with a multi-information display and a buzzer.

Refer to page
5-5 Precautions for ADAS

WARNING

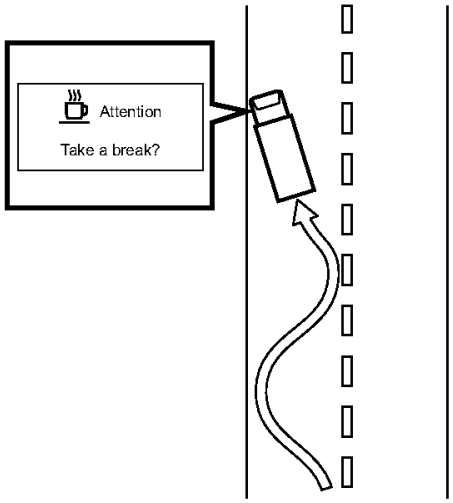
- **The driver is responsible for safe driving. While driving, always check the surrounding area to assure safety.**
- **The attention assist does not operate in all situations. Also, it does not automatically correct the vehicle's weaving. Depending on the attention assist to do the driving may lead to an unexpected accident.**
- **If the camera cannot detect the lane markers, or if the camera is temporarily stops or malfunctions, then attention assist does not operate.**

NOTE

- Whether the vehicle is weaving or not is recognized based on the drive data in the past few minutes. Weaving cannot be recognized immediately after the vehicle starts weaving. Also, the system may continue operating even after the vehicle has stopped weaving.
- The attention assist is a function to raise the driver's alertness. If your ability to concentrate on driving is impaired, because you are tired or cannot focus, we recommend taking a rest.
- The attention assist may also be activated in the following cases.
  - When subject to strong wind or a crosswind
  - When the steering wheel is operated differently from normal due to joints in the road surface, deep ruts, driving on snowy roads, avoiding obstacles, etc

Operation of the Attention Assist

Attention assist



The system issues a warning when the vehicle is weaving while driving at about 60 km/h (37 MPH) or more. At this time, a warning message is displayed on the multi-information display. At the same time, a buzzer sounds.

CAUTION

- **In the following cases, the multi-information display indication and the warning buzzer do not warn the driver.**
  - **The turn signal switch is operated**
  - **The steering wheel is turned fully**
  - **Driving on sharp curves**
  - **The vehicle speed falls to 60 km/h (37 MPH) or less**
  - **Lanes cannot be detected while driving**

NOTE

- The attention assist may not operate immediately while driving after the vehicle has been parked in the hot sun, but this is not a malfunction. The function will recover when the area around the camera reaches normal temperatures.
- After the attention assist is activated, the function stops temporarily. After stopping, the function resumes after about 3 minutes.

Refer to page
5-95 When the Attention Assist Does Not Operate Properly

Attention Assist Warnings/Indicators

Attention Assist Warning Light



This warning light comes on when there is an abnormality with the Attention Assist.

NOTE

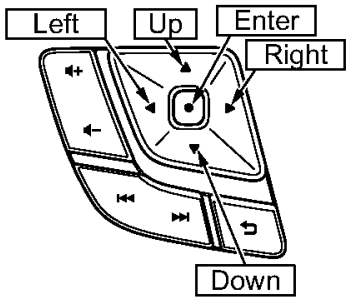
- The Attention Assist warning light does not come on while the Attention Assist is turned off.

Refer to page
5-94 Turning On and Off the Attention Assist

Setting of the Attention Assist

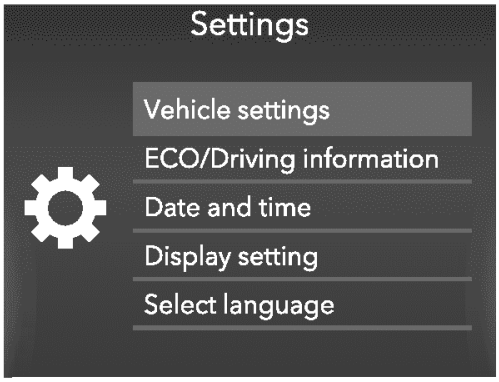
Turning On and Off the Attention Assist

You can set the attention assist to on/off by the multi-information display switch.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area



2. On the setting screen, select in order, "Vehicle settings" → "Driver monitoring" → "Attention assist".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

NOTE

- Even if attention assist is turned off, it is turned on again when the engine is restarted.

When the Attention Assist Does Not Operate Properly

The attention assist is one part of the advanced driver assistance system. It does not operate normally if there is a system abnormality.

Refer to page
5-7 When There Is a Problem in the ADAS

In the following situations, attention assist may not operate normally.

- When the vehicle lane markers are faded or dirty
- When the vehicle is in rain, snow, fog or backlight
- When there are lines that look like lanes, such as leftover lines from road construction, shadows, remaining snow, tire tracks filled with rain, etc., or the road surface is shining after rain, etc.
- When two or more lanes are adjacent
- When the vehicle lane is wide or narrow
- When driving on forked roads, on-ramps/off-ramps, or sharp curves
- When driving across a lane due to lane restrictions caused by construction or driving in a temporary lane
- When driving on rough or wavy roads
- When driving in a lane other than the main lane (cruising lane, passing lane) when on an expressway, etc.
- When headlight illumination is weak due to dirty lenses, etc., or the headlights are misaligned
- When sudden changes in brightness are continuous
- When the vehicle is tilted significantly due to cargo being loaded in a lopsided condition, or the tire air pressure is improperly adjusted

Adaptive Driving Beam (ADB) [V]

This system recognizes the situation ahead of the vehicle during night time using camera. The system automatically changes the irradiation range, irradiation area and brightness of the headlight.

Refer to page
5-5 Precautions for ADAS

CAUTION

- **Do not rely entirely on the system. When driving, always pay attention to your surroundings and drive safely by manually switching the headlights between high beam and low beam as necessary.**

Operation of the Adaptive Driving Beam

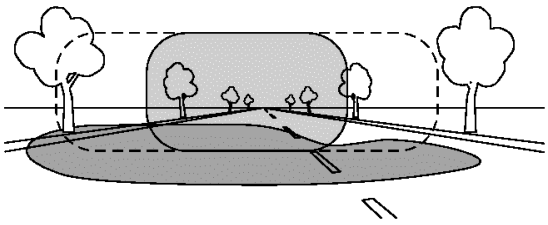
The adaptive driving beam is activated when the system determines that it is night based on the surrounding brightness.

NOTE

- The headlights may switch from the high beam to the shaded high beam due to the fog light of the vehicle ahead.
- Due to the following factors, the follow-up speed of the shaded range and the timing at which the headlights switch to the low beam may change:
  - Brightness of the lights of the vehicle ahead
  - The movement and the orientation of the vehicle ahead
  - When only one side of the headlights of the vehicle ahead is illuminated
  - Road conditions (road gradients, curves, road surface conditions, etc.)
- The light distribution control of the headlights may not match the driver's feeling.

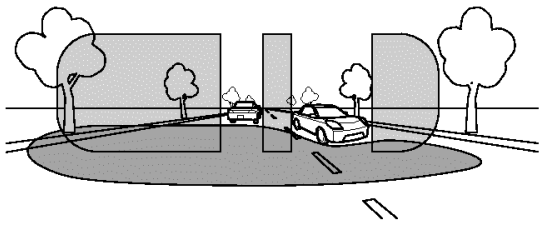
Refer to page
5-99 When the Adaptive Driving Beam Is Not Operating Normally

When There is No Preceding or Oncoming Vehicle



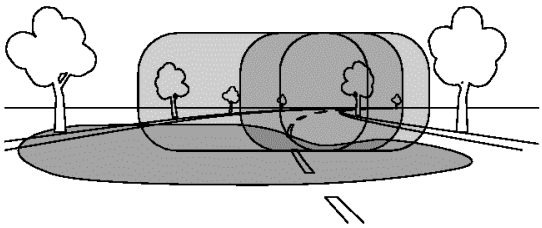
Adjusts the brightness and irradiation range of the high beam according to the vehicle speed.

When There is a Preceding or Oncoming Vehicle



The high beam light distribution is irradiated while only the area of the vehicle in front is blocked.

When Driving on a Curve



The high beam illuminates the direction of travel more brightly.

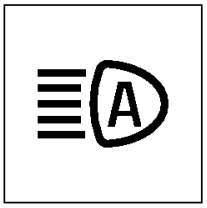
Operating Conditions of the Adaptive Driving Beam

All of the following conditions must be met for the adaptive driving beam to operate:

- The starter switch is in the "ON" position.
- The light control switch is in the "AUTO" position.
- The lever is at the high beam position.
- The low beam is on.
- The adaptive headlight setup is set to "ON" on the multi-information display.
- The selector button is placed into any position other than the "R" position.
- The vehicle is traveling at a speed of 15 km/h (9 MPH) or more.
- The system determines that it is night.
- The vehicle is in a place other than in a tunnel.

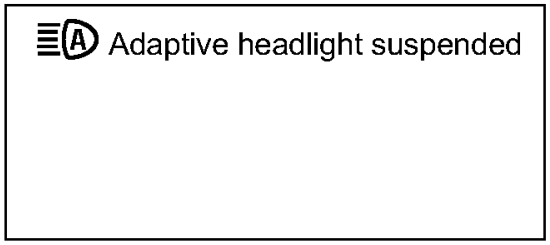
Adaptive Driving Beam Headlight Warnings/Indicators

Adaptive Driving Beam Warning Light (Amber)



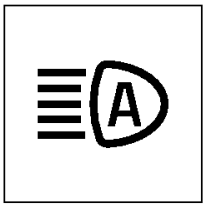
This warning light comes on when there is an abnormality in the adaptive driving beam headlight or its related system. Immediately contact the nearest Isuzu Dealer for an inspection.

Adaptive Headlight Suspended Warning



This warning is displayed when the camera system stops. If this screen appears, contact an Isuzu Dealer.

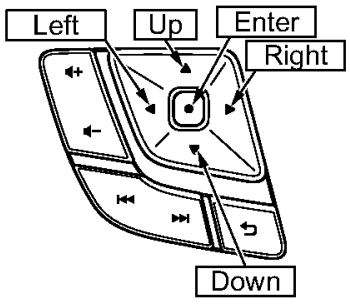
Adaptive Driving Beam Indicator Light (Green)



This indicator light comes on when the adaptive driving beam is operable. When the system determines that it is night based on the surrounding brightness, it activates the adaptive driving beam.

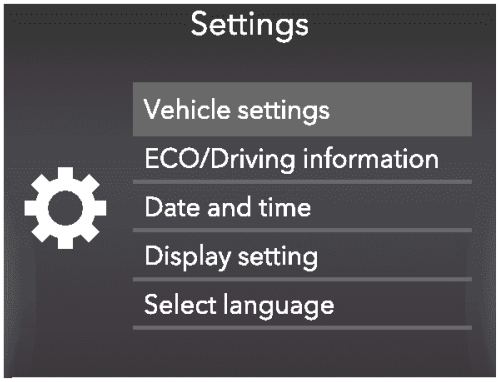
Setting the Adaptive Driving Beam

Turning On and Off the Adaptive Driving Beam



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

Refer to page
3-33 Main Display Area



2. On the setting screen, select in order, "Vehicle settings" → "Lamp" → "Adaptive headlight setup".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

When the Adaptive Driving Beam Is Not Operating Normally

The adaptive driving beam is one part of the advanced driver assistance system. It does not operate normally if there is a system abnormality.

Refer to page
5-7 When There Is a Problem in the ADAS

In the following situations, the adaptive driving beam may not operate properly. Manually switch between the high beam and low beam according to the visibility, road conditions, and traffic conditions.

- When weather conditions are bad (fog, snow, sandstorm, heavy rain, etc.)
- When the windshield is dirty or foggy
- When the windshield is cracked or damaged
- When the camera sensor is deformed or dirty
- When the camera sensor is extremely hot
- When there is a light source similar to the vehicle lights, such as street lights, electric signs, traffic lights, etc.
- When sudden changes in brightness are continuous
- When driving on an undulating road or a very uneven road
- When driving on a road with many curves
- When there is something that significantly reflects light in front of the vehicle, such as a road sign or a mirror
- When driving in an environment with many light sources, such as in an urban area
- When the vehicle is tilted, such as if a tire is flat, the vehicle is being towed, or the vehicle is heavily loaded
- When switching between the high beam and low beam frequently
- When the lights of the vehicle ahead or the oncoming vehicle are dark or dead
- When the surrounding darkness is insufficient, such as in the early morning or dusk
- When the vehicle in front suddenly appears or is not facing the right direction
- When oncoming vehicles appear and disappear in medians, roadside trees, etc.
- When the adaptive driving beam warning light (amber) is illuminated
- When "Fornt camera unavailable" or "Front camera failure" is displayed on the multi-information display
- When the AEBS OFF indicator light or LDWS OFF indicator light is lit (except when the driver is operating)
- When the windshield is frozen
- When the headlights of the vehicle reflect off a parked vehicle and are recognized as a light source

In the following situations, the headlights may not switch from the high beam to the low beam automatically.

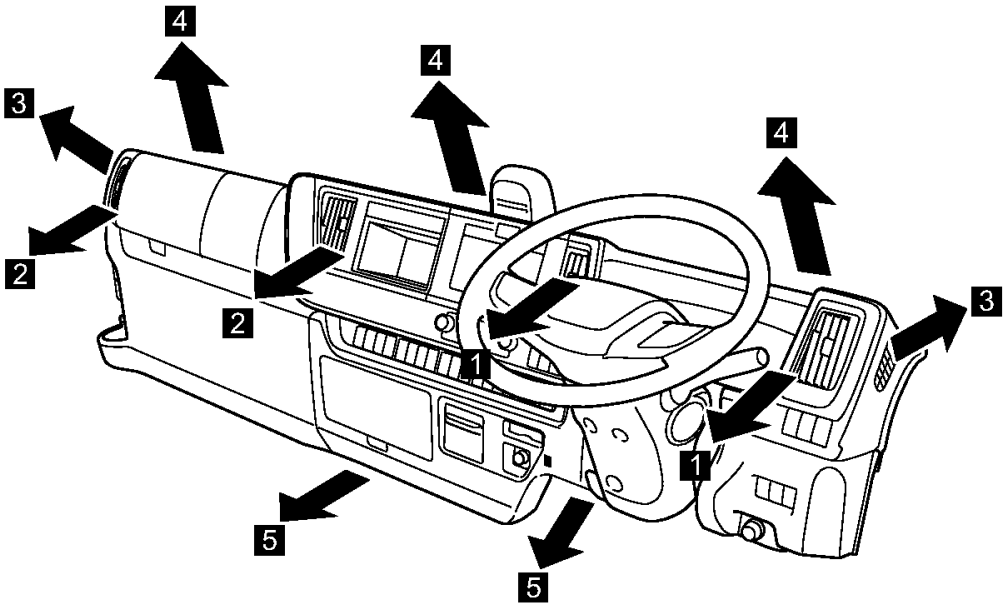
- When your vehicle suddenly passes an oncoming vehicle on a curve with poor visibility
- When another vehicle crosses in front of your vehicle
- When vehicles in front appear and disappear due to continuous curves, median strips, roadside trees, etc.
- When a vehicle in the forward direction approaches from a distant lane
- When a vehicle in the forward direction is driving without lights on
- When there is something that obstructs the view of the camera, such as fallen leaves or snow

Comfort and Convenience 6

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- Overhead Tray 6-34
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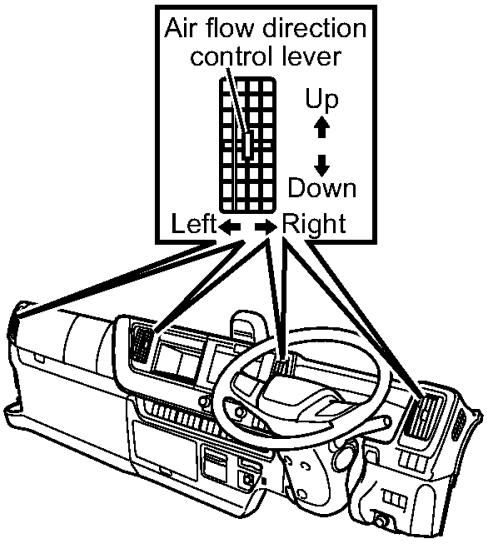
6-2 Comfort and Convenience

Air Outlets



No.	Outlet	Features
1	Driver side outlet	Air flow direction is adjustable with the lever.
2	Passenger side outlet	Air flow direction is adjustable with the lever.
3	Door windows outlet	Air is delivered towards the door windows.
4	Windshield outlet	Air is delivered towards the windshield.
5	Foot outlet	Air is delivered towards the feet.

Air Flow Direction Control Lever



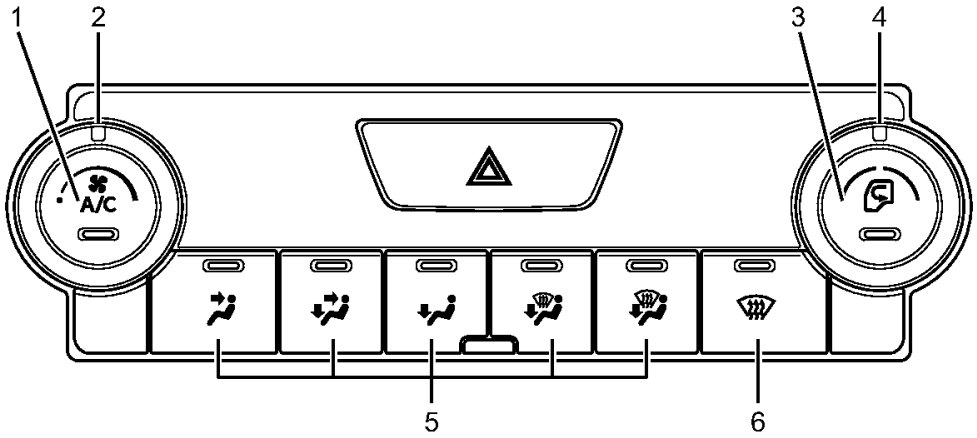
Use the control lever to adjust the airflow direction from the outlet. To close the outlet, move the lever down.

Manual Air Conditioner [V]

NOTE

- With some mounted equipment, when the PTO switch is turned on while the air conditioner is operating, the air condition may be stopped to protect the engine. When using the air conditioner, turn the PTO switch off while operating the air conditioner.

How to Use the Controls



No.	Name
1	Air conditioning (A/C) switch
2	Fan speed control dial
3	Inside/outside air selector switch
4	Temperature control dial
5	Outlet selector switches
6	Defroster switch

1. Air Conditioning (A/C) Switch

Press this switch to use the air conditioner. At this time, the pilot lamp of the switch illuminates to show that the air conditioner is activated. The air conditioner also performs dehumidification while heating.

NOTE

- Even if the A/C switch is turned on, the air conditioning system will not operate when the fan speed control dial is placed in the stop position. Make sure that the fan speed control dial is in a position other than the stop position.
- Even in seasons when the air conditioning system is not used, occasionally operate the system for a few minutes with the engine running at a low speed in order to keep the system's components lubricated.

2. Fan Speed Control Dial

Use this dial to adjust the A/C airflow.

3. Inside/Outside Air Selector Switch

Switch	Purpose	
Off	Outside air ventilation	To ventilate the cab's interior (This position should be normally selected.)
On	Inside air recirculation	To prevent dusty or otherwise contaminated outside air from entering the cab (such as in a tunnel or in congested traffic)

NOTE

- Extended use of the inside air recirculation position causes the windshield and windows to fog up easily, making visibility poor.

4. Temperature Control Dial

Use this dial to adjust the cab interior temperature according to your preference. Turning the adjustment knob counterclockwise lowers the outlet air temperature, and turning the knob clockwise raises the temperature.

5. Outlet Selector Switches

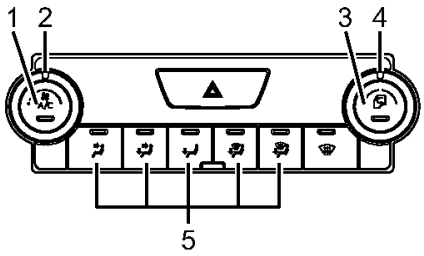
Switch	Purpose	Outlet
	Face	Air flows through outlets 1 and 2.
	Bi-level	Air flows through outlets 1, 2 and 5.
	Feet	Air flows through outlet 5.
	Feet and defroster 1	Air flows through outlet 5 and some through outlets 3 and 4.
	Feet and defroster 2	Air flows through outlet 5 and air of a greater volume than in first position " " flows through outlets 3 and 4.

6. Defroster Switch

Switch	Purpose	Outlet
On	Defroster	Air flows through outlets 3 and 4.

Ventilation

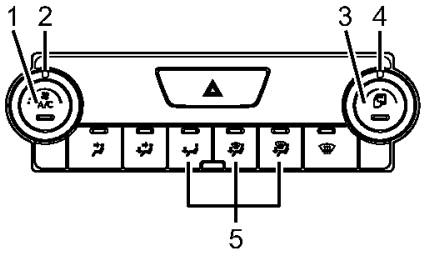
Outside Air Ventilation

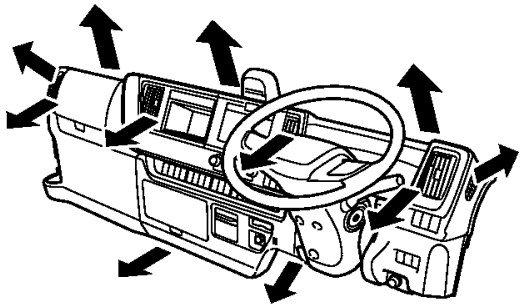


Set air conditioning (A/C) switch (1) to "off". Select any one of the positions on outlet selector switch (5) according to your preference. Set inside/outside air selector switch (3) to "off". Adjust temperature control dial (4) to the preferred position depending on the season and climate.
Use fan speed control dial (2) to select the preferred airflow.

How to Use the Heater

Normal Heating



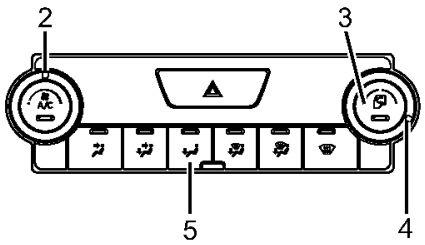


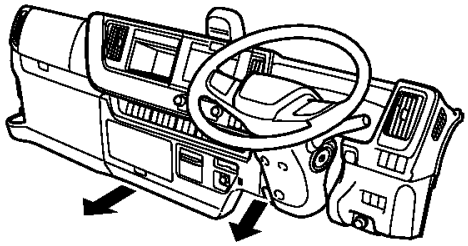
Set "", "", or "" on outlet selector switch (5) to "ON". You can defog the windshield while warming the feet by setting the "" switch to "on".
Set inside/outside air selector switch (3) to "off".
Adjust temperature control dial (4) and fan speed control dial (2) to the preferred positions.
A vehicle with an air conditioner (A/C) performs dehumidification and heating when air conditioning (A/C) switch (1) is set to "on".

NOTE

- As the heater uses the heat from the engine coolant, its heating effect is weak when the engine coolant temperature is low.

Maximum Heating



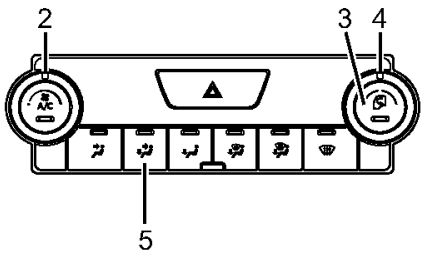


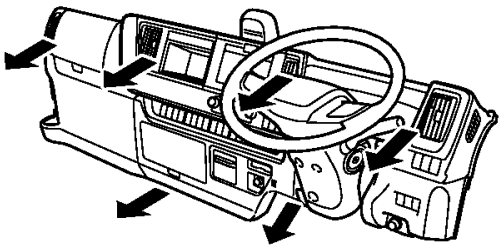
Set "" on outlet selector switch (5) and inside/outside air selector switch (3) to "on", and turn temperature control dial (4) fully towards the heating direction.
Set fan speed control dial (2) to the "maximum speed" position.

NOTE

- Extended use of inside air recirculation causes the windshield and windows to fog up easily, making visibility poor.

Bi-level Heating

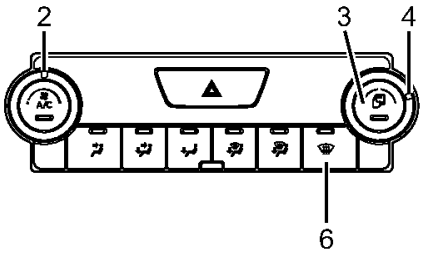


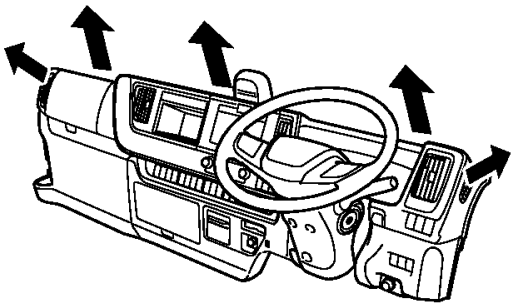


Set "" on outlet selector switch (5) to "on".
Set inside/outside air selector switch (3) to "off".
Set temperature control dial (4) to the middle position.
Adjust fan speed control dial (2) as desired.

Defogging and Defrosting the Windshield

Defogging



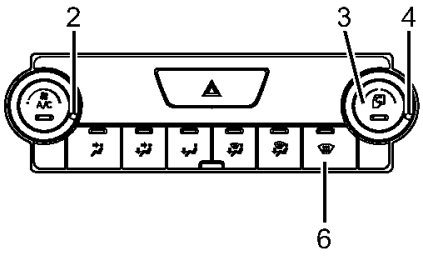


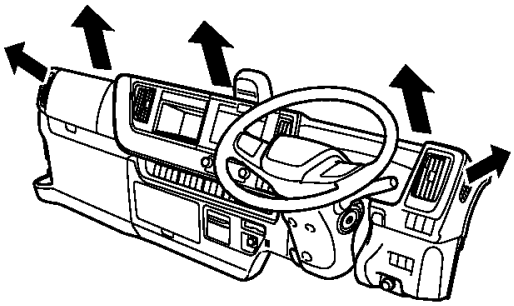
Set defroster switch (6) to "on".
Set inside/outside air selector switch (3) to "off".
Turn temperature control dial (4) to the preferred position towards the heating direction. For defogging in summer, adjust temperature control dial (4) as desired.
Set fan speed control dial (2) to the "on" position.
In vehicles with air conditioners (A/C), defogging is performed very effectively with the dehumidifying effect.

NOTE

- When using the air conditioner with defroster switch (6) set "on", do not set the temperature control dial close to the maximum cooling position. Doing so may cause the outside of the windshield to fog up, impeding forward visibility.

Defrosting





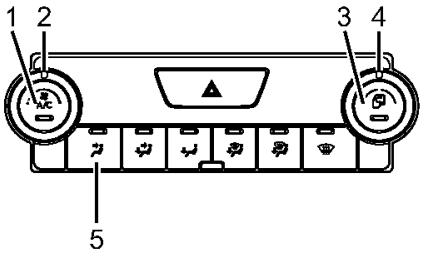
Set defroster switch (6) to "on".
Set inside/outside air selector switch (3) to "on".
Turn temperature control dial (4) fully towards the heating direction.
Set fan speed control dial (2) to the "maximum speed" position.

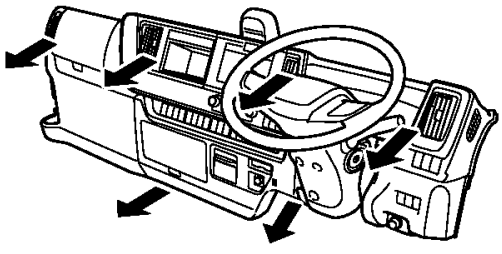
NOTE

- After defrosting, set inside/outside air selector switch (3) to "off". Failure to do so will cause the windshield to fog up easily, impeding forward visibility.

Cooling

Normal/Moderate Cooling



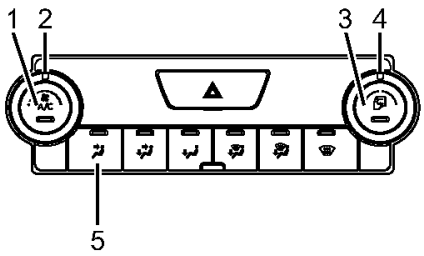


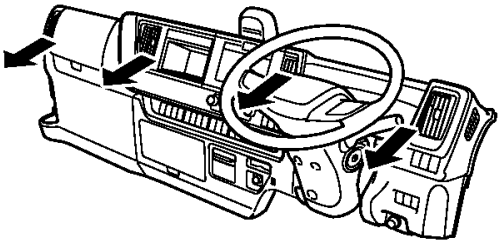
This setting is suitable for extended periods of cooling or moderate cooling.
Set air conditioning (A/C) switch (1) to "on".
Set " " on outlet selector switch (5) (or " " for moderate cooling) to "on".
Adjust temperature control dial (4) to the preferred position depending on the season and climate.
Adjust fan speed control dial (2) as desired.

NOTE

- When using the air conditioner (A/C) while idling in the sun, set inside/outside air selector switch (3) to "on".

Maximum Cooling





Set " " on outlet selector switch (5) to "on".
Set air conditioning (A/C) switch (1) to "on".
Set inside/outside air selector switch (3) to "ON".
Turn temperature control dial (4) fully towards the cooling direction.
Set fan speed control dial (2) to the "maximum speed" position.

NOTE

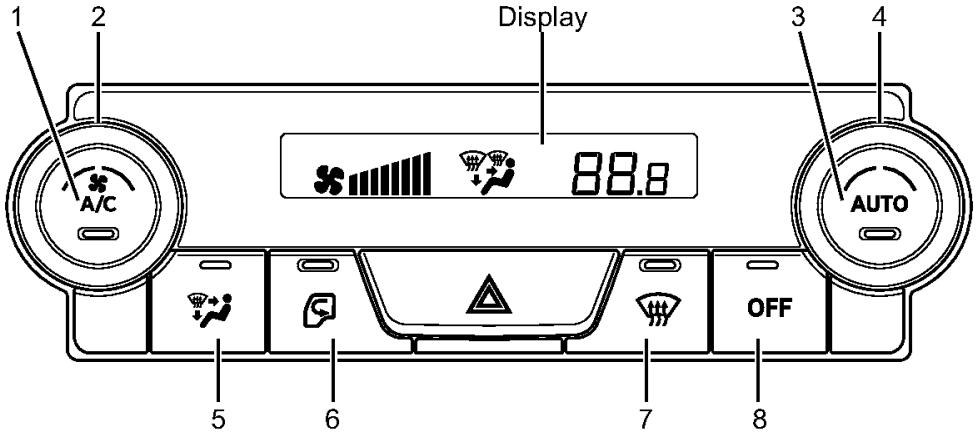
- If the vehicle has been parked in direct sunlight for a long time, open the windows or doors to ventilate the interior of the cab and release the heat before operating the air conditioner (A/C).
- Extended use of maximum cooling makes the air in the cab polluted. Use the inside/outside air selector switch (3) to operate outside air ventilation or open a window for ventilation at frequent intervals.
- During cooling operation, mist may come out of the air outlets due to the quick cooling of humid air. This does not indicate a problem.

Automatic Air Conditioner [V]

NOTE

- With some mounted equipment, when the PTO switch is turned on while the air conditioner is operating, the air condition may be stopped to protect the engine. When using the air conditioner, turn the PTO switch off while operating the air conditioner.

How to Use the Controls



No.	Name
1	Air conditioning switch (A/C switch)
2	Fan speed control dial
3	Automatic air conditioning switch (AUTO switch)
4	Temperature control dial
5	Outlet selector switch (MODE switch)
6	Air selector switch
7	Defroster switch
8	Automatic air conditioning off switch (OFF switch)

1. Air Conditioning Switch (A/C Switch)

Use this switch to turn the air conditioning on or off. If the A/C switch is pressed during fully automatic mode operation, the "AUTO" and "A/C" indications will disappear from the display. Pressing it again will cause the system to return to the fully automatic mode.

2. Fan Speed Control Dial

Use this dial when manually selecting the fan speed. Turning the dial counterclockwise reduces the fan speed and turning it clockwise increases the fan speed. The fan speed can be adjusted through 8 levels.

Fan speed	Low	Medium	Fast	Maximum
Displayed symbol				

NOTE

- Even in seasons when the air conditioning system is not used, occasionally operate the system for a few minutes with the engine running at a low speed in order to keep the system's components lubricated.

3. Automatic Air Conditioning Switch (AUTO Switch)

Press this switch to use the air conditioning system in the fully automatic mode. When the switch is pressed, the system automatically selects the most suitable air outlets, fan speed and all other air conditioning parameters.

NOTE

- The last setting has priority over the previous setting for every control.

4. Temperature Control Dial

Use the temperature control dial for setting the desired interior temperature. The display will show the set temperature. Each turn by one notch makes a change of 0.5°C (0.9°F). The adjustable temperature range is between 18°C (64°F) and 32°C (90°F). If you set the temperature at 18°C (64°F), the system invariably sets the control for maximum cooling; if you set it at 32°C (90°F), the system sets the control for maximum heating.

5. Outlet Selector Switch (MODE Switch)

The air outlet will change each time you press this switch. The outlet now selected will be shown on the display.

Displayed symbol	Purpose	Outlet
	Face	Air flows through outlets 1 and 2.
	Bi-level	Air flows through outlets 1, 2 and 5.

Displayed symbol	Purpose	Outlet
	Feet	Air flows through outlets 5.
	Feet and defroster 1	Air flows through outlets 5 and some through outlets 3 and 4.
	Feet and defroster 2	Air flows through outlets 5 and air of a greater volume than in position " " flows through outlets 3 and 4.

6. Air Selector Switch

Use this switch to change between ventilation of outside air and recirculation of the interior air. The display will show the setting you have made by the corresponding symbol as follows.

Displayed symbol	Purpose	
	Outside air ventilation	This setting should normally be selected. (Use this setting to ventilate cab interior.)
	Inside air recirculation	Use this position to prevent dusty or otherwise contaminated outside air from entering the cab (such as in a tunnel or in congested traffic).

NOTE

- Extended use of the inside air recirculation position causes the windshield and windows to fog up easily, making visibility poor.

7. Defroster Switch

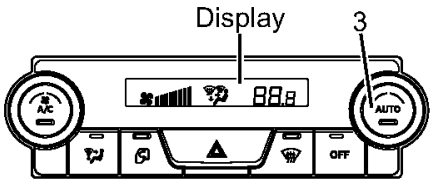
Use this switch for defogging or defrosting the windshield. Pressing the switch causes the display to show the " " symbol. The air conditioning will turn on in this case. Pressing the switch again will return the display to the setting previous to " ".

Displayed symbol	Purpose	Outlet
	Defroster	Air flows through outlets 3 and 4.

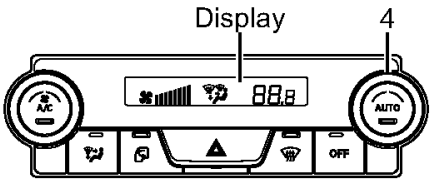
8. Automatic Air Conditioning Off Switch (OFF Switch)

Press this switch to stop both the fan and air conditioning.

Automatic Air Conditioning Mode



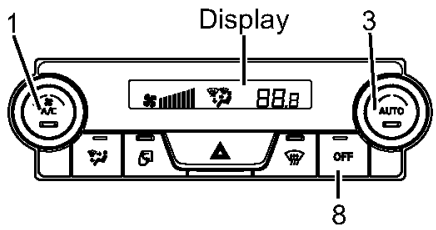
1. Press the AUTO switch (3). The air conditioning system will turn on, and automatically select the air outlets and fan speed most suitable for the cab's interior condition. The selected air outlets will be those corresponding to either the " ", " " or " " mode. The display will then show "AUTO A/C".



2. Use the temperature control dial (4) to set the interior temperature to the preferred level. The display will show the set temperature. Each turn by one notch makes a change of 0.5°C (0.9°F). The adjustable temperature range is between 18°C (64°F) and 32°C (90°F). If you set the temperature at 18°C (64°F), the system invariably sets the control for maximum cooling; if you set it at 32°C (90°F), the system sets the control for maximum heating.

NOTE

- Although the temperature can be set in the range of 18°C (64°F) to 32°C (90°F), the number displayed shows an approximate temperature. You may thus need finer adjustments for the preferred temperature.
- As the heater uses the heat from the engine coolant, its heating effect is weak when the engine coolant temperature is low.



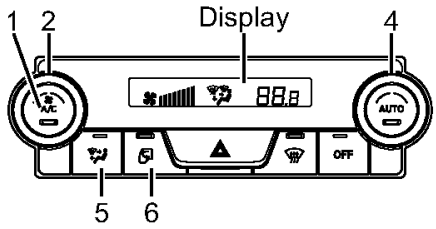
3. To turn off the air conditioning system, press the A/C switch (1). To turn off both the fan and air conditioning system, press the OFF switch (8).

NOTE

- If you operate a certain control (excluding the temperature control dial) when the system is operating in the fully automatic mode, the "AUTO" indication will disappear from the display and the setting you have made with the control will be shown on the display. Although your preferred setting remains for that particular control where you set it, the system continues automatic control for all other parameters.
- To return to the fully automatic air conditioning mode, press the AUTO switch (3).

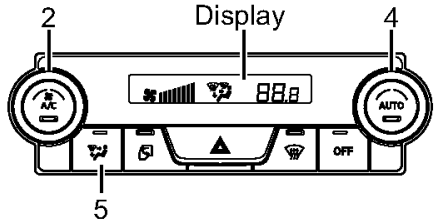
Manual Air Conditioning Mode

Outside Air Ventilation



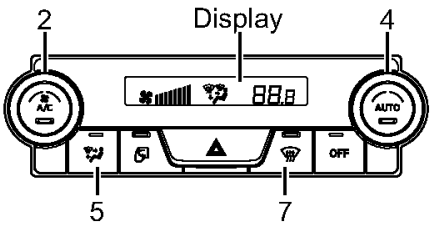
Press the A/C switch (1) to turn off the air conditioning system. The "A/C" indication on the display will go out.
Select the desired temperature with the temperature control dial (4) and select the desired air outlets with the MODE switch (5). Press the air selector switch (6). The display will show the " " sign. Adjust the fan speed with the fan speed control dial (2) as desired.

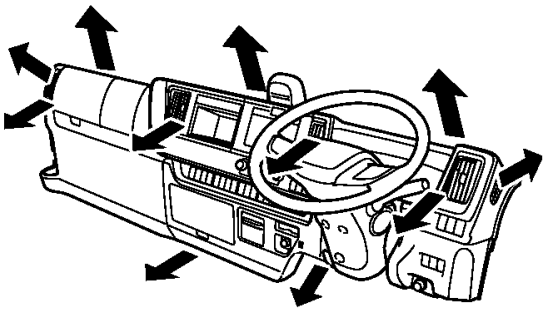
Maximum Heating



Turn the temperature control dial (4) to the maximum heating temperature (32°C (90°F)) and set the fan speed control dial (2) for the maximum setting. Select the desired air outlets with the MODE switch (5).

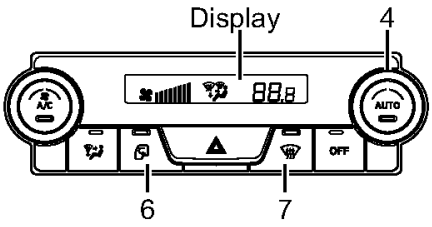
Defogging

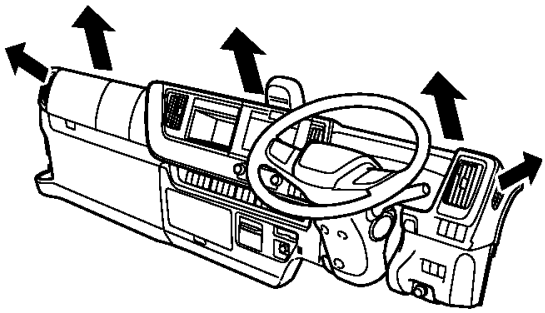




Press the defroster switch (7) to turn the defroster on. The display will show the " " sign and the air conditioning system starts operating.
Turn the temperature control dial (4) to the desired setting.
Turn the fan speed control dial (2) to the desired setting. The efficiency of defogging will be lower when the display is showing the " " sign (inside air recirculation) than when it is showing the " " sign (outside air ventilation).
Press the MODE switch (5) to select the desired air outlets. If you press the switch so that the " " sign appears on the display, you can defog the windshield while warming your feet as well.

Defrosting



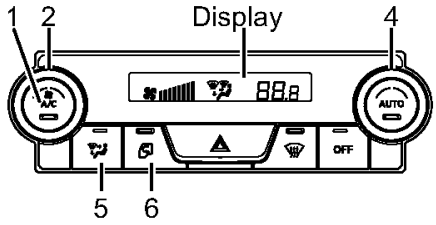


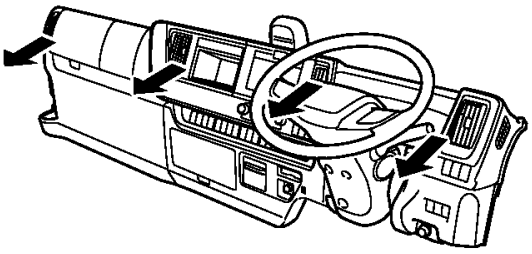
Press the defroster switch (7) to turn the defroster on. The display will show the " " sign. Turn the temperature control dial (4) to the maximum temperature position (32°C (90°F)).
Press the air selector switch (6). The display will show the " " sign.

CAUTION

- **After defrosting, make sure to press the air selector switch (6) so that the " " sign (outside air introduction) will be shown on the display.**
  Failure to do so will cause the windshield to fog up, deteriorating forward visibility.

Maximum Cooling





Turn the temperature control dial (4) to the maximum cooling position (18°C (64°F)) and turn the fan speed control dial (2) to the highest speed setting. Select the desired air outlets with the MODE switch (5) and press the air selector switch (6). Make sure the display is then showing the " " sign (inside air recirculation).
You must press the A/C switch (1) before doing the above operation to turn the air conditioning system on.

NOTE

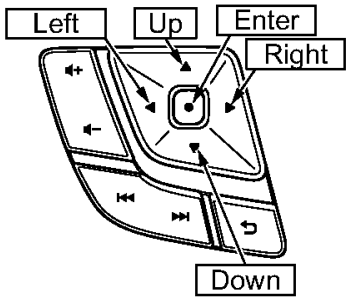
- After prolonged parking in the direct sunlight, open the windows or doors to ventilate the cab's interior and release the heat before turning the air conditioning system on.
- Prolonged use of the air conditioning system in the maximum cooling setting will make the interior air become stale. Occasionally press the air selector switch (6) to make the outside air introduction sign appear on the display or open the windows to allow fresh air into the cab.
- During cooling operation, mist may come out of the air outlets. This results from quick cooling of humid air, and does not indicate any problem.

Various Settings for the Automatic Air Conditioner

The various settings of the automatic air conditioner can be changed from the "Vehicle settings" screen on the multi-information display.

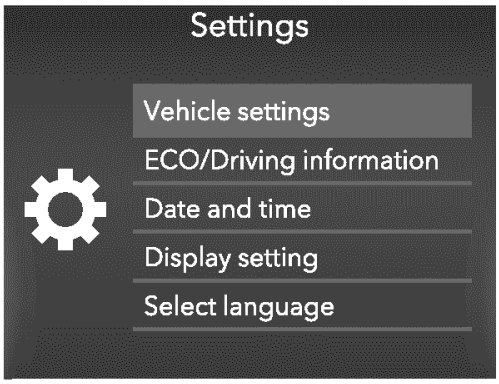
Setting Compressor Link

Turn this "ON" if you want to optimize air conditioning by linking the AUTO (automatic) switch operations with the compressor. Turn this "OFF" to prioritize fuel efficiency performance over air conditioning.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

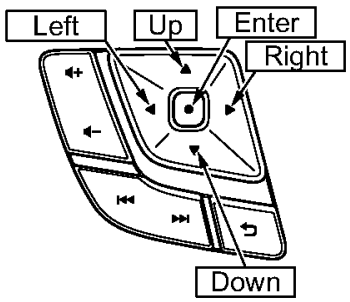
Refer to page
3-33 Main Display Area



2. In the setting screen, select in order, "Vehicle settings" → "Auto air conditioner" → "Compressor link".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

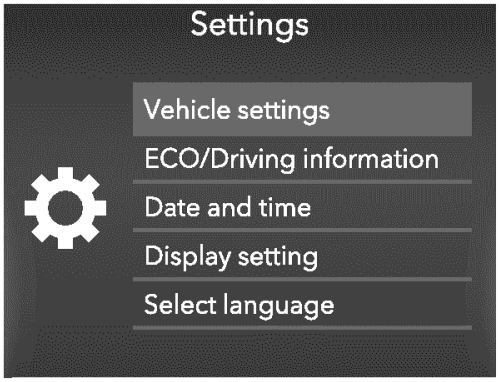
Setting Auto Air Intake Switching

Set this to "ON" when you want to automatically switch between introducing outside air or circulating inside air, while using full auto mode.



1. Press "Left" or "Right" on the multi-information display switch to switch the screen and display the settings screen. If a message to the driver is displayed, press "Enter" to return to the normal screen, and then switch to the settings screen.

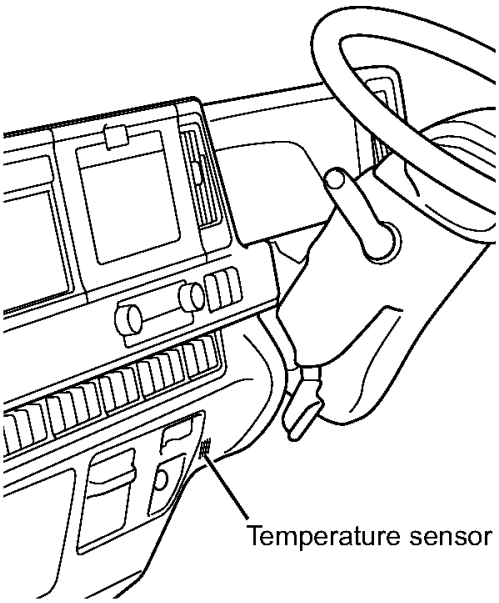
Refer to page
3-33 Main Display Area

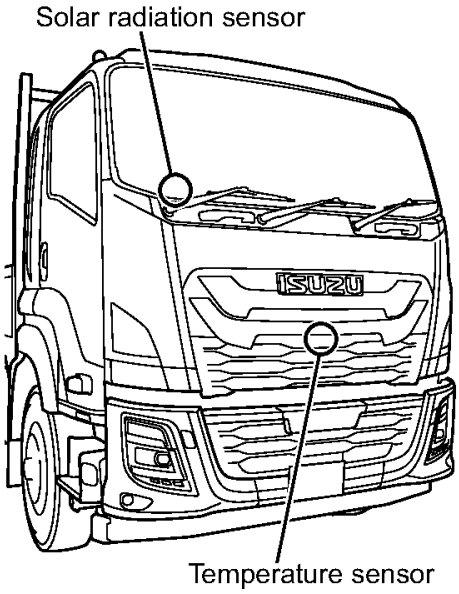


2. In the setting screen, select in order, "Vehicle settings" → "Auto air conditioner" → "Auto air intake switching".
3. Press either "Up" or "Down" on the multi-information display switch to select "ON" or "OFF" and then confirm your selection by pressing "Enter".

Temperature Sensors

The air conditioning system uses a sun sensor, room temperature sensor and outside air temperature sensor to ensure effective and comfortable air conditioning. Do not place anything on the sensors or get them wet. Air conditioning control will become inaccurate.





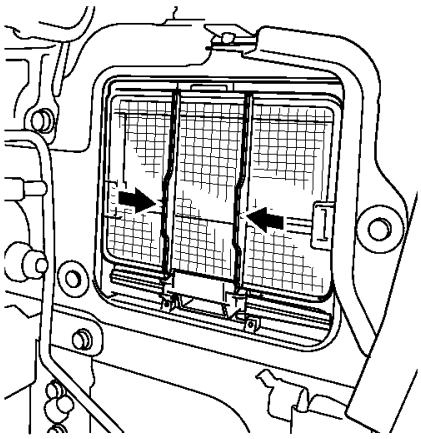
Air Conditioning Filters

Cleaning the Air Conditioning Filters

The air conditioning filters should be removed and cleaned according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule

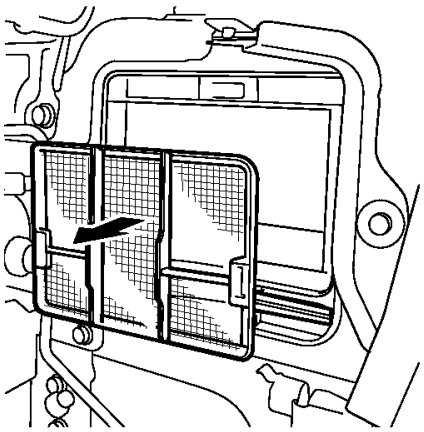
Removing the Outside-air Filter



1. Open the front lid.

Refer to page
7-12 Front Lid

2. While pressing in on both sides of the filter lock, pull out the filter.



3. Fully remove the filter. Clean dust and dirt from the surface of the filter using a vacuum cleaner or other tools.

ADVICE

- Do not use hard brushes, as they can damage the filter.

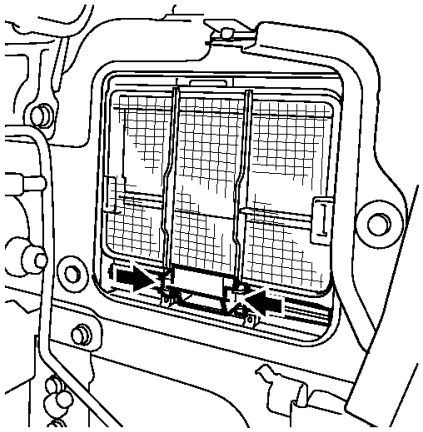
Installing the Outside-air Filter

Install the filter in the reverse order to removal.

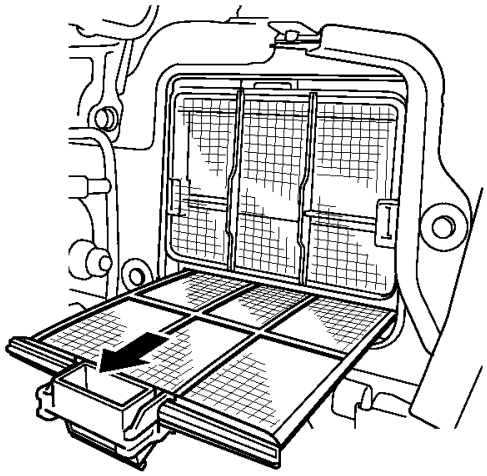
ADVICE

- Ensure that the filter is returned securely to its original position. Failure to observe this precaution can lead to rattling during travel.
- The vehicle must not be used with the filter removed or incorrectly installed. Failure to observe this precaution can lead to air conditioning system damage as a result of dust, dirt and the like entering the system.

Removing the Inside-air Filter



1. While pressing in on both sides of the filter lock, pull out the filter.



2. Clean dust and dirt from the surface of the filter using a vacuum cleaner or other tools.

ADVICE

- Do not use hard brushes, as they can damage the filter.

Installing the Inside-air Filter

Install the filter in the reverse order to removal.

ADVICE

- When installing the filter, make sure that the packing on the blower does not roll up.
- Ensure that the filter is returned securely to its original position. Failure to observe this precaution can lead to rattling during travel.
- The vehicle must not be used with the filter removed or incorrectly installed. Failure to observe this precaution can lead to air conditioning system damage as a result of dust, dirt and the like entering the system.
- Check that the filter is securely installed and close the front lid securely.

Refrigerant

The air conditioning system will not be able to cool the cab interior effectively if the refrigerant level is low. Accordingly, the refrigerant level must be topped up whenever necessary.
Please contact your Isuzu Dealer whenever refrigerant must be added.

ADVICE

- Operating the air conditioning while the refrigerant level is too low leads not only to poor cooling performance but also to air conditioning system damage.
- This vehicle uses the new refrigerant HFC-134a (R-134a) in the air conditioning system. No other type of refrigerant can be used. In order to protect the environment, care must be taken to ensure that refrigerant gas is never released into open air. When refrigerant must be replaced, therefore, please contact your Isuzu Dealer or other service facility equipped with a gas recovery installation system.

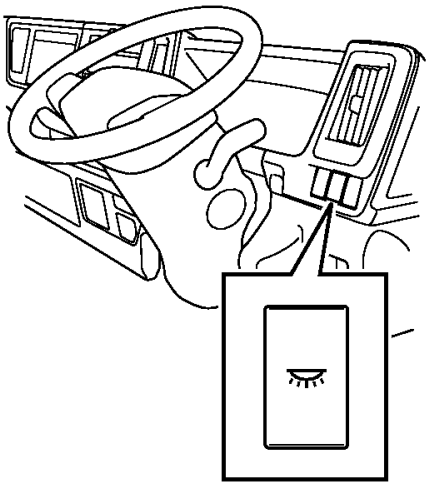
NOTE

[Refrigerant]

- Type: HFC-134a (R-134a)
- Global Warming Potential (GWP): 1430

Interior Lights (Standard Roof Model)

Interior Light Switch



Press the interior light switch to turn on the LED interior light. Press the switch again to turn off the LED interior light.

Refer to page
10-124 Lighting Equipment

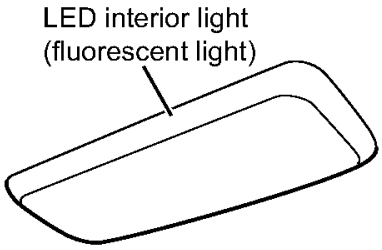
ADVICE

- Do not leave the interior light switch on. Leaving the fluorescent light or dome light on for extended periods, especially with the engine shut off, will deplete the battery.

LED Interior Light (Fluorescent Light)

CAUTION

- **Do not use the interior light while driving. The bright interior will be reflected off the windows, making the outside road and traffic conditions difficult to recognize; this could lead to an accident.**

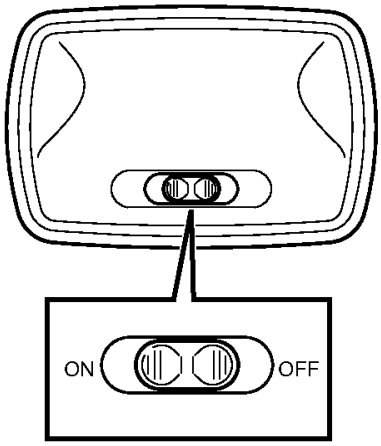


The fluorescent light operates regardless of the starter switch position.
Use the interior light switch to turn it on and off.

ADVICE

- Do not use the fluorescent light while the engine is not in operation. As the light consumes a lot of electricity, this can discharge the battery.

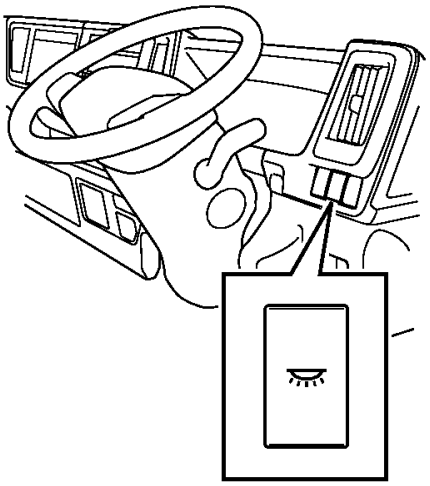
LED Dome Light

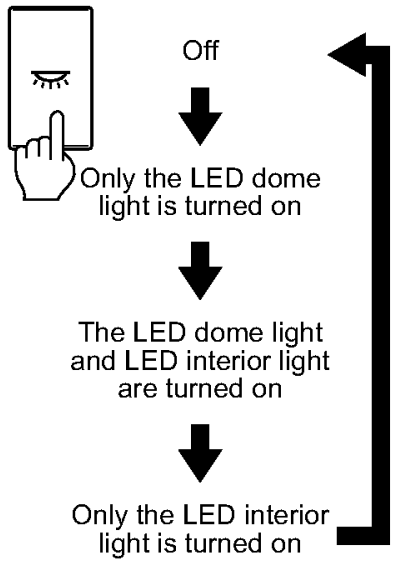


The dome light operates regardless of the starter switch position.

ON	The light stays on regardless of the doors being open or closed.
Between "ON" and "OFF"	The light turns on when any of the doors are opened, the doors are unlocked with the remote control unit, or the key is removed from the starter switch.
OFF	The light stays off regardless of the doors being open or closed.

Interior Lights (High Roof Model)





The LED interior light switch can be operated from either the instrument panel side or the parking brake lever side.
Each time the LED interior light switch is pressed, the lighting cycles through "only the LED dome light is turned on" → "the LED dome light and LED interior light are turned on" → "only the LED interior light is turned on" → to turn off, in this sequence.

ADVICE

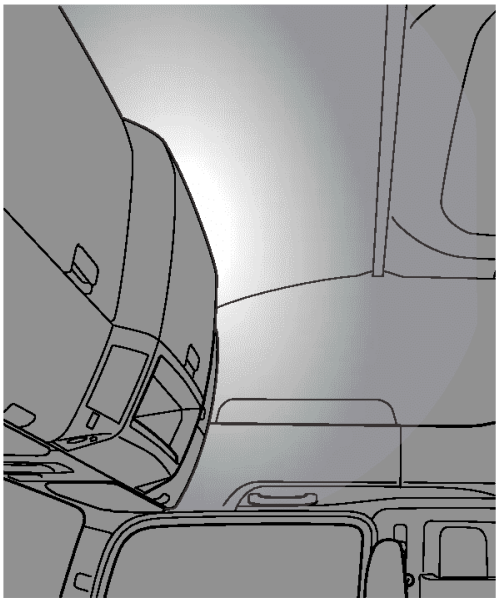
- Do not leave the LED interior light switch in the on position. Leaving the LED interior light on for extended periods, especially with the engine shut off, will deplete the battery.

NOTE

- When the LED dome light is lit, the LED lights in the overhead shelf light up accordingly.

Refer to page
6-34 Overhead Tray

LED Interior Light

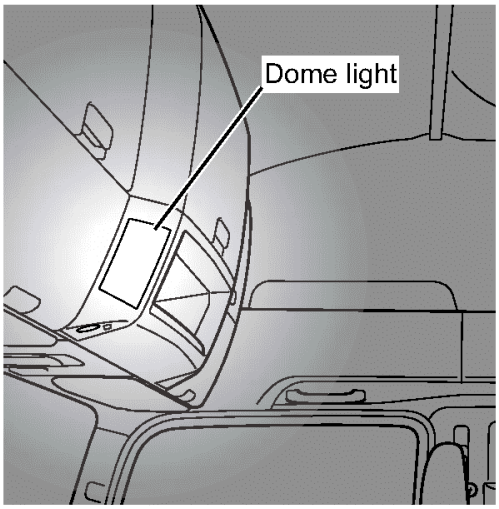


The LED interior light operates regardless of the starter switch position. Use the LED interior light switch to turn it on and off. Dimming the interior light is possible by pressing and holding the LED interior light switch. Release the switch once and press and hold the switch again to return to the original brightness.

ADVICE

- Refrain from using it while the engine is stopped. It may cause a flat battery.

LED Dome Light

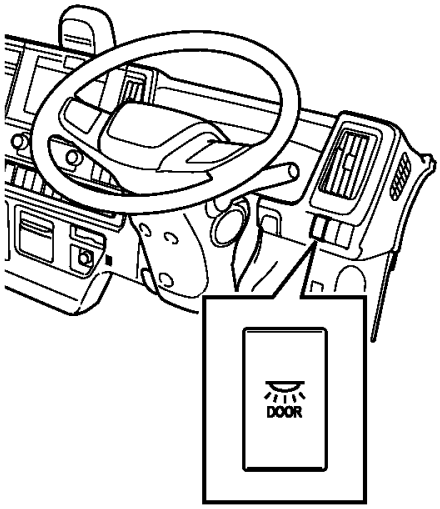


Use the LED interior light switch to turn it on and off.
It is turned on and off in conjunction with the unlocking and locking of the door by the remote control key. Also, when the door interlocking switch is pressed, it is turned on and off in conjunction with the opening and closing of the door. Press it again to cancel the door interlocking function.

CAUTION

- **Do not use the dome light while driving. The bright interior will be reflected off the windows, making the outside road and traffic conditions difficult to recognize; this could lead to an accident.**

Door interlocking switch

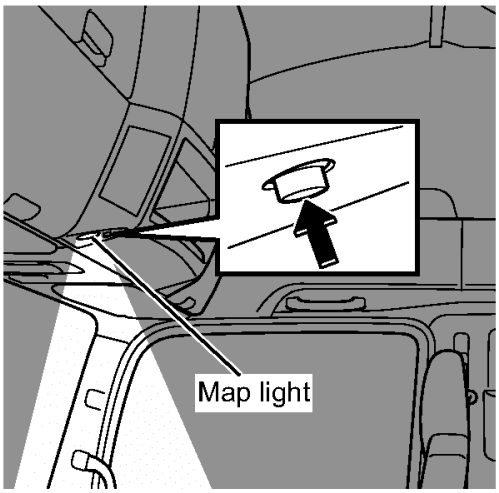


NOTE

- When the dome light switch is in the "DOOR" position and the starter switch is in the "ACC" or "LOCK" position, the LED dome light will automatically turn off if approximately 5 minutes have passed with the doors open.
- When the LED dome light is lit, the LED lights in the overhead shelf light up accordingly.

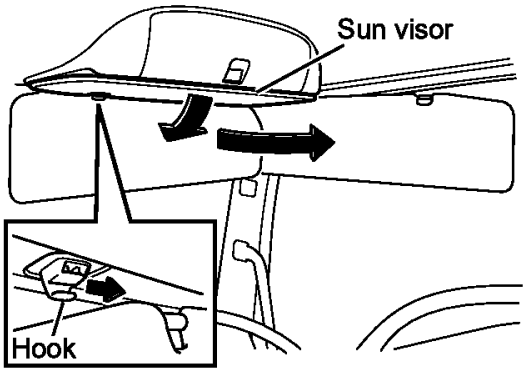
Refer to page
6-34 Overhead Tray

LED Map Light



This is used when you want to illuminate your hand. Operate the switch near the lamp body to turn it on and off.

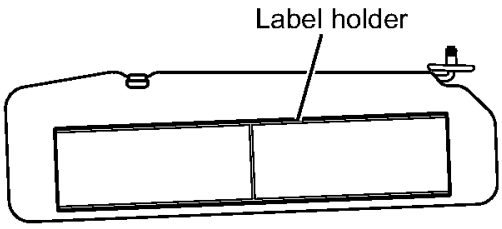
Sun Visor



The sun visor protects your eyes in strong sunlight. Use it when sunlight is too bright. To reduce side glare, unhook the sun visor and swing it around to the side.

CAUTION

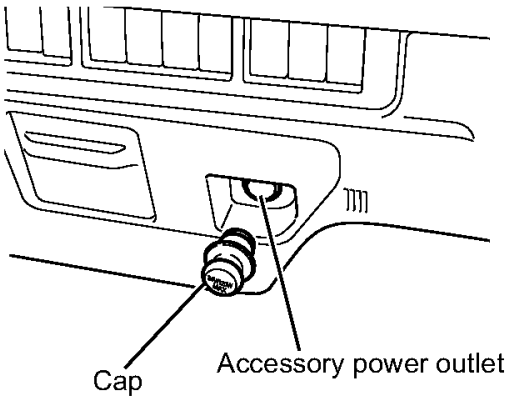
- **For safety, make sure to fold up the sun visor after use.**



NOTE

- The sun visor is fitted with a label holder for inserting caution and warning labels. If not labels have been inserted, please use for storing parking tickets or receipts.

Accessory Power Outlet (24V)



The accessory power outlet can be used when the starter switch is in the "ACC" or "ON" position.
Use the accessory power outlet to supply power to commercially available vehicle accessories, etc. Remove the cap to use.

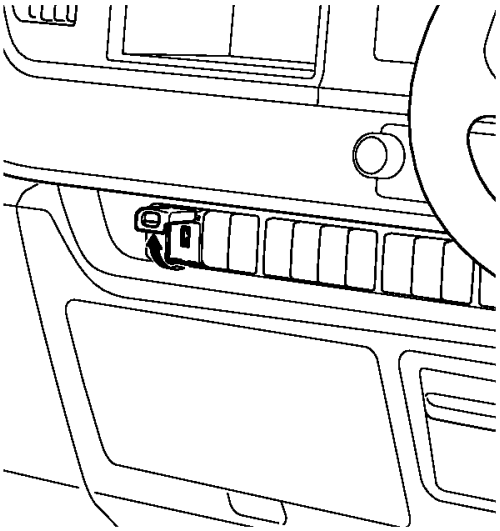
⚠ WARNING

- **The maximum allowable load of the accessory power outlet is 120W (5A). If you subject the accessory power outlet to more than the allowable load, the wiring may overheat and cause a fire. Use the accessory power outlet within the allowable load.**
- **The power source for the accessory power outlet is 24V. If electrical equipment other than 24V are connected, a malfunction due to overheating or fire may occur.**
- **Be sure to insert the plug of the electrical appliance all the way into the accessory power outlet. Using an appliance when the plug is not completely inserted could cause abnormal heat generation and may result in the vehicle's fuses blowing.**
- **Do not insert the cigarette lighter into the accessory power outlet. Doing so could generate heat.**

ADVICE

- Using the accessory power outlet for a long period of time while the engine is stopped will drain the battery.
- When not in use, be sure to attach the cap. If foreign matter enters the accessory power outlet, or if water or drinks contact it, it could be damaged. Also, do not insert fingers or any metallic objects into the accessory power outlet.
- As the internal part of the accessory power outlet may become deformed depending on the size of the plug used, do not attempt to force the plug into the accessory power outlet. In this case, replace the accessory power outlet.
- When inserting or removing the plug of an electrical appliance, turn the electrical appliance off or place the starter switch in the "LOCK" position.

USB Power Outlet



The USB power outlet can be used when the starter switch is in the "ACC" or "ON" position. The power outlet is to be used for operating or charging compatible mobile devices or electronics. Refer to the owner's manuals of those products before using.
Open the cover to use. Close the cover when not in use.

ADVICE

- A-Type USB terminals can be used with the power outlet. Do not attempt to insert other types of USB terminals.
- The maximum rating for power outlet is 5.0 V/2.4 A. Before using, check that the equipment to be used is compatible by referring to its owner's manual, etc.
- It can only be used as a power output and not for transmitting data (including video and music data).
- After charging is complete, promptly disconnect all mobile devices and electronics.
- Do not connect USB hubs. Doing so could result in damage.
- Do not spill liquids on the power outlet, nor attempt to insert metals or other foreign objects. Doing so may result in an electric shock or damage.
- When using for extended periods with the engine stopped, take care as the auxiliary battery may go flat.
- Do not connect damaged equipment or products.
- Damage to connected equipment or products, as well as any damage of or loss of data are not covered by warranty.
- When using USB cables, make sure that your legs do not get caught by the cables.

NOTE

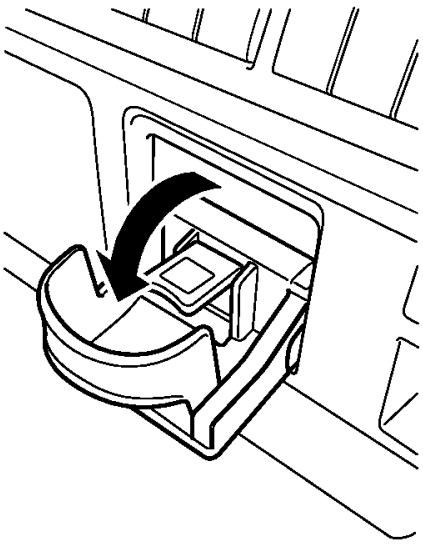
- Make sure that the connected USB cables, mobile devices, and electronics do not interfere with vehicle operation.

Cup Holder

⚠ CAUTION

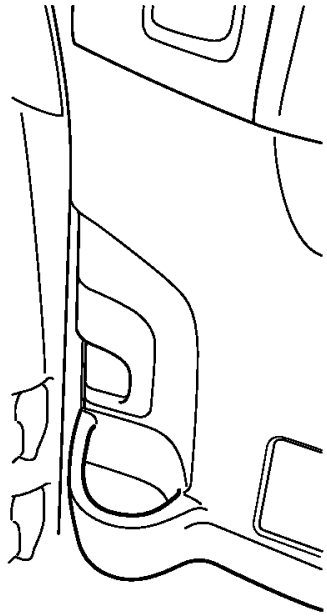
- **Do not place a cup that is too full in the cup holder. Spillages could cause damage to the radio and other electrical circuits. If there is a spill, wipe it up immediately with a dry cloth.**
- **Do not tilt the cab with a filled cup in the cup holder.**
- **There may be a danger of the cup holder breaking if the weight on each holder exceeds 0.75 kg (26 oz).**

Driver Side Cup Holder



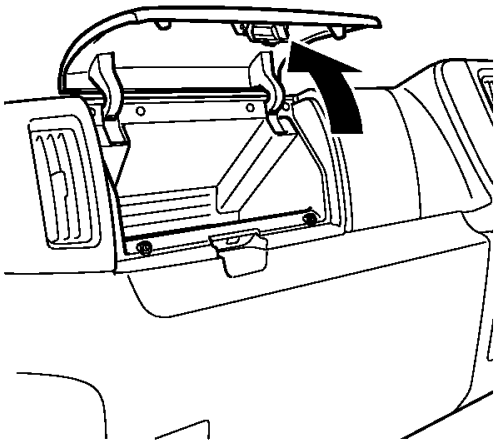
Pull the cup holder towards you to open it.

Passenger Side Cup Holder



Use the storage pockets for as a cup holder.

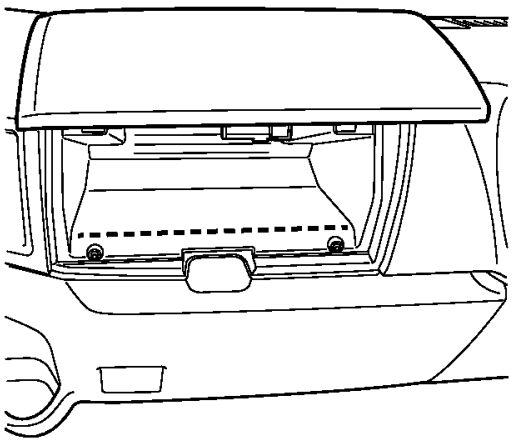
Glove Compartment [V]



Open the lid by pulling it up.

⚠ CAUTION

- **For safety, close the glove compartment during driving. There is a risk of injury from the open lid or items stored in the glove compartment.**
- **Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.**

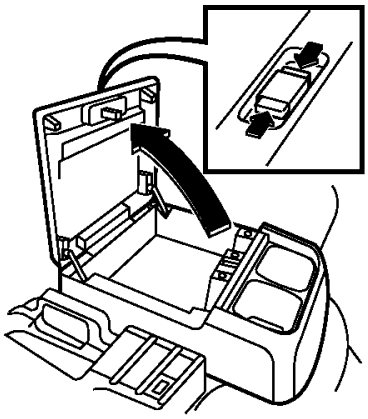


ADVICE

- When closing the glove compartment lid, do not allow stored items to pass the line shown in the illustration. The glove compartment lid may break if it is closed when items inside have passed the line and are sticking out from the box.
- Do not place items such as vehicle registration documents or owner's manuals in the glove compartment, but store them in the seatback pocket located on the back side of the driver seat.

Refer to page
6-34 Seatback Pocket [V]

Center Console Box [V]

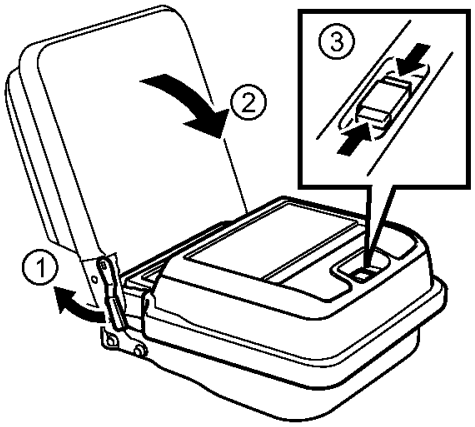


Squeeze the knobs on the lid to open. Use it for storing small articles.

CAUTION

- **Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.**

Seatback Tray [V]

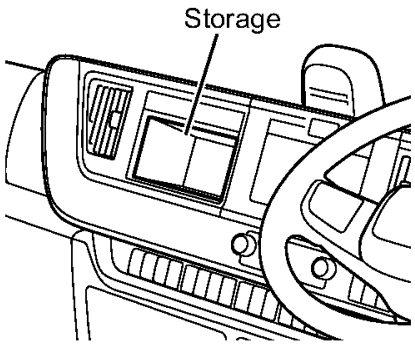


1. Push the lever on the right side of the center seat seatback backward.
2. Fold down the seatback.
3. Open the cover while pushing the knob.

⚠ CAUTION

- **Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.**
- **When tilting the seatback, make sure the seat belt does not become trapped in the seat.**

Small Article Storage Pocket [V]

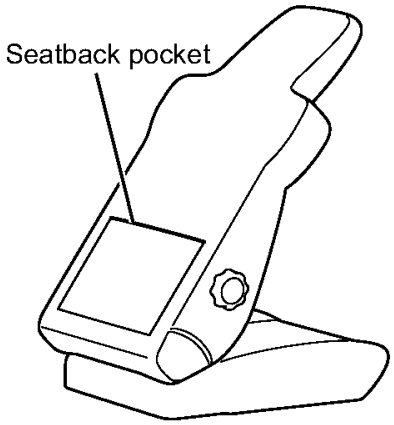


Use the storage pockets for storing small articles.

⚠ CAUTION

- **Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.**

Seatback Pocket [V]



The seatback pocket is located on the back side of the seatback. Use it for storing items such as vehicle registration documents or owner's manuals.

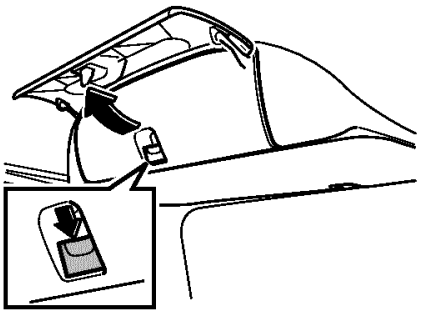
ADVICE

- Store the Owner's Manual in the pocket toward the outside of the vehicle and store the vehicle inspection certificate in the pocket toward the inside of the vehicle. If the storage positions are reversed or both are forced into one pocket, they may interfere with the back trim and damage the vehicle.

Overhead Tray

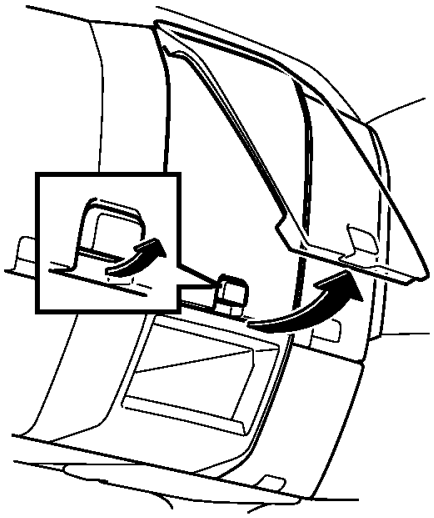
CAUTION

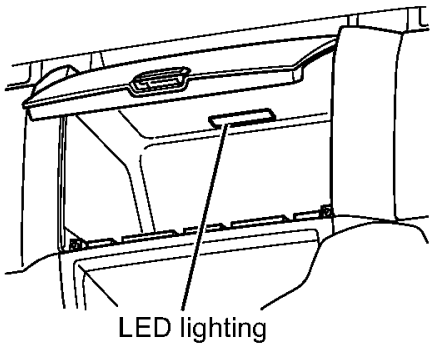
- **Do not use either overhead tray to hold an object weighing more than 2 kg (71 oz) or an object that may fly out or fall down during vehicle operation. Doing so would be dangerous.**
- **Items may fly out or fall down when the cab is lowered after being tilted.**
- **Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.**



Standard Roof Model

Hold down the knob on the lid to open. Use it for storing small articles.

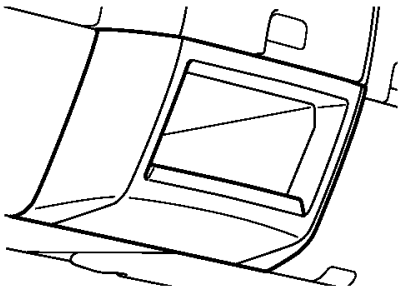




High Roof Model

High roof models will be equipped with LED lights inside the overhead tray. They light up in conjunction with the LED dome light.

Open Tray [V]



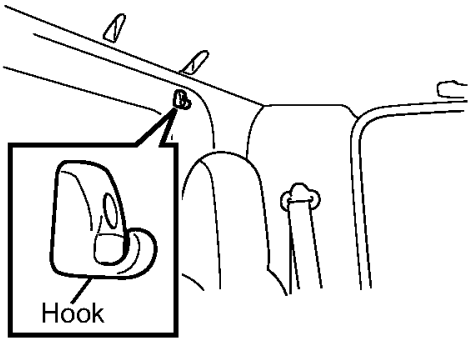
High Roof Model

Use it for storing small articles.

⚠ CAUTION

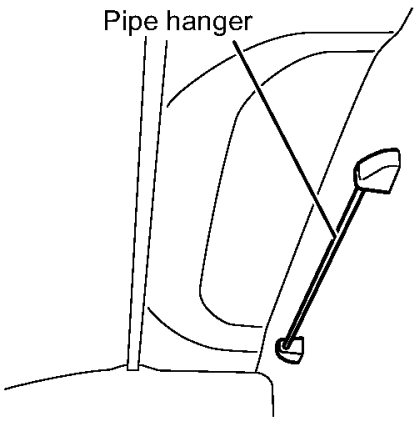
- **Do not put any beverages without lids in the open tray.**
- **Do not leave eyeglasses or lighters inside the cab. If the cab became hot, a lighter left there could explode and plastic eyeglass lenses or frames could deform or crack.**
- **Do not tilt the cab with your luggage in the open tray.**

Coat Hook [V]



Use this to hang clothing.

Pipe Hanger [V]



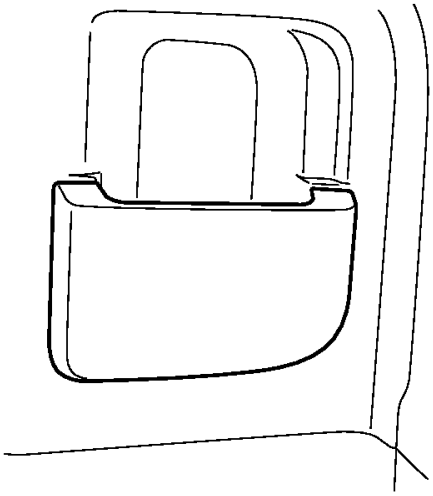
High Roof Model

Use this to hang clothes.

⚠ CAUTION

- **Do not hang heavy objects (10 kg (353 oz) or more) or items that may fall while driving on the pipe hanger as it is dangerous.**

Bedside Pocket [V]



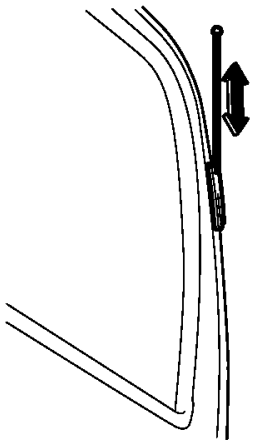
High Roof Model

Use it for storing small articles.

⚠ CAUTION

- **Do not leave eyeglasses or lighters inside the cab. If the cab became hot, a lighter left there could explode and plastic eyeglass lenses or frames could deform or crack.**

Antenna



ADVICE

- To prevent breaking the antenna, lower it when passing through areas with low clearance or through a car wash.

NOTE

[Radio reception]

- Since the position of the antenna changes as the vehicle moves, the strength of radio signals may change, and the best reception may not be maintained due to the influence of obstacles, trains, traffic lights, etc.
- Compared with AM signals, FM signals are of better quality and compatible with stereo broadcasting. However, due to the nature of FM signals, conditions in which the quality of signals received in a moving vehicle may not be sustainable.

The directness of FM signal transmission

- As FM signals are more strongly directional than AM signals, they are blocked easily by large objects such as mountains and buildings and as such their reception area is much narrower than AM signals.

Sound loss

- FM signals are reflected easily by objects, so when driving through built-up areas, the sound may be interrupted or disturbed by noise.

Sound distortion

- Simultaneous reception of direct signals from the radio station and reflected signals from buildings may cause flutter or noise disturbance.

Before Inspection and Maintenance 7

- Precautions for Checking and Adjustments 7-2
- Discarded Parts, Oils and Other Liquids 7-3
- Isuzu Genuine Oils and Grease 7-4
- Tools 7-5
- Handling the Jack 7-7
- Front Lid 7-12
- Power Cab Tilt System 7-15

7-2 Before Inspection and Maintenance

Precautions for Checking and Adjustments

⚠ WARNING

- **Select a place with a solid and level surface to perform the checking and maintenance work. Make sure to chock the wheels. It would be very dangerous if the vehicle started to move.**
- **Pull firmly on the parking brake lever and put the transmission in neutral.**
  - **For manual transmission models, securely engage the parking brake and place the gearshift lever in the "N" position.**
  - **For automatic transmission models, pull firmly on the parking brake lever and make sure the shift selector display indicates "N".**
- **Be sure to stop the engine and put the starter switch in the "LOCK" position. In models without the passive entry and start system, take out the key. In models with passive entry and start system, put the remote control key out of the operating range.**
- **When performing work on the electrical system, begin by turning the starter switch to the "LOCK" position, wait at least 3 minutes, and then disconnect the negative cable from the negative terminal on battery. If the negative cable is disconnected within 3 minutes, the engine control module may malfunction.**
- **To prevent personal injury, keep hands, tools and clothing clear of the engine cooling fan when the engine is running.**
- **When raising the vehicle, use a suitable jack, not the one provided on the vehicle.**
- **After raising the vehicle and before going underneath to perform work, make sure the vehicle is supported with jack stands.**
- **Do not perform work near an open flame or other heat sources.**
- **Immediately after driving, the engine, DPD, urea SCR, muffler, exhaust pipe, radiator, and other parts are very hot. Be careful not to burn yourself. Inspect the engine and other parts when they have cooled.**
- **When working on the fuel line or fuel filter, remove the fuel tank filler cap. The fuel system is under pressure and the fuel will overspill unless the pressure is relieved, possibly leading to combustion or a fire.**
- **Do not let the engine run in poorly ventilated garages or sheds. This could cause carbon monoxide poisoning.**

Refer to page
7-7 Handling the Jack

ADVICE

- Use only appropriate tools.
- Do not leave the removed parts or tools in the engine compartment. They could damage the equipment if caught in the belts or other moving components.
- Dirty water, dirt and other impurities seriously impair the effectiveness of the oil, grease and fluids, and damage the parts. Exercise all due caution to prevent waste or other refuse from coming in contact with parts or materials that have been removed when changing or replenishing them.
- Confirm that all systems and components are normal after performing the work.
- Inspections and maintenance enable you to use the vehicle with peace of mind. They also extend the vehicle's service life.

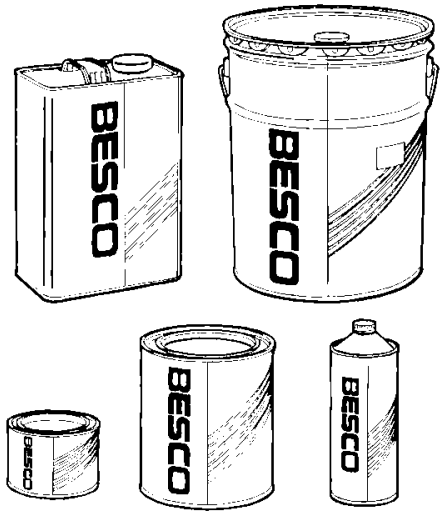
Discarded Parts, Oils and Other Liquids

CAUTION

- **Discarded parts, oil, grease and fluids could have an adverse effect on the environment. It is difficult to dispose of these, so have your Isuzu Dealer handle all checks and replacements.**

When changing oils, filters, engine coolant or other liquids, be sure to have a container ready in advance for their disposal.
Use methods conforming to legal requirements for discarding or disposing of parts, oils, filters or engine coolant after change or replacement.

Isuzu Genuine Oils and Grease



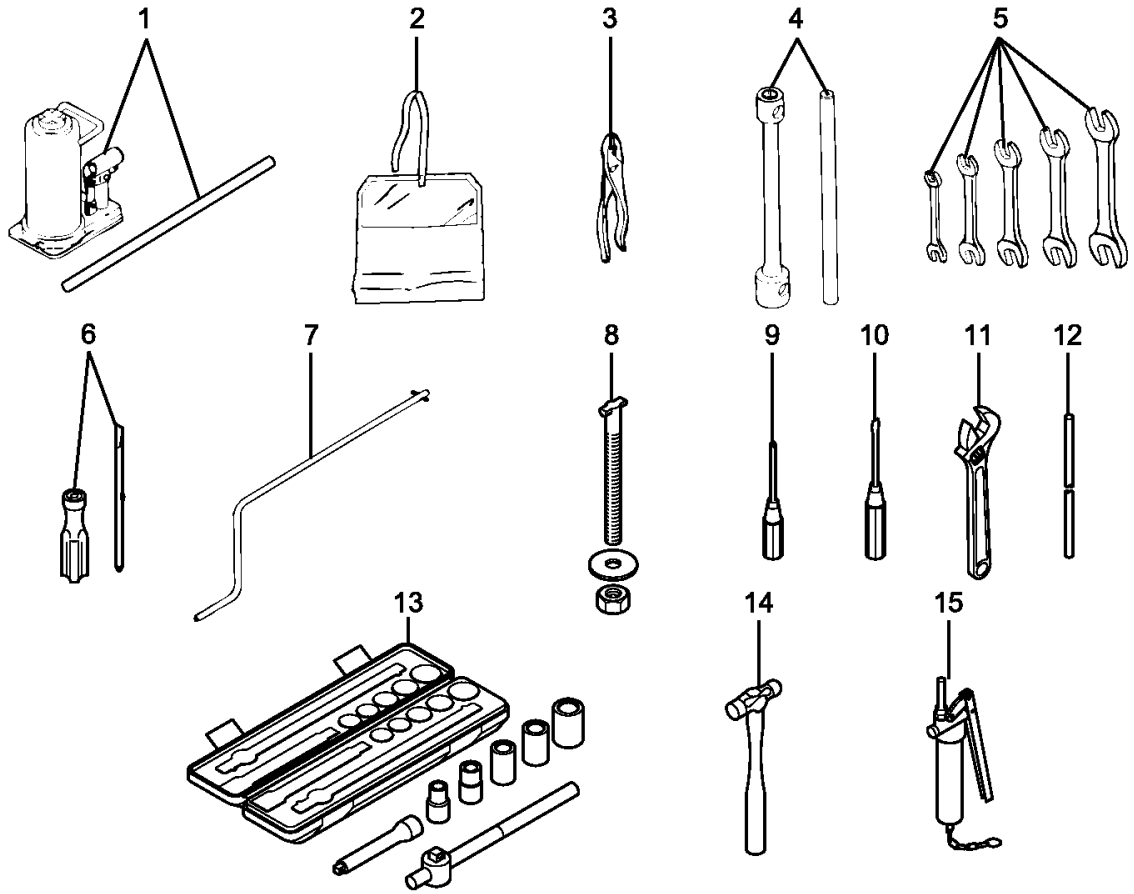
Periodically replenishing and changing the oil and grease is extremely important for maintaining your vehicle's performance and preventing malfunctions.
Isuzu Motors guarantees the quality and performance of the Isuzu genuine oils and grease. We recommend the use of Isuzu genuine oils and grease for maintenance and service of your vehicle.

⚠ CAUTION

- **Flames or other heat sources near spilled oil can cause a fire. Make sure to clean up all oil spills.**

Tools

Tools Carried in Your Vehicle



1	Oil jack and handle
2	Tool bag
3	Pliers
4	Wheel nut wrench and handle
5	Wrenches (8 × 10), (10 × 12), (14 × 17), (19 × 22), (24 × 27)
6	Screwdriver (Phillips head/flat head interchangeable type)
7	Spare tire carrier handle
8	Release bolts: 4 pieces [V]
9	Screwdriver (Phillips head)
10	Screwdriver (Flat head)
11	Adjustable wrench
12	Bleeder hose

13	Socket wrench box, extension bar, sliding T-handle and socket wrenches (12, 14, 17, 19, 22)
14	Hammer
15	Grease pump

ADVICE

- Be sure to carry all of the provided tools in the vehicle.

Handling the Jack

⚠ WARNING

- **Raising the vehicle with a jack could lead to an accident when carried out on soft or inclined surfaces. Ensure that you always carry out this operation on flat, solid surfaces.**
- **Always apply the parking brake fully and correctly chock the wheels before jacking the vehicle. Applying only the parking brake is insufficient to prevent the vehicle from moving; when a rear wheel is jacked up, the vehicle blocked only by the parking brake could move, creating a very dangerous situation.**
- **Ensure that there are no people or objects present in the vehicle before it is jacked up.**
- **In order to ensure safety, doors should never be opened and the engine should never be started during a jack-up operation. In addition, you should never have any part of your body below the vehicle at this time, nor allow anybody else to do so. Failure to observe this precaution could lead to an accident if the jack were to slip.**
- **If the underside of the vehicle is to be worked on after jacking up, jack stands must be used to support the vehicle.**
- **The jack must only be used at one of the specified jacking points. In addition, you must confirm that it makes good contact with the specified point.**
- **In order to provide extra safety should the jack slip, once a spare tire has been removed, it should be placed under the vehicle near the jack.**
- **Before starting a jacking operation, ensure that the jack and the jacking point to be used are clear of dirt, oil and grease. Failure to observe this precaution could lead to an accident should the dirt or oil cause the jack to slip.**
- **If your vehicle is equipped with a differential lock system or no spin differential system, it might start moving when the engine power is transmitted to the rear axle even when one of the wheels on the axle is raised clear of the ground. Do not start the engine with any rear wheel in contact with the ground.**
- **The jack provided with your vehicle must be used only for changing tires and fitting or removing tire chains. In order to ensure safety, furthermore, only one wheel should be jacked up at a time.**
- **If using a two-stage, extension type jack and the stop mark (yellow) becomes visible, stop raising the vehicle. Failure to observe this precaution can result in jack breakage.**
- **Do not use more than one jack at any one time.**

WARNING (Continued)

WARNING (Continued)

- **If it is necessary to turn the starter switch to the "ACC" or "ON" position while the vehicle is jacked up, while still in the "LOCK" position, remove the following fuses. Refer to "Fuse and Relay Locations" for their locations.**
  - **Fuse "AIR SUPENSION CONTROL" (lower center of the instrument panel)**
  - **Fuse A-7 (left rear of the cab)**

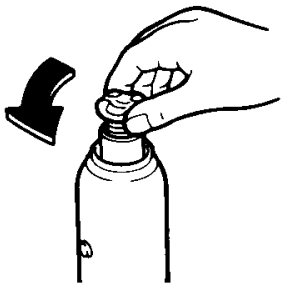
Refer to page
11-32 Fuse Locations (Cab Interior)
11-34 Fuse and Relay Locations (Cab Exterior)

ADVICE

- Depending on the vehicle model, the jack may not fit under the vehicle when there is a flat tire. Roll the tire up onto a piece of wood or other material to jack up the vehicle.

Operating the Jack

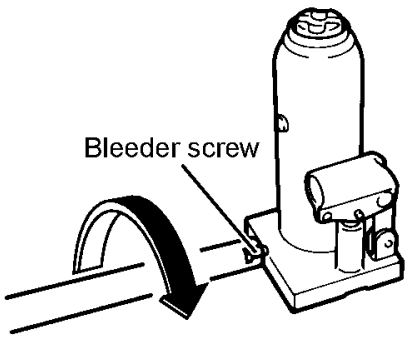
Raising the Vehicle



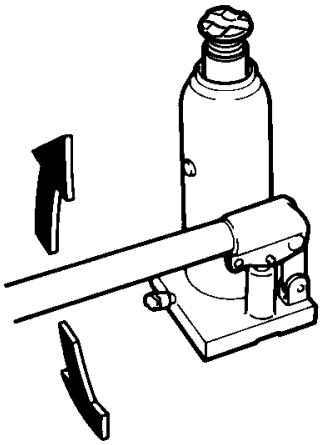
1. Assemble the ready-to-assemble hydraulic jack handle.
2. Place the jack immediately below the jacking point and ensure that it is upright.
   The jack must be placed on a flat, solid surface.

Refer to page
7-10 Jacking Points

3. Turn the head of the jack to extend it to the height of the jacking point. Turn it counterclockwise to extend.

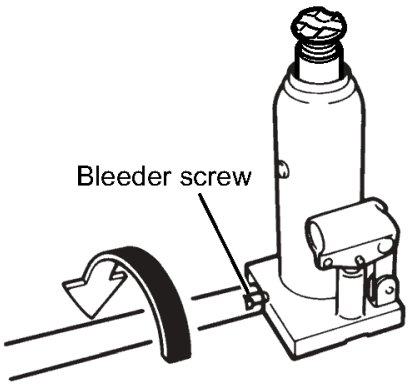


4. Insert the jack handle into the socket. Before jacking up, use the notched end of the jack handle to turn the bleeder screw fully clockwise.



5. Move the jack handle gently up and down to extend it slightly.
6. Confirm that the jack is in good contact with the jacking point, and then continue to raise the vehicle.

Lowering the Vehicle



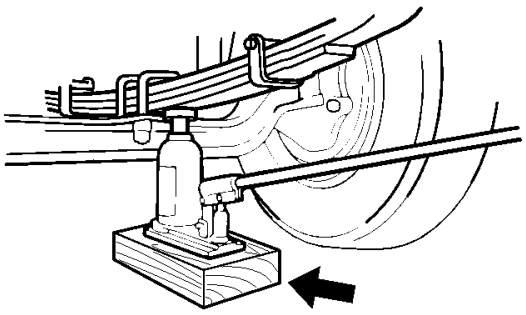
1. Line up the jack handle end notch with the bleeder screw.
2. Slowly turn the bleeder screw counterclockwise to lower the vehicle.

ADVICE

- Do not turn the bleeder screw counterclockwise more than two turns. Doing so may result in leakage of liquid from inside the jack.

3. When the vehicle has been fully lowered, turn the bleeder screw as far as it will go in the clockwise direction.
4. Turn the jack head fully clockwise.

Jacking Points

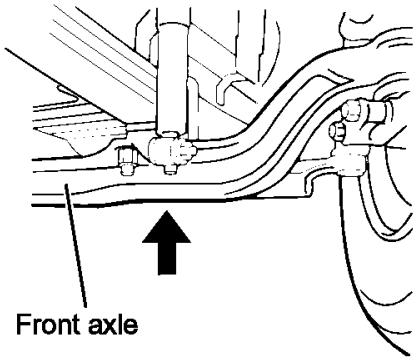


ADVICE

- If the jack stroke is insufficient, place the wood or the equivalent under the jack.
- The wood shall be thick and hard with sufficient width bigger than jack base.
- The jack cannot be placed under the front axle depending on the condition of the vehicle (flat tire, etc.).

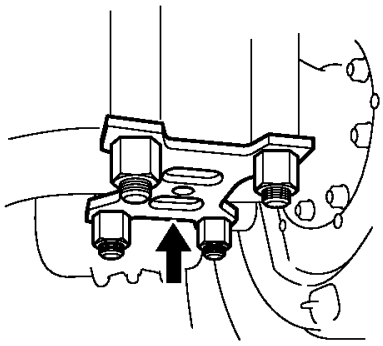
Front Wheel Jacking Points

Apply the jack to the bottom surface of the front axle beneath the leaf springs.

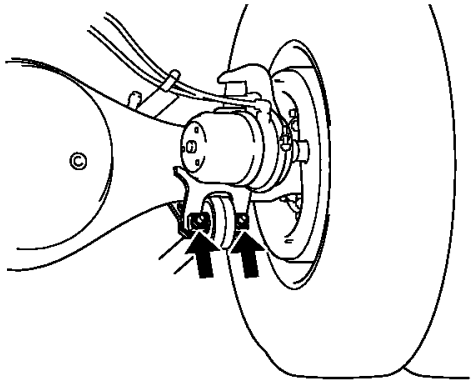


Rear Wheel Jacking Points

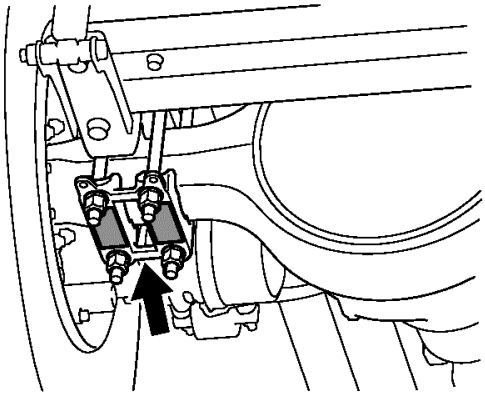
FXR model with leaf spring suspension [Rear wheel]



FXZ/FYH models with leaf suspension [Rear wheel and rearward rear wheel]



FXM/FXR/FXZ/FYH models with air suspension [Rear wheel and rearward rear wheel]

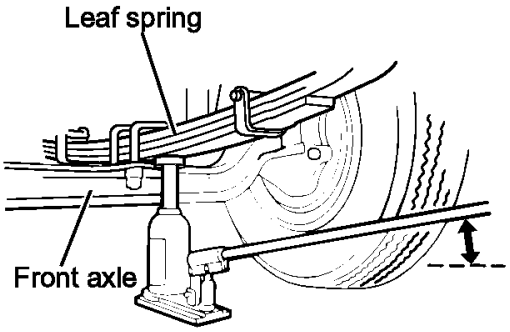


Jacking When a Front Tire Is Flat

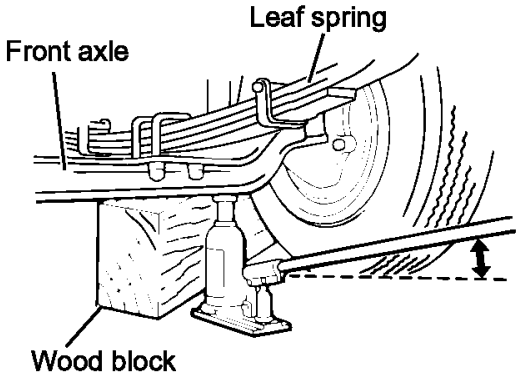
⚠ WARNING

- **Position the jack as close as possible to the front axle.**
- **The wood block should be as thick as possible in order to improve stability.**
- **As the bottom of the leaf spring is curved, special care must be taken during the jacking operation. Slipping of the jack can lead to extremely dangerous situations such as entrapment beneath the vehicle.**

Jacking cannot be performed using the normal jacking points in the case of a flat front tire. You must use the following procedures using a wood block or the equivalent.



1. Apply wheel chocks in front of and behind the rear wheels.
2. Apply the jack to the bottom of the leaf spring in front of the front axle, and jack up the vehicle.



3. Insert the wood block under the front axle.
4. Lower the jack slightly to confirm whether the front axle is being supported securely by the wood block. If so, continue lowering the jack.
5. Next, move the jack to the specified jacking point and jack up the vehicle to the necessary height for wheel removal.

Refer to page
7-10 Jacking Points

Front Lid

To Open

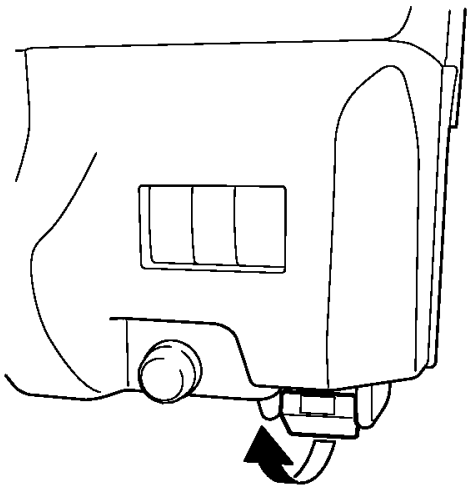
⚠ CAUTION

- **Do not pull the lever while driving. This is extremely dangerous, because opening the front lid while driving blocks your view.**
- **When opening the front lid, make sure to place the starter switch in the "LOCK" position. Otherwise, your hand could be caught in the windshield wiper link and injured.**
- **On a vehicle with a side-underview mirror, open and close the front lid carefully to prevent the lid from interfering with the mirror if it is retracted. If the clearance between the front lid and the side-underview mirror is too small, adjust the mirror position toward the outer side of the vehicle.**
- **Do not use high pressure cleaning methods for the brake valve and surrounding area inside the front lid. It could cause a faulty brake system.**

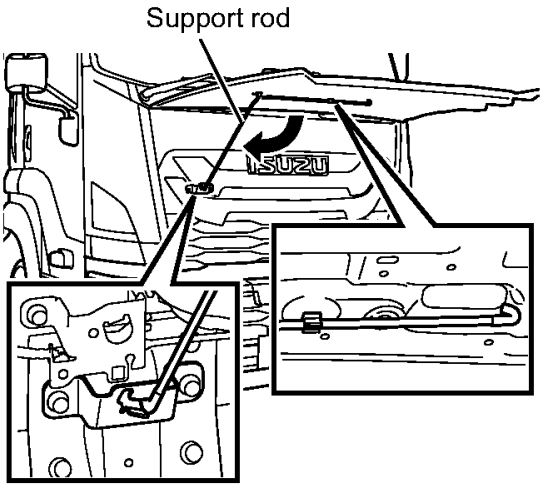
ADVICE

- Do not apply water directly to the air conditioning filter, or the connections for the air conditioning pipe or heater hose inside the front lid. This could cause water to enter the cab.

Refer to page
10-129 Exterior Maintenance



1. Pull the lever at the bottom right (right-hand drive model) or bottom left (left-hand drive model) of the instrument panel.

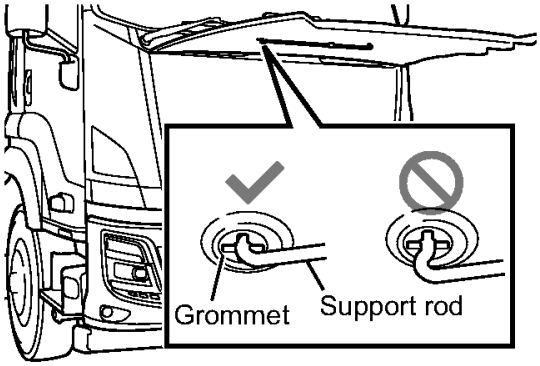


2. To hold the front lid open, take the end of the support rod and fit it securely into the bottom of the hole in the bracket.

To Close

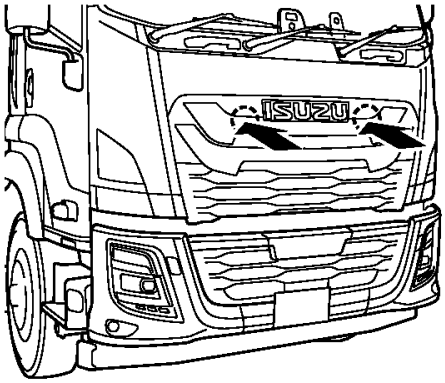
CAUTION

- **Confirm that the front lid is firmly locked. A dangerous condition could result if it is not locked. For example, the front lid could fly open while driving, blocking your view.**
- **Do not use excessive force to close the front lid. Doing so might warp or otherwise damage the lid.**



ADVICE

- When storing the support rod, insert the tip of the support rod deep into the grommet. If the support rod is raised up when stored, the grommet will be overloaded and may be damaged.



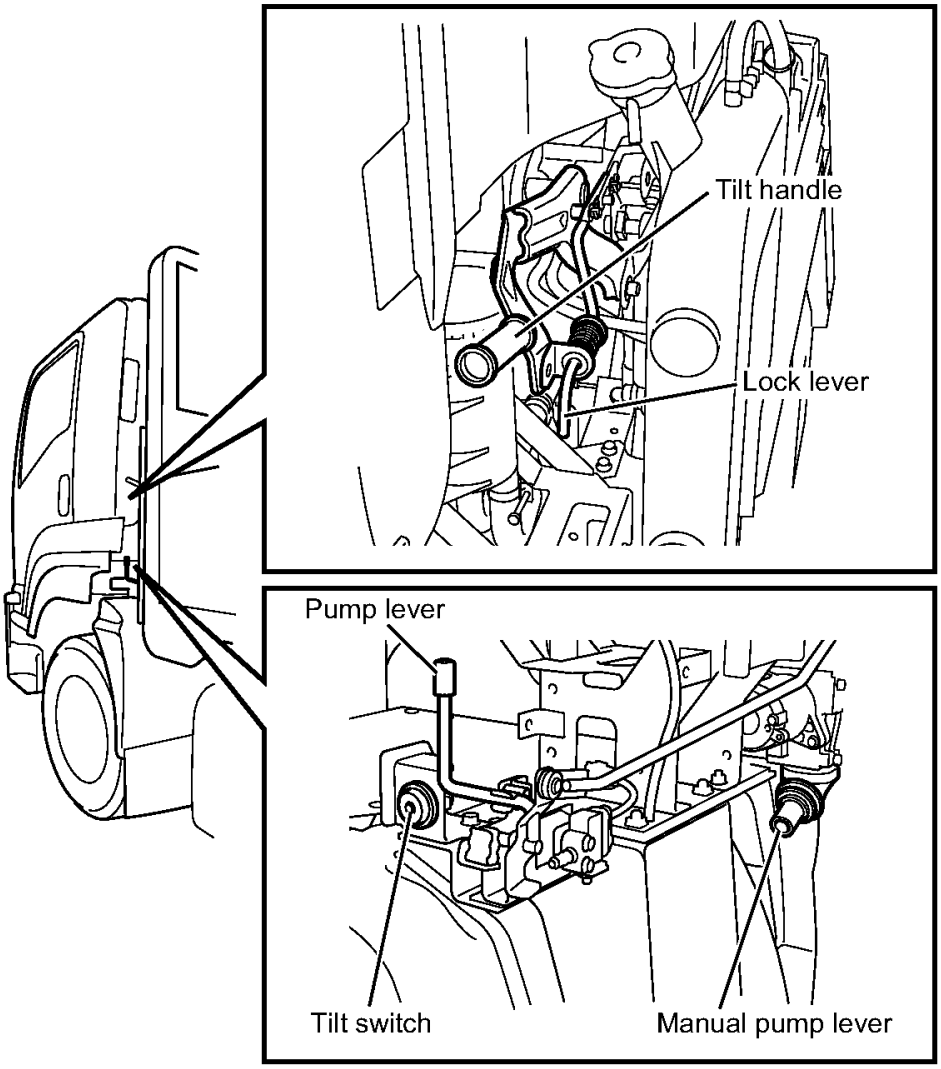
1. Return the support rod to its original position and close the front lid.
2. Press on the lock locations at the lower portion of the front lid with the palm of your hand to securely lock the lid.
3. Confirm that the front lid is firmly locked.

Power Cab Tilt System

⚠ WARNING

- **Strictly adhere to the instructions below and follow the cab tilting procedure specified in this manual. Otherwise, it may result in death, injury, or property damage.**
- **Tilt the cab only on a level surface.**
- **Check the areas in front of and above the cab for sufficient clearance when tilting the cab indoors. (Particular care is required if your vehicle is equipped with an air deflector.)**
- **Make sure to apply the parking brake and set the gear in "N" position.**
- **Tilt the cab only with the engine turned off.**
- **Do not tilt the cab when objects are placed on or in the instrument panel, seats, cup holders, or floor surface.**
- **When tilting the cab, make sure to securely close both the left and right doors. Also, the doors become heavy while tilting the cab, so do not open or close the doors.**
- **When you must unavoidably open or close a tilted cab's door, securely support the weight of the door while opening or closing it. It is dangerous to release the door from your hand when it is being opened or closed. The door could hit you or someone and cause an injury, or the door could be damaged. Confirm that the door is completely locked after closing it.**
- **Make sure everything has been removed from the roof rack.**
- **Remove anything on the bumper surface (including ice and snow) before tilting the cab. Otherwise, the bumper, lights, and other parts may be damaged.**
- **During the cab tilting operation, be very careful that your hands, legs, or other body parts are not caught.**
- **The handle and lever will be very hot immediately after driving. Pay careful attention.**
- **The muffler, exhaust pipe, DPD, and urea SCR system will be very hot immediately after driving. Use all due caution to avoid accidentally touching these when tilting the cab.**
- **Confirm that people are not near the vehicle or inside the cab when tilting the cab.**
- **While buzzer is sounding, stay out from under the cab.**
- **After lowering the cab, make sure the cab is securely locked.**

Power Cab Tilt System Components and Controls



Cab Tilt Warnings/Indicators

Cab Tilt Warning

Warning

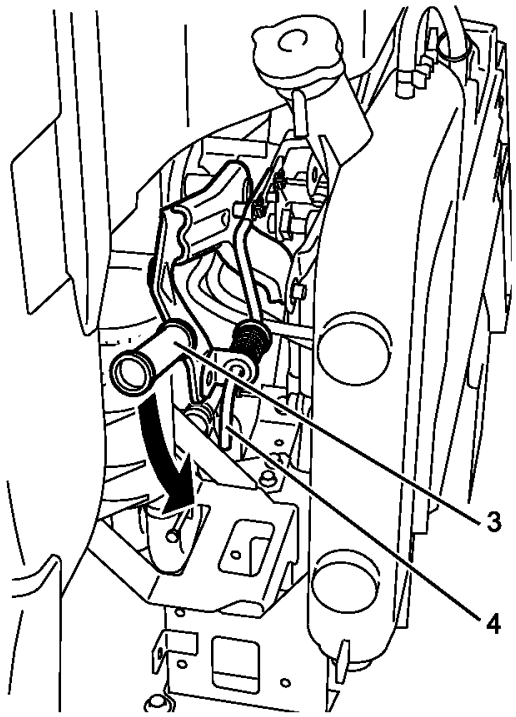
Cab is not locked
Check that
cab is locked

This message appears on the multi-information display and at the same time a buzzer sounds when the starter switch is turned to the "ON" position and if the cab is not fully locked.
If the message and warning sound do not turn off even after you have checked that the cab is locked, do not drive the vehicle, have it inspected at an Isuzu Dealer.

⚠ WARNING

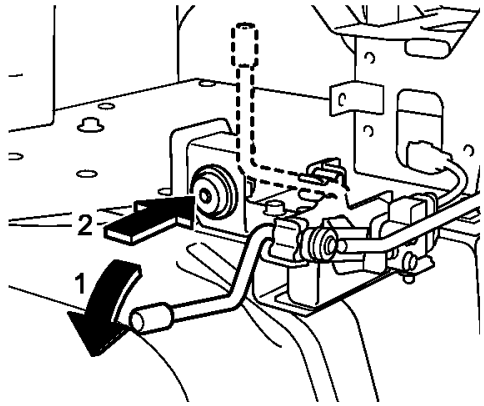
- **After lowering the cab, make sure the cab is securely locked.**
- **If you continue driving with the warning message is displayed, the cab may tilt from vibration. This is extremely dangerous. Ensure that the cab is securely locked.**

Tilting Up the Cab



Securely apply the parking brake, put the transmission in neutral by pressing the "N" selector button, and then place chocks against the wheels.
Do not tilt the cab when the gear is not in neutral.

1. Pull the lock lever (4) and pull down the handle (3) to release the cab lock. The warning buzzer will sound and the cab will rise slightly at this time.



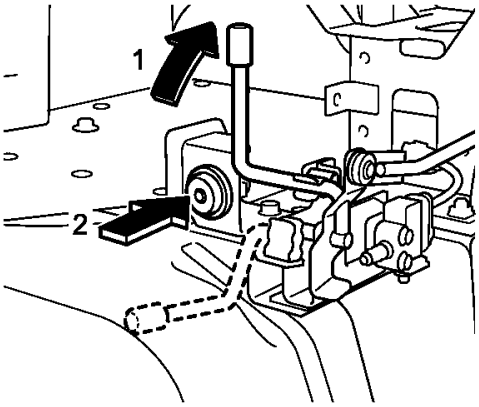
2. Set the pump lever in the "tilt up" position (1).

⚠ WARNING

- **Do not stop tilting the cab mid-way except in an emergency. Doing so may cause the cab tilt mechanism to break down.**
- **Never get under a cab that was stopped mid-way during tilting. The cab may drop down.**
- **Make sure that no part of your body is beneath the cab while it is being tilted. You may get caught under the cab.**

3. Hold the tilt switch (2) pressed until the cab stops rising. When the cab is fully tilted, the buzzer will stop.

Lowering the Cab

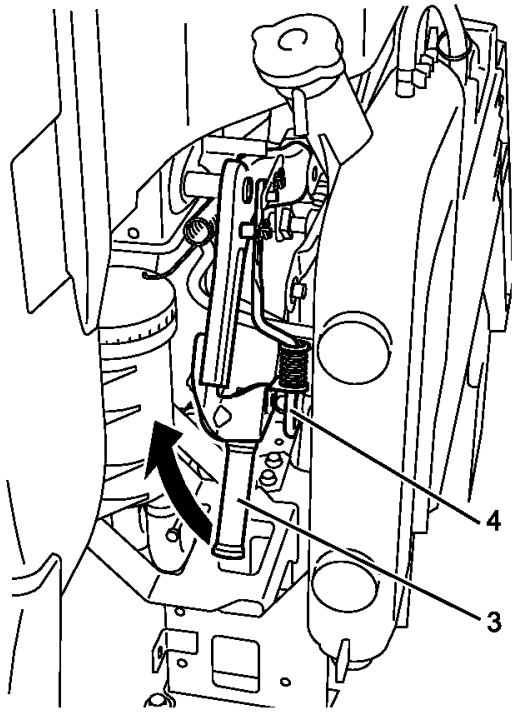


1. Set the pump lever in the "lower (drive)" position (1). A buzzer will sound.

⚠ WARNING

- **Do not stop lowering the cab mid-way except in an emergency. Doing so may cause the cab tilt mechanism to break down.**
- **Never get under a cab that was stopped mid-way during lowering. The cab may drop down.**
- **Make sure that no part of your body is beneath the cab while it is being lowered. You may get caught under the cab.**

2. Press the tilt switch (2) until the cab has been lowered completely. You no longer hear the motor operating, release the switch.



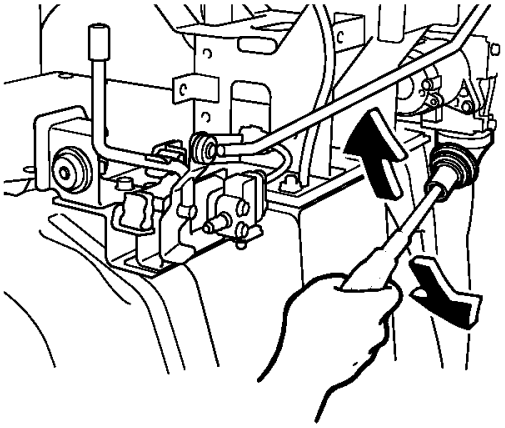
3. Raise the tilt handle (3) until the lock lever (4) catches.
4. When the tilt handle (3) is securely locked, the warning buzzer will stop. Place the starter switch in the "ON" position and make sure that the warning message does not come on.

⚠ CAUTION

- **After the cab is lowered to the original position, be sure to maintain the pump lever in the "lower (drive)" position and lock the cab by using the cab lock system.**

Refer to page
7-16 Cab Tilt Warnings/Indicators

If the System Fails to Operate



The electrically driven hydraulic cab tilt system will not operate when the battery is dead, or the tilt motor or pump is faulty. Even if any of these conditions exist, you can still tilt up or lower the cab using the following method rather than pressing the tilt switch. Handle the pump lever as you would normally.

- Insert a screwdriver into the manual pump socket and move the screwdriver up and down to operate the pump.

⚠ WARNING

- **If you find anything abnormal about the buzzer tone, the tilt motor or the pump, contact the nearest Isuzu Dealer.**

Maintenance Data 8

- Inspection and Maintenance 8-2
- Greasing Chassis Components 8-25
- Recommended Fluids, Lubricants and Diesel Fuels 8-40

8-2 Maintenance Data

Inspection and Maintenance

For safe and economy driving, we recommend that you have your vehicle inspected and serviced regularly according to the schedule indicated in this chapter.

Maintenance Schedule

To drive your vehicle safely and at minimum cost, it is essential to have your vehicle regularly inspected and serviced at your Isuzu Dealer as per the specified maintenance schedule.
Contact your Isuzu Dealer for inspection that requires disassembly and/or special equipment.

Letters Used to Indicate Maintenance Service Types

I : Inspect then clean, adjust, repair, or replace as necessary
A: Adjust
R: Replace
T: Tighten to the specified torque
L: Lubricate

ADVICE

- When inspecting the items listed below, also inspect the routine inspection items as well.

Maintenance Schedule

I: Inspect then clean, adjust, repair, or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
ENGINE											
Engine oil	R	R	R	R	R	R	R	R	or every 6 months	X	10-8
Engine oil filter element (main and partial)	-	R	R	R	R	R	R	R	or every 6 months	X	10-8
Engine oil separator element	Every 12 months: R									X	10-12
Main fuel filter and pre-fuel filter (with water separator) element	-	-	R	-	R	-	R	-	or every 12 months	-	10-35
Air cleaner element	-	I	R	I	R	I	R	I	or every 6 months: I every 12 months: R (after 6th cleaning: R)	X	10-30
Intake and exhaust manifolds	T	-	T	-	T	-	T	-	or every 12 months	-	-
Valve clearance	A	-	A	-	A	-	A	-	or every 12 months	-	-
Compression pressure for each cylinder	-	-	I	-	I	-	I	-	or every 12 months	-	-
Air compressor, governor and unloader valve functions	-	-	I	-	I	-	I	-	or every 12 months	-	-
Air flow sensor	Every 12 months: I									-	-
Intake throttle	Every 100,000 km (62,000 miles) or 12 months: I Every 700,000 km (435,000 miles): R									-	-
Radiator sub-tank cap function	Every 5,000 km (3,000 miles) or every month: I									-	-

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
Damage to fan belt	I	I	I	I	I	I	I	I	or every 6 months	-	
EGR valve	Every 400,000 km (249,000 miles): R									-	-
Exhaust pipe and mounting looseness	-	I	I	I	I	I	I	I	or every 6 months	X	-
Radiator hoses and radiator	Every 12 months: I									-	-
Insect screen	Every 3 months: I Every 24 months: R									-	10-23
Inside fuel tank	-	-	I	-	I	-	I	-	or every 12 months	-	10-109
Engine coolant	Every 12 months: I Every 24 months: R (when Isuzu recommended coolant is used)									-	10-17
Turbocharger to air duct connection and gasket	-	I	I	I	I	I	I	I	or every 6 months	-	-
Function of generator	-	I	I	I	I	I	I	I	or every 6 months	-	-
Brushless generator	-	-	I	-	I	-	I	-	or every 12 months	-	-
Damage to or loose connection of wiring harness terminals	-	I	I	I	I	I	I	I	or every 6 months	-	-
Function of starter motor	-	I	I	I	I	I	I	I	or every 6 months	-	-
Wear of starter motor brushes	-	-	I	-	I	-	I	-	or every 12 months	-	-
EXHAUST SYSTEM											
AdBlue® filter	-	-	-	R	-	-	R	-	or every 2 years	-	10-40
NOx sensors	Every 750,000 km (466,000 miles) or every 7 years: R									-	10-42

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
Dosing module	Every 750,000 km (466,000 miles): R									-	-
PM sensor	Every 250,000 km (155,000 miles): R									-	-
DPD differential pressure sensor rubber hose	-	-	I	-	I	-	I	-	or every 12 months	-	10-40
DPD exhaust pressure check or filter cleaning	Every 12 months: I									-	10-40
Leaks from, damage to, or loose connection of SCR hose or tube	Every 12 months: I									-	-
TRANSMISSION/CLUTCH											
[A/T] Transmission fluid (ALLISON4430 model)	*2 When the service indicator is displayed on the shift selector display or every 60 months: R									-	10-89
[A/T] Transmission main filter (ALLISON4430 model)	*2 When the service indicator is displayed on the shift selector display or every 60 months: R									-	10-89
[A/T] Transmission Lube filter (ALLISON4430 model)	*2 When the service indicator is displayed on the shift selector display or every 60 months: R									-	10-89
[M/T] Clutch fluid	-	-	R	-	R	-	R	-	or every 12 months	-	10-71
[M/T] Clutch booster exhaust cover	-	I	I	I	I	I	I	I	or every 6 months	-	10-77
[M/T] Clutch system function	-	I	I	I	I	I	I	I	or every 6 months	-	10-68
[M/T] Clutch pedal stroke and free play	-	I	I	I	I	I	I	I	or every 6 months	-	10-68
[M/T] Rubber parts and gaskets of clutch booster	Every 48 months: R									-	-
[M/T] Transmission oil (MJT7 model)	-	-	R	-	R	-	R	-	or every 12 months	X	10-78
[M/T] Transmission oil (ZF9S1310 model)	Refer to page 8-15 for the maintenance schedule of the ZF9S1310 manual transmission.									X	8-15

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
[M/T] Loose gear control mechanism	-	-	I	-	I	-	I	-	or every 12 months	-	-
DRIVELINE/AXLE/TIRE											
Loose/worn propeller shaft universal joints, splines, bearings, and other related components	-	I	I	I	I	I	I	I	or every 6 months	X	-
[ISZ] Rear axle differential/Inter-differential gear oil	R	-	R	-	R	-	R	-	or every 12 months	X	10-92
[MER] Rear axle differential/Inter-differential gear oil	Refer to page 8-22 for the maintenance schedule of the MS11/RQ4670/MT20 type axle.									-	10-94
Damaged or distorted front and rear axle	-	-	I	-	I	-	I	-	or every 12 months	-	-
Foreign object in wheels	-	I	I	I	I	I	I	I	or every 6 months	-	10-49
Wheel nuts retightening	T	T	T	T	T	T	T	T	or every 6 months	-	10-49
Disc wheel damage	-	I	I	I	I	I	I	I	or every 6 months	-	10-49
Loose front and rear wheel hub bearings	-	I	I	I	I	I	I	I	or every 6 months	-	10-49
[ISZ] Front and rear wheel hub bearing grease	-	-	R	-	R	-	R	-	or every 12 months	-	8-25
[MER] Front wheel hub bearing oil	Refer to page 8-22 for the maintenance schedule of the MFS73 type axle.									-	10-99
[MER] Rearward rear wheel hub bearing oil (FXM model)	Refer to page 8-22 for the maintenance schedule of the MS11/RQ4670 type axle.									-	10-100
SUSPENSION											
Leaf spring U-bolt nuts*3	T	-	T	-	T	-	T	-	or every 12 months	X	-
Leaf spring damage	-	I	I	I	I	I	I	I	or every 6 months	-	-

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
Uneven suspension due to leaf spring fatigue	-	-	I	-	I	-	I	-	or every 12 months	-	-
Loose or damaged leaf spring mounting	-	I	I	I	I	I	I	I	or every 6 months	-	-
Dislodged leaf spring	-	-	I	-	I	-	I	-	or every 12 months	-	-
Oil leaks from or damage to shock absorbers	-	I	I	I	I	I	I	I	or every 6 months	-	-
Shock absorber mounting looseness	-	I	I	I	I	I	I	I	or every 6 months	-	-
[V] Damaged air suspension main support member	-	-	I	-	I	-	I	-	or every 12 months	-	-
[V] Damaged air spring	-	I	I	I	I	I	I	I	or every 6 months	-	10-65
[V] Air leaks from air suspension	-	I	I	I	I	I	I	I	or every 6 months	-	10-67
[V] Loose or damaged air suspension mounting	-	I	I	I	I	I	I	I	or every 6 months	-	-
[V] Air spring height	-	I	I	I	I	I	I	I	or every 6 months	-	10-67
[V] Function of leveling valves	-	I	I	I	I	I	I	I	or every 6 months	-	-
[V] Damaged torque rod	-	I	I	I	I	I	I	I	or every 6 months	-	-
[V] Damage to transverse rod	-	I	I	I	I	I	I	I	or every 6 months	-	-
STEERING											
Power steering fluid	R	-	R	-	R	-	R	-	or every 12 months	-	10-101
Power steering fluid filter	-	-	I	-	I	-	I	-	or every 12 months	-	10-107

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
Loose power steering system mounting	-	I	I	I	I	I	I	I	or every 6 months	-	-
Excessive play in power steering bearing	-	-	I	-	I	-	I	-	or every 12 months	-	-
Damage to, loose or excessive play in power steering joints	I	I	I	I	I	I	I	I	or every 6 months	X	-
Knuckle-to-front axle clearance	-	-	I	-	I	-	I	-	or every 12 months	-	-
Wheel alignment	-	-	I	-	I	-	I	-	or every 12 months	-	-
Steering angle range for right and left turns	-	-	I	-	I	-	I	-	or every 12 months	-	-
King pin-to-bearing clearance	-	-	I	-	I	-	I	-	or every 12 months	-	-
[MER] Damage, loose or excessive play in tie rod ends	Refer to page 8-22 for the maintenance schedule of the MFS73 type axle.									X	8-22
BRAKE											
Function of brake valve and relay valve	I	I	I	I	I	I	I	I	or every 6 months	-	-
Leaks from, damage to, or loose connection of brake pipe and nylon tube	-	I	I	I	I	I	I	I	or every 6 months	-	-
Function of brake chamber	-	-	I	-	I	-	I	-	or every 12 months	-	-
Brake expander (taper roll type) (model with drum brake)	Every 12 months: I Every 36 months: R									-	-
Brake lining wear (model with drum brake)	Every 5,000 km (3,000 miles) or every month: I									X	10-44
Lining gap of brake lining (model with drum brake)	Every 5,000 km (3,000 miles) or every month: I									-	10-44
Brake drum wear or damage (model with drum brake)	-	-	I	-	I	-	I	-	or every 12 months	X	10-44

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km x1,000 miles	5 3	20 12	40 24	60 37	80 49	100 62	120 75	140 87			
Function and damage of brake disc caliper (model with disc brake)	-	-	I	-	I	-	I	-	or every 12 months	-	10-46
Brake rotor for wear and damage (model with disc brake)	-	-	I	-	I	-	I	-	or every 12 months	X	-
Brake pad for wear (model with disc brake)	-	I	I	I	I	I	I	I	or every 3 months	X	10-46
Brake hose	-	I	R	I	R	I	R	I	or every month: I or every 12 months: R	-	-
Air dryer	Replace desiccant every 100,000 km (62,000 miles) or every 12 months									-	-
Air tanks	Drain water every 20,000 km (12,000 miles) or every 3 months									-	9-21
Brake chamber assembly (model with disc brake)	Every 36 months: R									-	-
Brake chamber boots and diaphragm (model with drum brake)	Every 24 months: R									-	-
Brake chamber piggy-bag (model with drum brake)	Every 36 months: R									-	-
Brake valve and relay valve (front and rear)	Every 10 years: R									-	-
Rubber parts of relay valve (wheel park brake), parking brake valve and air processing unit	Every 24 months: R									-	-
ABS modulator	Every 24 months: R									-	-
Function of parking brake control valve system	I	I	I	I	I	I	I	I	or every 6 months	-	-
Resin parts of relay valve with double check valve	Every 24 months: R									-	-

Service interval									Odometer reading or months, whichever comes first	Severe*1	Reference page
x1,000 km	5	20	40	60	80	100	120	140			
x1,000 miles	3	12	24	37	49	62	75	87			
AIR CONDITIONER											
Air conditioning filter	Clean the filter once every month.									-	6-19
OTHER											
Battery fluid specific gravity	-	I	I	I	I	I	I	I	or every 6 months	-	10-122
Electro-hydraulic cab tilt pump oil	Every 24 months: R									-	10-110

Remarks:

*1: Your vehicle needs to be maintained more often if it is driven in severe conditions. Refer to page 8-13.

*2: The illumination timing depends on the usage of the vehicle.

*3: Initial tightening at 1,000 km (600 miles) is required.

Schedule for Greasing

L: Lubricate

Service interval									Odometer reading or months, whichever comes first	Reference page
x1,000 km x1,000 miles	20 12	40 24	60 37	80 49	100 62	120 75	140 87	160 99		
[V] Propeller shaft center bearing	L	L	L	L	L	L	L	L	or every month	8-25
[M/T] Clutch shift block (MJT7 model)	Every 5,000 km (3,000 miles) or every month: L									
[M/T] Clutch shaft (MJT7 model)	Every 5,000 km (3,000 miles) or every month: L									
[M/T] Clutch booster joint pin (MJT7 model)	Every 5,000 km (3,000 miles) or every month: L									
[ISZ] King pin	L	L	L	L	L	L	L	L	or every month	
[MER] King pin and king pin bushing	Refer to page 8-22 for the maintenance schedule of the MFS73 type axle.									
Steering shaft sliding sleeve	L	L	L	L	L	L	L	L	or every month	
Front spring pins and shackles	L	L	L	L	L	L	L	L	or every month	
[V] Rear spring pins	L	L	L	L	L	L	L	L	or every month	
[V] Rear spring sliding shackles	L	L	L	L	L	L	L	L	or every month	
[V] Rear spring pad	L	L	L	L	L	L	L	L	or every month	
[V] Trunnion shaft	L	L	L	L	L	L	L	L	or every month	

Service interval									Odometer reading or months, whichever comes first	Reference page
x1,000 km	20	40	60	80	100	120	140	160		
x1,000 miles	12	24	37	49	62	75	87	99		
Propeller shaft universal joints and sliding sleeves	Every 5,000 km (3,000 miles) or every month: L									8-25
[ISZ] Tie rod end	-	L	-	L	-	L	-	L	or every 6 months	
Drag link	-	L	-	L	-	L	-	L	or every 6 months	
Steering link arm (FYH model)	-	L	-	L	-	L	-	L	or every 6 months	
Equalizer lever pin (FYH model)	L	L	L	L	L	L	L	L	or every month	

Schedule for Severe-condition Operations

Driving condition
A: Driving with a trailer attached
B: Repeated starting off and stopping
C: Driving on bad roads, mountain roads, driving up hills
D: Driving in a dusty region
E: Driving on snowy roads or driving along the coast

Item	Distance covered	Condition	Reference page
Engine oil	Replace every 10,000 km (6,000 miles) or every 3 months	A, D, B+E	10-8
Engine oil filter element (main and partial)	Replace every 10,000 km (6,000 miles) or every 3 months	A, D, B+E	10-8
Engine oil separator element	Replace every 6 months	A, D, B+E	10-12
Air cleaner element	Replace every 20,000 km (12,000 miles) or every 6 months (replace after 6th cleaning)	D	10-30
Exhaust pipe and mounting looseness	Inspect every 10,000 km (6,000 miles)	A, B, C, E	-
[M/T] Transmission oil (MJT7 models)	Replace every 20,000 km (12,000 miles) or every 6 months	A, C	10-78
[M/T] Transmission oil (ZF9S1310 models)	Refer to page 8-15 for the maintenance schedule of the ZF9S1310 manual transmission.		8-15
Loose/worn propeller shaft universal joints, splines, bearings, and other related components	Inspect every 10,000 km (6,000 miles) or every 3 months	C	-
[ISZ] Rear axle differential/Inter-differential gear oil	Retighten every 20,000 km (12,000 miles) or every 6 months	A, C	10-92
Leaf spring U-bolt nut	Retighten every 20,000 km (12,000 miles) or every 6 months	C	-
Damage to, loose or excessive play in power steering joints	Inspect every 10,000 km (6,000 miles) or every 3 months	B	-
[MER] Damage, loose or excessive play in tie rod ends	Refer to page 8-22 for the maintenance schedule of the MFS73 type axle.		8-22
Brake rotor for wear and damage (model with disc brake)	Inspect every 20,000 km (12,000 miles)	A, B, C, D	10-49

Item	Distance covered	Condition	Reference page
Brake pad for wear (model with disc brake)	Inspect every 10,000 km (6,000 miles)	A, B, C, D	10-48
Brake lining wear (model with drum brake)	Inspect every 2,500 km (1,500 miles)	A, B, C, D	10-44
Brake drum wear or damage (model with drum brake)	Inspect every 20,000 km (12,000 miles) or every 6 months	A, B, C, D	10-44

Maintenance Schedule - ZF9S1310 Model Transmission

The transmission of your vehicle can stay in good condition through regular maintenance. Above all, make sure to replace the transmission oil regularly in accordance with the specified maintenance schedule.

Oil Level Check

Service item	Service interval
Check oil level and inspect for leakage	10,000 km (6,000 miles) or 3 months

Oil Change Interval

Driving condition	Oil class	
	02B	02L/02E (ZF EcoFluid M)
Application	Oil change intervals	
Condition 1 • Off-road operation e.g. mining application • Average speed up to 20 km/h (12 MPH) • Stationary drives	1,000 hours or 20,000 km (12,000 miles) or 1 year	5,000 hours or 100,000 km (62,000 miles) or 1 year
Condition 2 • Hot country use* • Long-distance transport heavier than 44 ton • Short-distance transport • Tough operating conditions • Average speed from 20 to 60 km/h (12 to 37 MPH)	120,000 km (74,000 miles) or 1 year	240,000 km (149,000 miles) or 2 years
Condition 3 • Long-distance transport • Average speed as of 60 km/h (37 MPH)	180,000 km (111,000 miles) or 1 year	360,000 km (223,000 miles) or 2 years

Change oil at the above-indicated distance or time, whichever comes first.

*: We say "Hot country use" when the monthly average temperature exceeds 25°C (77°F) in more than 2 months within a year or if temperatures rise above 40°C (104°F) on more than 7 days in a year.

Low Temperature Limits

Oil sump temperature	SAE viscosity rating	Oil class
-40°C (-40°F) or above	75W/75W-80/75W-85/75W-90	02B/02E (ZF EcoFluid M)/02L
-20°C (-4°F) or above	80W/80W-85/80W-90	02B
0°C (32°F) or above	40/85W-90/90	
-5°C (23°F) or above	30	

Oil Classes and Approved Trade Products

Lubricant class 02B

NOTE

- In moderate climate zones, shift quality is impaired if viscosity grades higher than SAE 80W are used.

Manufacturer (02B)	Trade name (02B)
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL GETRIEBEÖL GX 80W-90 ML
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL GETRIEBEÖL GH 75 W 90 SL
AVIA AG, MÜNCHEN/DE	AVIA POWERTRAIN SUPREME GAX 75W-90
AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE	AVISTA PEER EVO GL4/GL5 SAE 80W-90
AVISTA OIL DEUTSCHLAND GMBH, UETZE/DE	AVISTA PEER EVO PRIME GL4/GL5 SAE 80W-90
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL MULTIGEAR PLUS 8090
BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR	BELGIN LUBEX MITRAS AX SYN ULTRA 75W-90
BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH	EVOLCA SGP 75W90
BLASER SWISSLUBE AG, HASLE-RÜEGSAU/CH	EVOLCA BGP 80W90
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX MANUAL EP 80W-90
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX MANUAL EP 80W-90
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX MANUAL EP 80W-90
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX UNIVERSAL LL 80W-90
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX UNIVERSAL LL 75W-90
CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES	CEPSA TRANSMISIONES EP FE+LD 75W-90
CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES	MAN SUPER AXLE 3343 75W-90
CHAMPION CHEMICALS N.V., HEMIKSEM/BE	CHAMPION OEM SPECIFIC 75W90 GL 5
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO GEAR TDL 80W-90
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO SYN-TDL 75W-90
CONDAT LUBRIFIANTS, CHASSE SUR RHONE/FR	GEAR TXS 75W90
DE OLIEBRON BV, ZWIJNDRECHT/NL	TOR UNI GEAR LD 75W90
DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE	AVENO TDL ULTIMATE 75W-90
ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS	MULTIHIPO 75W-90 SINT
ELLIS ENTERPRISES EAST D.O.O. KRUSEVAC, KRUŠEVAC/RS	MULTIHIPO 80W-90 F PLUS
ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT	ENI ROTRA LSX 75W-90
ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT	ENI ROTRA MP 75W-90
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILUBE 1 SHC 75W-90
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBILUBE S 80W-90
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC ULTRA TOTAL DRIVELINE 75W-90
FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE	AVIATICON FINKOGEAR PREMIUM 75W-90
FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE	AVIATICON FINKOGEAR SUPER 80W-90
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN SUPERGEAR MC SAE 80W-90

Manufacturer (02B)	Trade name (02B)
FUCHS PETROLUB SE, MANNHEIM/DE	GEARWAY S5 75W-90
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN GEAR ZF SAE 80
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN CYTRAC TD SAE 75W-90
FUCHS PETROLUB SE, MANNHEIM/DE	PENTOSIN GEAR ULTRA SAE 75W-90
GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE	OEST SYNTH GETRIEBEÖL SAE 75W-90
GEORG OEST MINERALÖLWERK GMBH & CO.KG, FREUDENSTADT/DE	OEST GETRIEBEÖL FE SAE 80W-90 GL4/5
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF GEAR TDL 80W-90
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF SYNGEAR 75W-90
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF GEAR ZX 80W
HILL CORPORATION, SHYMKENT/KZ	FASTROIL MTF4 80W-90
HUILES BERLIET S.A., SAINT-PRIEST/FR	LONGEVIA TCX ECO 75W-90
IGOL FRANCE, AMIENS/FR	SYNTHEGEAR 75W-90
INA MAZIVA LTD., ZAGREB/HR	INA HIPENOL TDL 80W-90
INA MAZIVA LTD., ZAGREB/HR	INA HIPENOL SHD 75W-90
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 TRANS XGS 75W-90
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 GEAR OIL XG SAE 80W-90
LAEMMLE CHEMICALS AG, MADETSWIL/CH	ROXOR SUPER DUTY SYNTH 75W-90
LAEMMLE CHEMICALS AG, MADETSWIL/CH	ROXOR TOPGEAR 80W-90
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY VOLLSYN. HYPOID GETR.ÖL TRUCK (75W-90)
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY HYPOID GETRIEBEÖL TDL SAE 80W-90
LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT	LUKOIL TRANSMISSION SYNTH BSX 75W-90
MEGUIN GMBH & CO. KG, SAARLOUIS/DE	MEGOL HYPOID-GETRIEBEOEL TDL 80W-90
MEGUIN GMBH & CO. KG, SAARLOUIS/DE	MEGOL GETRIEBEOEL TRUCK-SYNTH SAE 75W-90
MOL-LUB KFT, ALMASFUZITO/HU	MOL HYKOMOL TDL 75W90
MOOVE LUBRICANTS, GRAVESEND/GB	COMMA PRO EP 75W-90 TDL
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK GEAR ZX TP SAE 80W/90
MOTOREX AG, LANGENTHAL/CH	YORK 896 75W90
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK PENTA TL SAE 75W/90
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK UNISYNT ZX SAE 75W90
MOTUL SA, AUBERVILLIERS/FR	MOTUL GEAR SYNTH TDL 75W-90
OEL-BRACK AG, HUNZENSCHWIL/CH	MIDLAND SENSOGEAR 75W-90
ORLEN OIL SP. Z O.O., KRAKOW/PL	ORLEN OIL GEAR LL 80W-90
ORLEN S.A., GDANSK/PL	TITANIS SUPER GL-5 80W-90
PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT	GLOBAL MULTIGEAR TS SAE 75W/90
PETROCHINA LUBRICANT COMPANY, BEIJING/ CN	KUNLUN ZFGO 02B 80W-90
PETROCHINA LUBRICANT COMPANY, BEIJING/ CN	KUNLUN ZFGO 02B 85W-90
PETROGAL S.A., LISBOA/PT	GALP TRANSVEX TDL 75W90
PETROL OFISI A.S., ISTANBUL/TR	MAXIGEAR D 75W-90
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	TUTELA TRANSMISSION STARGEAR AX-ED (SAE 75W-90)

Manufacturer (02B)	Trade name (02B)
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	PETRONAS TUTELA AXLE 700 EHD 75W-90
PHI OIL GMBH, ST. GEORGEN/AT	UNIGEAR GOLD 75W90
PHI OIL GMBH, ST. GEORGEN/AT	UNIGEAR GOLD 75W90
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE	RAVENOL GEAR SUPER SYNTH GSS SAE 75W-90
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE	RAVENOL GEAR TRANS SYNTH GTS SAE 75W-90
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL CARTAGO FE LD 75W90
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL NAVIGATOR FE LL 75W-90
ROLF LUBRICANTS GMBH, LEVERKUSEN/DE	ROLF TRANSMISSION S9 AGE 75W-90
SASOL ENERGY, JOHANNESBURG/ZA	SYN GEAR DIFFERENTIAL OIL 75W-90
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S3 AM 80W-90
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S6 ADME 75W- 90
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S3 G 80W
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S3 G 80W-90
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL MTF C-I 80W
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL MTF C-I 80W-90
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL MTF C-I 85W-90
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC MULTIPURPOSE-II GEAR OIL 80W-90
SK ENMOVE CO.,LTD., SEOUL/KR	TATADW G EP 80W-90
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS GETRIEBEFLUID SML 80W-90
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS GETRIEBEFLUID SXL 75W-90
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS WIOLIN ML 4 PLUS SAE 80W
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS WIOLIN ML 4 PLUS SAE 80W-90
SRS SCHMIERSTOFF VERTRIEB GMBH, SALZBERGEN/DE	SRS WIOLIN ML 4 PLUS SAE 90
TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN	TONGYI GEAR OIL MTF 80W
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRAXIUM DUAL 9 FE 75W-90
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRANSELF SYN FE 75W-90
UNIL OPAL, SAUMUR/FR	GEAR EP 80W-90
WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/ DE	HOYER GEAR F-FP 75W-90
WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/ DE	HOYER GEAR M-FS 80W-90
WOLF OIL CORPORATION N.V., HEMIKSEM/BE	WOLF OFFICIALTECH 75W90 GL 5
YACCO SAS, ST PIERRE LES ELBEUF/FR	BVX 1000 75W-90
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/ DE	ZF ECOFLUID X SAE 80W-90

Lubricant class 02E

NOTE

- We recommend that you use ZF EcoFluid M, a premium oil specially developed for ZF transmissions.

Manufacturer (02E)	Trade name (02E)
CASTROL LTD, LONDON/GB	CASTROL TRANSMAX MANUAL Z LONG LIFE 75W-80
CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES	CEPSA TRANSMISIONES Z5 FE+LD 75W80
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN CYTRAC ULTRA SYNTH SAE 75W-80
HUILES BERLIET S.A., SAINT-PRIEST/FR	RTO LONGEVIA BZV ECO 75W-80
OLIPES S.L., CAMPO REAL - MADRID/ES	MAXIGEAR TS 7400
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	TUTELA TRANSMISSION XT-D 540 (SAE 75W-80)
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRAXIUM GEAR 9 FE 75W-80
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE	ZF ECOFLUID M SAE 75W-80

Lubricant class 02L

Manufacturer (02L)	Trade name (02L)
ADDINOL LUBE OIL GMBH, LEUNA/DE	ADDINOL GETRIEBEÖL GS 75 W 80 SL
BAYWA AG MÜNCHEN, MÜNCHEN/DE	TECTROL SYNTOGEAR MA 7580
BELGIN MADENI YAGLAR TIC. VE SAN. A.S., KOCAELI/TR	BELGIN LUBEX MITRAS MT EP SYN 75W-80
CASTROL LTD, LONDON/GB	TRANSMAX MANUAL Z 75W-80
CEPSA COMERCIAL PETRÓLEO S.A.U., MADRID/ES	CEPSA TRANSMISIONES FE+LD 75W-80
CHAMPION CHEMICALS N.V., HEMIKSEM/BE	CHAMPION OEM SPECIFIC 75W80 ZF
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO SYN-MTF XZ 75W-80
CHEVRON LUBRICANTS, SAN RAMON, CA/US	DELO SYN-MTF XZ 75W-80
DE OLIEBRON BV, ZWIJNDRECHT/NL	TOR MT/LD GEAR OIL 75W80
DEUTSCHE ÖLWERKE LUBMIN, LUBMIN/DE	AVENO TRUCK GEAR LONGLIFE 75W-80
DONGFENG COMMERCIAL VEHICLE CO. LTD, HUBEI/CN	DFCV-HDT 31
ENI SUSTAINABLE MOBILITY S.P.A., ROME/IT	ENI ROTRA MULTIGEAR 75W-80
EUROPART TRADING GMBH, HAGEN/DE	EUROPART SYNTHOGEAR INT. 75W80
EXXONMOBIL CORPORATION, HOUSTON, TX/US	MOBIL DELVAC 1 TRANSMISSION FLUID 75W-80
FINKE MINERALÖLWERK GMBH, 27374 VISSELHÖVEDE/DE	AVIATICON FINKOGEAR MTF 75W-80
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN CYTRAC MAN SYNTH SAE 75W-80
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN CYTRAC MAT SAE 75W-80
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN CYTRAC MAT SAE 75W-80
FUCHS PETROLUB SE, MANNHEIM/DE	FUCHS TITAN CYTRAC MAT SAE 75W-80
GULF OIL INTERNATIONAL, MUMBAI/IN	GULF SYNGEAR FE 75W-80
GULF WESTERN OIL (AUST) PTY LTD, ST MARYS/AU	ULTRA SHIFT M SYNTHETIC MANUAL TRANSMISSION FLUID

Manufacturer (02L)	Trade name (02L)
IGOL FRANCE, AMIENS/FR	IGOL TRANSGEAR ZF PLUS 75W-80
INA MAZIVA LTD., ZAGREB/HR	INA TRANSMOL HD SAE 75W-80
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 GEAR OIL V 75W-80
KUWAIT PETROLEUM INTERNATIONAL LUBRICANT, ANTWERP/NL	Q8 T 60 NTECH 75W-80
LIQUI MOLY GMBH, ULM/DE	LIQUI MOLY TRUCK GETRIEBEÖL HC GL4 SAE 75W-80
LUKOIL LUBRICANTS EUROPE GMBH, VIENNA/AT	LUKOIL TRANSMISSION SYNTH MPV 75W-80
MEGUIN GMBH & CO. KG, SAARLOUIS/DE	MEGOL PREMIUM GETRIEBEOEL HC GL 4 75W80
MOL-LUB KFT, ALMASFUZITO/HU	MOL HYKOMOL SYNTRANS 75W80
MOTOREX AG, LANGENTHAL/CH	YORK 994
MOTOREX AG, LANGENTHAL/CH	MOTOREX YORK PRISMA TF SAE 75W/80
PAKELO MOTOR OIL S.P.A. A S.U., SAN BONIFACIO (VR)/IT	GOLDENGEAR LD PLUS SAE 75W-80
PAZ LUBRICANTS & CHEMICALS, HAIFA/IL	PAZ TRANS ULTRA 75W-80
PETRO-CANADA LUBRICANTS INC., MISSISSAUGA, ONTARIO/CA	TRAXON SYNTHETIC MTF 75W-80
PETROCHINA LUBRICANT COMPANY, BEIJING/ CN	KUNLUN ZFGO 02L
PETROGAL S.A., LISBOA/PT	GALP TRANSVEX TDL ULTRA 75W80
PETROL OFISI A.S., ISTANBUL/TR	MAXIGEAR S 75W-80
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	PETRONAS TUTELA MTF 700 HD 75W-80
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	PETRONAS TUTELA MTF 700 HD 75W-80
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	TUTELA TRANSMISSION FE-GEAR (SAE 75W-80)
PETRONAS LUBRICANTS INTERNATIONAL SDN BH, KUALA LUMPUR/MY	TUTELA TRANSMISSION FE-GEAR (SAE 75W-80)
PHI OIL GMBH, ST. GEORGEN/AT	GEAR OIL MDV SILVER 75W80
RALOY LUBRICANTES, S.A. DE C.V., SANTIAGO TIANGUISTEN/MX	KRÖNEN TRANSMISSION SYNTHETIC OIL 341 SAE 75W-80
RAVENSBERGER SCHMIERSTOFFVERTRIEB GMBH, WERTHER/DE	RAVENOL SSG SPEC SYNT LKW GETRIEBEÖL 75W-80
REPSOL LUBRICANTES Y ESPECIALIDADES, S.A, MADRID/ES	REPSOL NAVIGATOR FE LL 75W-80
ROLF LUBRICANTS GMBH, LEVERKUSEN/DE	ROLF TRANSMISSION S7 GE 75W-80
SHELL INTERNATIONAL PETROLEUM COMP. LTD, LONDON/GB	SHELL SPIRAX S6 GXME 75W- 80
SINOPEC LUBRICANT CO., LTD., BEIJING/CN	SINOPEC GREATWALL MTF 02L 75W-80
SK ENMOVE CO.,LTD., SEOUL/KR	SK GEAR EP 75W-80 ZF
SK ENMOVE CO.,LTD., SEOUL/KR	ZIC ZS G-EP HP 75W-80
TAMOIL ITALIA SPA, MILANO/IT	TAMOIL TAMGEAR PLUS SAE 75W-80
TONGYI PETROLEUM CHEMICAL CO., LTD., BEIJING/CN	TONGYI GEAR OIL MTF 75W-80
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRAXIUM GEAR 8 FE 75W-80
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRANSELF LD 75W-80
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRAXIUM GEAR 8 FE 75W-80
TOTALENERGIES LUBRIFIANTS, NANTERRE/FR	TRANSELF LD 75W-80
UNIL OPAL, SAUMUR/FR	GERION LD 75W80

Manufacturer (02L)	Trade name (02L)
VALVOLINE EUROPE, DORDRECHT/NL	VALVOLINE HEAVY DUTY GEAR OIL PRO 75W-80 LD
VALVOLINE EUROPE, DORDRECHT/NL	NESTE PRO GEAR 75W-80
VIBRA ENERGIA S.A., DUQUE DE CAXIAS/BR	LUBRAX GOLD XP SAE 75W-80
WILHELM HOYER B.V. & CO. KG, VISSELHÖVEDE/DE	HOYER GEAR F-TF 75W-80
WOLF OIL CORPORATION N.V., HEMIKSEM/BE	WOLF OFFICIALTECH 75W80 ZF
YACCO SAS, ST PIERRE LES ELBEUF/FR	BVX Z 1000 75W-80
ZELLER+GMELIN GMBH&CO.KG, EISLINGEN/DE	DIVINOL SYNTHOGEAR INT. 75W80
ZF FRIEDRICHSHAFEN AG, FRIEDRICHSHAFEN/DE	ZF ECOFLUID M1

Maintenance Schedule for MFS73/MS11/RQ4670/MT20 Type Axle

Differential oil

The differential gear of your vehicle can stay in good condition through regular maintenance. Above all, make sure to replace the differential oil and filter element regularly in accordance with the specified Maintenance Schedule.

Check and replacement interval

Driving condition	Check and replacement		
On/Off-Highway	Checking oil level		Every 4,800 km (3,000 miles) or every 200 hours
	Changing oil	Petroleum oil	Every 80,000 km (50,000 miles)
		Synthetic oil	Every 160,000 km (100,000 miles)
On-Highway	Checking oil level		Every 4,800 km (3,000 miles) or every month
	Changing oil	Petroleum oil	Every 160,000 km (100,000 miles)
		Synthetic oil	Every 800,000 km (500,000 miles)

Recommended oil

Meritor specification (Military)	Oil description	Outside temperature	
		Minimum	Maximum
O-76A gear oil (PRF-L-2105E)	GL-5, SAE 85W/140	-12°C (10°F)	None
O-76D gear oil (PRF-L-2105E)	GL-5, SAE 80W/90	-26°C (-15°F)	None
O-76E gear oil (PRF-L-2105E)	GL-5, SAE 75W/90	-40°C (-40°F)	None
O-76J gear oil (PRF-L-2105E)	GL-5, SAE 75W	-40°C (-40°F)	2°C (36°F)
O-76L gear oil (PRF-L-2105E)	GL-5, SAE 75W/140	-40°C (-40°F)	None
O-76M full synthetic gear oil (PRF-L-2105E)	GL-5, SAE 75W/140	-40°C (-40°F)	None
O-76N full synthetic gear oil (PRF-L-2105E)	GL-5, SAE 75W/90	-40°C (-40°F)	None

Wheel Hub Bearing Oil

Check and replacement interval

Driving condition	Check and replacement	
On/Off-Highway	Checking oil level	Every 1,600 km (1,000 miles)
	Changing oil (Petroleum oil)	When replacing the seals, when replacing the brakes, or every year
On-Highway	Checking oil level	Every 1,600 km (1,000 miles)
	Changing oil	When replacing the seals, when replacing the brakes, every 160,000 km (100,000 miles), or every year

Recommended oil

Meritor specification (Military)	Oil description	Outside temperature	
		Minimum	Maximum
O-76A gear oil (MIL-L-2105D)	GL-5, SAE 85W/140	-12°C (10°F)	None
O-76D gear oil (MIL-L-2105D)	GL-5, SAE 80W/90	-26°C (-15°F)	None
O-76E gear oil (MIL-L-2105D)	GL-5, SAE 75W/90	-40°C (-40°F)	None
O-76J gear oil (MIL-L-2105D)	GL-5, SAE 75W	-40°C (-40°F)	2°C (36°F)
Heavy duty engine oil (MIL-L-2104-B, -C, -D or -E)	API -CD, -CE, -SF or -SG SAE 40 or 50	-12°C (10°F)	None
Heavy duty engine oil (MIL-L-2104-B, -C, -D or -E)	API -CD, -CE, -SF or -SG SAE 30	-26°C (-15°F)	None

Front Axle Greasing

Check and replacement interval

Components	Intervals
King pin and king pin bushing	Every 80,000 km (50,000 miles) or every year

Recommended grease

Specifications	Meritor specifications	NLGI grade	Grease classification
Multi-purpose type grease	0-617-A	1	6% lithium 12-hydroxyl stearic acid
	0-617-B	2	8% lithium 12-hydroxyl stearic acid

Tie rod ends

Vocational Groups

Group Number	Typical Vocations	Vehicle Build	Typical Operation Conditions
1. Light	On highway or turnpike, linehaul only	After July 1, 1996 Before July 1, 1996, use category 3	High mileage operation (more than 80,500 km (50,000 miles) per year) 95% on-highway/turnpike surface
2. Medium	Fire and rescue, city delivery, inner city coach, heavy haul, school bus, motor home, transit coach	After July 1, 1996 Before July 1, 1996, use category 3	Lower mileage operation (less than 80,500 km (50,000 miles) per year)
3. Harsh	Logging, oil field, construction, heavy haul, yard tractor (highway licensed), residential refuse	All	Low mileage operation (less than 40,250 km (25,000 miles) per year) Heavy duty service with substantial off - road operation
4. Severe	Mining, yard tractor (nonhighway licensed), and land fill refuse		Heavy-duty service
5. Very Severe	Mining, logging and construction		Severe duty 80 - 100% off highway

Inspection and Maintenance Schedule

Components		Service Intervals
Tie Rod Ends	Group 1 Vocations	Inspect every 80,500 km (50,000 miles) or 12 months
	Group 2 Vocations	Inspect every 32,200 km (20,000 miles)
	Group 3 Vocations	Inspect every 16,100 km (10,000 miles)
	Group 4 Vocations	Inspect every 8,050 km (5,000 miles) or 100 hours
	Group 5 Vocations	Inspect every 48 hours
Inspect the Tie Rod Assembly for Movement	Group 1 Vocations	Inspect every 80,500 km (50,000 miles) or 12 months
	Group 2 Vocations	Inspect every 32,200 km (20,000 miles)
	Group 3 Vocations	Inspect and lubricate every 16,100 km (10,000 miles)
	Group 4 Vocations	Inspect every 8,050 km (5,000 miles) or 100 hours
	Group 5 Vocations	Inspect every 48 hours

Greasing Chassis Components

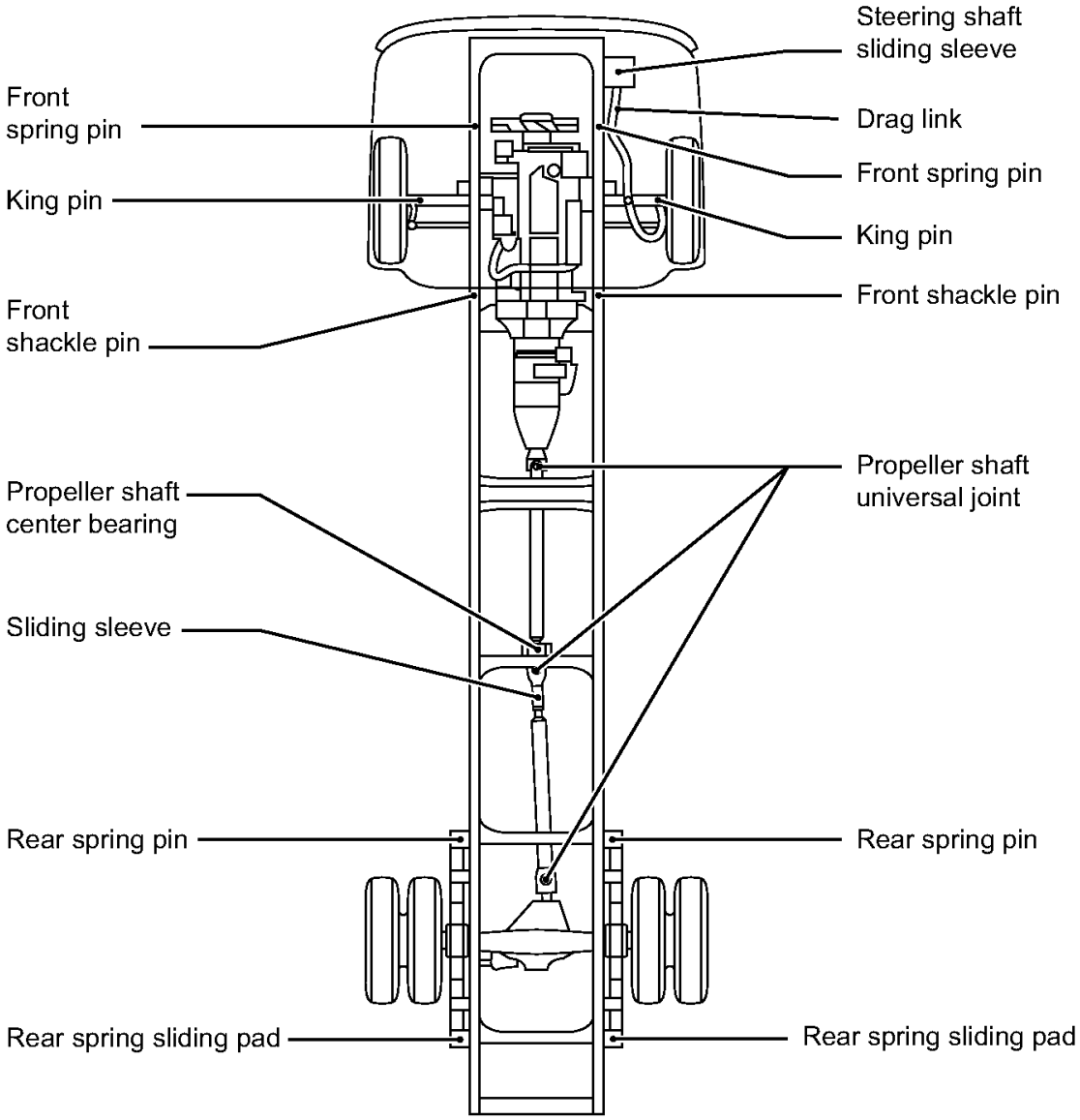
ADVICE

- The type (characteristics) of the grease specified for use with a chassis component differs from that of the grease specified for use with another component. Be sure to use only the specified grease for each component and perform greasing according to the Maintenance Schedule.
- For points with the grease fittings, be sure to apply grease from the grease fittings.
- If mud, dust, or any other dirt adheres to the grease fittings, remove the dirt before lubricating.

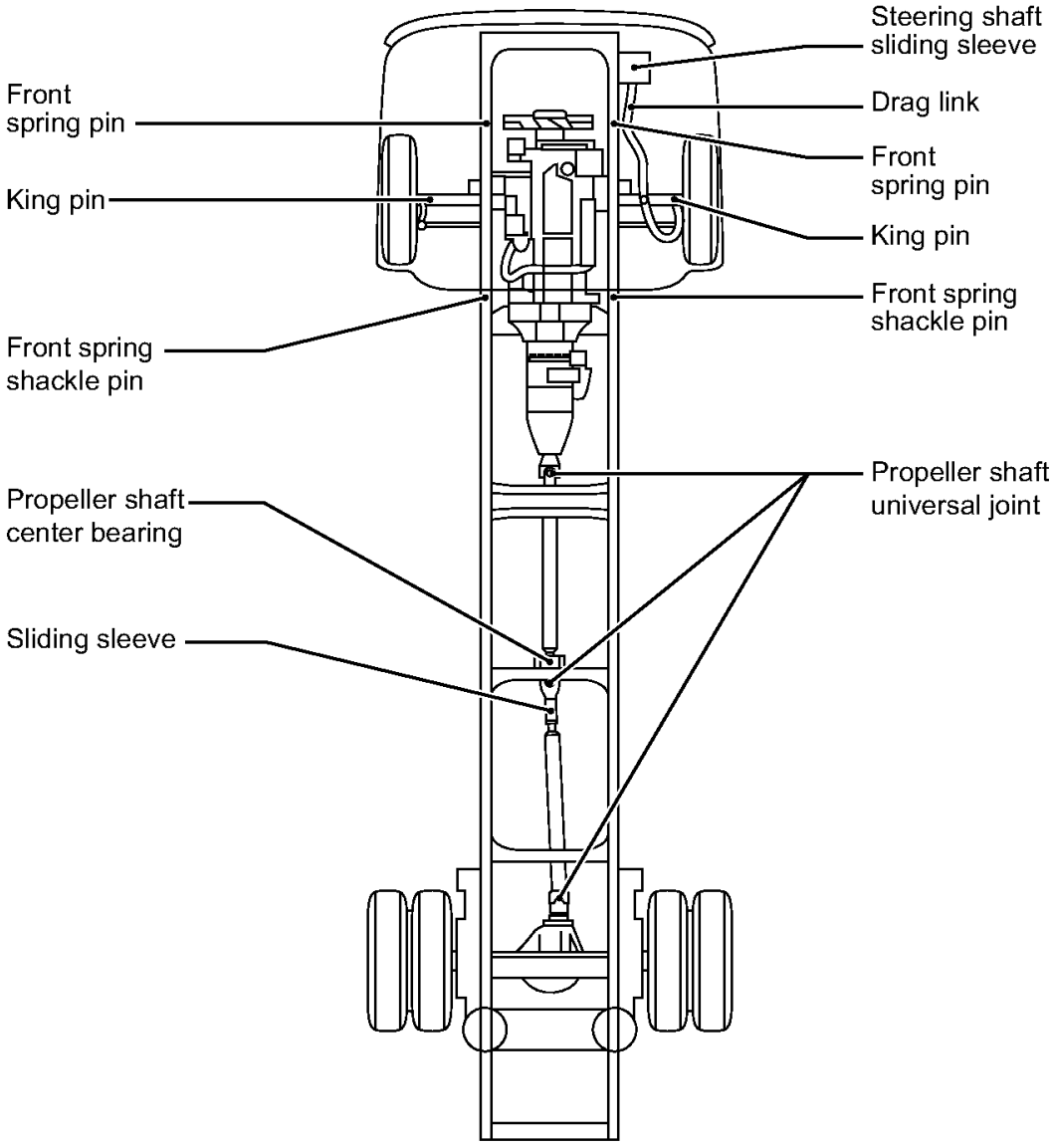
Refer to page
8-2 Maintenance Schedule
8-40 Recommended Fluids, Lubricants and Diesel Fuels

Overview

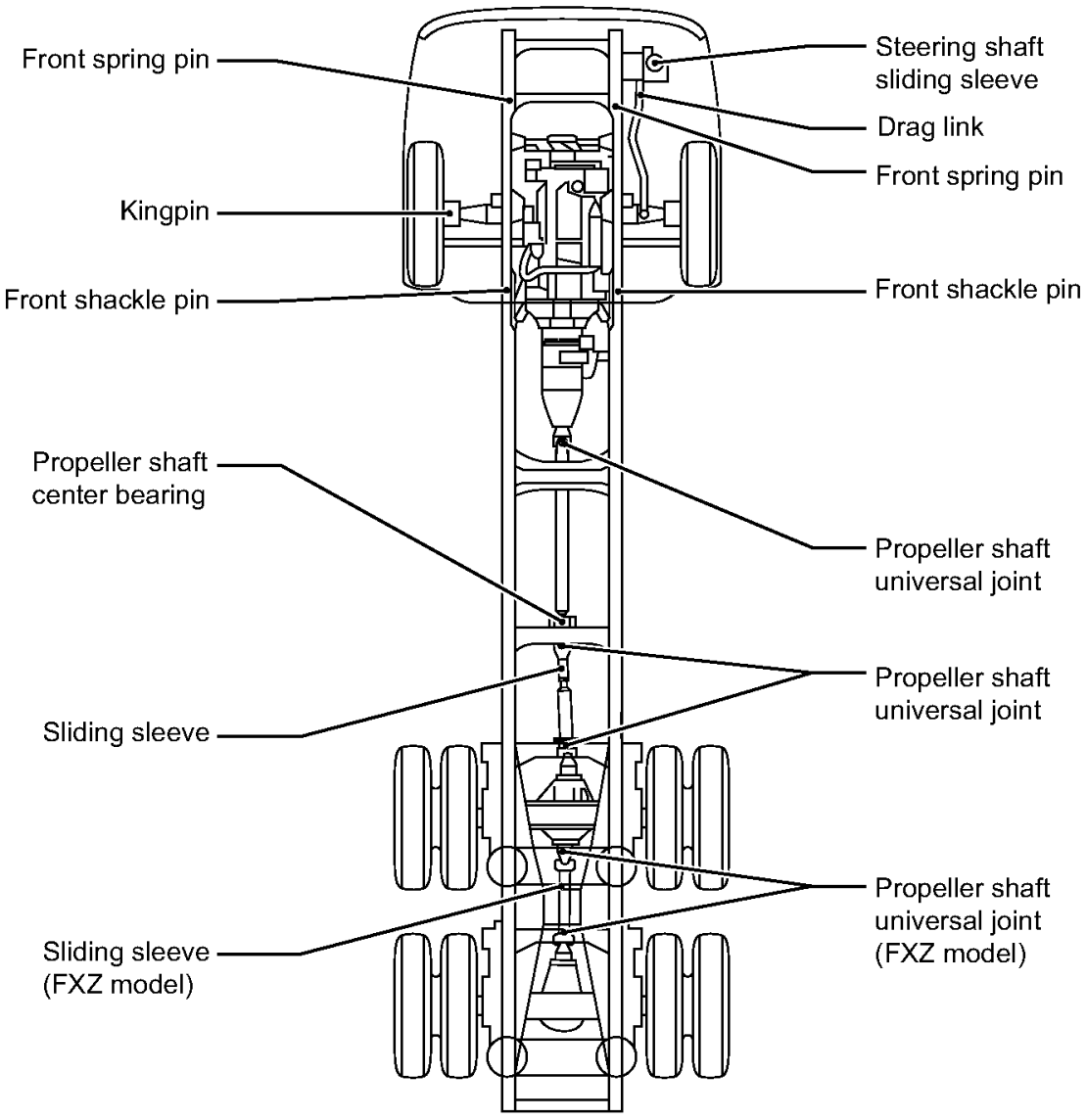
FXR Model (Leaf Spring Suspension Model)



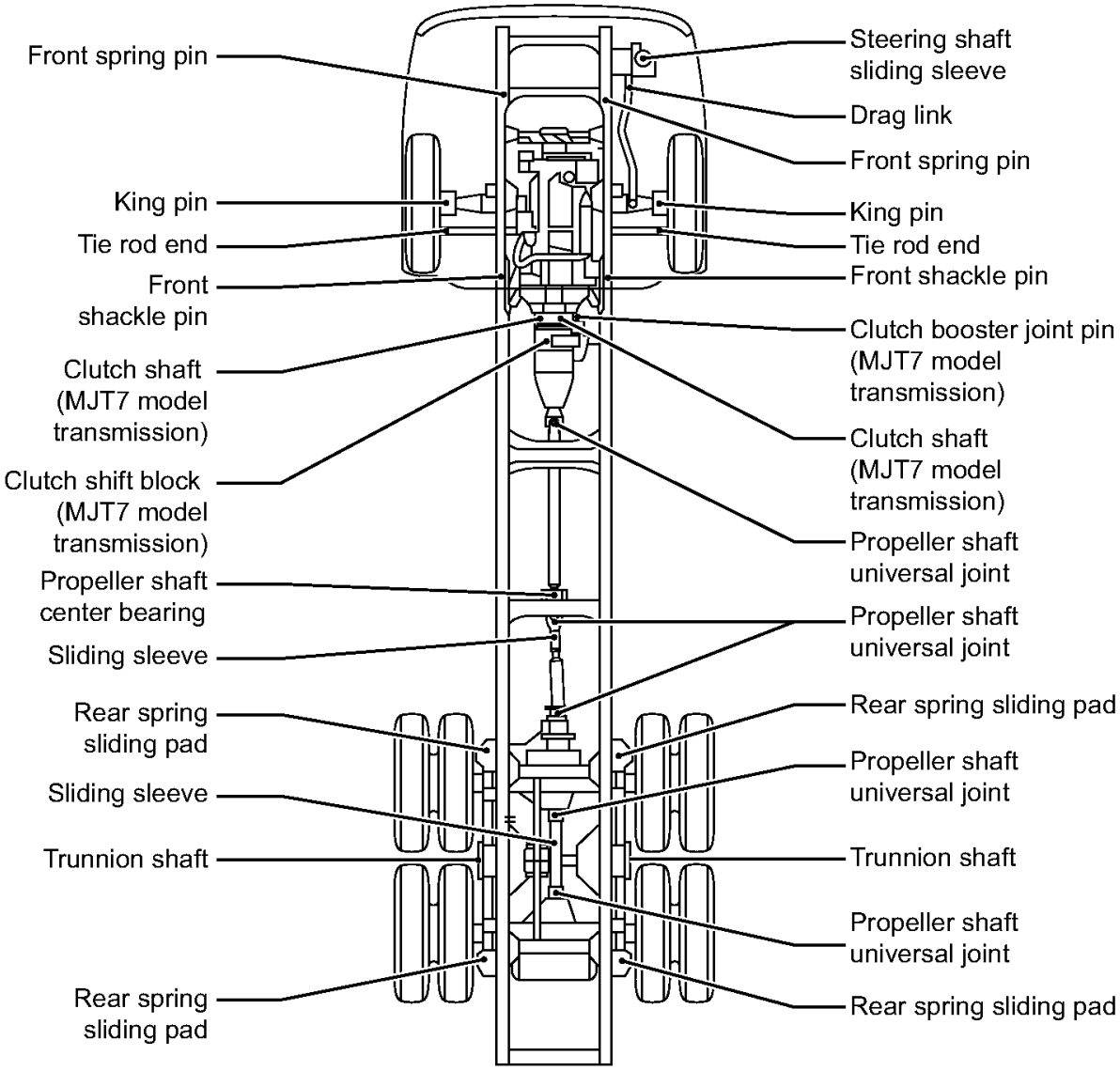
FXR Model (Air Suspension Model)



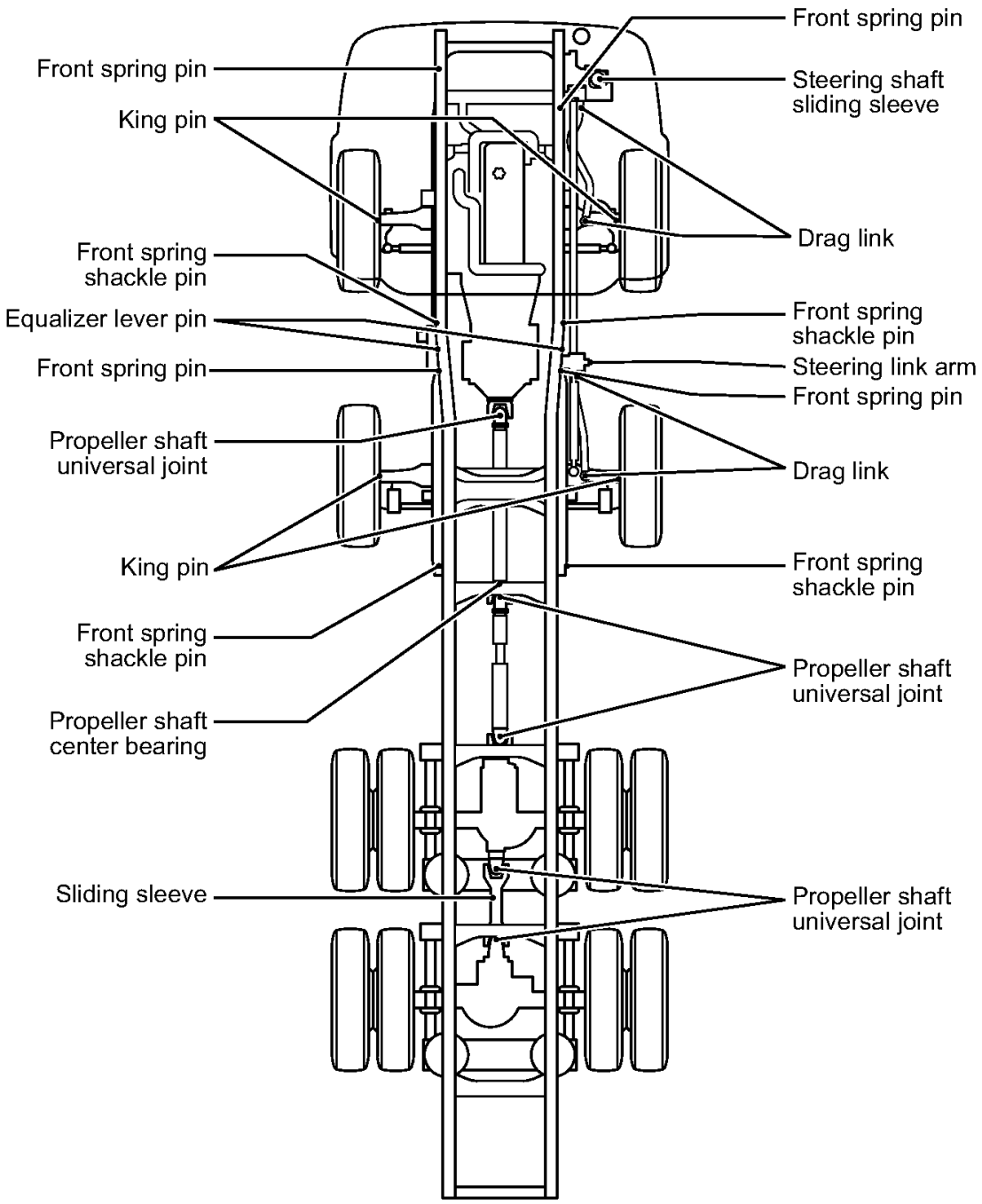
FXM/FXZ Models (Air Suspension Model)



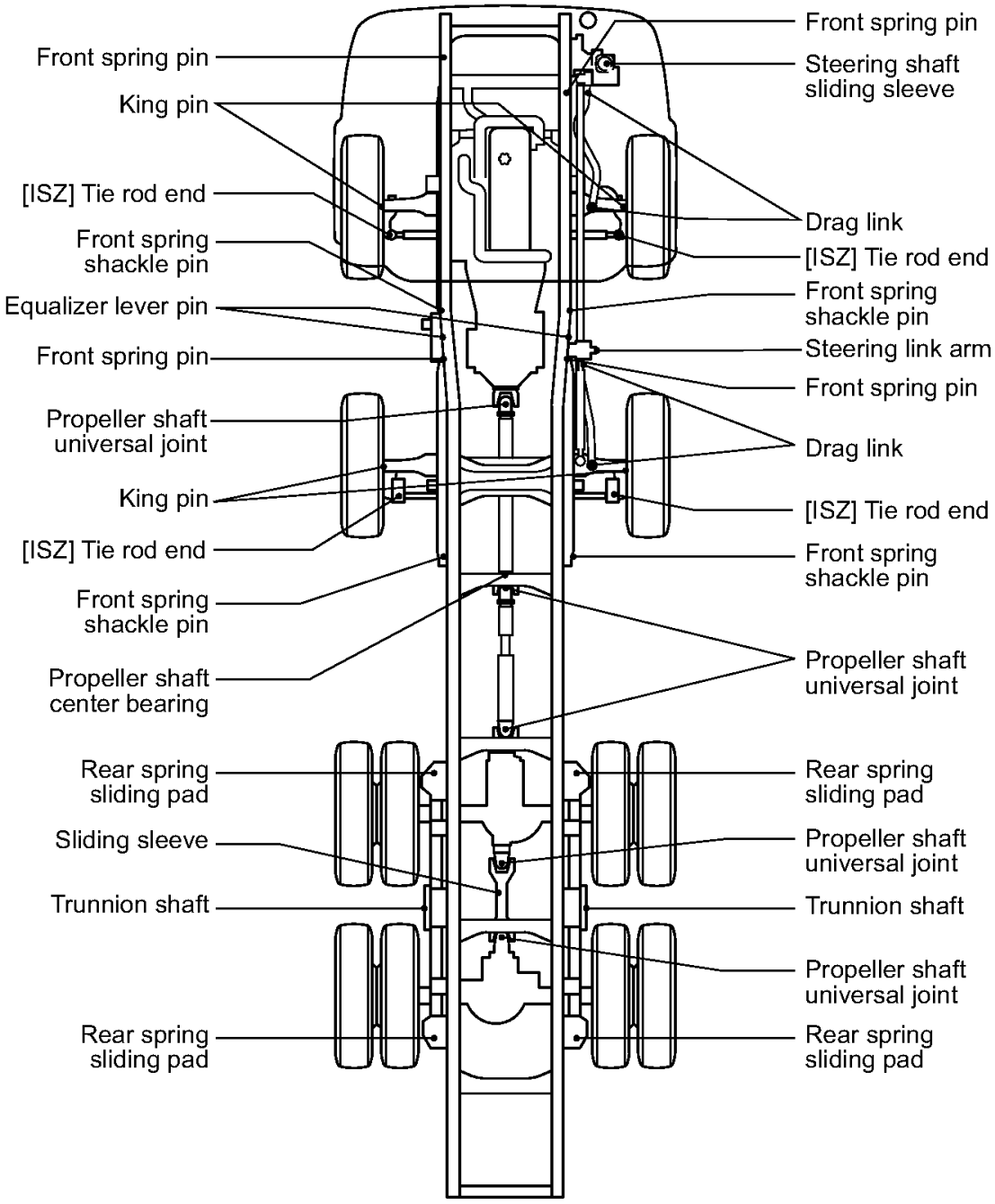
FXZ Model (Leaf Spring Suspension Model)



FYH Model (Air Suspension Model)

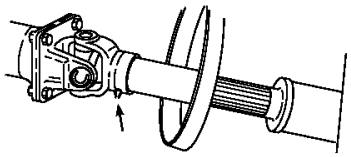


FYH Model (Leaf Spring Suspension Model)



Details

Propeller shaft splines

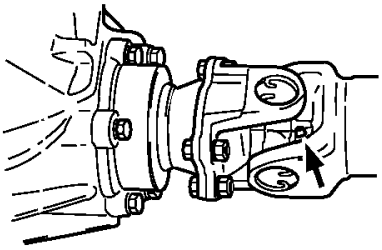


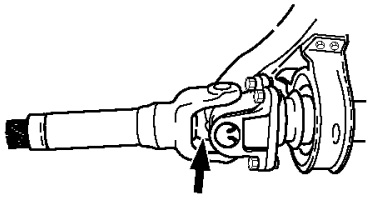
Propeller shafts without grease nipples are greaseless types.

Propeller shaft universal joint

ADVICE

- Each of propeller shaft universal joints must be greased heavily until new grease oozes at the 4 needle bearing oil seal locations. After greasing, wipe excess grease off.



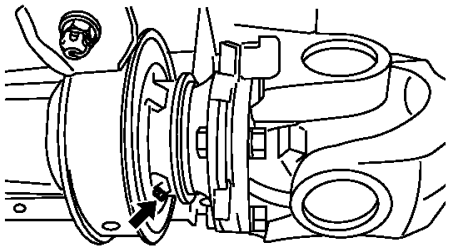


Single-piece propeller shaft vehicle: 2 points; Two-piece propeller shaft vehicle: 3 points; Three-piece propeller shaft vehicle: 4 points; Four-piece propeller shaft vehicle: 5 points

Propeller shaft center bearing

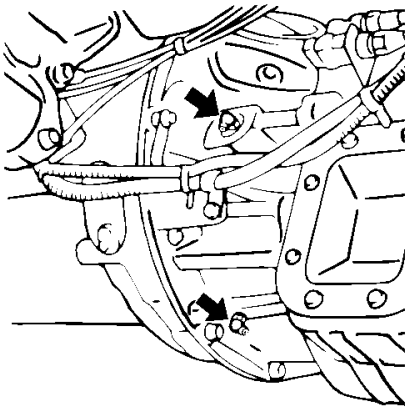
ADVICE

- Avoid mixing the bearing grease with a different type of grease (chassis grease, for example). Be sure to use multi-purpose type grease. If you use chassis grease, you may damage the bearings.



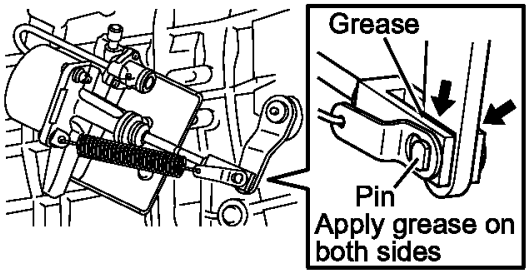
1 point

Clutch shaft/Shift block



1 point each left and right / 1 point at the bottom (MJT7 model transmission)

Clutch booster joint pin

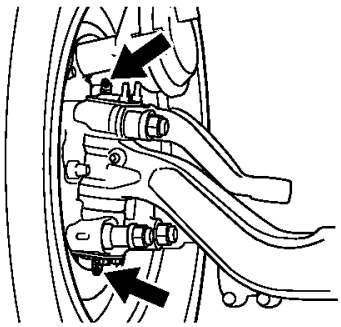
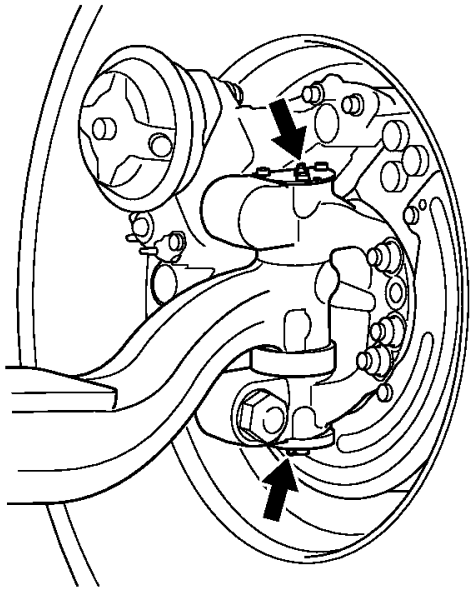


1 position on the right side
Lubricate directly around the pin (without grease fitting).
(MJT7 model transmission vehicles)

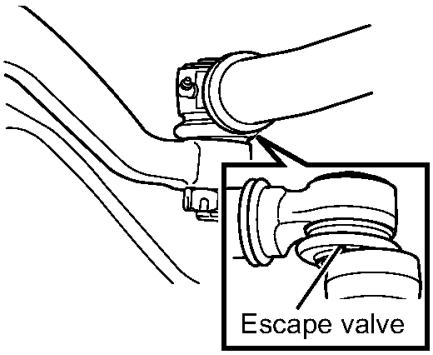
King pins

ADVICE

- Apply new grease until it oozes from the gap between the front axle and the knuckle or between the front axle and the thrust bearing.

	
[ISZ] [Left and right] 2 points each (except FYH model) 4 points each (FYH model)	[MER] [Left and right] 2 points each (except FYH model) 4 points each (FYH model)

Drag links

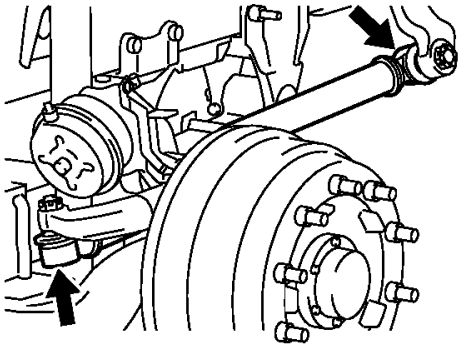


CAUTION

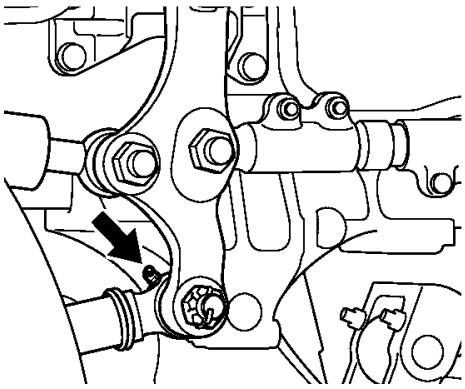
- **Apply new grease until it oozes from the escape valve. In addition, if grease oozes other than from the escape valve, have the vehicle inspected at the nearest Isuzu Dealer.**

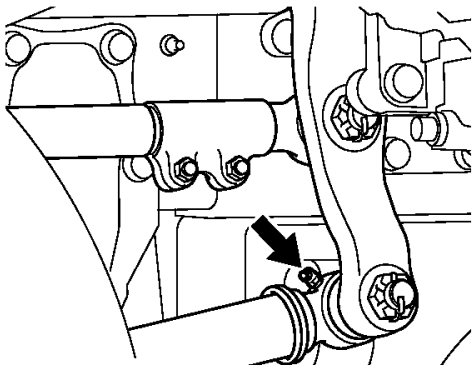
ADVICE

- Avoid mixing the grease with ones from other brands (e.g. chassis grease) and be sure to apply only the specified grease for each location. Applying chassis grease to locations other than those specified may damage the bearing.



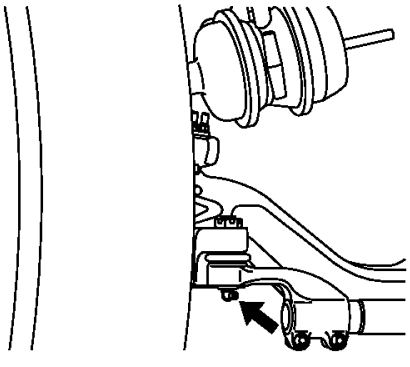
2 grease fittings (front and rear)
(not required for types without grease fittings) (except FYH model)





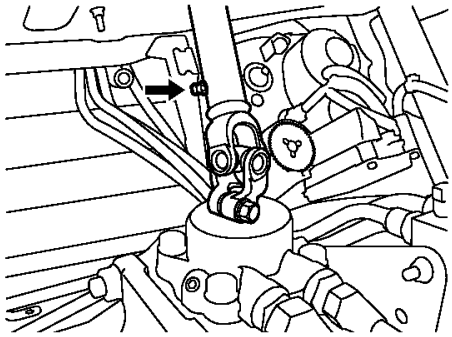
2 grease fittings (front and rear)
(not required for types without grease fittings) (FYH model)

Tie rod ends [ISZ]



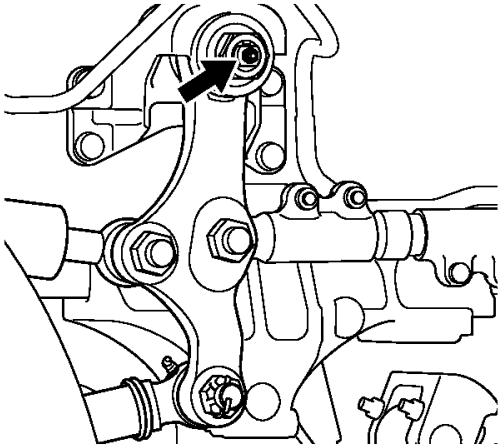
[Left and right]
2 points (except FYH model)
4 points (FYH model)

Steering shaft sliding sleeve



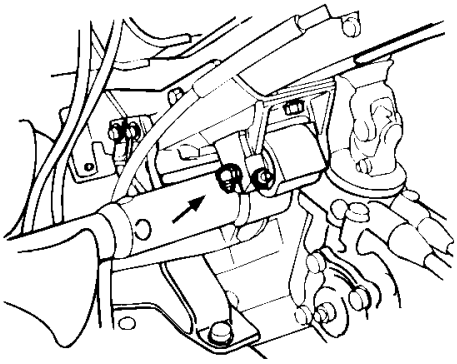
1 point beneath the cab
Place the steering wheel in the straight-ahead position and tilt the cab.

Steering link arm



1 point rearward front axle (FYH model)

Cab mountings[V]

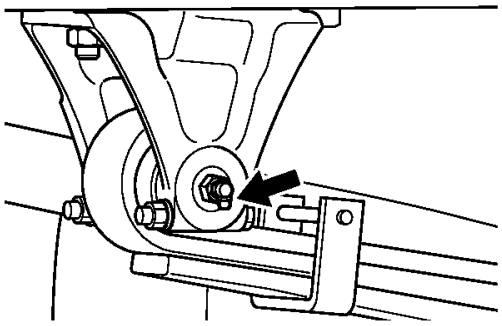
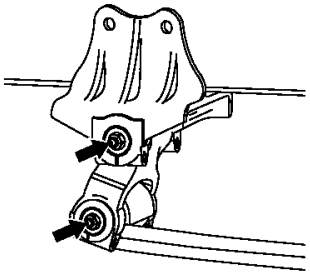
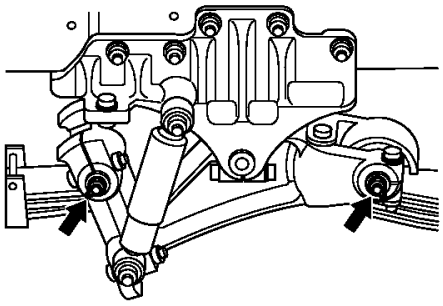
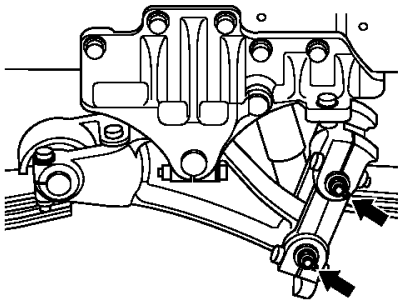
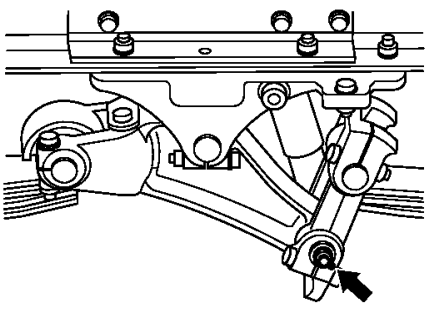
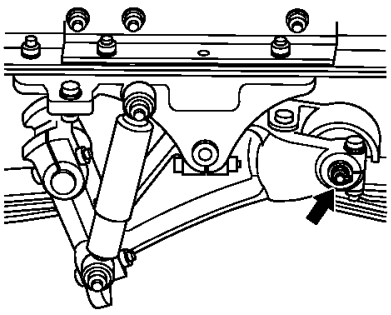


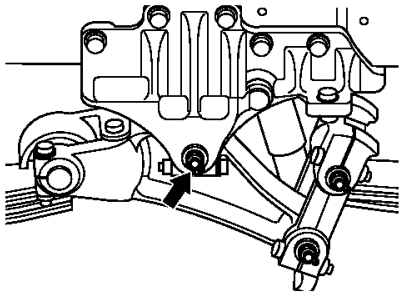
[Left and right]
1 point each

Front suspension

ADVICE

- Lubricate the spring pins and shackle pins until new grease oozes from the gaps on both sides of the leaf springs and brackets.

 [Front spring pin (left and right)] 1 point each	 [Front spring pin and shackle pin (left and right)] 2 points each
 [Front left suspension: from outside] [Spring pin and shackle pin] 2 points (FYH model)	 [Front right suspension: from outside] [Shackle pin] 2 points (FYH model)
 [Front left suspension: from inside] [Shackle pin] 1 point (FYH model)	 [Front right suspension: from inside] [Spring pin] 1 point (FYH model)

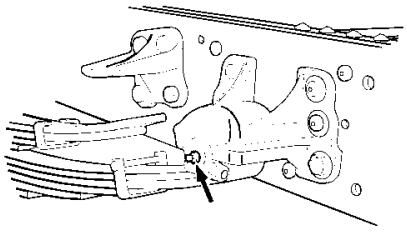


[Equalizer lever pin (left and right)]
1 point each (FYH model)

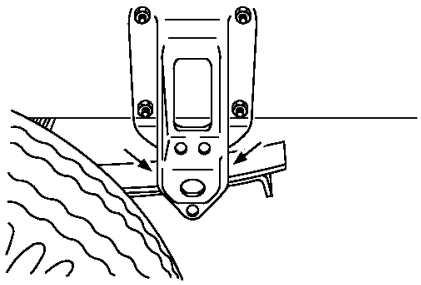
Rear suspension

ADVICE

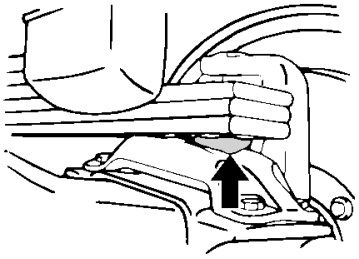
- Lubricate the spring pins and shackle pins until new grease oozes from the gaps on both sides of the leaf springs and brackets.



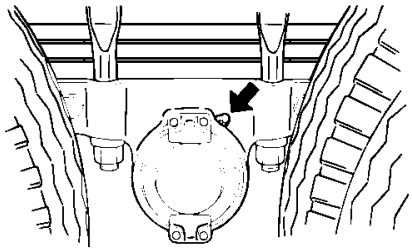
[Rear spring pins (front end, left and right)]
1 point each
(FXR model)



[Rear spring sliding shackles (left and right)]
1 point each
(FXR model)

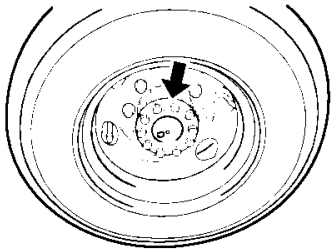


[Spring pad]
4 points: Front, rear, left and right
(FXZ/FYH models)
Apply grease liberally on the sliding surface of the spring.



[Trunnion shaft]
1 point each: Left and right
(FXZ/FYH models)

Wheel hub bearing [ISZ]



Since disassembling is required for this greasing, have it performed by your Isuzu Dealer.

Recommended Fluids, Lubricants and Diesel Fuels

It is extremely important to select correct lubricants and diesel fuels so that your Isuzu vehicle demonstrates its full performance over years.
Top up the lubricants in accordance with the Maintenance Schedule specified for your vehicle. Use Isuzu genuine lubricants or those recommended in the list below.
The lubricant change intervals specified in the Maintenance Schedule and the terms and conditions of the new vehicle warranty assume the use of Isuzu genuine or Isuzu recommended lubricants listed below.
Also, select the viscosity appropriate for the temperature at which your vehicle operates.

Refer to page
8-44 Engine Oil and Gear Oil Viscosity Charts

LUBRICATION	MAKE	BRAND	GRADE		
			API	ACEA	JASO
*1 Diesel engine crankcase with DPD (low ash oil)	**ISUZU**	**BESCO CLEAN (10W-30)**	**—**	**—**	**—**
	ISUZU	**BESCO CLEAN SUPER (10W-40)**	**—**	**—**	**—**
	Chevron/Texaco/Caltex	Delo 400 XLE (15W-40)	CK-4	E6/E9	DH-2
	Chevron/Texaco/Caltex	Delo 400 SLK (10W-40), (15W-40)	CK-4	E9	—
	ExxonMobil	Delvac Ultra Ultimate Protection V1 (5W-40)	CK-4	E11	DH-2
	ExxonMobil	Delvac 1 ESP (5W-40)	CK-4	E11	DH-2
	ExxonMobil	Delvac Modern Advanced Protection (10W-40)	CK-4	E8/ E11	DH-2
	ExxonMobil	Delvac Modern Full Protection (15W-40)	CK-4	E11	DH-2
	Shell	Rimula R5LE (10W-40)	CK-4	E9	DH-2
	Shell	Rimula R6LM (10W-40)	CK-4	E9	DH-2
	TotalEnergies	Rubia Optima 1100 HZX (10W-40), (15W-40)	CK-4	E11	—
Manual transmission (MJT model)	**ISUZU**	**BESCO GEAR SH (80W-90)**	**GL-5**	**—**	**—**
	Chevron/Texaco/Caltex	Delo Gear EP-5 (80W-90)	GL-5/MT-1	—	—
	Elf	Tranself Syn FE (75W-90)	GL-5/MT-1	—	—
	ExxonMobil	Delvac 1 Gear Oil (75W-90)	GL-5/MT-1	—	—
	ExxonMobil	Mobilube S (80W-90)	GL-5/MT-1	—	—
	Shell	Spirax S6 AXME (75W-90)	GL-5/MT-1	—	—
	TotalEnergies	Traxium Dual 9 FE (75W-90)	GL-5/MT-1	—	—
	TotalEnergies	Traxium Axle 9 (80W-90)	GL-5/MT-1	—	—
Automatic transmission (ALLISON4430 model)	Castrol	TranSynd（TES-295 licensed fluid）	—	—	—
	Shell	Spirax S6 ATF A295 (TES-295 licensed fluid)	—	—	—
	Shell	Spirax S6 ATF A668 (TES-668 licensed fluid)	—	—	—

LUBRICATION	MAKE	BRAND	GRADE		
			API	ACEA	JASO
Differential (without LSD)/ Oil lubricated wheel hub bearing	**ISUZU**	**BESCO GEAR SH (80W-90), (90), (140)**	**GL-5**	**—**	**—**
	bp/Castrol	Transmax Axle 80W-90 (80W-90)	GL-5	—	—
	Chevron/Texaco/Caltex	Delo Gear EP-5 (80W-90), (85W-140)	GL-5/MT-1	—	—
	Chevron/Texaco/Caltex	Gear Oil GL-5 (80W-90), (85W-140)	GL-5	—	—
	Elf	Tranself Syn FE (75W-90)	GL-5/MT-1	—	—
	ExxonMobil	Delvac 1 Gear Oil (75W-90)	GL-5/MT-1	—	—
	ExxonMobil	Mobilube S (80W-90)	GL-5/MT-1	—	—
	Shell	Spirax S6 AXME (75W-90)	GL-5/MT-1	—	—
	Shell	Spirax S3 AX (80W-90)	GL-5	—	—
	TotalEnergies	Traxium Dual 9 FE (75W-90)	GL-5/MT-1	—	—
	TotalEnergies	Traxium Axle 9 (80W-90)	GL-5/MT-1	—	—
	TotalEnergies	Traxium Axle 7 (80W-90), (85W-90), (85W-140)	GL-5	—	—
Differential (with LSD)	**ISUZU**	**BESCO LSD (140)**	**GL-5*2**	**—**	**—**
	Chevron/Texaco/Caltex	Gear Oil ZF (80W-90)	GL-5	—	—
	Elf	Tractelf BLS (80W-90), (85W-90), (85W-140)	GL-5	—	—
	ExxonMobil	Mobilube LS (85W-90)	GL-5	—	—
	TotalEnergies	Dynatrans DA (80W-90), (85W-90), (85W-140)	GL-5	—	—
Power steering	**ISUZU**	**BESCO ATF III**	**—**	**—**	**—**
	bp/Castrol	Transmax ATF Dex/Merc Multivehicle	—	—	—
	bp/Castrol	Transmax ATF Dexron®-VI MERCON® LV Multivehicle (Dexron® VI)	—	—	—
	Chevron/Texaco/Caltex	Texamatic 1888	—	—	—
	Chevron/Texaco/Caltex	Havoline Full Synthetic Multi-Vehicle ATF (Dexron® VI)	—	—	—
	ExxonMobil	Multipurpose ATF	—	—	—
	Shell	Spirax S3 ATF MD3	—	—	—
	TotalEnergies	Fluidmatic DIII MV	—	—	—
Multi-purpose grease/ Clutch shift block/ Clutch shaft/ Clutch booster joint pin/ Grease lubricated hub/ Water pump/ Drag link/ Universal joint	**ISUZU**	**BESCO L2 GREASE (No.2), L3 GREASE (No.3)**	**—**	**—**	**—**
	Chevron/Texaco/Caltex	Starplex EP 2 (No.2)	—	—	—
	Shell	Gadus S3 V220C 2 (No.2)	—	—	—
	TotalEnergies	Multis Complex EP2 (No.2)/EP3 (No.3)	—	—	—
(Multi purpose grease containing molybdenum disulfide)	**ISUZU**	**BESCO ONE LUBER Mo GREASE (No.2)**	**—**	**—**	**—**
	Chevron/Texaco/Caltex	Multifak EP 2 M3 (No.2)	—	—	—
	Shell	Gadus S2 V220AD 2 (No.2)	—	—	—
	TotalEnergies	Multis Complex HV 2 Moly (No.2)	—	—	—

*1: We recommend you to use a low ash content engine oil that is suitably compatible with the DPD.

*2: If API GL-5 limited slip differential gear oil is not available, use API GL-5 differential gear oil together with limited slip differential gear oil additive (Part No. 8-88900-330-0) or an equivalent additive.

LUBRICATION	MAKE	BRAND*
Engine cooling system	**ISUZU**	**BESCO LLC SUPER TYPE E, AS**
	Chevron/Texaco/Caltex	Delo XLC Antifreeze/Coolant
	Chevron/Texaco/Caltex	Havoline Xtended Life Antifreeze/Coolant
	Arteco	Havoline XLC
	BASF	Glysantin G34
	TotalEnergies	Glacelf Auto Supra
	TotalEnergies	Coolelf Auto Supra -37°C

*: Use Isuzu recommended coolant, or ISUZU ENGINEERING STANDARD-MATERIAL ISC-C73-004 (Ethylene glycol based Organic Acid Technology (OAT) Extended Life Antifreeze/Coolant and free of nitrites, amines, borates, silicates.) or equivalent.

ADVICE

- Mix the coolant and water at an appropriate concentration.

Refer to page
10-15 Preparing Engine Coolant

FLUID	BRAND
Electric-hydraulic cab tilt pump	MIL-H-5606E aviation oil or equivalent

FLUID	MAKE	BRAND	GRADE*
Clutch fluid reservoir	**ISUZU**	**BESCO BRAKE FLUID SUPER**	**DOT 3**
	AC Delco	Supreme 11	DOT 3

*: This material meets FMVSS 116 or SAE J1703 requirements.

DIESEL FUEL / APPLICABLE STANDARD (Sulfur content below 10 ppm)	
Japanese Industrial Standards (JIS)	Based on JIS K2204 : 2009 Diesel Fuel
Deutsche Industrie Normen (DIN)	Based on EN590 : 2009
British Standards (BS)	Based on EN590 : 2009

CAUTION

- **Be sure to use extra-low-sulfur diesel fuel (containing sulfur of 10 ppm or lower). If you supply the vehicle with poor-quality fuel, water-removal additive or other additive, gasoline, kerosene or alcohol-based fuel, it could harm the fuel filter, prevent proper movement of fuel-lubricated parts in the injectors and adversely affect engine components, possibly resulting in a breakdown. If you accidentally put the wrong fuel in the tank, drain it all out. Starting the engine with the wrong fuel in the tank could result in a fire and engine damage.**
- **Open the fuel tank filler cap slowly. If you open it quickly, fuel may spurt out.**

ADVICE

- Only use fuels listed above. Do not use other fuels as they may adversely affect the engine.

Refueling Using Fuels that Contain Biodiesel Fuel (Fatty Acid Methyl Esters (FAME))

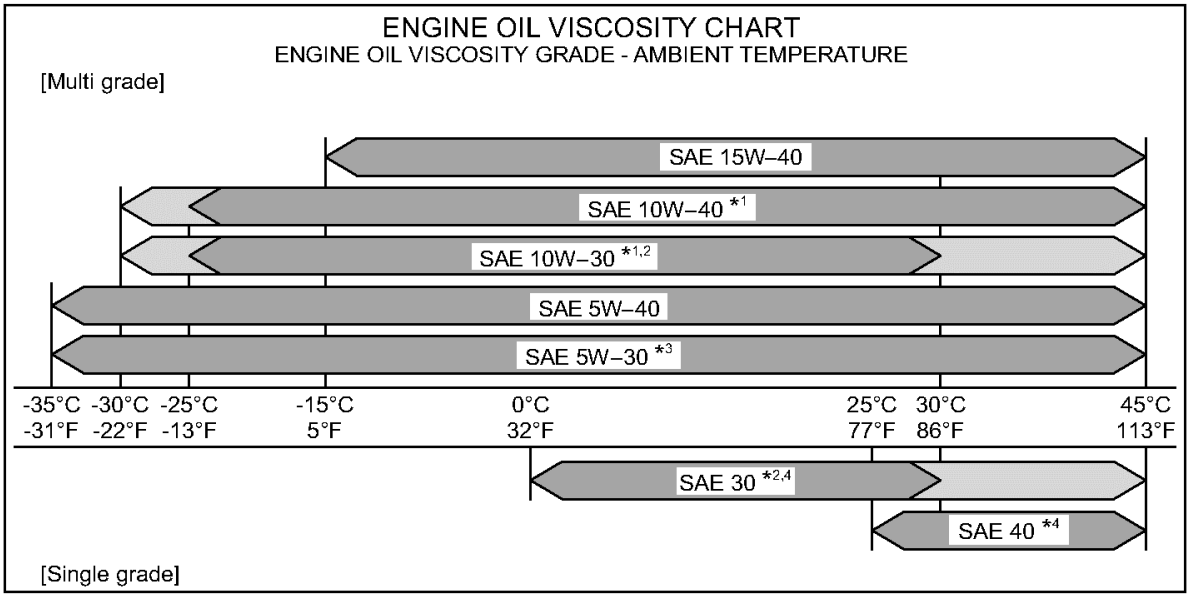
- You can use standard type diesel fuels that meet B7 EN590. A standard type diesel fuel means the fuel that contains biodiesel fuel (FAME) which meets EN14214.
- Using diesel fuels that do not meet B7 EN590, or using fuels that contain FAME which does not meet EN14214 may, in the worst case, cause a serious engine failure.
- Do not leave the diesel fuel that contains FAME unused in the vehicle for a long period of time. FAME contents may block up the fuel system, causing a serious engine failure.
- The vehicle is covered under the vehicle warranty given if the fuel that meets B7 EN590 is used. However, if the vehicle is left unused for a long period of time, the characteristics of the fuel may change, causing a vehicle failure. The vehicle warranty is not applicable in such cases.

NOTE

- When changing from 0% FAME diesel to the fuel that contains FAME which meets B7 EN590, there may be a negative impact on performance when pulling away and driving in general.

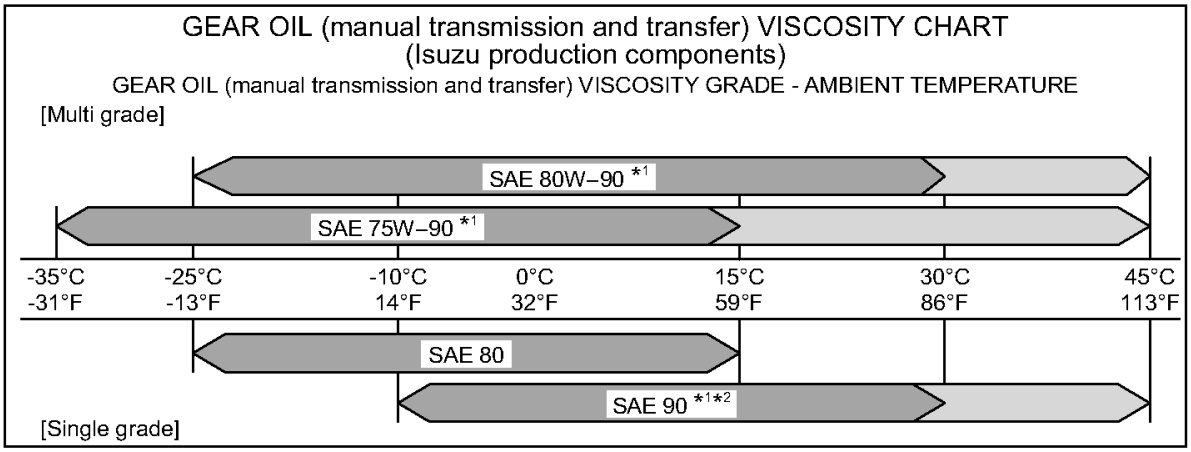
Engine Oil and Gear Oil Viscosity Charts

Select appropriate engine and gear oils in accordance with the tables below. It is also important to select the viscosity appropriate for the temperature at which your vehicle operates. Use the following tables for making correct selections.



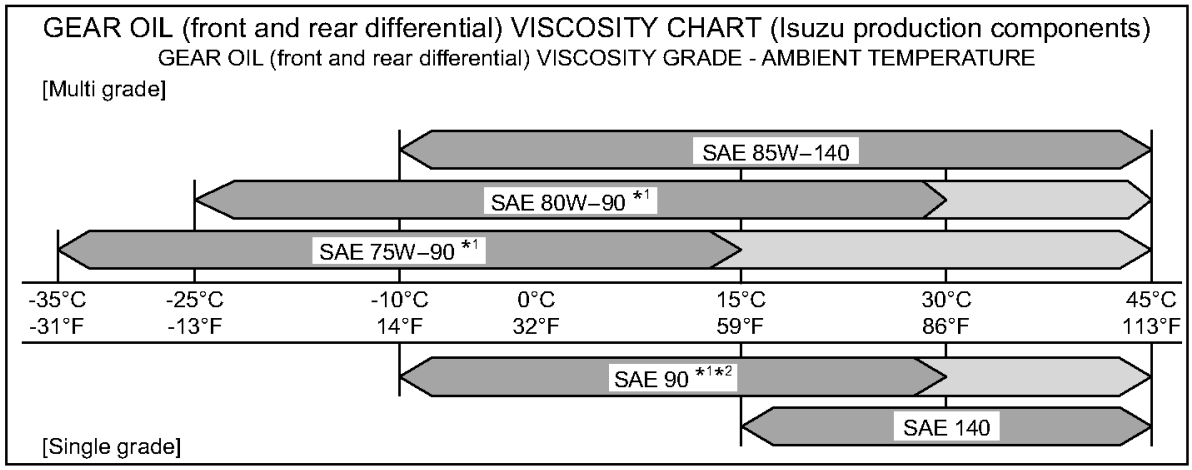
*1: When starting aids (oil pan heater, block heater, etc.) are used, grade 10W-xx oils can be used at an ambient temperature as low as -30°C (-22°F).
*2: Use is possible at ambient temperatures of up to 45°C (113°F) in the case of Isuzu genuine oils or other recommended oils of grade xxW-30.
*3: In the case of grade 5W-30 oil, only Isuzu genuine oil can be used.
*4: Single grade oils are only applied to engines that conform to Euro II emission standard and other less severe emission standards.

GEAR OIL (manual transmission and transfer) VISCOSITY CHART
(Isuzu production components)



*1: Use is possible at ambient temperatures of up to 45°C (113°F) in the case of Isuzu genuine oils or other recommended oils of grade xxW-90.
*2: Grade SAE 85W-90 can also be used in this range.

GEAR OIL (front and rear differential) VISCOSITY CHART (Isuzu production components)



*1: Use is possible at ambient temperatures of up to 45°C (113°F) in the case of Isuzu genuine oils or other recommended oils of grade xxW-90.
*2: Grade SAE 85W-90 can also be used in this range.

Daily Checks 9

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- Checking the Power Steering Fluid Level 9-8
- Checking the Windshield Washer Fluid Level 9-8
- Checking for Leaking Liquids Under the Vehicle 9-9
- Checking the Engine Oil 9-9
- Checking the Fan Belt 9-11
- Checking the Cab is Lowered and Cab Tilt Handle is Locked 9-11
- Checking Tires 9-12
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- Checking Windshield Wipers and Windshield Washer 9-23

9-2 Daily Checks

- Checking the Parking Brake 9-24
- Checking Air Pressure 9-25
- Checking the Clutch System Function [M/T] 9-27
- Checking the Brake Pedal Free Play 9-27
- Checking Brake Valve Operation 9-28
- Checking Brake Effectiveness 9-28
- Checking Condition of the Engine at Low Speeds and during Acceleration 9-28

Perform Daily (Pre-operation) Inspections Before Driving



This section summarizes how to perform daily (pre-operation) inspections.
Check your vehicle daily before starting the day's operation to ensure safe, trouble-free operation.
For safe and comfortable driving, keep record of the distances driven and the condition of the vehicle during operation.
Perform inspections at appropriate intervals, and perform maintenance in accordance with the findings of the inspections.
If the checks reveal an abnormality or if there are components that showed abnormalities during the previous operation, have the vehicle repaired by your Isuzu Dealer before using the vehicle.
Refer to "Maintenance and Care" for information about what to do after daily inspections or simple vehicle maintenance and care other than daily inspections.

Refer to page
10-1 Maintenance and Care

Daily Check (Preoperational Check) Items

Daily (Pre-operation) Inspection Item List

1. Checking components that showed abnormalities during the previous operation

Check item	Reference page
Components that showed abnormalities during the previous operation	9-5

2. Checks performed during a walk around the vehicle

Check item	Reference page
Engine coolant level	9-5
Contamination, damage and obstruction of lights and reflectors	9-6
Power steering fluid level	9-8

9-4 Daily Checks

Check item	Reference page
Windshield washer fluid level	9-8
Look underneath the vehicle for evidence of leaks (oil, engine coolant, fuel and power steering fluid etc.)	9-9
Engine oil level	9-9
Fan belt looseness and damage	9-11
Cab is lowered and cab tilt handle is locked	9-11
Air pressure of tires	9-12
Cracks and other damage of tires	9-14
Abnormal wear of tires	9-14
Tread depth of tires	9-14
Disc wheel mounting condition	9-15
Leaf spring damage and mounting [V]	9-16
Air spring damage [V]	9-17
Battery fluid level	9-18
Clutch fluid level [M/T]	9-18
Illumination and flashing of lights	9-19
Water collecting in the air tanks	9-21
Air dryer function	9-22

3. Checks performed after the engine startup

Check item	Reference page
Engine startability, abnormal noise and color of exhaust gases	9-22
Steering wheel free play and looseness	9-23
Windshield washer fluid spray condition and windshield wiper effectiveness	9-23
Parking brake lever stroke	9-24
Increase in air pressure	9-25
Brake pedal free play	9-27

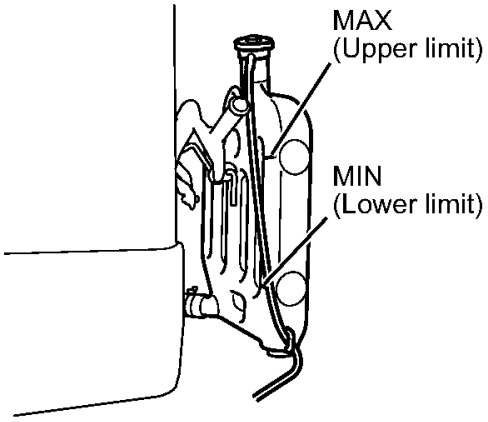
4. Checks performed while driving the vehicle

Check item	Reference page
Clutch system function [M/T]	9-27
Brake effectiveness	9-27
Exhaust sound from brake valve	9-28
Condition of the engine at low speeds and during acceleration	9-28

Checking Components that Showed Abnormalities during Previous Operation

Check the components that showed abnormalities during the previous operation. Have any abnormalities repaired by your Isuzu Dealer before using the vehicle.

Checking the Engine Coolant



When the engine is cold, check the level of engine coolant in the radiator sub-tank. The level should be between the "MAX" and "MIN" lines. If the engine coolant level is lower than the "MIN" line, replenish it by filling up to the "MAX" line. Check to make sure there are no leaks from the radiator or radiator hoses. Check for fluid or stains on the ground showing leaks where the vehicle is parked. Also, inspect the radiator hose for a crack and damage. When a water leakage or damage is found on the hose, contact the nearest Isuzu Dealer.
Check the engine coolant concentration at an Isuzu Dealer. For concentration determination, refer to "Preparing Engine Coolant". If the concentration is not as specified, adjust the concentration.

⚠ CAUTION

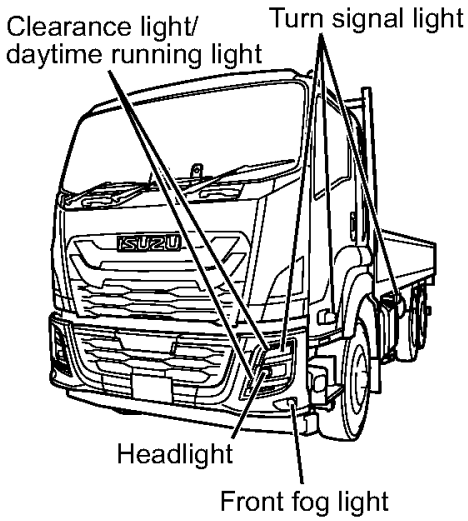
- **Using the vehicle when there are leaks can lead to the engine seizing up.**

Refer to page
10-17 Adding the Engine Coolant
10-15 Preparing Engine Coolant

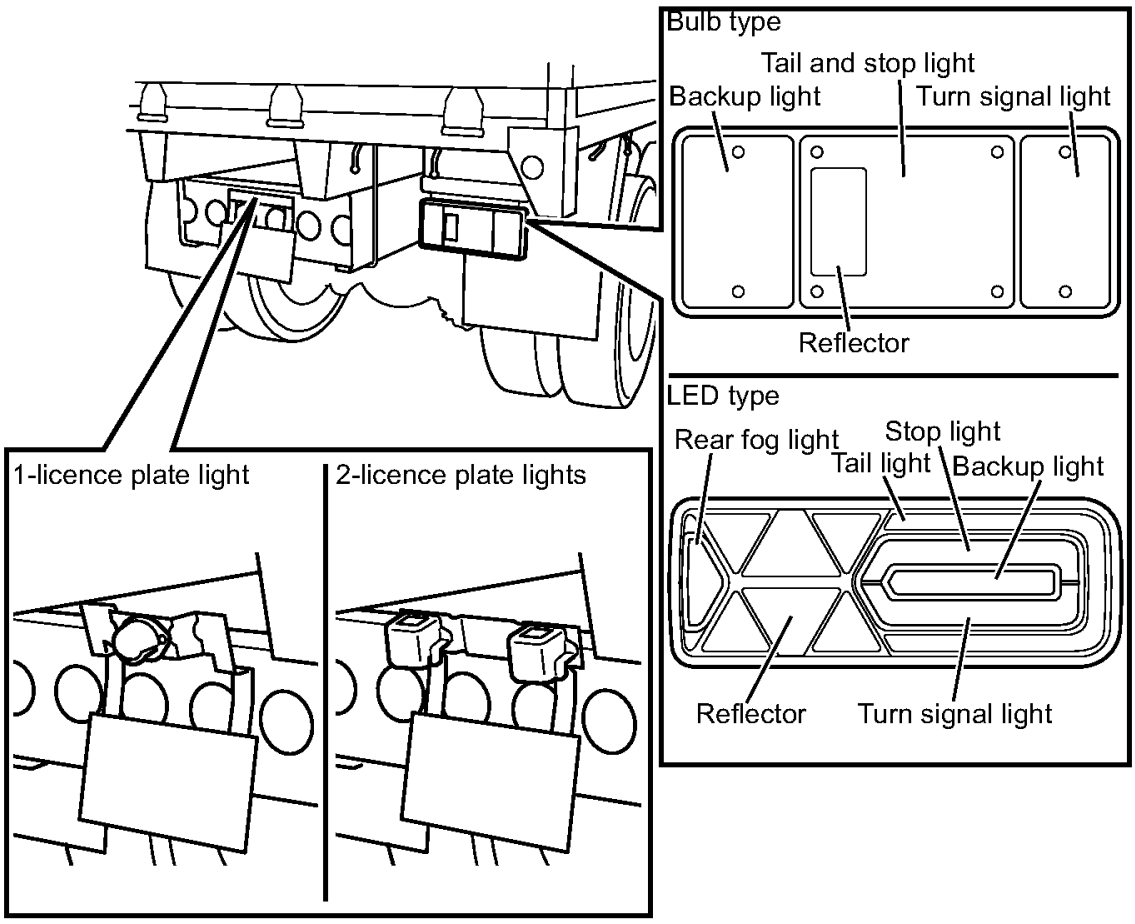
Checking for Damage or Dirt on Reflectors and Lights

Examine the lights and reflectors for dirt, discoloration, damage, and looseness.
Clean them if they are dirty.
If they are damaged, they must be replaced. Contact the nearest Isuzu Dealer.

Front

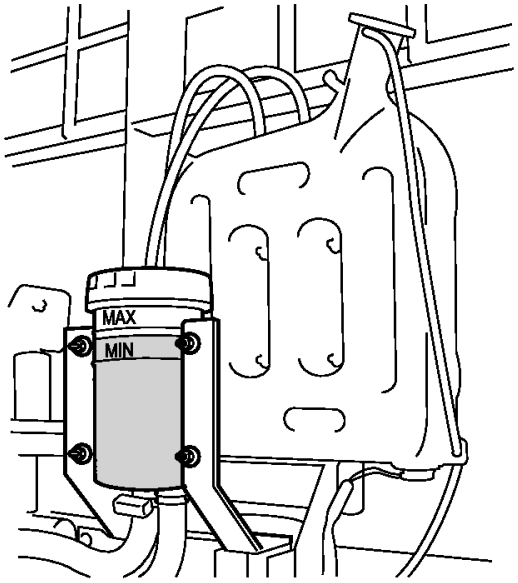


Rear

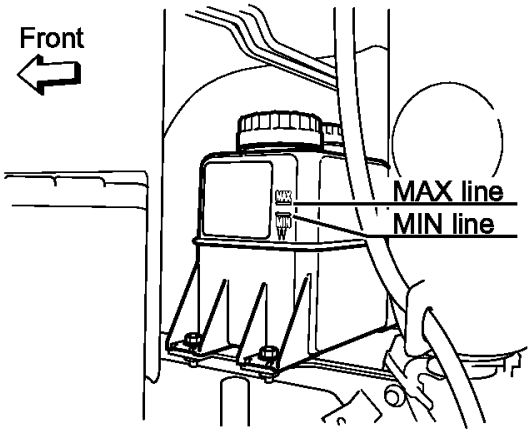

Bulb type
Tail and stop light
Backup light
Turn signal light
Reflector
LED type
Rear fog light
Stop light
Tail light
Backup light
Reflector
Turn signal light
1-licence plate light
2-licence plate lights

Checking the Power Steering Fluid Level

FXM/FXR/FXZ models



FYH model



The fluid level is correct if it is between the "MAX" and "MIN" lines on the power steering fluid tank. If the level is lower than the "MIN" line, add fluid up to the "MAX" line.

Checking the Windshield Washer Fluid Level

Check the level of fluid in the windshield washer tank.
Add fluid if there is not enough.

Refer to page
10-111 Windshield Washer Fluid

Checking for Leaking Liquids Under the Vehicle

Check for fuel, water, oil or other fluid leaks by looking at the surface beneath the vehicle after it has been parked for a while. If you notice diesel fumes or fluid at any time, have the cause found and corrected at once. If you are unable to perform a repair, contact the nearest Isuzu Dealer.

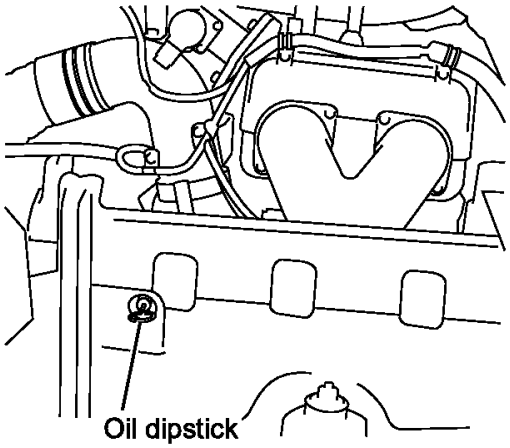
Checking the Engine Oil

ADVICE

- The engine oil performs the following important functions:
  - It prevents engine parts from becoming worn.
  - It cools engine parts.
  - It seals the combustion chambers and prevents rust.
  - It cleans engine parts. Replace the engine oil at regular intervals.
- Any oil level above the "MAX" mark on the gauge causes engine breakdowns. Change the oil whenever it exceeds this level.

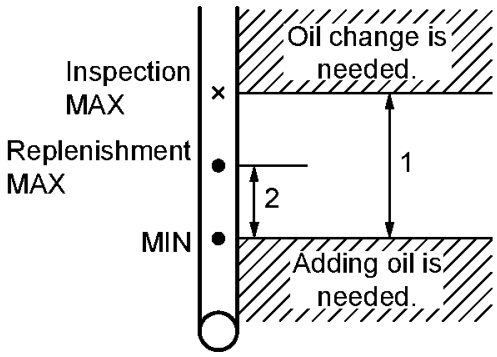
NOTE

- Perform all engine oil level checks on a level surface before starting the engine.
- The oil level cannot be checked correctly when the engine is running.
- Fuel will gradually become mixed with the engine oil, and the engine oil level will rise beyond the original level. This does not indicate an engine malfunction.
- Wait for 20 or 30 minutes after stopping the engine when measuring the oil level after the engine has been operated.



Park the vehicle on a level surface, and check the engine oil level before starting or 20 or 30 minutes after turning off the engine. To check the oil level, remove the oil dipstick, wipe off the end with a clean cloth, reinsert it, and then gently remove it.
If the oil level is between the "Inspection MAX" and "MIN" marks, the oil is at the correct level. Also check to see if there are any oil leaks.

Checking the Engine Oil Level



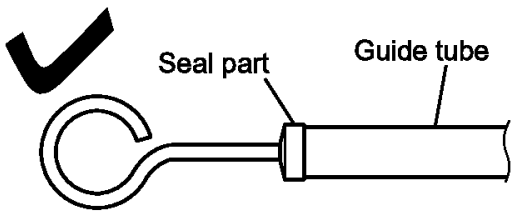
1. Remove the oil dipstick and wipe off any oil on the gauge.
2. Reinsert the oil dipstick and then gently remove it. If the oil level is between the "Inspection MAX" and "MIN" marks (range 1), the oil is at the correct level.
3. If the oil level is too low, add oil to a level between the "Replenishment MAX" and "MIN" marks (range 2). If the oil level is beyond the "Inspection MAX" mark, then change the oil.

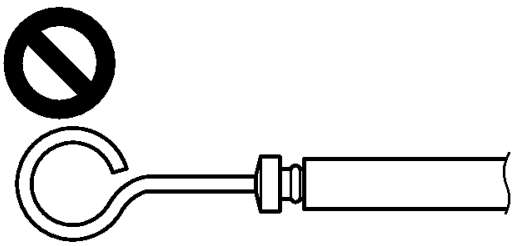
Refer to page

10-7 Adding the Engine Oil

10-8 Changing the Engine Oil and Oil Filter

4. Reinstall the oil dipstick into position after checking the oil level.

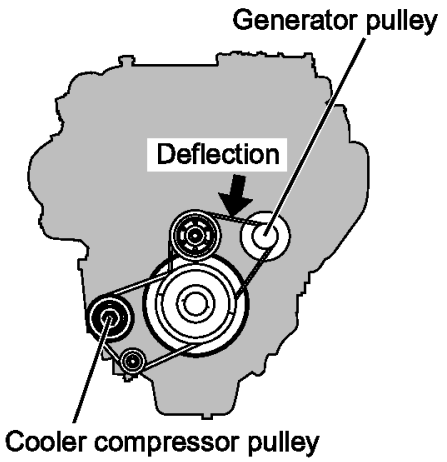




ADVICE

- Any oil level above the "Inspection MAX" mark on the gauge causes engine breakdowns. Change the oil whenever it exceeds this level.
- Fuel will gradually become mixed with the engine oil, thinning it out. Be sure to change the oil at the specified intervals.
- Insert the oil dipstick while being careful not to use excessive force. Failure to do so may cause deformation or breakage of the oil dipstick. If the dipstick is deformed, it will be possible not to measure accurately.
- Insert the oil dipstick until the dipstick seal part makes contact with the guide tube. This is to prevent water intrusion.

Checking the Fan Belt



Press the center of the span between pulleys (see the figure) of the belt with a pressure of **98 N** (10.0 kgf/**22 lb**) and check the amount of deflection or vibration frequency. The amount of deflection or vibration frequency must fall within the standard value range indicated below. Otherwise, adjust the tension or replace the belt. When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 2 or 3 times and calculate the average value. The average value must be within the standard value range indicated below. Otherwise, adjust the tension.

Engine model	Fan belt	Standard values	
		Amount of deflection	Vibration frequency
With 60A generator	New belt	6 - 7 mm (0.24 - 0.28 in)	176 - 200 Hz
	When reused	8 - 9 mm (0.31 - 0.35 in)	151 - 163 Hz
With 90A generator	New belt	6 - 7 mm (0.24 - 0.28 in)	174 - 194 Hz
	When reused	8 - 9 mm (0.31 - 0.35 in)	148 - 160 Hz

Checking the Cab is Lowered and Cab Tilt Handle is Locked

Confirm the cab is lowered and cab tilt handle is securely locked in the lowered position. Refer to "Lowering the Cab".

Refer to page
7-18 Lowering the Cab

Checking Tires

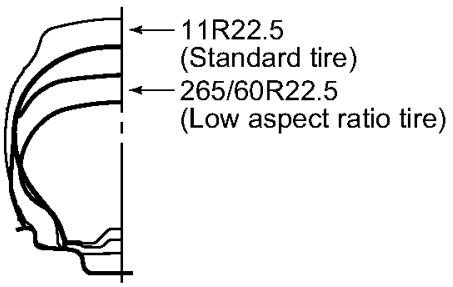
Checking the Air Pressure

⚠ WARNING

- **Insufficiently inflated or worn-out tires are highly dangerous as they easily skid and can even burst. Should they burst, the tires may burn and this could cause a fire in the vehicle.**
- **If you drive on under-inflated or flat tires, the wheel bolts will be placed under excessive stress. Under such conditions, the bolts may break and the wheel may detach from the vehicle, possibly causing an accident.**

⚠ CAUTION

- **A tire pressure that is too low or too high not only affects ride or causes damage to the cargo but also causes abnormal heat buildup, premature wear or a flat tire and burst.**
- **Over-inflated tires result in a harsh ride and are likely to cause damage to the cargo. Under-inflated tires build up heat and could burst. Always keep the tires of your vehicle adjusted at the standard air pressures.**



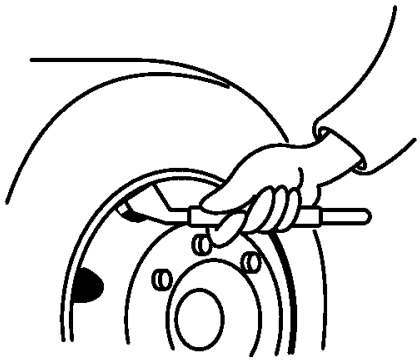
ADVICE

[Use of Low Aspect Ratio Tires]

- Low aspect ratio tires for truck applications (aspect ratio at 70%) have an air chamber volume 20 to 30% smaller than that of normal tires. This makes low aspect ratio tires adversely affect driving faster than normal tires when the air leaks during operation. Check air pressure of low aspect ratio tires more often than normal tires using a tire air pressure gauge.

NOTE

- It is not easy to identify an under-inflated dual-wheel tire or low aspect ratio tire (aspect ratio at 70%). Always use a tire air pressure gauge to check the air pressure of any tire.
- There should not be a difference in air pressure between the inside and outside tires on a dual-tire rear wheel.

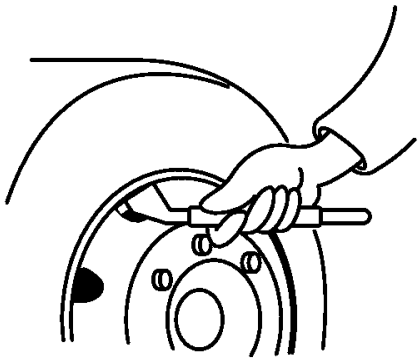


Use an appropriate tire air pressure gauge when measuring the air pressure of a tire. Tire air pressure should be measured when the tire is cold, or before the vehicle is driven. (After driving, tire air pressure increases by about 10%.)

Tire Size and Tire Air Pressure

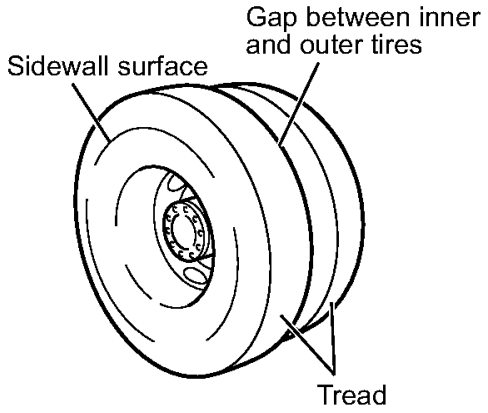
Tire size	Tire air pressure (cold tire) **kPa** (kgf/cm²/**psi**)	
	Except models for Australia	Models for Australia
295/80R22.5 152/148	**850** (8.50/**123**)	**825** (8.25/**120**)
295/80R22.5 154/150	-	**825** (8.25/**120**)
315/70R22.5 158/150	-	**825** (8.25/**120**)
11R22.5-16PR 148/145	**850** (8.50/**123**)	**825** (8.25/**120**)
12R22.5-16PR 152/148	**850** (8.50/**123**)	-

Spare Tire Air Pressure



Keep the air pressure of the spare tire slightly higher than the standard pressure. Adjust the pressure correctly when you use it.
Tires heat up while you are driving, and their air pressures become higher accordingly. If you must wait until right after driving to adjust the air pressure, determine the target pressure for adjustment by adding about **20 kPa** (0.2 kgf/cm²/**3 psi**) to the standard pressure.

Checking for Cracks and Other Damage



Check the tread and sidewall surfaces of each tire for cracks or other damage. Especially check the tread for nails or other metal pieces embedded in grooves and also the gap between the inner and outer tires of a dual-tire wheel for pebbles lodged in it.

ADVICE

- When checking tires, pay special attention to: low air pressure; pebbles or nails in tread grooves; cracks or other damage on tire surfaces; uneven wear; and pebbles lodged in the gap between tires of dual-wheel tires.

Checking Tread Depth and Abnormal Wear

WARNING

- **Using worn-out tires is dangerous because they might have an increased chance of getting punctured or bursting while driving.**

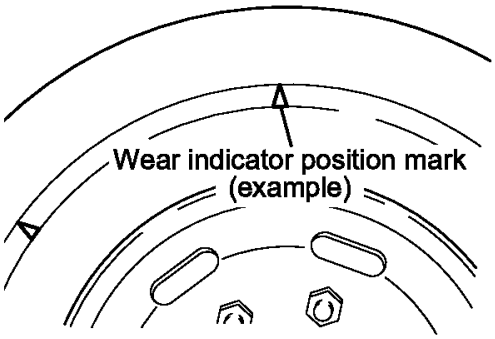
CAUTION

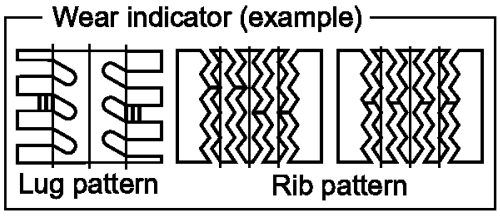
- **Tires with excessively shallow tread grooves will increase the chance of skidding and, when driving at high speeds, hydroplaning.**

NOTE

[What is Hydroplaning?]

- Hydroplaning occurs when a vehicle is running at high speeds on a wet road and a layer of water forms between the road surface and tires causing the tires to float on it. Hydroplaning prevents the driver from steering correctly and from slowing down the vehicle with the brake pedal.





Check all tires to see if tread wear indicators appear on their treads and also check their entire tread for its depth with a depth gauge to make sure that the grooves are deeper than the specified depth.
A tire with tread wear indicators appearing must be changed.

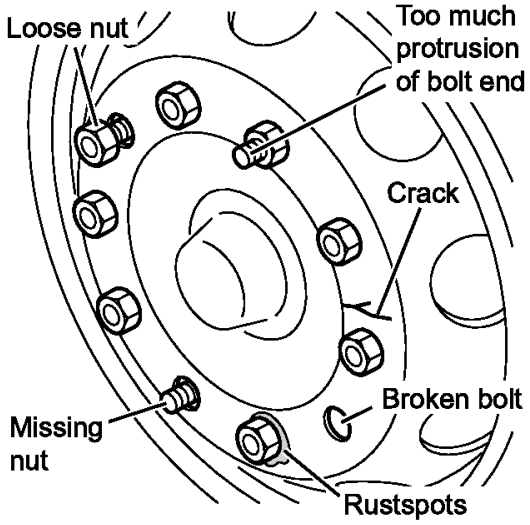
Refer to page
10-53 Changing the Wheels and Tires (ISO 10-bolt Wheels)

Also, check the tires for uneven or otherwise abnormal wear.

Tread depth (Standard value)
1.6 mm (0.063 in) or more

Checking the Disc Wheel Mounting Condition

Visual Checking of Wheel Installation Condition



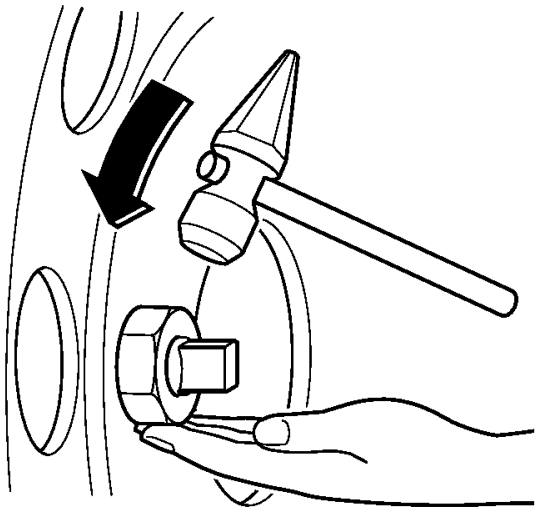
Visually check the condition of installation of each disc wheel.

1. Check that there are no missing wheel bolts and wheel nuts.
2. Check each disc wheel to see if there is any rust seepage from wheel bolts or nuts. Also check the disc wheel for cracks or other damage.
3. Check the end of each wheel bolt to make sure it protrudes the proper length from the wheel nut. The protrusion should be uniform among all bolts on a wheel and among all wheels.

⚠ CAUTION

- **Any abnormality in wheel installation is likely to lead to loose or missing wheel nuts and/or broken wheel bolts.**

Checking Wheel Installation Condition with an Inspection Hammer



Place your fingers on the bottom of each wheel nut and tap the top of the nut with an inspection hammer or small hammer in the tightening direction.
There may be some defect with a nut or its bolt if the vibration you feel is different from the other nuts or if the sound it produces is not clear.

⚠ CAUTION

- **If you detect any abnormal condition, it is likely that there are loose wheel nuts or broken wheel bolts.**

Tires Used for Long Term

Tires are made of rubber whose property changes gradually by aging as time goes on (even when it is stored fitted on the rim like a spare tire). Tires must receive an aging check after being used for up to 5 to 7 years if they are to be used continuously.

Checking the Leaf Springs [V]

Checking the Leaf Spring Damage

Check the leaf springs for damage, cracks and whether the related parts of the leaf springs are dislodged. Check the cushion rubber for damage.
Damaged parts must be replaced with new ones as soon as possible.
If there is a problem, contact the nearest Isuzu Dealer for inspection or replacement.

Checking the Leaf Spring Mounting

Check the spring brackets for looseness, cracks and damage. Check the spring pins and shackle pins for looseness in the axial and perpendicular directions.
Damaged parts must be replaced with new ones as soon as possible.
If there is a problem, contact the nearest Isuzu Dealer for inspection or replacement.

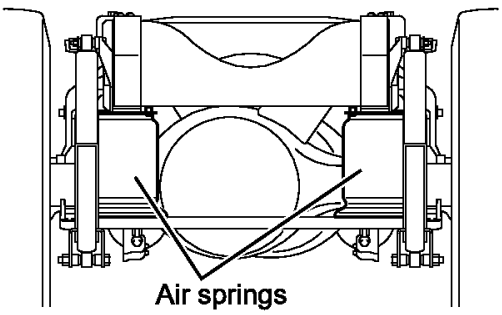
Checking Air Springs [V]

⚠ WARNING

- **Driving with insufficient air pressure in air suspension or broken air springs is very dangerous because the vehicle height will not be stable.**

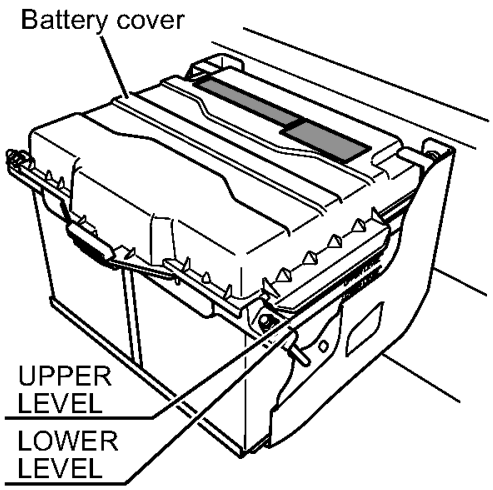
⚠ CAUTION

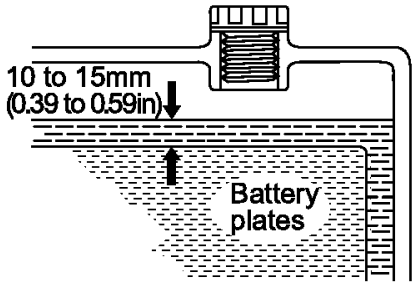
- **Mud/sand/gravel trapped under air springs is dangerous because it may cause damage to air springs.**
- **Grease on the air spring surface causes the air spring to swell and affects its durability.**



Check the air springs for damage.
Check the spring fasteners and connecting parts for looseness and damage.
Check the lower surface of each spring for embedded sand and pebbles. If necessary, remove any embedded materials, taking care not to damage the spring.
Grease from the propeller shaft may splatter on the air bellows during vehicle operation. Use a clean rag to wipe the bellows free of any grease.
Under no conditions, use thinner to clean the air bellows. Damage to the bellows will result.

Checking the Battery Fluid Level

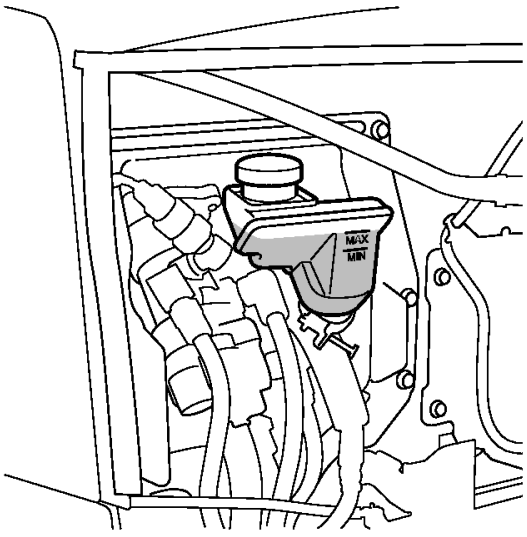




The battery is located almost exactly at the center of the outside chassis member. Remove the battery cover and confirm whether the level of fluid inside the battery case is within the specified range.
The surface of the battery fluid should be between the "UPPER LEVEL" and "LOWER LEVEL" lines. If the surface of the fluid cannot easily be seen, rock the vehicle gently.
If no level marks are indicated on the case, a range between 10 and 15 mm (0.39 to 0.59 inches) from the top of the battery plates is considered appropriate.

Refer to page
10-121 Filling Battery Fluid

Checking the Clutch Fluid Level [M/T]



Check the clutch fluid tank behind the front lid for the fluid level. It should normally be between the "MAX" and "MIN" lines.
If the level is below the "MIN" line, open the front lid and remove the cap from the clutch fluid tank to refill the tank with clutch fluid. Add the specified clutch fluid up to the "MAX" line.

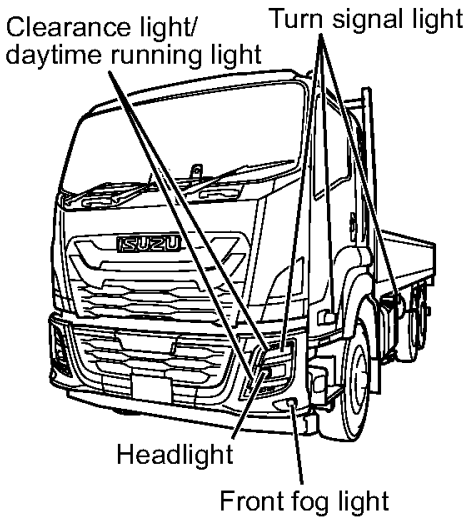
Refer to page
7-12 Front Lid

Checking Exterior Light Operation

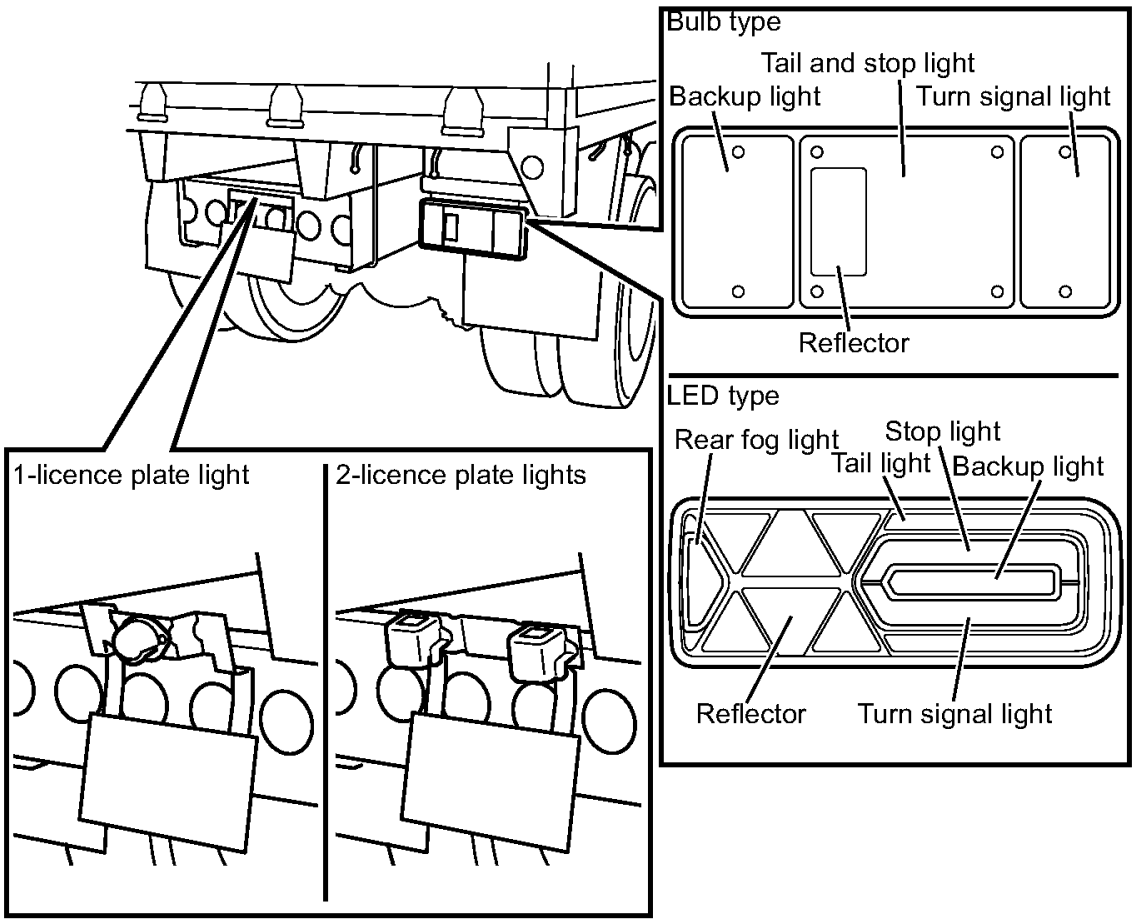
Turn the starter switch to the "ON" position, and then check the way in which the headlights, turn signal lights, and other exterior lights come on and flash.
In addition, depress the brake pedal to confirm whether the stop lights come on, and shift the transmission to "R" position to confirm whether the back up lights come on.
If lights do not light or flash, refer to "Lighting Equipment" to inspect and replace lights.

Refer to page
10-124 Lighting Equipment

Front



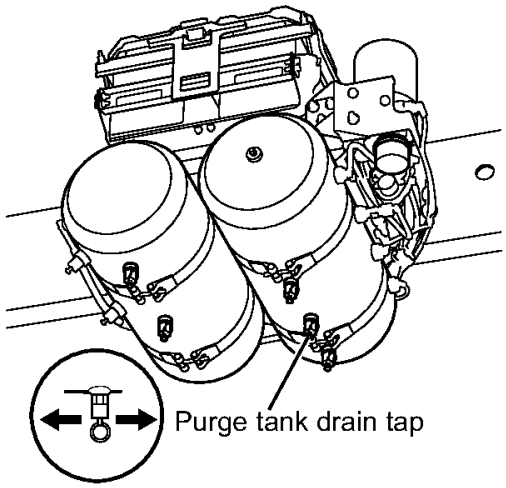
Rear

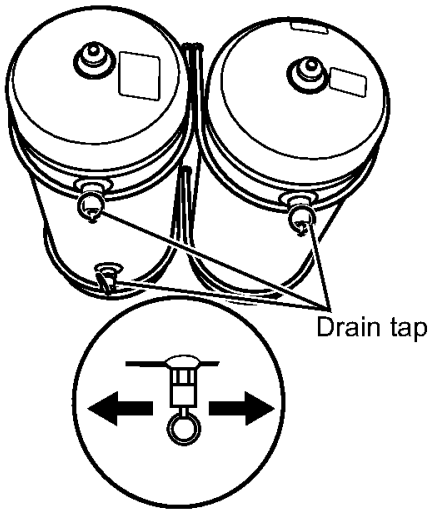

Bulb type
Tail and stop light
Backup light
Turn signal light
Reflector
LED type
Rear fog light
Stop light
Tail light
Backup light
Reflector
Turn signal light
1-licence plate light
2-licence plate lights

Checking Air Tanks

⚠ WARNING

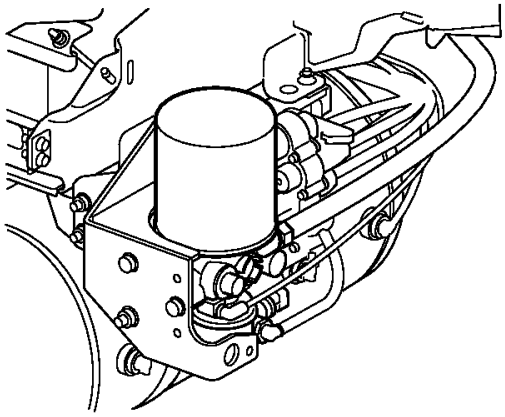
- **Do not leave the drain tap of the air tank open for an extended period of time if your vehicle is equipped with an air suspension. Doing so is dangerous since the vehicle lowers.**
- **Water collecting in the air tank may cause moisture to freeze inside the air piping in winter. This is very dangerous because the air compressor may fail and as a result, sufficient braking forces may no longer be available.**
- **The purge tank for air dryer regeneration cannot drain the water immediately after the purging, because the air in the tank is consumed by the purging process.**
  In this case, restart the engine and run it at idle. By doing this, the purge tank is filled with air. Then discharge the water.





Air tanks may contain water. You must drain them by pulling the ring of the drain taps at the bottom of the air tank to discharge water. After discharging water, check that air is not leaking from each drain tap.
If a large volume of water drains from an air tank, the desiccant of the air dryer may have deteriorated. If desiccant replacement is necessary, have it performed by the nearest Isuzu Dealer.
For air tanks installed at other locations, perform the water draining procedure described above.

Checking the Air Dryer



The air dryer removes moisture and oil that is present in the vehicle's air piping by means of an inside desiccant.
If water and oil is discharged when the drain tap on the air tank is opened for checking, the desiccant has deteriorated and needs be changed. Desiccant replacement requires disassembling of the relevant components, so you should have it done by the nearest Isuzu Dealer.

Refer to page
10-64 Air Dryer

Checking the Engine for Startability, Abnormal Noises and Color of Exhaust Gases

1. Make sure the parking brake is securely engaged. Step firmly on the brake pedal.
2. Make sure the transmission is in neutral.

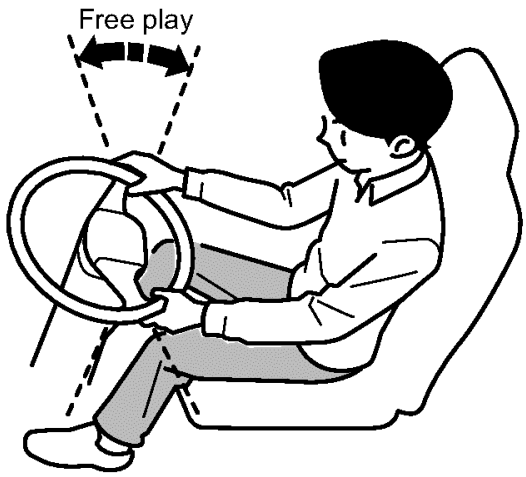
⚠ CAUTION

- **For safety, firmly press the brake pedal before starting the engine.**

3. Turn the starter switch to start the engine.
   Check that the engine starts quickly with no abnormal noises. Also, make sure that there is no abnormal exhaust gases.

Refer to page
4-49 Starting the Engine

Checking the Steering Wheel Free Play and Looseness



Steering wheel free play

1. Let the engine idle.
2. Place the steering wheel in the straight forward position.
3. Then gently turn it to the left and right by hand, and check for free play until the tires start moving.

Free play (measured at the periphery of the steering wheel)
10 - 60 mm (0.39 - 2.36 in)



Steering wheel looseness

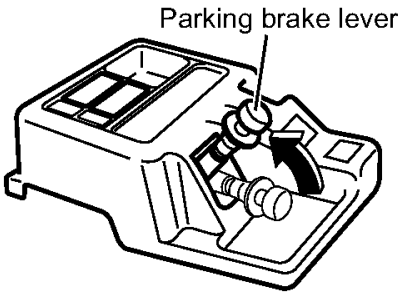
Grasp the steering wheel with both hands, and move it in the axial direction and also up and down, and left and right to see if here is any looseness.
Also, drive the vehicle and check for hard-steering, steering wheel shimmy and tendency of steering to pull to one side.

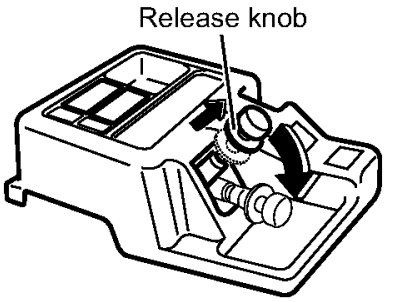
Checking Windshield Wipers and Windshield Washer

Spray windshield washer fluid and then operate the windshield wipers to check for any poorly wiped areas. In addition, confirm that each of the "(intermittent)", "LO", and "HI" functions operate normally. At this time, also check the windshield washer's spraying condition.
If the wiper blades need to be replaced, refer to "Windshield Wiper Blade Replacement".

Refer to page
10-113 Windshield Wiper Blade Replacement

Checking the Parking Brake





Parking brake warning light

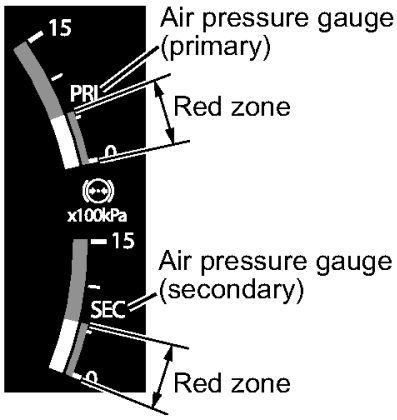


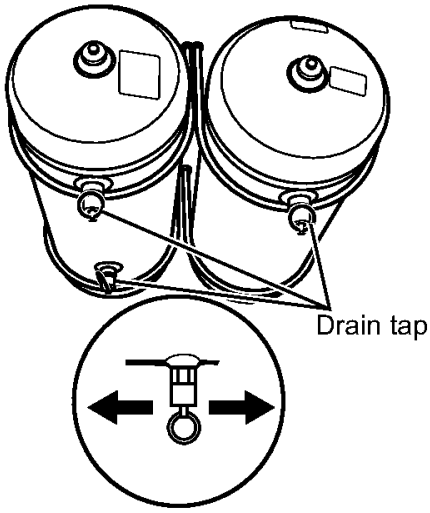
Pull the parking brake lever from the fully released position to the wheel locked position to check that the air exhaust sound is heard and the lever stays in position. Also, on a dry sloping road, check that the parking brake can hold the vehicle stationary.

Checking Air Pressure

⚠ WARNING

- **Do not operate the vehicle while any of the pressure gauge needles are in the red zone or while the brake warning light or the air pressure warning light is on. Brakes are then not fully functional, and it is dangerous to operate the vehicle.**





1. Check the air pressure gauges to see that the primary and secondary air systems are charged with air to proper pressures.

Proper air pressure range
930 - 1,080 kPa (9.5 - 11.0 kgf/cm²/**135- 156 psi**)

2. Next, check the rate at which the air pressure rises. After confirming that the parking brake lever is fully pulled, pull the drain tap at the bottom of the air tank to let all the air in the air tank be discharged.
   For air tanks installed at other locations, perform the water draining procedure described above.

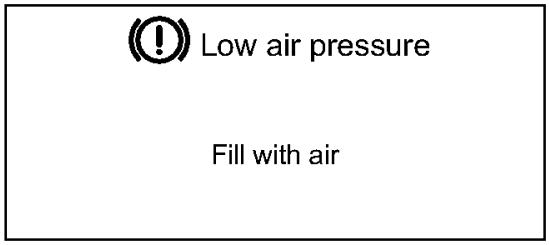
Brake warning light
(Except models for Australia)



Air pressure warning light
(Models for Australia)



Low air pressure



3. Start and run the engine at idle.
   The brake air systems are in order if the time taken for the brake warning light, air pressure warning light and "Low air pressure" on the multi-information display to go out matches the time indicated in the following table for your particular vehicle.

Time taken before brake warning light/air pressure warning light goes out

Vehicle model and specification	Time (minutes)
All models	Approximately 8

The time taken before the brake warning light or the air pressure warning light goes out or the time until the message on the multi-information display go out may somewhat vary depending on the temperature and other environmental conditions. However, you should contact the nearest Isuzu Dealer if air pressure does not increase at all, the time taken before reaching a proper pressure is significantly different from that indicated in the table, or the needles of the two air pressure gauges indicate considerably different pressures.

Checking the Clutch System Function [M/T]

Inspect whether an abnormal sound is heard or the clutch pedal is abnormally heavy when the clutch pedal is depressed while the engine is idling. If an abnormal sound is heard or the clutch pedal operation is heavy with the sufficient air pressure supplied, provide lubrication. Also, check whether the gearshift lever can be placed in the 1st or reverse position easily.
Check also that the clutch engages smoothly without any slip when the vehicle starts to move slowly.

Refer to page
8-25 Greasing Chassis Components

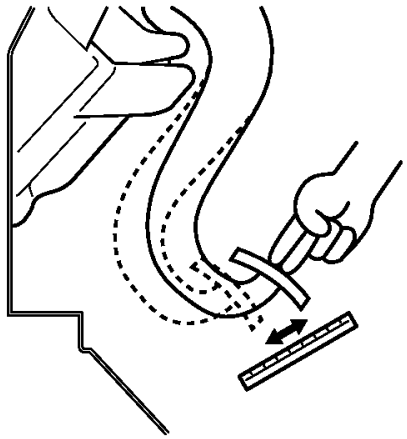
ADVICE

- Release the clutch pedal carefully to prevent the vehicle from starting too suddenly.

Checking the Brake Pedal Free Play

CAUTION

- **A brake performance check should be performed on a wide road with good visibility while paying adequate attention to the traffic behind and the surroundings.**



Press the brake pedal with two fingers to check that the pedal free play is proper and the pedal moves smoothly without abnormal interference.

Brake pedal free play (measured at the tip of pedal)
11 - 19 mm (0.43 - 0.75 in)

Checking Brake Valve Operation



Release the brake pedal after stepping on it to check that an air release sound comes from the exhaust hole at the brake valve and the pedal fully returns to the released position.

Checking Brake Effectiveness

Drive the vehicle slowly on a dry road and apply the brakes. Check that the brakes are working fully and does not pull on one side.

Checking Condition of the Engine at Low Speeds and during Acceleration



1. Make sure the transmission is in neutral and the parking brake is securely engaged.
2. Turn the starter switch to start the engine, and run it to warm up.

Refer to page
4-49 Starting the Engine

3. Check that the engine is running at a speed within the standard idle speed range.

Refer to page
4-54 Idling Control Knob

NOTE

- During regeneration of the diesel particulate defuser (DPD), the engine idle speed may increase.

Refer to page
4-148 Diesel Particulate Defuser (DPD)

4. Drive the vehicle, making sure the accelerator pedal does not stick when gradually accelerating, the engine speed rises smoothly and it does not knock.

Maintenance and Care 10

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10-2 Maintenance and Care

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Engine-related Maintenance and Care

Engine Conditions

Checking the Engine for Startability, Abnormal Noises and Color of Exhaust Gases

Refer to page
9-22 Checking the Engine for Startability, Abnormal Noises and Color of Exhaust Gases

Checking Condition of the Engine at Low Speeds and during Acceleration

Refer to page
9-28 Checking Condition of the Engine at Low Speeds and during Acceleration

Engine Oil

Engine oil and the oil filter are important factors in engine performance and lifespan. Be sure to use only the specified oil and oil filters. The engine oil level must be checked and the oil should be changed regularly according to the Maintenance Schedule.

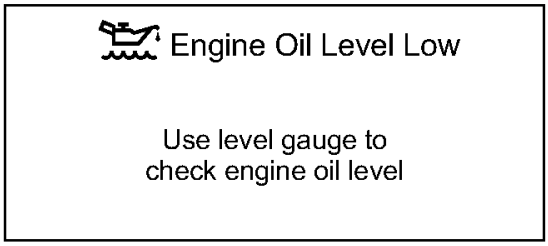
Refer to page
8-2 Maintenance Schedule

ADVICE

- Engine oil lubricates and cools the engine's internal components. The quality of the oil is degraded and the quantity of oil is reduced by evaporation, discharge and combustion during the engine's operation. Continually using the same oil without checking the level, or without replenishing and changing it could cause seizure or damage to the engine. Add or change the oil when the quality of the oil has been degraded or the quantity is reduced, even if this occurs before expiration of the specified intervals in the Maintenance Schedule, which will differ depending on the conditions of use.

Engine Oil Warnings/Indicators

Engine Oil Level Warning



This message is displayed on the multi-information display when the engine oil level is low or exceeds the "MAX" position. When the check engine oil level warning light is indicated on the display, check the engine oil level using the oil dipstick.

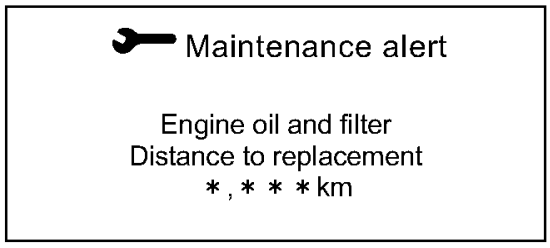
Refer to page
9-9 Checking the Engine Oil
10-8 Changing the Engine Oil and Oil Filter

ADVICE

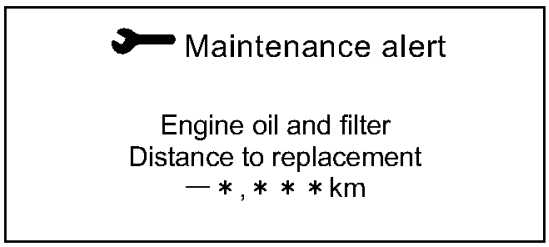
- In the following situations, an engine oil level warning may be displayed even when the engine oil is at the correct level.
  - When the vehicle is tilted (If the engine oil level warning turns off when the vehicle returns to a level state, it can be considered normal.)
  - Immediately after replacing the engine oil (When the engine oil level warning is displayed, warm up the vehicle until the needle of the engine coolant temperature gauge reaches around the center, then stop the engine. If the light turns off after 20 to 30 minutes, it can be considered normal.)
- If the warning does not turn off, contact your nearest Isuzu Dealer.

Engine Oil and Filter Maintenance Alerts

Remaining distance



Excess distance



This message appears on the multi-information display when the next replacement interval for the engine oil and filter is near or has already been reached. When the time for maintenance is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

NOTE

- The remaining distance to the next replacement interval for the engine oil and filter varies according to the usage of the vehicle. In some cases, the actual distance traveled is not equal to the decrease of the remaining distance to the next replacement depending on the usage of the vehicle. However, this does not indicate a malfunction.
- Checking and setting the maintenance period can be done from the "Maintenance alert" on the multi-information display.

Refer to page
3-43 Maintenance Alert
10-8 Changing the Engine Oil and Oil Filter

Checking the Engine Oil Level

Refer to page
9-9 Checking the Engine Oil

Adding the Engine Oil

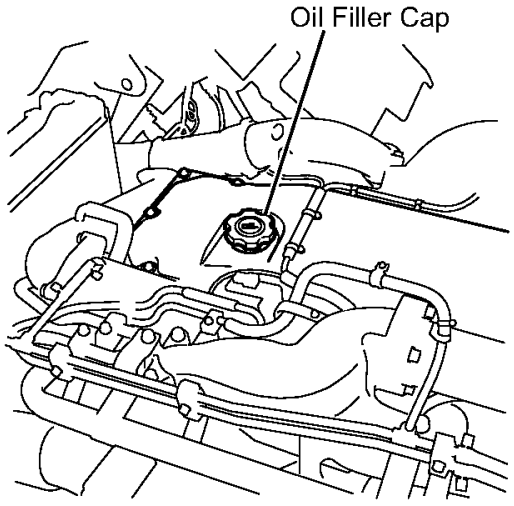
WARNING

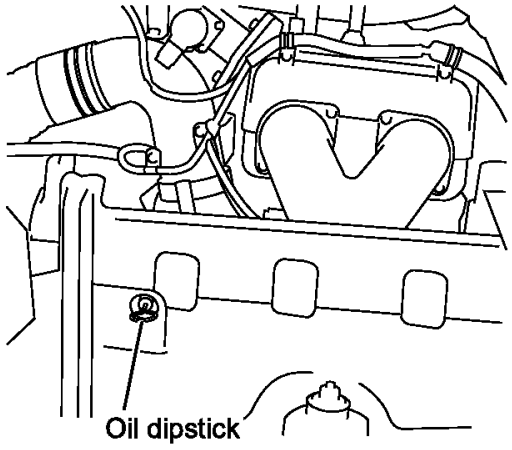
- **When adding oil, be careful not to spill any, but keep a workshop rag handy just in case there are any spills. If any oil should spill onto the engine, carefully wipe it away. If this precaution is not taken, the spilled oil could ignite and a fire could spread.**
- **Do not leave flammable items, such as rags or gloves, in the engine compartment. They could cause a fire.**
- **The engine oil is hot after driving, so when changing the oil after driving, be careful not to be scalded.**

ADVICE

- Prevent dirt from entering the filler port when adding the oil. If foreign matter mixes with the oil, it could damage the engine.
- Adding oil above the "Replenishment MAX" mark on the oil dipstick could result in faulty engine operation. Be sure to check the oil level with the dipstick.
- Failure to use DPD compatible oil could result in engine or DPD breakdown, or in poor fuel efficiency. Be sure to use DPD compatible engine oil.

When the engine oil level is near the "MIN" mark on the oil dipstick, remove the oil filler cap and add the oil. Remove the oil dipstick at this time. Use only the specified engine oil.





Changing the Engine Oil and Oil Filter

WARNING

- **Hot engine oil can cause severe skin burns. Allow the engine to cool before draining the engine oil.**

ADVICE

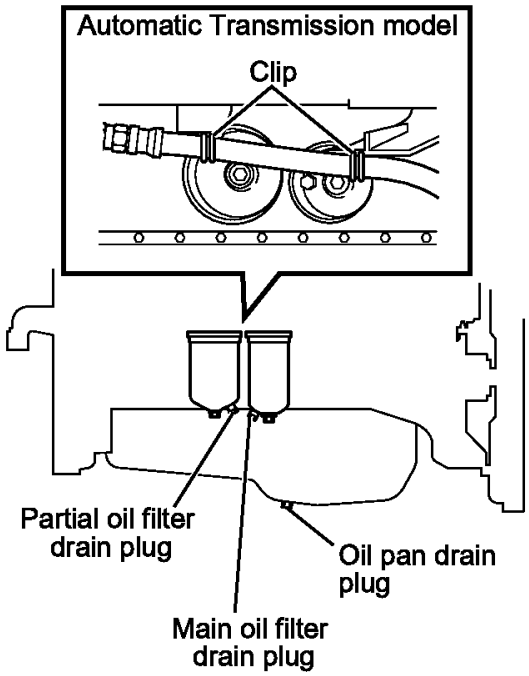
- Use the oil quantities indicated below only as guidelines when changing the engine oil. After changing the oil, make sure the oil is at the required level.
- Failure to use DPD compatible oil could result in engine or DPD breakdown, or in poor fuel efficiency. Be sure to use DPD compatible engine oil.

Quantity of engine oil to be changed

Oil quantity [Reference value]	
When changing oil only	**21.5 - 28.0 liters** (5.68 - 7.40 US gal./**4.73 - 6.16 Imp gal.**)
When changing oil and filter	**28.0 - 34.5 liters** (7.40 - 9.11 US gal./**6.16 - 7.59 Imp gal.**)

Refer to page
8-40 Recommended Fluids, Lubricants and Diesel Fuels

Changing the Engine Oil



NOTE

- When replacing the engine oil for automatic transmission model, remove the hose fastening clips and pull the hose to the side.
  After replacing the oil, tighten the clips to the specified torque.

1. Clean around the oil filler cap so that foreign matter does not enter. Remove the oil filler cap.
2. Place a container to receive the oil beneath the oil pan and the oil filter. Remove the following drain plugs to discharge the engine oil:
   - Oil pan
   - Main oil filter
   - Partial oil filter

ADVICE

- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

3. After tightening each drain plug to the specified tightening torque, withdraw the oil dipstick, and carefully fill with the specified engine oil via the oil filler port.

Oil pan drain plug tightening torque
69 - 88 N·m (7.0 - 9.0 kgf·m/**51 - 65 lb·ft**)

Main oil filter drain plug tightening torque
40 - 50 N·m (4.1 - 5.1 kgf·m/**30 - 37 lb·ft**)

Partial oil filter drain plug tightening torque
25 - 35 N·m (2.6 - 3.6 kgf·m/**19 - 26 lb·ft**)

Clip fix parts tightening torque
16 - 29 N·m (1.7 - 2.9 kgf·m/**12 - 21 lb·ft**)

ADVICE

- Use the oil quantity indicated above only as a guideline when changing the engine oil. After changing the oil, ensure that it is at the proper level.
- Failure to use DPD compatible oil could result in engine or DPD breakdown, or in poor fuel efficiency. Be sure to use DPD compatible engine oil.

4. Install the oil dipstick and the filler cap, wait for at least 5 minutes after filling up the oil, then start and idle the engine. While the engine is idling, check to see if any oil leaks around the oil filter or drain plug.
5. Stop the engine. After 20 to 30 minutes, check the oil level using the oil dipstick.

WARNING

- **Bringing flames or other heat sources near spilled engine oil could cause a fire. Make sure to wipe it all up.**
- **Do not leave flammable items, such as rags or gloves in the engine compartment beneath the cab. They could cause a fire. Also, do not forget your tools.**

ADVICE

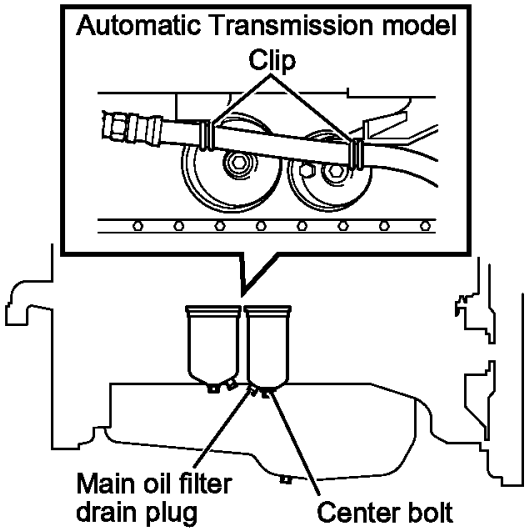
- Avoid revving up the engine, as it could damage the engine.
- Adding oil above the "Replenishment MAX" mark on the oil dipstick could result in faulty engine operation. Be sure to check the oil level with the dipstick.

Changing the Oil Filter

NOTE

- When replacing the Main Oil Filter or the Partial Oil Filter for automatic transmission model, remove the hose fastening clips and pull the hose to the side.
  After replacing the oil, tighten the clips to the specified torque.

Clip fix parts tightening torque
16 - 29 N·m (1.7 - 2.9 kgf·m/**12 - 21 lb·ft**)

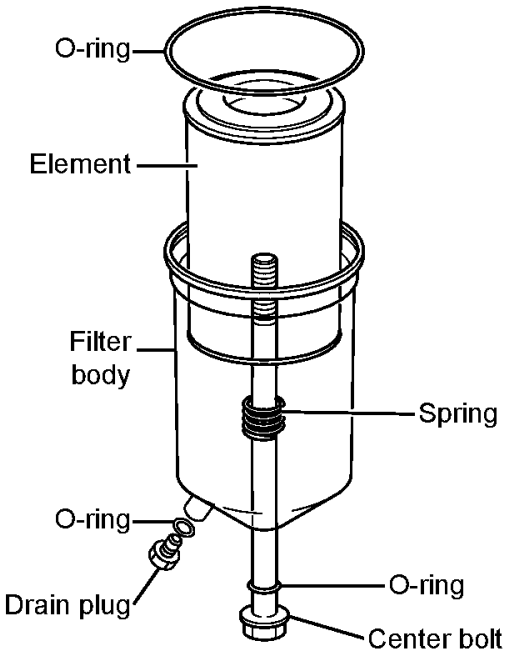


Main Oil Filter

1. Remove the oil filler cap. Remove the oil filter drain plug to discharge the oil into the container.
2. Loosen the center bolt, and remove the element together with the filter body.
3. Wash the inside of the filter body, and install a new element. Also, replace the O-rings.
4. Tighten the drain plug and the center bolt to the specified torque.

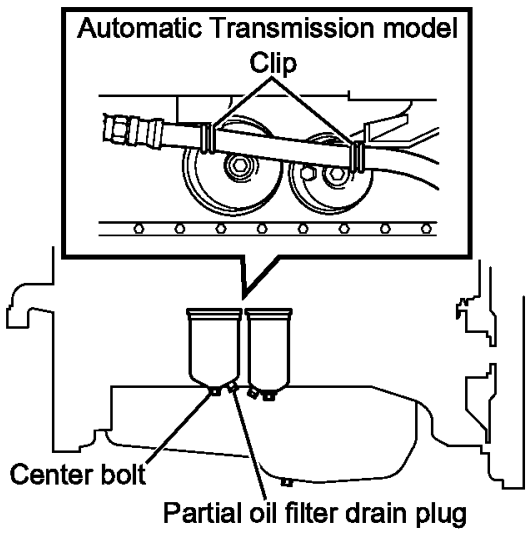
Center bolt tightening torque
45 - 55 N·m (4.6 - 5.6 kgf·m/**33 - 41 lb·ft**)

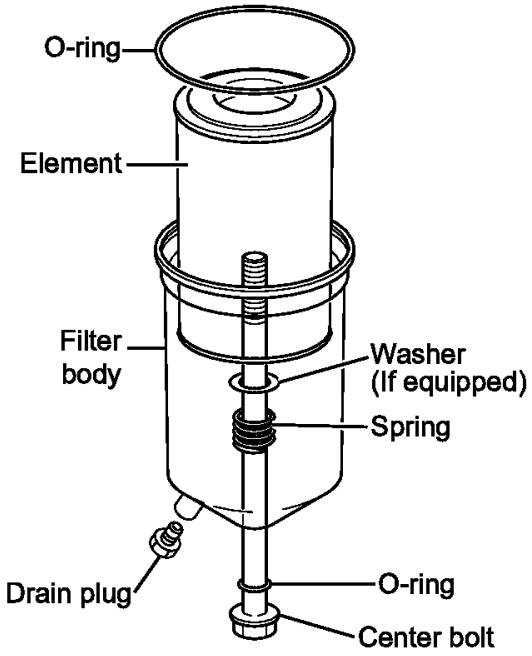
Main oil filter drain plug tightening torque
40 - 50 N·m (4.1 - 5.1 kgf·m/**30 - 37 lb·ft**)



ADVICE

- When installing the filter body, hold it down to prevent it from turning, and tighten the center bolt. If the filter body turns, the O-ring may become damaged, resulting in oil leakage.
- After changing the oil filter, operate the engine to check that there are no leaks around the filter.





Partial Oil Filter

1. Remove the oil filler cap. Remove the oil filter drain plug to discharge the oil into the container.
2. Loosen the center bolt, and remove the element together with the filter body.
3. Wash the inside of the filter body, and install a new element. Also, replace the O-rings.
4. Tighten the drain plug and the center bolt to the specified torque.

Center bolt tightening torque
95 - 105 N·m (9.7 - 10.7 kgf·m/**70 - 77 lb·ft**)

Partial oil filter drain plug tightening torque
25 - 35 N·m (2.6 - 3.6 kgf·m/**19 - 26 lb·ft**)

ADVICE

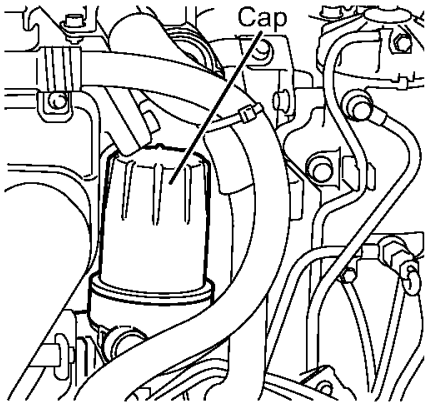
- When installing the filter body, hold it down to prevent it from turning, and tighten the center bolt. If the filter body turns, the O-ring may become damaged, resulting in oil leakage.
- After changing the oil filter, operate the engine to check that there are no leaks around the filter.

Engine Oil Separator

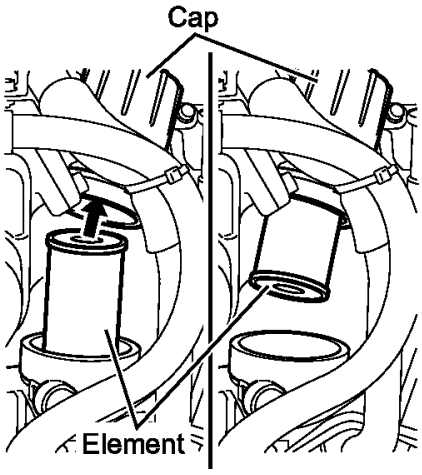
The element must be changed according to the Maintenance Schedule.

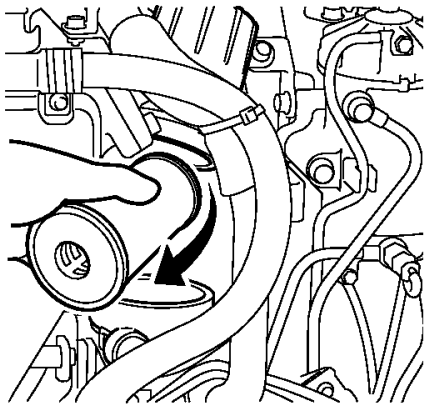
Refer to page
8-2 Maintenance Schedule

Replacement



1. Remove the cap, and secure it by hanging it into the space created among the EGR valve and PCV hose. Lift the element up in the direction inserting it into the cap while avoiding the lower end to get stuck with the engine oil separator unit.





2. Pull the bottom of element out of the engine.
3. Install a new element. Also, replace the O-ring at the same time.
4. For installation, perform the same sequence of operations in reverse.

Engine Coolant

The engine cooling system is a device for keeping the engine temperature at an appropriate level.
The engine coolant must be changed according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule

WARNING

- **Check, replenish or change the engine coolant only after the engine has sufficiently cooled down.**
- **Do not loosen or remove the sub-tank cap when the engine coolant is still hot. Hot vapor or boiling water may burst out and cause a burn. Cover the cap with a cloth, etc. and remove it gradually after the engine is fully cooled down and the temperature of the engine coolant becomes low.**
- **When removing the sub-tank cap, use a thick cloth to cover the cap and turn it slowly.**
- **Engine coolant is toxic and must not be ingested. If the engine coolant is mistakenly ingested, immediately vomit it and seek prompt medical attention.**
- **If the engine coolant gets in your eyes, rinse it off immediately with a large amount of water for 15 minutes or longer. Also, if still abnormality such as irritation is felt, seek medical attention.**
- **If the engine coolant gets on your skin, rinse it off using a soap with a large amount of water. Also, if abnormality is seen, seek medical attention.**
- **Engine coolant is flammable, and therefore, it must be kept away from flames and other heat sources. Engine coolant also could ignite if it comes in contact with a hot surface, such as the exhaust manifold. Exercise caution to prevent this from happening.**

ADVICE

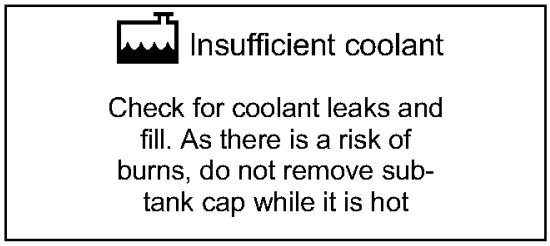
- Replace the engine coolant periodically.
  If the engine coolant is not replaced periodically, rust is generated due to degradation of the engine coolant, which may cause a failure such as water leakage, clogging of the radiator or heater core, or damage to the urea SCR system.

NOTE

- Engine coolant is fluid which is made by mixing coolant and water at an appropriate concentration.

Engine Coolant Warnings/Indicators

Engine Coolant Level Warning



This message appears on the multi-information display when the engine coolant level is too low. At the same time, a buzzer sounds. Immediately pull off to a safe place, and check the vehicle and take necessary actions.

WARNING

- **When the engine coolant is still hot, do not remove the sub-tank cap. Hot vapor will come out and you may be scalded. Add engine coolant only when the engine coolant temperature has dropped.**

Refer to page
10-17 Adding the Engine Coolant

CAUTION

- **If you continue to drive the vehicle with the message appearing on the multi-information display, the engine may overheat and seize up.**

NOTE

- Do not shut down an overheating engine immediately. Otherwise, the engine may seize up. Take appropriate actions for an overheated engine.

Refer to page
11-17 When the Engine Overheats

Preparing Engine Coolant

To prevent the engine damage due to freezing of the engine coolant and to protect the cooling system from corrosion, mix the Isuzu recommended coolant and water to be at 50% concentration.
For other than Isuzu genuine coolant (Arteco/BASF, etc.), it is recommended to use directly "50/50 Pre-diluted" product which is already diluted to 50% concentration.

Refer to page
8-40 Recommended Fluids, Lubricants and Diesel Fuels
10-18 Engine Coolant Quantity

⚠ WARNING

- **Coolant is toxic and must not be ingested. If the coolant is mistakenly ingested, immediately vomit it and seek prompt medical attention.**
- **If the coolant gets in your eyes, rinse it off immediately with a large amount of water for 15 minutes or longer. Also, if still abnormality such as irritation is felt, seek medical attention.**
- **If the coolant gets on your skin, rinse it off using a soap with a large amount of water. Also, if abnormality is seen, seek medical attention.**
- **For storage, close the cap securely and keep it in a place inaccessible to children.**
- **Coolant is flammable, and therefore, it must be kept away from flames and other heat sources. Coolant also could ignite if it comes in contact with a hot surface, such as the exhaust manifold. Exercise caution to prevent this from happening.**

⚠ CAUTION

- **Use only an Isuzu recommended coolant.**
- **Using any coolant other than that Isuzu recommended could cause damage to the engine, radiator or heater core. In particular, use of coolants containing borate salts or silicates may result in engine, urea selective catalytic reduction (SCR) system, or radiator corrosion, causing engine coolant leaks and other problems.**

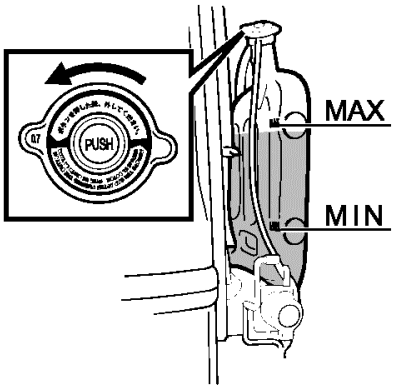
ADVICE

- Isuzu does not guarantee the use of the engine or vehicle at the outside temperature of -30°C (-22°F) or below.
- If the engine or vehicle is used at the outside temperature of -30°C (-22°F) or below, the coolant concentration of 55% is recommended.
- To dilute the coolant, use distilled water or deionized water.
- Do not use the coolant at any coolant concentration other than that specified. If the coolant concentration is 60% or higher, overheating is likely to occur, while if it is 50% or lower, anti-corrosion function is not provided sufficiently.
- Using coolant at any coolant concentration other than that specified may reduce anti-freezing performance, and engine coolant may freeze.
- If the engine coolant decreases rapidly, go immediately to the nearest Isuzu Dealer for a check or repair.

Checking the Engine Coolant Level

Refer to page
9-5 Checking the Engine Coolant

Adding the Engine Coolant



When the engine coolant level is too low, open the cap on the radiator sub-tank and fill the tank almost to the "MAX" line with engine coolant. Tighten the cap securely after the engine coolant has been replenished.

ADVICE

- Check the sub-tank to determine engine coolant level. In situations, however, where the level in the sub-tank rises or falls suddenly, check the level within the radiator itself.
- When the engine is still hot, take care to prevent engine coolant from contact with the exhaust manifold. Any such contact could result in exhaust manifold damage.
- If the level of engine coolant changes rapidly, have your vehicle inspected at your Isuzu Dealer.

Changing the Engine Coolant

When changing the engine coolant, also clean the sub-tank cap, radiator, intercooler and engine coolant passages.

Refer to page
10-22 Cleaning the Radiator and Intercooler

⚠ CAUTION

- **Do not start the engine when engine coolant has been drained from the radiator. This could cause the engine to seize up.**
- **Follow the procedure below to replace the coolant. If it is not replaced with the correct procedure, air can remain in the coolant passages and cause the engine to overheat.**

ADVICE

- Tighten the radiator drain plug by hand. Tightening with pliers or some other tool could damage it.
- Using any coolant not specified for the engine could cause corrosion or other abnormal conditions, which shorten the service life of the engine.
- Drained engine coolant must be disposed of in a method conforming to the regulatory requirements in your country.

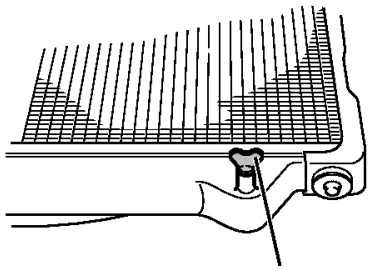
Engine Coolant Quantity

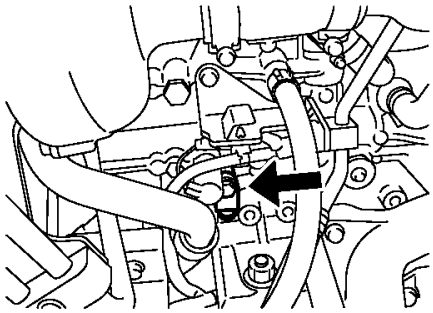
The quantity of engine coolant is indicated below for your use as a guideline when changing the engine coolant. After changing the engine coolant, check that the engine coolant is up to the specified level.

Vehicle model	Specifications	Engine coolant quantity [Reference value]
FXR FXM FXZ	—	**42.8 liters** (11.31 US gal./**9.42 Imp gal.**)
FYH	Manual transmission model	**40.4 liters** (10.67 US gal./**8.89 Imp gal.**)
	Automatic transmission model	**42.9 liters** (11.33 US gal./**9.45 Imp gal.**)

Draining the Cooling System

Radiator drain plug





1. Check that the engine has cooled sufficiently.
2. Remove the sub-tank cap.
3. Open the drain plugs on the radiator and the engine to let the engine coolant run out.
   Drain the engine coolant from the sub-tank as well.
4. Close the drain plugs on the radiator and the engine.

Engine drain plug tightening torque	
M14	**17.7 N·m** (1.8 kgf·m/**13 lb·ft**)

CAUTION

- **Do not start the engine when engine coolant has been drained from the radiator.**
  This could cause the engine to seize up.

ADVICE

- Tighten the radiator drain plug by hand. Tightening with pliers or some other tool could damage it.

Cleaning the Radiator Core and Intercooler Core

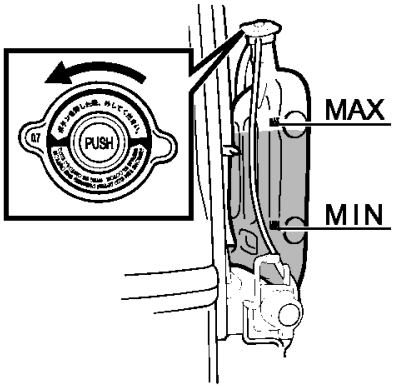
Cooling efficiency is compromised when there is dirt or dust plugging air passages in the radiator core and intercooler core. It also could cause corrosion of the core. Periodically wash the core with water.

Refer to page
10-22 Cleaning the Radiator and Intercooler

ADVICE

- When cleaning the radiator core and intercooler core, do not crush or damage the fins.

Cleaning the Engine Coolant Passages



1. Refill the sub-tank with tap water to the "MAX" line.
2. Engine coolant may leak from even minor cracks. Replace damaged rubber hoses.
3. Check and clean the sub-tank cap. Replace the cap if there is anything abnormal with it.
4. Close the cap of the sub-tank.
5. Start the engine and let it idle for 20 minutes. Stop the engine, wait until it cools down, and then drain out the water.

Refer to page
10-19 Draining the Cooling System

Filling the Cooling System

⚠ CAUTION

- **A failure to correctly fill the engine cooling system in changing or topping up engine coolant may sometimes cause the engine coolant to overflow from the filler neck even before the engine and radiator are completely full.**
- **If the engine runs under this condition, the shortage of engine coolant may possibly result in engine overheating. To avoid such trouble, the following precautions should be taken when refilling with the engine coolant.**

1. Confirm that the engine has fully cooled down before starting work.
2. Tighten the radiator drain plug. Tighten the engine drain plug. Replace the gasket of the engine drain plug with a new one (if equipped).

Engine drain plug tightening torque
17.7 N·m (1.8 kgf·m/**13 lb·ft**)

3. Pour engine coolant in the specified concentration.

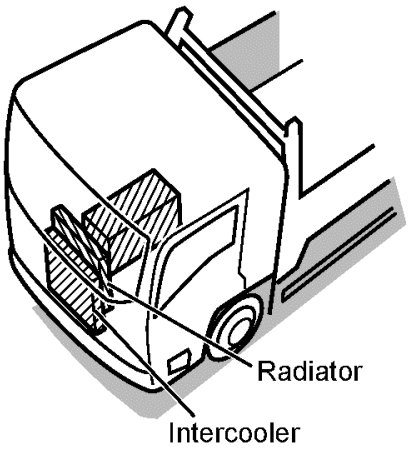
4. Squeeze the radiator upper hose two or three times.
   If this action results in air being discharged from the hose and the level of engine coolant goes down, add engine coolant up to the "MAX" line of the sub-tank.
   Repeat until the level of the engine coolant no longer decreases.

⚠ CAUTION

- **Refill with engine coolant slowly to avoid air being mixed in.**

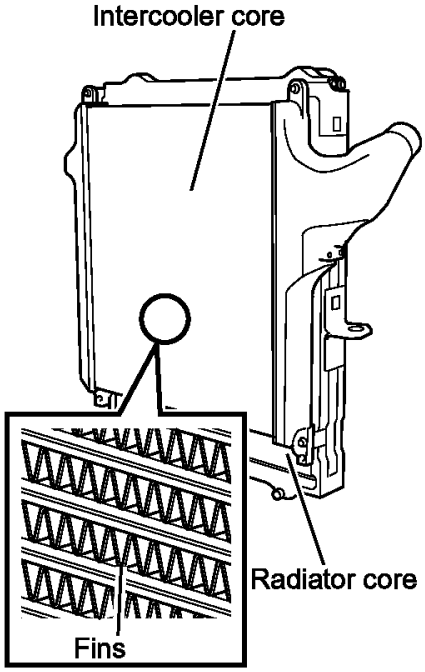
5. Close the cap of the sub-tank.
6. Start the engine, let it idle for 5 minutes or more and then stop the engine.
7. After making sure that the engine coolant is no longer hot. If the engine coolant level has decreased, replenish with engine coolant up to the "MAX" line of the sub-tank. If the engine coolant level has abnormally decreased, check for leaks from the radiator, the engine coolant passages, or the sub-tank hose.
8. Idle the engine until the needle of the coolant temperature gauge reaches the center and the thermostat opens. Keep the engine speed at 2,000 r/min to warm up the engine.
   If the vehicle is equipped with an air conditioner, turn the A/C switch off to facilitate warming-up.
   Check if the thermostat is open or not by checking whether the upper hose and lower hose are hot.
   If the vehicle is equipped with a heater, turn the temperature control knob to the "HOT" position and make sure that hot air comes out.
9. Let the engine idle for 5 minutes and then stop the engine.
10. After making sure that the engine coolant is no longer hot, check the engine coolant level. If the engine coolant level has decreased, replenish with engine coolant up to the "MAX" line of the sub-tank. If the engine coolant level has abnormally decreased, check for engine coolant leaks.
11. Repeat steps 8 through 10 until the engine coolant level is no longer declining.
12. Check the engine coolant level of the sub-tank the next morning. If the engine coolant level has decreased, refill with engine coolant to the "MAX" line.

Cleaning the Radiator and Intercooler



Cooling efficiency is comprised with the adherence of insects and debris or when there is dirt or dust plugging air passages in the radiator core, intercooler core and insect screen. This can also cause corrosion of these cores. Periodically wash the radiator core with tap water. Replace the engine coolant according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule



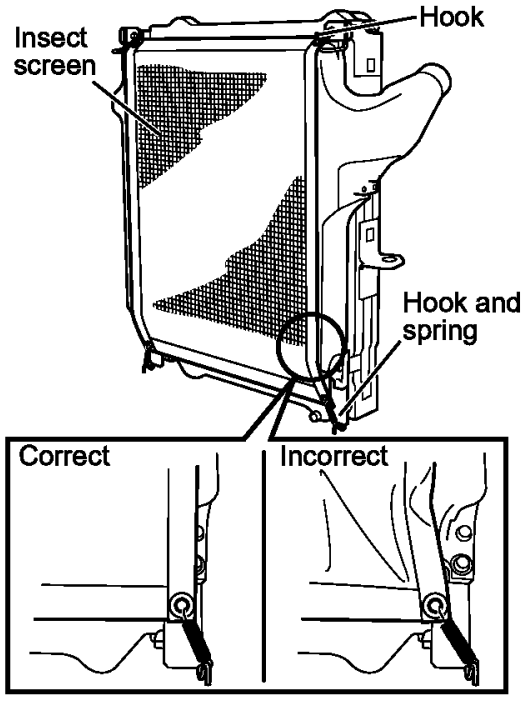
⚠ WARNING

- **Make sure to turn the engine off and remove the key from the starter switch before cleaning cores.**
- **The engine, exhaust pipe and radiator will be hot immediately after the vehicle is driven. Be careful around these parts to prevent burns. Clean the engine when it is cold.**

⚠ CAUTION

- **Do not clean the radiator, intercooler and their surrounding areas using water that is supplied under high pressure. Doing so may cause damage.**
- **When cleaning the radiator core and intercooler core, do not crush or damage the fins.**
- **The fins are very fragile so be careful not to bend them out of shape. If they become deformed, their cooling efficiency will be impaired.**
- **Before cleaning, take steps to ensure that no water will splash onto the surrounding electrical components and wires.**
- **If stubborn dirt still remains even after the radiator core and intercooler core have been cleaned, have the vehicle inspected and serviced at your Isuzu Dealer.**

Cleaning and Inspecting the Insect Screen [V]



Inspection

1. Inspect whether the insect screen is dirty, or whether its mesh has become misaligned. Replace if the screen mesh has become misaligned or broken.
2. If cleaning or replacement is necessary, remove the insect screen.

Removal

1. Remove the springs on the lower side of the insect screen from the hooks on the radiator.

Refer to page
7-17 Tilting Up the Cab

2. Remove the insect screen by detaching it from the hooks on the top of the radiator.

Cleaning

1. Spread the screen and clean it with a soft brush while spraying it with tap water.

2. After cleaning, leave it to dry in a well-ventilated area.
3. Replace the insect screen if dirt still remains even after cleaning.

Installation

Attach the insect screen to the hooks on the top of the radiator and install the springs on the bottom of the insect screen to the hooks on the radiator.

⚠ CAUTION

- **Install the belt of the insect screen so that it does not cover the radiator core or intercooler core.**
- **Replace the insect screen if it is broken.**
- **Be careful not to catch your fingers in the springs or hooks when installing or removing the insect screen.**

ADVICE

- Periodically clean or replace the insect screen.

Refer to page
8-2 Maintenance Schedule

Fan Belt

CAUTION

- **The V ribbed fan belt used in your engine requires the tension be adjusted more accurately than is required with conventional V belts. Inappropriate tension could cause the belt to make noise or break. When the fan belt is damaged, electricity is not properly generated and becomes a cause of overheating. You must check the tension of the fan belt carefully.**
- **To accurately check fan belt tension, use a sonic wave tension gauge, which will show you whether the belt's vibration frequency (representing the belt tension) is as listed below. Ask about the sonic wave tension gauge at your Isuzu Dealer.**
- **Use Isuzu genuine parts when changing the fan belt.**

[Follow this to properly adjust belt tension]

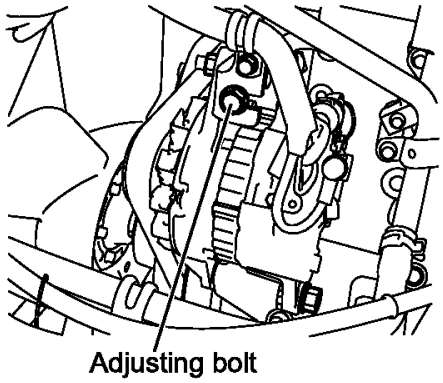
- **Initial stretching takes place in any new belt after installation. Furthermore, an installed new or reused belt should be in good alignment with the pulley grooves. These require the following adjustments to be carried out.**
  - **Align the belt and pulley grooves and adjust the belt tension using the indicated method.**
  - **Start the engine, and let it idle for at least 5 minutes to allow the belt to settle into the pulley grooves.**
  - **Stop the engine. Then measure the belt tension, and if not appropriate, readjust the belt tension to the specified value.**
  - **Use the new belt tension specification only after replacing the belt with a new one.**

Checking the Fan Belt

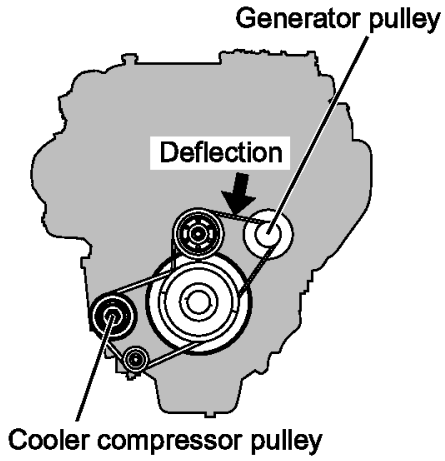
Refer to page
9-11 Checking the Fan Belt

Adjustment and Replacement

Adjustments



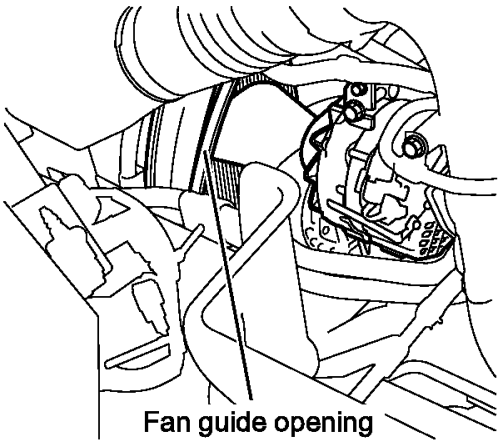
1. Loosen the mounting bolts and nuts at the top and bottom of the generator.
2. Turn the adjusting bolt until the belt tension is within the standard value range.
3. After adjustment, firmly tighten the loosened bolt and nuts.



Check to see if the deflection of the belt is within the standard value when its center part between the generator pulley and the idler pulley is pressed with a force of approx. **98 N** (10.0 kgf/**22 lb**).
When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 2 or 3 times and calculate the average value. The average value must be within the standard value range indicated below. Otherwise, adjust the tension.

Engine model	Fan belt	Standard values	
		Amount of deflection	Vibration frequency
With 60A generator	New belt	6 - 7 mm (0.24 - 0.28 in)	176 - 200 Hz
	When reused	8 - 9 mm (0.31 - 0.35 in)	151 - 163 Hz
With 90A generator	New belt	6 - 7 mm (0.24 - 0.28 in)	174 - 194 Hz
	When reused	8 - 9 mm (0.31 - 0.35 in)	148 - 160 Hz

Replacement



1. Remove the air conditioning compressor belt.
2. Loosen the mounting bolts and nuts at the top and bottom of the generator, and remove the belt from the pulleys.
3. Take out the belt through the opening in the fan guide.
4. Install the new belts, and adjust their tension.

Air Conditioning Compressor Belt [V]

Looseness in the air conditioning compressor belt can result in poor cooling performance. It is important to inspect belt tension to ensure proper cab interior cooling.

⚠ CAUTION

- **When the belt tension is not at a suitable level, belt screeching or breakage can occur.**
- **In order to accurately measure the belt tension, it will be necessary to use a sonic tension meter to confirm whether the vibration frequency is as set out below. For more information on sonic tension meters, please contact your Isuzu Dealer.**

[Follow this to properly adjust belt tension]

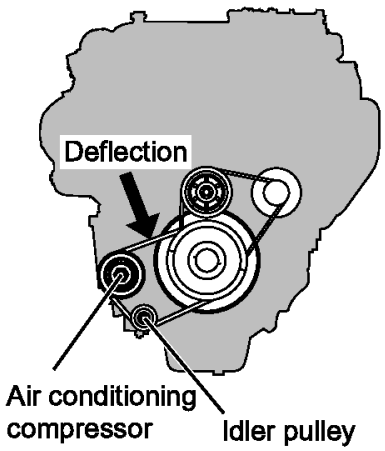
- **Initial stretching takes place in any new belt after installation. Furthermore, an installed new or reused belt should be in good alignment with the pulley grooves. These require the following adjustments to be carried out.**
  - **Perform belt-pulley alignment and tension adjustments using the indicated method.**
  - **Start up the engine and allow it to idle for at least 5 minutes in order to run-in the belt.**
  - **Stop the engine. Then measure the belt tension, and if not appropriate, readjust the belt tension to the specified value.**

Checking the Air Conditioning Compressor Belt Tension

Check to see if the deflection of the belt is within the standard value range when the point mid-way between the pulleys is pressed with a force of approximately **98 N** (10.0 kgf/**22 lb**).
When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 2 or 3 times and calculate the average value. The average value must be within the standard value range indicated below. Otherwise, adjust the tension.

	Standard value [amount of deflection]	Standard value [vibration frequency]
New belt	11 - 15 mm (0.43 - 0.59 in)	104 - 126 Hz
When reused	15 - 17 mm (0.59 - 0.67 in)	89 - 103 Hz

Adjusting the Air Conditioning Compressor Belt



1. Loosen the lock nut of the idler pulley.
2. Adjust the belt tension with the adjusting bolt.
3. After adjustment, tighten the lock nut securely.

Tightening torque
31 - 47 N·m (3.2 - 4.8 kgf·m/**23 - 35 lb·ft**)

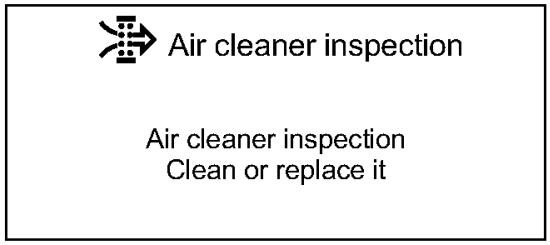
Air Cleaner

A fouled air cleaner results in reduced engine power, and increased exhaust emissions (black smoke) and fuel consumption.
Change the air cleaner element in accordance with the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule

Air Cleaner Warnings/Indicators

Air Cleaner Warning Light



This message appears on the multi-information display when the next air cleaner element service interval is near.
Clean or replace the air cleaner element.

Refer to page
10-30 Cleaning and Changing the Air Cleaner Element

Checking the Air Cleaner

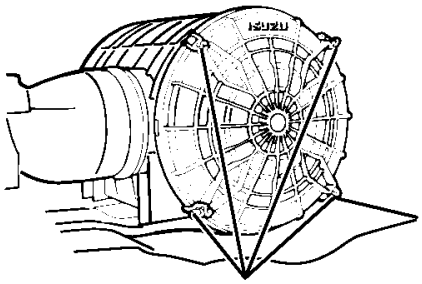
Remove the air cleaner element and check to see if it is blocked by dirt.

Refer to page
10-30 Cleaning and Changing the Air Cleaner Element

Cleaning and Changing the Air Cleaner Element

⚠ CAUTION

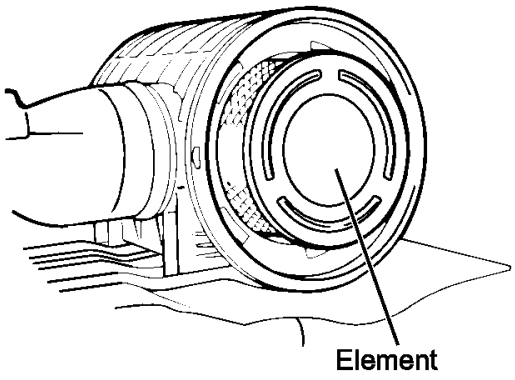
- **Replace the air cleaner element after cleaning it six times or according to the Maintenance Schedule.**
- **It is always advisable to use Isuzu genuine elements for replacement. Otherwise its filtering efficiency will be lost and the engine will be damaged.**
- **An inner element is installed in order to prevent dust from entering the clean side of the air cleaner when cleaning the outer element. Do not attempt to remove (and clean for reuse) the inner element.**
- **Replace the inner element when replacing the outer element.**
- **Replace damaged elements immediately.**
- **Turn the engine off when removing the elements.**
- **Remove the elements in a clean area that has an atmosphere without dust.**
- **Prevent dust from entering the air cleaner body.**



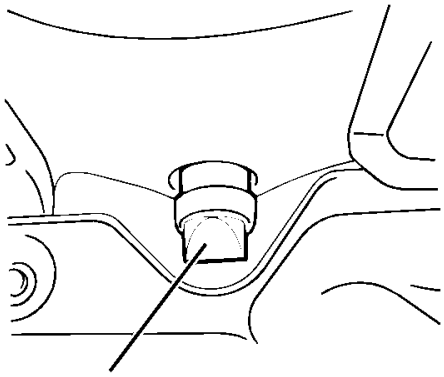
1. Tilt the cab.

Refer to page
7-17 Tilting Up the Cab

2. Release the clips fixing the air cleaner cover, and remove the cover.

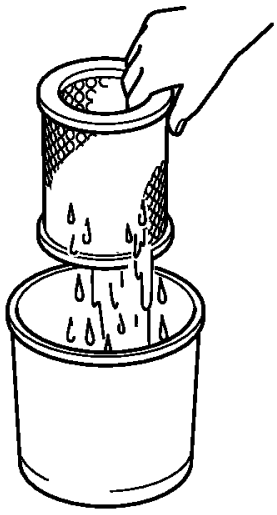


3. Remove the air cleaner element.
4. Remove the dirt that has accumulated on the air cleaner cover and the air cleaner body.



5. Clean the drain valve at the bottom of the air cleaner.





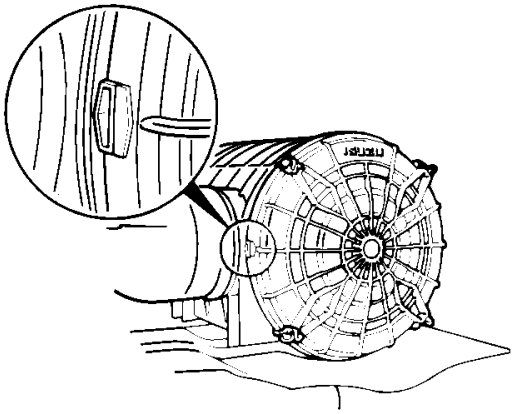
6. Clean the air cleaner element.
   Choose one of the following cleaning methods depending on how the element has become dirty.

   1) When dry dust has adhered to the element
   - While turning the element, blow compressed air from the inside at no more than **690 kPa** (7.0 kgf/cm²/**100 psi**) in order to remove any dust.
   - Check to see if the element has become damaged or become thin in spots.

   2) When the element has become blackened by oily smoke or soot
   - Soak the element in a mixture of water and neutral detergent for about 20 minutes.
   - Rinse the element off well in clean water.
   - After cleaning, let the element dry naturally in a well-ventilated location.

ADVICE

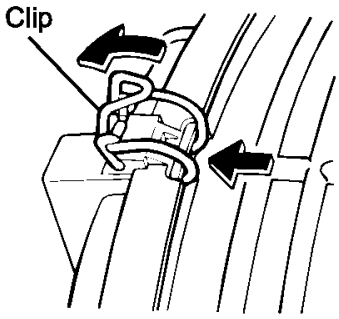
- Do not hit or strike the element, as this might damage it.
- Air drying will take 2 or 3 days. We recommend using a spare genuine element.

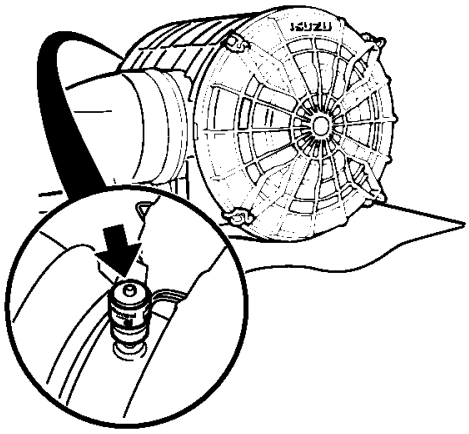


7. Install the element.
8. Install the air cleaner cover, and securely lock the clips.

ADVICE

- Install the cover with its "ISUZU" mark facing upward and with the notches at both sides aligned with those on the case.





9. After cleaning the element, push the button at the end of the indicator to reset the signal.

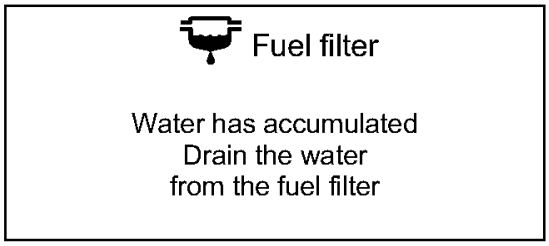
Fuel Filter

Fuel filters can remove dusts or water contents in fuels.
Change the engine-side main fuel filter and the vehicle-side pre-fuel filter in accordance with the Maintenance Schedule. Drain the water from the fuel filter when the water separator (fuel filter) warning message is displayed.

Refer to page
8-2 Maintenance Schedule

Fuel Filter Warnings/Indicators

Water Separator (Fuel Filter) Warning



When a certain amount of water has collected in the water separator, this message is displayed on the multi-information display. When this happens, drain the water and make sure that the warning message has gone out.

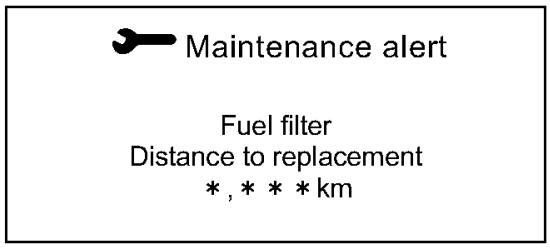
⚠ CAUTION

- **Water remaining that is not discharged from the water separator could freeze and damage the vehicle.**
- **If the warning message is displayed while the engine is in operation, immediately drain the water from the water separator (fuel filter). Continuing to drive with the light remaining on could damage the fuel injection system. If this happens, have the vehicle checked and serviced by the nearest Isuzu Dealer.**

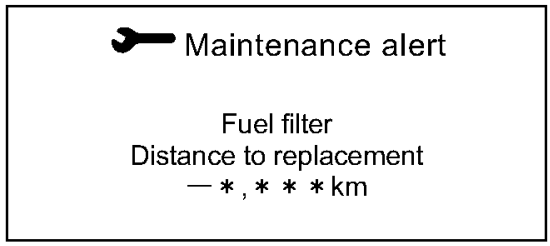
Refer to page
10-34 Draining Water from the Fuel Filter

Fuel Filter Maintenance Alerts

Remaining distance



Excess distance



This message appears on the multi-information display when the next replacement interval for the fuel filter is near, and the distance remaining until the replacement timing or the distance exceeded after the replacement timing is displayed. When the time for maintenance is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

NOTE

- Checking and setting the maintenance period can be done from the "Maintenance alert" on the multi-information display.

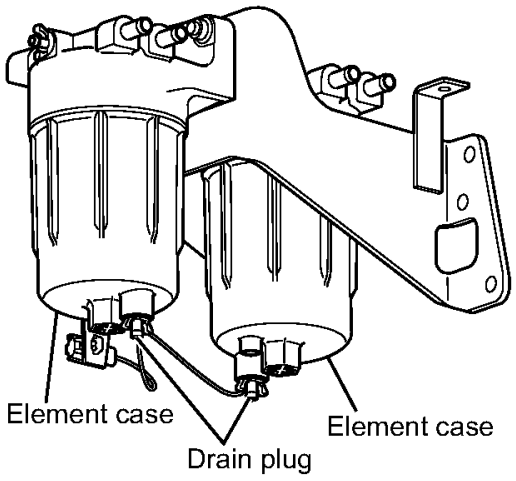
Refer to page
3-43 Maintenance Alert
10-35 Changing the Fuel Filter

Draining Water from the Fuel Filter

CAUTION

- **Clean off any fuel that has adhered to the vehicle body.**
- **Starting the engine immediately after draining the water from the fuel filter requires a little more time than usual. If the engine doesn't start in 10 seconds, wait for a while and try again.**
- **Fuel will be mixed in the drained water. Dispose of it in a method conforming to the regulatory requirements in your country.**

Vehicle-side Pre-fuel Filter

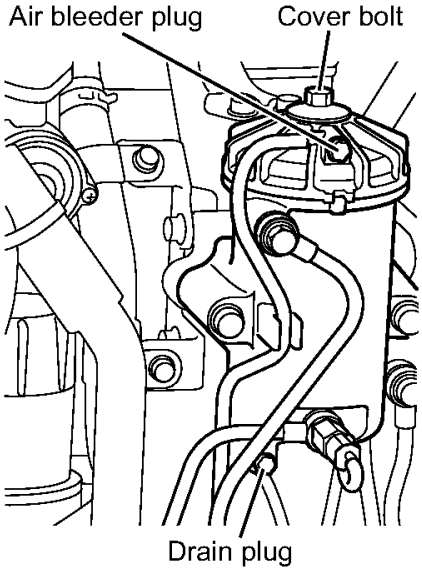


1. Connect one end of a plastic hose to the drain plug at the bottom of the vehicle-side pre-fuel filter and place the other end of the hose inside a container to receive the drained fluid.
2. Loosen the drain plug on the element case at the bottom of the fuel filter to drain out water.
3. Tighten the drain plug once all of the water has drained off. If the amount of water exceeds 0.3 liters (0.08 US gal./ 0.07 Imp gal.), drain the water from the engine-side main fuel filter as well.
4. Check that there are no fuel leaks from the drain plug and that the water separator (fuel filter) warning light stays off after the engine is started.

5. Bleed the fuel system if the large quantities of water and diesel fuel are drained out from the fuel filter.

Refer to page
11-13 Bleeding the Fuel System

Engine-side Main Fuel Filter



1. Loosen the air bleeder plug.
2. Loosen the drain plug to discharge water and sediment from inside the filter.
3. Tighten the drain plug, and then bleed off air in the filter.

Air bleeder plug tightening torque
4.9 - 8.9 N·m (0.5 - 0.9 kgf·m/**43 - 78 lb·in**)

Drain plug tightening torque
4.9 - 8.9 N·m (0.5 - 0.9 kgf·m/**43 - 78 lb·in**)

Refer to page
11-13 Bleeding the Fuel System

Changing the Fuel Filter

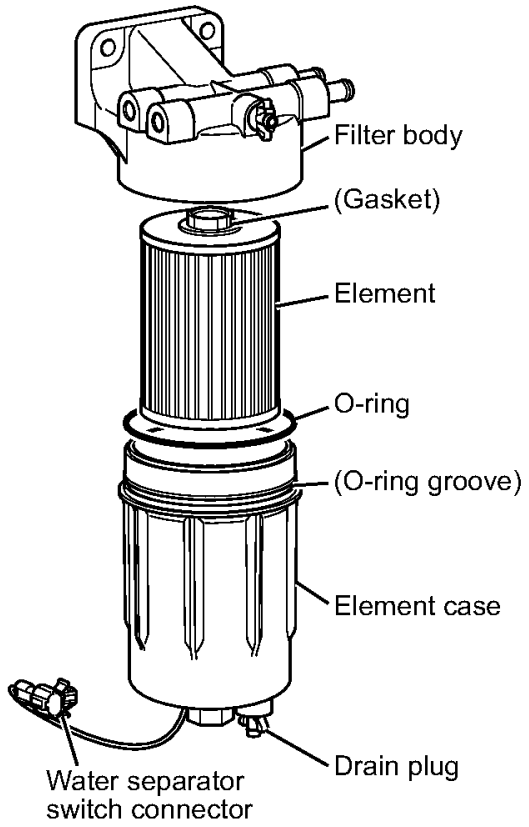
⚠ WARNING

- **When fitting the element case, be careful not to let the O-ring become caught in the screw threads. This could cause a fuel leak and start a fire.**
- **After changing the fuel filter, operate the engine to check that there are no leaks around the filter. Fuel leaks could cause a fire.**

ADVICE

- Be sure to use an Isuzu genuine fuel filter.
- Replace the gasket when replacing the filter.
- Dispose of the replaced filter in a method conforming to the regulatory requirements in your country.

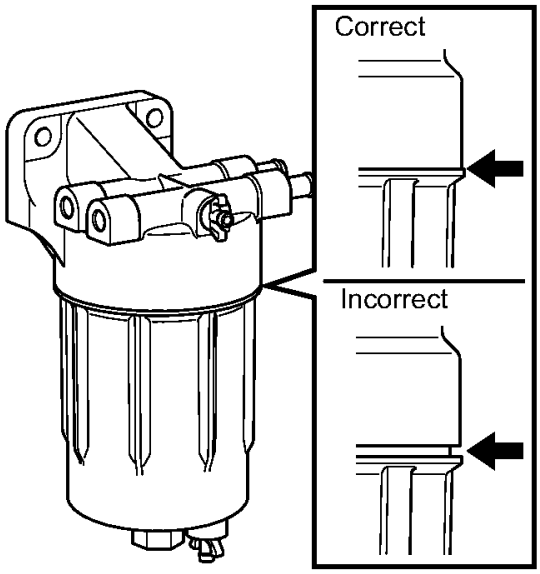
Vehicle-side Pre-fuel Filter



1. Connect one end of a plastic hose to the drain plug at the bottom of the vehicle-side fuel filter and place the other end of the hose inside a container to receive the drained fluid.
2. Pull out the fuel hose connecting the fuel tank and filter body at the fuel tank side.
3. Loosen the drain plug at the bottom of the element case to drain out the fuel from the element case.
4. Tighten the drain plug and disconnect the water separator switch connector.
5. Carefully turn the element case counterclockwise and remove the element case from the filter body.
6. Pull out the filter element downward and remove the O-ring.
7. Attach the new O-ring to the groove in the periphery of the element case, making sure that it is not damaged by the screw threads.
8. After lightly coating the gaskets of the new filter element with diesel fuel, place the element until it touches the filter body.
9. Thinly apply the diesel fuel to the O-ring of the element case, and put approx. 0.8 liter (0.21 US gal./0.18 Imp gal.) of new fuel in the element case.
10. Install the element case to the filter body by turning it in clockwise direction.

CAUTION

- **Be careful not to spill the fuel.**
- **Be careful not to let the O-ring get caught by the screw.**



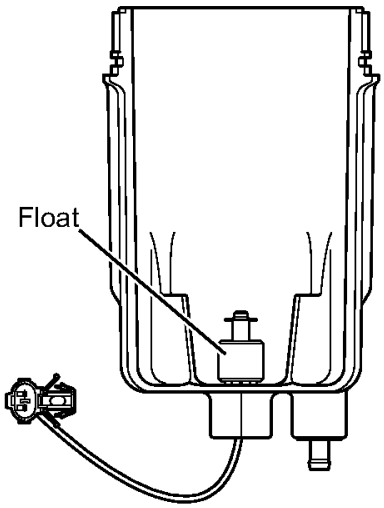
11. Using a filter wrench, install the element case by rotating it further until it touches the filter body.
12. Connect the connector of water separator switch, and put the fuel hose that is disconnected in step 1 back in place.
13. Bleed the fuel system.

Refer to page
11-13 Bleeding the Fuel System

14. After restarting the engine, confirm that there is no fuel leakage from the area around the fuel filter.

CAUTION

- **Since the filter element case is made of plastic, applying clear lacquer or other organic solvents to the case could cause cracks (fuel leakage). Do not apply paint or the like to the case.**



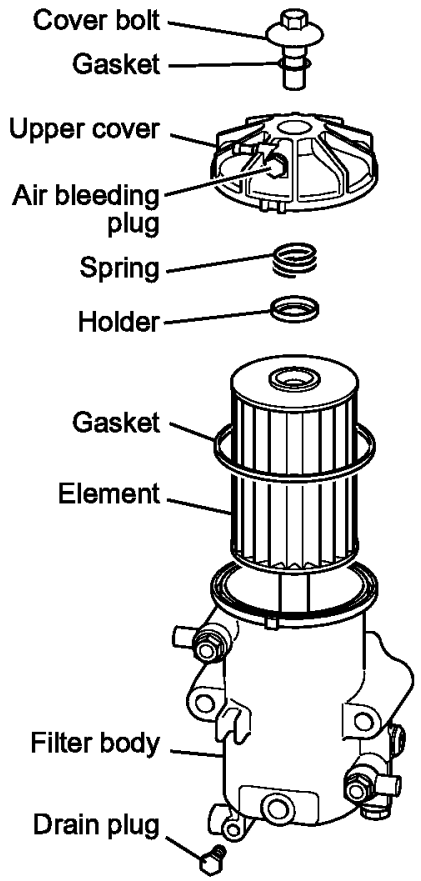
ADVICE

- Clean any foreign matter or dirt from the bottom of the filter element case and check that the float moves freely and smoothly.
- Use only an Isuzu genuine fuel filter.
- Replace the O-ring when replacing the filter.
- Dispose of the replaced filter in compliance with the regulatory requirements in your country.

WARNING

- **After changing the fuel filter, operate the engine to check that there are no leaks around the filter. Fuel leaks could cause a fire.**

Engine-side Main Fuel Filter



1. Discharge water and sediment from inside the filter according to "Draining Water from the Fuel Filter".

Refer to page
10-35 Engine-side Main Fuel Filter

2. Loosen the cover bolt, remove the upper cover, and remove the element.

ADVICE

- Drained element must be disposed of in a method conforming to the regulatory requirements in your country.

3. Clean the inside of the filter body, and install a new element.
   Replace the gaskets as well.
4. Tighten the cover bolt and the drain plug, and then bleed off air in the filter.

Cover bolt tightening torque
24.5 - 34.3 N·m (2.5 - 3.5 kgf·m/**18 - 25 lb·ft**)

Air bleeder plug tightening torque
4.9 - 8.9 N·m (0.5 - 0.9 kgf·m/**43 - 78 lb·in**)

Drain plug tightening torque
4.9 - 8.9 N·m (0.5 - 0.9 kgf·m/**43 - 78 lb·in**)

ADVICE

- Do not tighten the bolts excessively.
  Doing so may damage the gasket, resulting in leakage of fuel, which may cause a fire.
- After changing the fuel filter, operate the engine to check that there are no leaks around the filter. Fuel leaks could cause a fire.
- It is strongly advisable to use Isuzu genuine fuel filter element kit for replacement.

Refer to page
11-13 Bleeding the Fuel System

Diesel Particulate Defuser (DPD)

The DPD purifies particulate matter (PM) in exhaust gases. To maintain the performance of the DPD, it must be inspected and cleaned regularly. This is because ash accumulates inside the filter, which is different from the PM that can be removed by combustion.

Refer to page
8-2 Maintenance Schedule

Checking and Cleaning the DPD

Have the exhaust pressure check performed at your Isuzu Dealer in accordance with the Maintenance Schedule. The filter may need cleaning depending on the results of the check. If you cannot do the exhaust pressure check, clean the filter and inspect the exhaust differential pressure sensor rubber hose.

⚠ CAUTION

- **Failure to perform checks or cleaning of the DPD could result in a faulty DPD and engine damage, or poor fuel economy. Ask your Isuzu Dealer about checks and cleaning of the DPD.**

AdBlue® Filter

The AdBlue® filter removes foreign material. It is recommended to use Isuzu genuine filters when replacing.

Refer to page
8-2 Maintenance Schedule

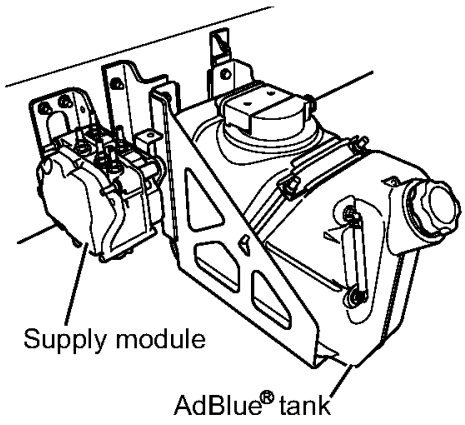
Replacement of AdBlue® Filter

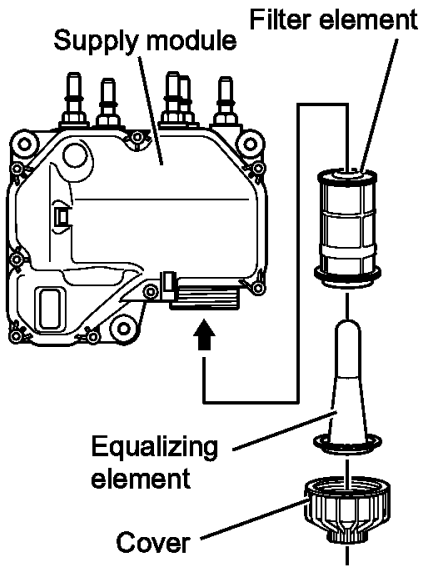
ADVICE

- The urea SCR system continues to operate for approximately 3 minutes even after the starter switch is set to the "LOCK" position. Wait for 3 minutes or more before inspecting or making repairs.
- Discharged AdBlue® is not reusable. Reuse may result in failure of the urea SCR system.
- When disposing of discharged AdBlue®, comply with regulations.
- Do not clean using highly-pressurized air, but instead wipe with clean cloth. Were foreign material blown by air to intrude into the AdBlue® piping, a failure with the urea SCR system may result.

Refer to page
4-162 Handling of AdBlue®
4-170 Disposing of AdBlue®

How to Replace





1. Set the starter switch to the "LOCK" position and wait for 3 minutes or more until the supply module stops operating.
2. Place a tray under the supply module and loosen the cover. Pull out the filter element and equalizing element together.
3. Mount the new filter element and equalizing element.
4. Close the cover.

Tightening torque for the AdBlue® filter cover
20 - 25 N·m (2.0 - 2.5 kgf·m/**14 - 18 lb·ft**)

NOx Sensor

Have replacement of the NOx sensors performed at your Isuzu Dealer in accordance with the Maintenance Schedule.

Chassis-related Maintenance and Care

Brakes

Checking the Brake Pedal Free Play

Refer to page
9-27 Checking the Brake Pedal Free Play

Checking the Brake Valve Operation

Refer to page
9-28 Checking Brake Valve Operation

Checking Brake Effectiveness

Refer to page
9-28 Checking Brake Effectiveness

Parking Brake

The parking brake acts to lock the wheels to park the vehicle when it is stopped. If there is any abnormality, contact the nearest Isuzu Dealer.

Checking the Parking Brake

Refer to page
9-24 Checking the Parking Brake

Adjusting the Parking Brake

NOTE

- Wheel parking brake requires no adjustments.

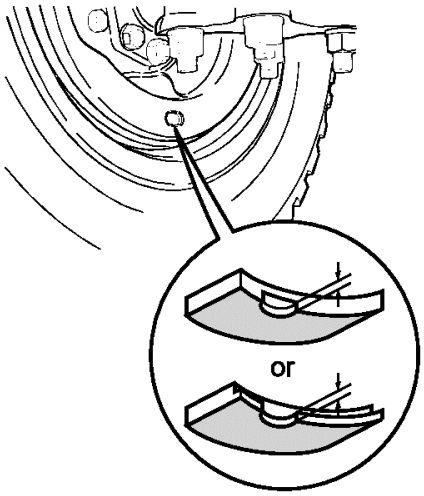
Drum Brakes [V]

The gap between the drum and shoe linings of drum brakes is adjusted automatically. However, if the linings wear out beyond the limit, not only will the brakes' performance deteriorate, but there could also be a brake component failure.

⚠ WARNING

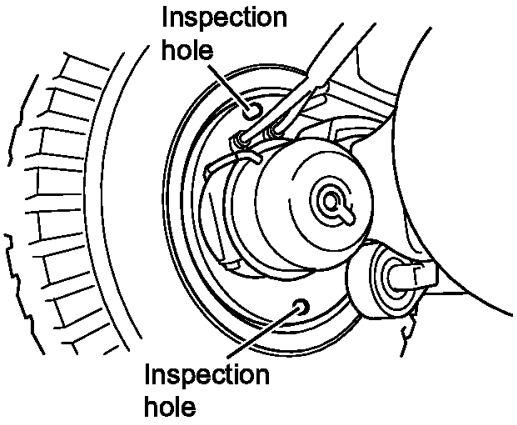
- **Do not drive with brake shoe linings worn out beyond the limit. Excessively worn brake shoe linings may cause breakdown of brake components and poor braking performance. This is very dangerous.**

Checking Brake Shoe Linings for Wear



1. Remove the rubber plug from the inspection hole in the brake dust cover.
2. The notch in the side of the lining is stepped, so check to see if the step still exists. Also check the side surfaces of the lining for cracks, flaking or other damage.
3. The lining must be replaced if the step is lost or there are cracks or flaking on the side surfaces. Have the replacement carried out by the nearest Isuzu Dealer.

Checking the Drum-to-Lining Gap



The gap between the drum and brake linings is adjusted automatically. Periodically check the gap using the following method.

1. Park the vehicle on a level and flat ground surface, prevent the vehicle from moving by applying chocks to the front and back of the wheels, and release the parking brake completely.
2. Remove the rubber plug from the inspection hole in the brake dust cover.
3. Insert a feeler gauge through the inspection hole in between the brake drum and brake lining to check that the gap is up to the specification indicated below.

ADVICE

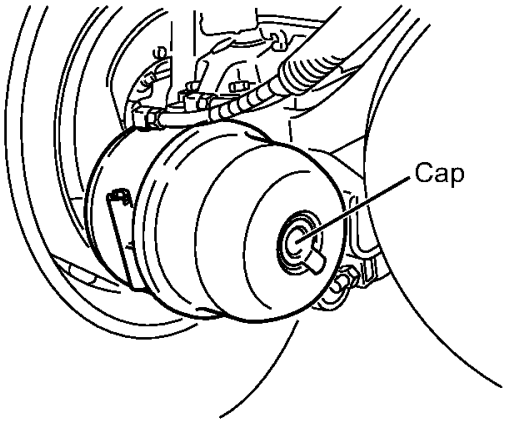
- If the drum-to-lining gap measurement is not as specified, have the brakes inspected by the nearest Isuzu Dealer.

Standard drum-to-lining gap

Gap*	Remarks
Within 1.3 mm (0.051 in)	Brake shoe lining should not drag on the drum.

*: Drum-to-lining gap as measured when the drum temperature is almost equal to the environmental temperature

Checking the Brake Chamber



Check to ensure that the cap of the brake chamber is securely closed.

CAUTION

- **If you do not close the cap, the brake chamber may become damaged due to water ingress.**

Disc Brakes [V]

If the brake pads wear out beyond their usable limit, not only will the brake performance be impaired, but brake components could also fail.

WARNING

- **Do not drive with brake pads worn out beyond the limit. Excessively worn brake pads may cause breakdown of brake components and poor braking performance. This is very dangerous.**

ADVICE

- Your vehicle is equipped with pad wear sensors that will illuminate the brake pad wear warning light when the pads approach their wear limit. If the brake pad wear warning light comes on, contact your nearest Isuzu Dealer to have the pads inspected or replaced.

Brake Pad Maintenance Alerts

Maintenance alert

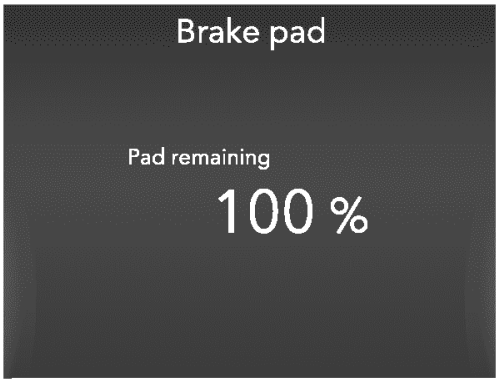
Brake pad
Replace the brake pad
* * * axle

This message appears on the multi-information display when the next replacement for the brake pad is near, and the axle that needs brake pad replacement will be displayed.

When the time for replacement is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

Indication of which axle has worn pads

Model	Front axle	Rear axle
FXR	1st	2nd
FXM/FXZ	1st	Forward rear axle: 2nd Rearward rear axle: 3rd
FYH	Forward front axle : 1st Rearward front axle : 2nd	Forward rear axle : 3rd Rearward rear axle : 4th



ADVICE

- The amount of remaining brake pad can be confirmed from the "Maintenance alert info" on the multi-information display.
- This display shows the amount of remaining brake pad which wear the most.

Refer to page
3-43 Maintenance Alert

Checking Function and Damage of Brake Disc Caliper

1. Apply the parking brake firmly and chock the wheels.
2. Raise the vehicle until the wheel is completely clear of the ground and remove the wheel.
3. Stepping on brake pedal, check that the brake disc calipers are functioning properly.
4. Visually inspect the brake disc calipers and rubber parts for damage, corrosion, deterioration, etc.

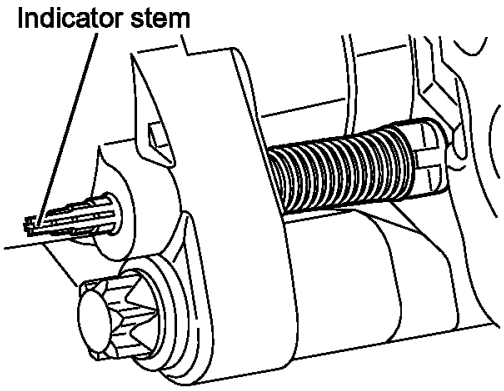
Checking Wear of the Brake Pad

1. Apply the parking brake firmly and chock the wheels.
2. Raise the vehicle until the wheel is completely clear of the ground.
3. Remove the wheel, and measure the thickness of the pad using a gauge or similar device.

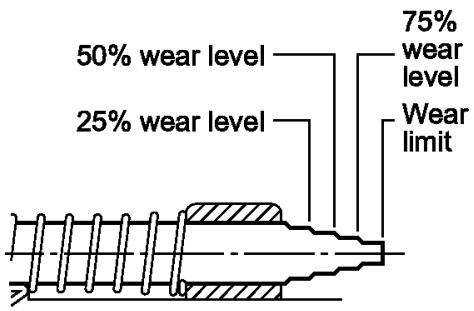
Thickness of brake pad

Standard thickness mm (in)	Wear limit mm (in)
21 (0.83)	2 (0.08)

Simple Inspection Using Pad Wear Indicator



With a new pad, the edge of the indicator stem will extend beyond the edge of the housing.



As the pad wears, the portion of the indicator stem protruding outside the housing will become smaller. The indicator stem has a scale to show how much the pad has worn.

⚠ CAUTION

- **Brake pads must never be replaced individually. Instead, brake pads at both ends of an axle must both be replaced at the same time.**

Checking the Brake Disc

1. Apply the parking brake firmly and chock the wheels.
2. Raise the vehicle until the wheel is completely clear of the ground.
3. Remove the wheel, and visually inspect the brake disc for wear or damage.

Checking the Clearance between Brake Pad and Disc

1. Apply the parking brake firmly and chock the wheels.
2. Raise the vehicle until the wheel is completely clear of the ground, and use a stand to support the frame.
3. Step on the brake pedal several times to stabilize the brake pad, and then turn the wheel by hand and check to see if there is any brake drag.

Wheels and Tires

The wheels have a major influence upon the safety and comfort of driving. Should any wheel fall off the vehicle, it not only causes the vehicle to break down on the road and block other traffic, but it may also lead to a serious accident. We strongly recommend that you check the wheels and tires daily and maintain them in satisfactory condition.

⚠ WARNING

- **If you find anything abnormal with wheel bolts, wheel nuts or disc wheels when you check them, avoid driving the vehicle and contact the nearest Isuzu Dealer as soon as possible.**
- **If you find anything abnormal on the left wheels, check the right wheels carefully for similar defects. A defect on a wheel may be a sign of defects on other wheels.**

Checking Tires

Refer to page
9-12 Checking Tires

Tire Rotation

Tires at different locations wear differently. For uniform tire wear and longer tire life, you should rotate the tires on your vehicle regularly.

CAUTION

- **If differently sized tires are used between the front and rear axles, do not exchange tires between the front and rear axles; otherwise, the tires get loaded beyond their limits. This is highly dangerous because the tires and disc wheels could be break down under an excessive load.**
- **Be sure to check the wheel bolts, wheel nuts and disc wheel for any abnormality whenever the disc wheel is removed.**
- **If you find any abnormal condition on the wheel bolts, wheel nuts or disc wheel, do not continue to use the wheel. Contact the nearest Isuzu Dealer as soon as possible.**
- **Your vehicle may be equipped with special tires whose direction of rotation is specified. A tire of this type has a set of 7 small arrows on the sidewall, showing the direction of rotation for forward movement of the vehicle. When installing the wheel assembly consisting of a tire of this type and a disc wheel, install the assembly so that these arrows point in the direction of rotation when the vehicle moves forward.**

ADVICE

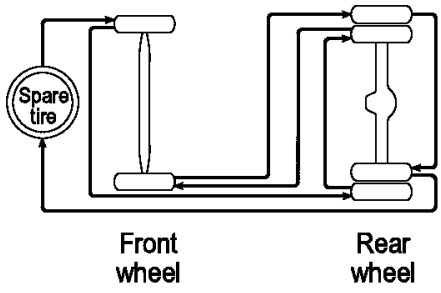
- The tightening torque of the wheel nuts may decrease after a tire change due to their initial settlement. Upon driving 50 to 100 km (31 to 62 miles) after a tire change, retighten the wheel nuts to the specified torques according to the instructions in the "Retightening Wheel Nuts" section in this chapter.

Refer to page
10-60 Retightening Wheel Nuts (ISO 10-bolt Wheels)

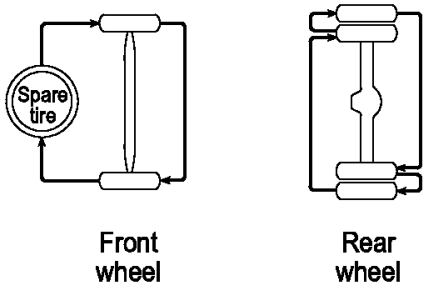
NOTE

- Make sure to use tires of the same type on the same axle. If you install tires of different types on the same axle, the vehicle may drift right or left when you apply the brakes.
- New tires are more likely to build up heat and wear faster than old tires, so they should be installed on the front axle where the load is smaller.

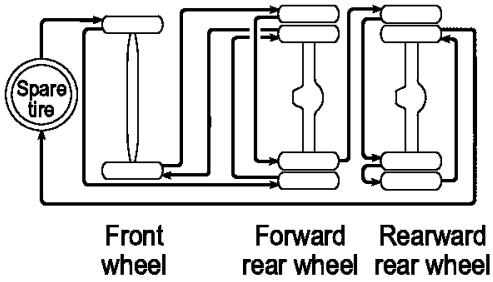
FXR model



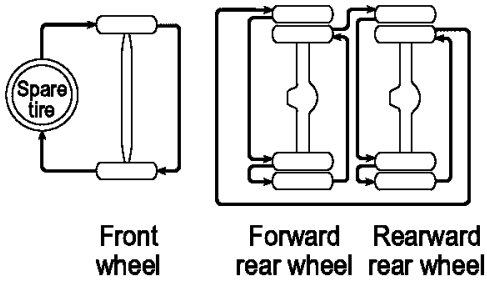
FXR model (different size tires or tread patterns on both front and rear axles)



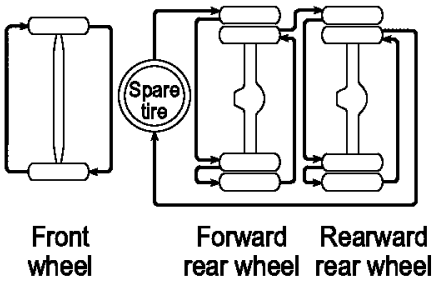
FXZ model



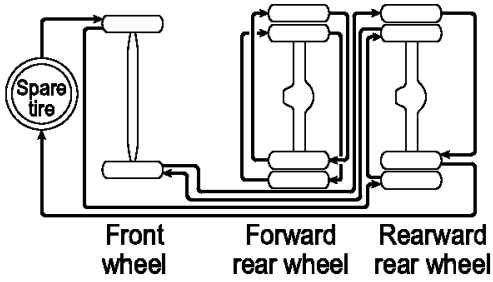
FXZ model (different size tires or tread patterns on both front and rear axles)



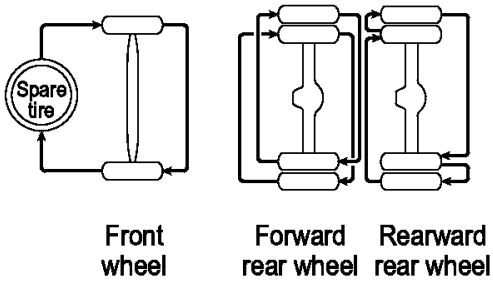
FXZ model (different size tires or tread patterns on both front and rear axles)



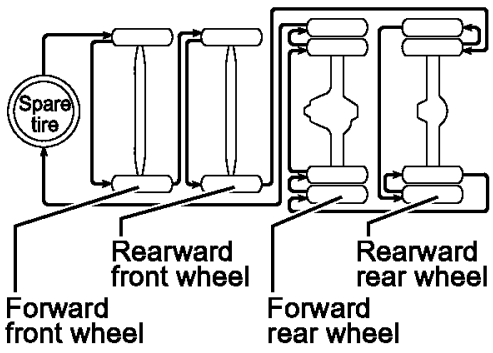
FXM model



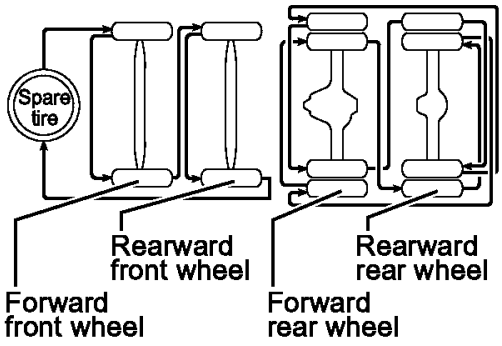
FXM model (different size tires or tread patterns on both front and rear axles)



FYH model



FYH model (different size tires or tread patterns on both front and rear axles)



Dual Tire Operation

NOTE

- If there is a difference in diameter between the inner and outer tires of a dual-tire wheel, install the smaller diameter tire inside.
- The difference in diameter of the tires for a dual-tire wheel should be within the limit specified in the table below. If the limit is exceeded, the tires wear more rapidly than they should.

Permissible diameter difference	
Radial tire	Within 8 mm (0.31 in)

Tire Rotation Maintenance Alerts

Distance remaining

Maintenance alert

Tire rotation
Distance to replacement
＊,＊＊＊km

Distance exceeded

Maintenance alert

Tire rotation
Distance to replacement
－＊,＊＊＊km

This message appears on the multi-information display when the next tire rotation is near, and the distance remaining until the tire rotation timing or the distance exceeded after the tire rotation timing is displayed.
When the time for maintenance is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

NOTE

- Checking and setting the maintenance period can be done from the "Maintenance alert" on the multi-information display.

Refer to page
3-43 Maintenance Alert
10-50 Tire Rotation

Changing the Wheels and Tires (ISO 10-bolt Wheels)

When changing a tire, select a flat, solid surface. For proper use of the jack, refer to "Handling the Jack".
When replacing steel wheels, aluminum wheels, wheel bolts, or wheel nuts, use of Isuzu genuine parts is recommended.

Refer to page
7-7 Handling the Jack

Changing Aluminum Wheels to Steel Wheels and Vice Versa [V]

Steel wheels and aluminum wheels need their specific wheel bolts for installation. For both dedicated wheel bolts for steel wheels and aluminum wheels, they are distinguished for use on rear wheels.
When changing aluminum wheels to steel wheels or vice versa, replace wheel bolts with those designed exclusively for the specific wheel type.
Replacement of the wheel bolts requires disassembly work, so contact the nearest Isuzu Dealer.

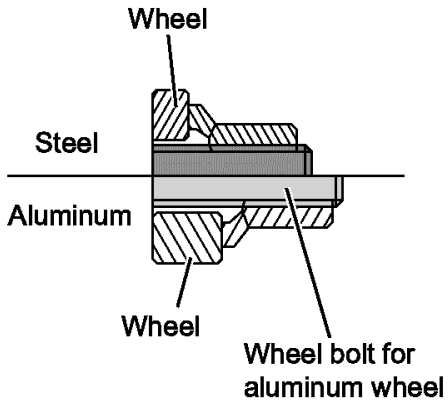
⚠ WARNING

- **If incorrect wheel bolts are used, poor fastening can result from damages on the threads of wheel bolts or wheel nuts caused by inadequate seating and poor screw engagement due to the inappropriate length of bolts, which may cause a wheel detachment accident.**
- **Do not use wheel bolts for steel wheel on an aluminum wheel, and also do not use wheel bolts for front wheel on a rear wheel.**
- **Avoid mixed use of steel wheels and aluminum wheels.**
- **Do not use a disc wheel which had been used on another vehicle and has groove-like stepped wear on its mating surface with the hub, which may cause loosening in the wheel nuts.**

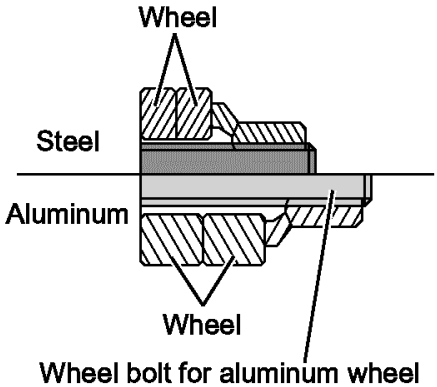
Wheel	Changing steel wheel to aluminum wheel	Changing aluminum wheel to steel wheel	When temporarily installing steel wheels on a vehicle with aluminum wheel spec. *
Front Rear	Change wheel bolts to those for aluminum wheel (wheel nuts are used in common)	Change wheel bolts to those for steel wheel (wheel nuts are used in common)	Install steel wheels on the existing wheel bolts for aluminum wheel (wheel nuts are used in common)

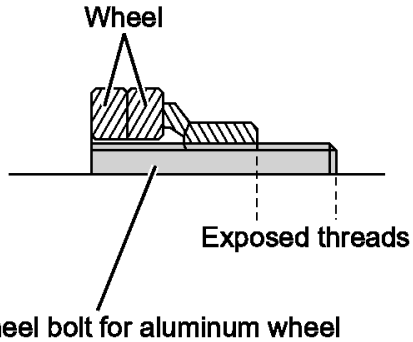
*: The threaded portion on the wheel bolt sticks out more from the wheel nut than usual. Apply grease or take some other preventive action on the sticking-out portion to protect the threaded portion from rusting.

Example: Front wheel (models except for Australia)



Example: Rear wheel (dual-tire wheel)





(When temporarily installing steel wheels on a vehicle with aluminum wheel spec.)

ADVICE

- When temporarily installing steel wheels on wheel bolts for aluminum wheel during winter or other occasions, apply grease or take some other preventive action on the sticking-out portion (exposed threaded portion) of the wheel bolt to protect the threaded portion from rusting.
- When installing the aluminum wheels again, do not retighten the bolt with its threaded portion left as rusted.

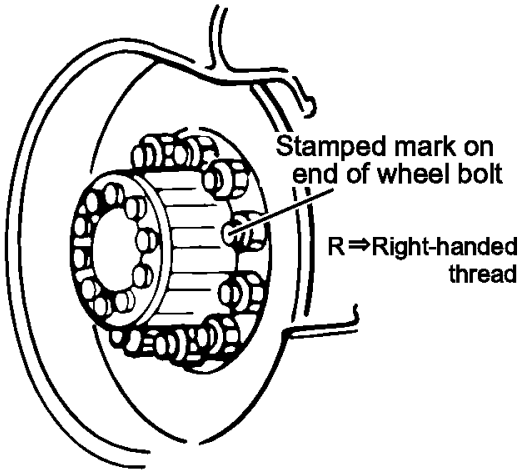
Removing a Wheel

WARNING

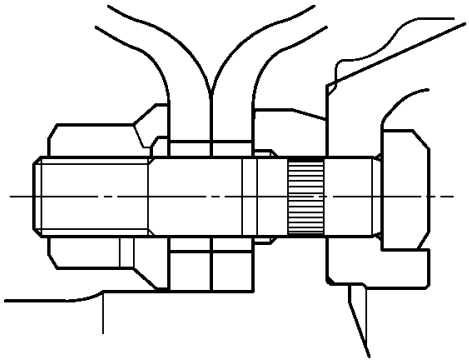
- **Always apply the parking brake fully and correctly chock the wheels before jacking up the vehicle. Applying only the parking brake is insufficient to prevent the vehicle from moving. When a rear wheel is jacked up, the vehicle blocked only by the parking brake could move, creating a very dangerous situation.**
- **Never open doors or start the engine while jacking up the vehicle. Do not try to look into the underside of the vehicle or get beneath the vehicle. This is very dangerous.**
- **To avoid danger in case of the jack slipping off, place the removed spare tire near the jack under the vehicle.**

CAUTION

- **The wheel is heavy. Carefully handle it to avoid getting hurt when removing and installing the wheel.**
- **Do not touch the exhaust pipe just after stopping the vehicle; it is very hot.**



1. Firmly apply the parking brake. When changing a front wheel, chock the rear wheel diagonally opposite to the front wheel. When changing a rear wheel, chock the front wheel diagonally opposite to the rear wheel.
2. Firmly apply the head of the jack to the jacking point.
3. Raise the vehicle enough so that the tire is not quite clear of the ground.



The bolt shape illustrated above is an example. Depending on vehicle specifications bolt shapes will differ.
The two disc wheels are tightened with one rear nut, so be sure to jack up both of the dual tires.

4. Using a wheel wrench, loosen the wheel nuts just enough so that the wheel remains stable in position. Do not remove the wheel nuts yet.

⚠ CAUTION

- **Both the left and right wheels have right-handed threads.**
- **Do not loosen the wheel nuts too much. The wheel bolts would be damaged.**
- **If your vehicle is equipped with an anti-lock brake system (ABS), use a tire of the specified size and the same tread pattern as the one to be replaced.**

5. Jack up the vehicle so that the tire is clear of the ground completely.
6. Remove all of the loosened wheel nuts, remove the outer tire, and then remove the inner tire.
   When removing the tire, take care not to damage the threads of the wheel bolts and the disc wheel mounting face of the hub.

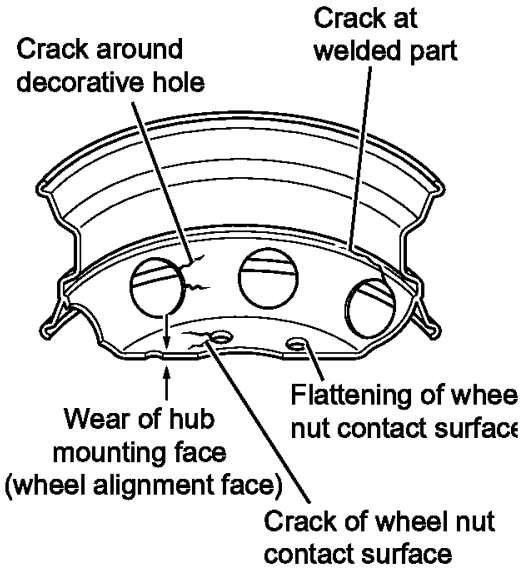
Installing a Wheel

⚠ WARNING

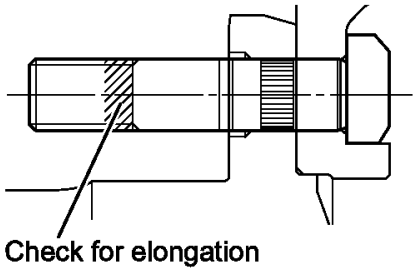
- **A disc wheel, wheel bolts or wheel nuts in any abnormal condition could break later, causing the wheel to be detached from the vehicle while driving.**
- **Do not repaint any mating surfaces, wheel nut seating surfaces, hub fitting surface of the disc wheel or dual-tires contact surface. Thick paint films would cause loosened or broken wheel bolts.**

⚠ CAUTION

- **Change wheels only when the tires are clear of the ground. Otherwise, the wheel will be installed improperly and the operation of the vehicle will be affected adversely.**
- **Remove mud and rust from the hub fitting surface or wheel-to-wheel mating surfaces. Otherwise, the wheel might become loose while driving.**
- **When replacing wheels, be sure to remove and install them with their air valve down.**

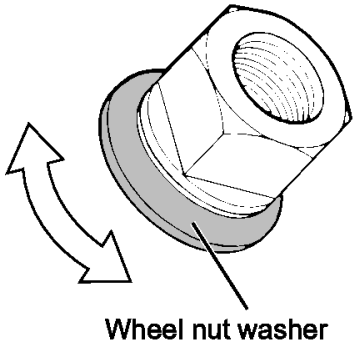


1. Check the disc wheel for the following:
   - Cracks or other damage around the bolt holes and decorative holes.
   - Cracks or other damage or deformation on the wheel nut contact surfaces (tapered surfaces).
   - Cracks or other damage on welds.
   - Wear or other damage on the hub fitting surface or wheel-to-wheel mating surface.



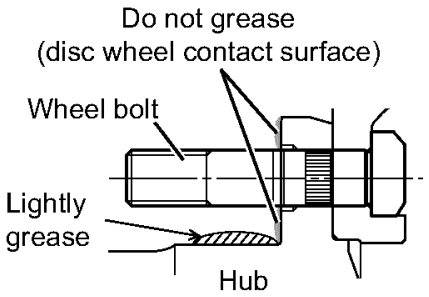
2. Check the wheel bolts and wheel nuts for the following:
   - Cracks or other damage.
   - Check to see if the bolt is elongated. The standard for the bolt diameter is 22 mm (0.87 in). If the actual diameter of the bolt is 21.5 mm (0.85 in) or less, replace the bolt. Also, check to see if there is any noticeable rust

   Replacement of the wheel bolts involves disassembly work, so ask the nearest Isuzu Dealer to do this.
   - Check to see if the washer rotates smoothly. If it doesn't, replace it.

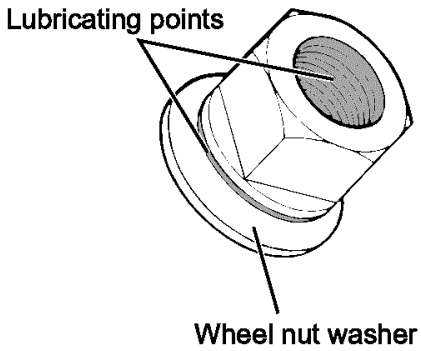


3. Remove rust, dust and mud from the fitting surface, hub fitting surface or wheel-to-wheel mating surfaces, and wheel nut seating surfaces (tapered surfaces) of the disc wheel, and from the threads of the wheel bolts and nuts.

4. If there is rust on the hub and the stepped section of the disc wheel (unpainted), remove the rust and apply a light coat of grease.



The bolt shape illustrated above is an example. Depending on vehicle specifications bolt shapes will differ.



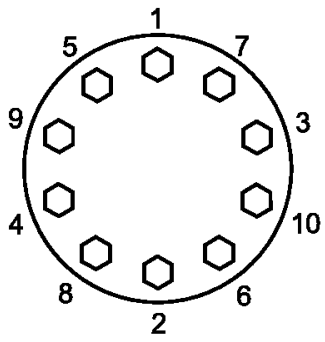
5. Lubricate the threads of the wheel nut.
   - Apply lubricant via the clearance between the nut and the washer. (This is not necessary for a new nut and washer.)
   - Lubricate the threads of the nut.

Lubricants used
Engine oil, gear oil, power steering fluid

⚠ CAUTION

- **Remove rust and dirt from a wheel bolt and nut, lightly lubricate the threads with engine oil, gear oil or power steering fluid and turn the nut on the bolt. If the nut does not turn smoothly, the threads are defective.**
- **If the threads are defective, replace both wheel bolt and wheel nut as a set.**
- **If any wheel bolt is broken, change all the wheel bolts and wheel nuts on the wheel.**
- **When using an impact wrench, carefully adjust the air pressure regulator and select the tightening time. As a final step, tighten to the specified torque using a torque wrench.**
- **Clean the disc wheel to remove dirt and rust from its fitting surfaces, hub fitting surface, wheel-to-wheel mating surface and nut contact face. If you fasten the wheel nuts without removing dirt and rust, the wheel nuts may later loosen and the wheel might fall off the vehicle while you are driving. This could be very dangerous.**
- **Do not use oils that contain molybdenum disulfide. When tightened to the same torque, the bolts and nuts coated with these oils produce a grip force much greater than those coated with other oils. Too large of a grip force could cause wheel bolts to break.**
- **Do not apply oil or grease to the disc wheel contact surface on the hub and to the contact surfaces between the disc wheel and the washer. This may reduce the tightening force and cause the tire to become loose.**
- **Some impact wrenches available on the market produce a torque higher than the maximum torque specified for tightening the wheel nuts. If the wheel nuts are tightened with such an impact wrench, wheel bolts might be broken. Before using an impact wrench, check that the torque it produces conforms to the specification.**

Wheel nut tightening sequence



6. When installing the rear wheels, place the outer wheel so that its tire air valve will be away from that of the inner wheel to enable inflating both inner and outer tires.
7. Install the wheel nuts, and tighten them to the extent that the tires do not wobble about.
8. Turn the release valve of the jack counterclockwise and slowly lower the vehicle.
9. Tighten the wheel nuts in a diagonal sequence and in two or three passes.

10. Finally, tighten all wheel nuts using a torque wrench to the specified torque.

Wheel nut tightening torque
550 - 600 N·m (55 - 60 kgf·m/**398 - 434 lb·ft**) (wet)

ADVICE

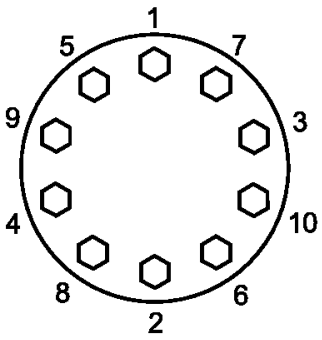
- After changing a tire, turn the steering wheel in both directions to make sure that the wheels do not interfere with the surrounding components. If you are unclear about any of this, please contact the nearest Isuzu Dealer.
- The tightening torque of the wheel nuts may decrease after tire replacement due to their initial settlement. After driving 50 to 100 km (31 to 62 miles), be sure to retighten the wheel nuts to the specified torque.

Refer to page
10-60 Retightening Wheel Nuts (ISO 10-bolt Wheels)

Retightening Wheel Nuts (ISO 10-bolt Wheels)

Check the wheel nuts to make sure they are tightened to the specific torque by using a torque wrench.
Use the following methods to check loose wheel nuts. The tightening torque of the wheel nuts may decrease after a tire change or rotation due to their initial settlement. After driving 50 to 100 km (31 to 62 miles), be sure to retighten the wheel nuts to the specified torque.

Wheel nut tightening sequence



Tighten the wheel nuts in a diagonal sequence to the specified torque.

Wheel nut tightening torque
550 - 600 N·m (55 - 60 kgf·m/**398 - 434 lb·ft**) (wet)

WARNING

- **If you find any abnormal conditions with the wheel nuts such as frequent loosening of retightened nuts, have your vehicle checked or serviced at the nearest Isuzu Dealer as soon as possible.**

⚠ CAUTION

- **The wheel bolts of both the left and right wheels have right-handed threads.**
- **Fully engage the wheel nut wrench on a wheel nut in order to tighten the nut to the specified torque. However, do not use a pipe as a handle extension or your foot to apply force on the wrench. This would tighten the nut more than required and might damage components.**
- **Both under-tightening and over-tightening wheel nuts may cause broken wheel bolts or cracked disc wheels and could lead to wheel detachment. Adhere to the specified tightening torques.**
- **When replacing a tire with a new one, use only a tire of the same type and size as the replaced tire; otherwise, driving safety could be affected. Avoid mixed use of different types or different size tires at all costs.**

Spare Tire [V]

The spare tire is used when one of the tires cannot be used or for tire rotation.

⚠ WARNING

- **If the chain twisted when it is wound, it becomes loose while running due to vibrations or shocks and the tire might fall off; this is very dangerous.**
- **After storing the tire in the carrier, check that the tire is held firmly. If loosely retained, the tire becomes loose while running due to vibrations or shocks and the tire might fall off; this is very dangerous.**

Removing and Installing the Spare Tire

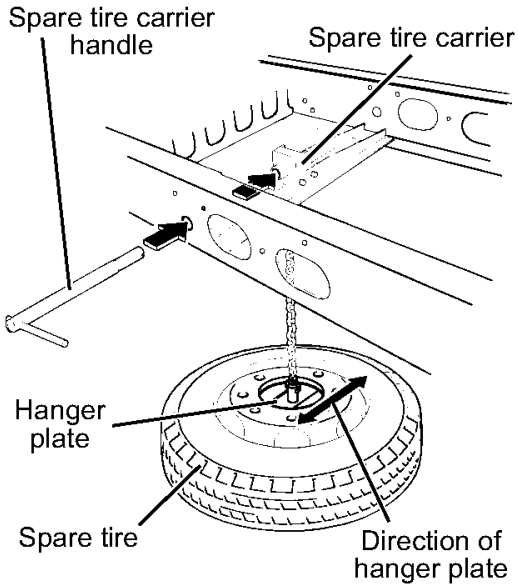
⚠ CAUTION

- **Use the spare tire carrier handle that came equipped with your vehicle when you remove and store the spare tire. If you use other tools, they may damage the spare tire carrier.**

Removal

Insert the handle in the spare tire carrier and turn the handle counterclockwise to lower the spare tire.

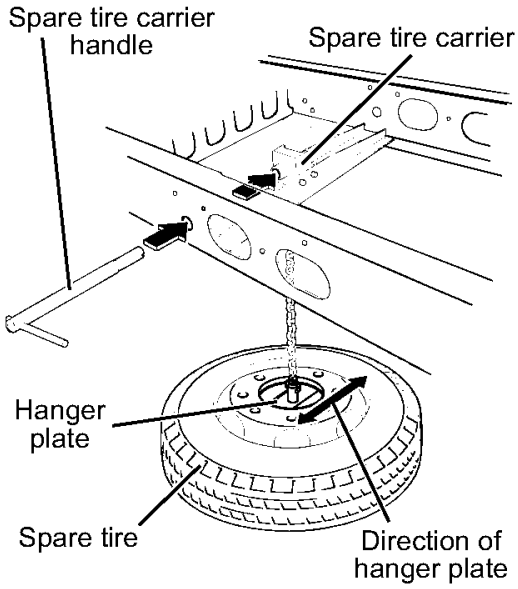
Spare tire carrier – under rear part of frame



Storage

1. Place the tire with the convex side of the disc wheel facing up and then fit the hanger plate inside the disc wheel with its claws properly engaged.
2. Check that the chain is not twisted.
3. Insert the spare tire carrier handle into the carrier and turn the handle clockwise to wind up the chain. Do not twist the chain while winding it up. The hanger plate should be at right angles with the carrier when the spare tire reaches the storage position.

Spare tire carrier – under rear part of frame



4. After fully winding up the chain, exert a force on the handle of more than **294 N** (30 kgf/**66 lb**) to firmly lock the tire. Pull the spare tire carrier handle from the spare tire carrier without reversing it.
5. After the spare tire is installed, check that it is not loose by strongly pushing it with your foot or other body parts. If the tire is loose, fasten it again after checking that there are no defects in the bracket or hanger plate. If the tire is still loose, contact the nearest Isuzu Dealer before driving the vehicle.

Spare Tire Inspection

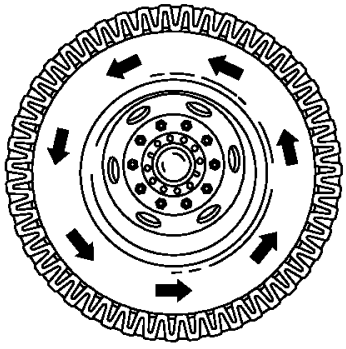
1. Check that the spare tire is not loose by strongly pushing it with your foot or other body parts.
2. If the tire is loose, fasten it again after checking that there are no defects in the bracket or hanger plate. If the tire is still loose, contact the nearest Isuzu Dealer before driving the vehicle.

Checking the Air Pressure of the Spare Tire

Check the air pressure of the spare tire using a tire air pressure gauge at the intervals specified in the Maintenance Schedule.
A spare tire inflated to a normal pressure may lose its pressure gradually over time due to leaks. You should therefore inflate it to a pressure a little higher than the normal over time pressure.

Refer to page
8-2 Maintenance Schedule

Directional Tires [V]

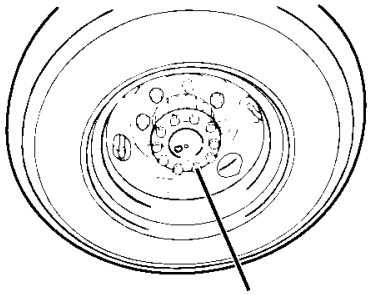


Your vehicle may be equipped with special tires whose direction of rotation is specified. A tire of this type has a set of small arrows on the sidewall, showing the direction of rotation for forward movement of the vehicle. When installing the wheel assembly consisting of a tire of this type and a disc wheel, install the assembly so that these arrows point in the direction of rotation when the vehicle moves forward.

CAUTION

- **Before installing a directional tire, make sure that the arrows point in the direction of rotation when the vehicle moves forward.**
- **Do not exchange wheels between the front and rear wheels.**

Checking Axle Shaft Bolts or Nuts



Axle shaft bolts or nuts

Check to see if any of the axle shaft bolts or nuts on the rear axle are loose.

Tightening torque	
MS11/MT20 type axles	**177 - 255 N·m** (18 - 26 kgf·m/**130 - 188 lb·ft**)

Air Tanks

These tanks store the compressed air needed to operate the brakes and air suspension. Water accumulating in the air tanks can cause equipment operated by air pressure, such as brakes, to malfunction. Be sure to drain any water from the tanks to use the vehicle safely.

Checking Air Tanks

Refer to page
9-21 Checking Air Tanks

Air Dryer

The air dryer acts as a desiccant to remove moisture from inside the air pipes on the vehicle.
Change the desiccant and the filter's rubber parts of the air dryer at the intervals specified by the Maintenance Schedule.
Take care to ensure that the drain port is not blocked or obstructed by foreign material.

Refer to page
8-2 Maintenance Schedule

Checking the Air Dryer

Refer to page
9-22 Checking the Air Dryer

Leaf Spring Suspension [V]

Checking the Leaf Springs

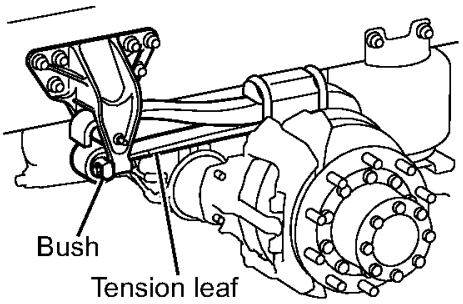
Refer to page
9-16 Checking the Leaf Springs [V]

Air Suspension [V]

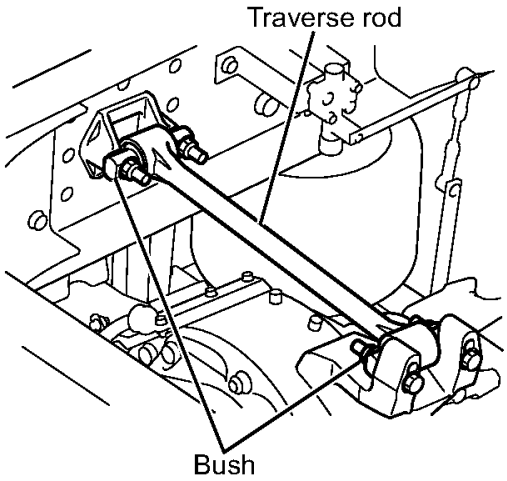
The suspension uses air springs that use air pressure. Scratches or cracks in the air spring bellows or loose or damaged connections can cause cargo to fall over and be damaged, as well as to make the vehicle attitude unstable. If there is any abnormality, contact the nearest Isuzu Dealer.
Check the air spring bellows for cracks, loose installation and connection and damage at the intervals specified by the Maintenance Schedule. Check also the height sensor levers and rods.

Refer to page
8-2 Maintenance Schedule

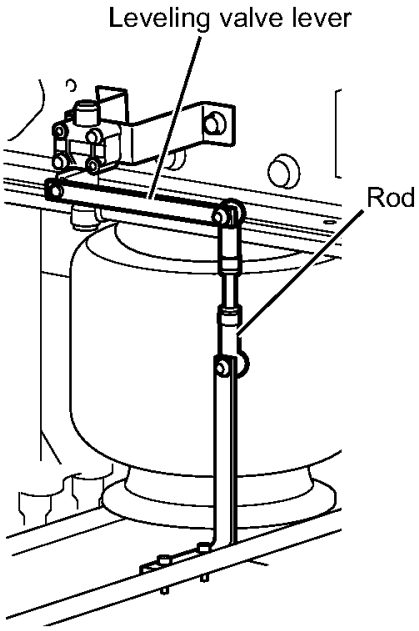
Inspection of Bushings



Inspect the tension leaf and traverse rod bushings for cracks and damage visually. Any abnormality will cause the vehicle to be unstable. Immediately contact the nearest Isuzu Dealer.



Leveling Valve Check



Check the lever and rod of each leveling valve. A lever and rod in any abnormal condition must be replaced with new ones. Have this replacement performed by the nearest Isuzu Dealer.

Checking Air Springs

Refer to page
9-17 Checking Air Springs [V]

Checking for Air Leaks

Check the air piping, air tank and air springs for air leaks.
If air springs get wrinkles on their surfaces, the system may be insufficiently charged with air or leaky.

Checking Vehicle Position

Check if the cargo bed goes down once when it is loaded with cargo and then rises in a few seconds to almost the same height as it was before being loaded with the cargo.

ADVICE

- If the height of the cargo bed fails to return to the empty height, leveling valves and/or air springs may be faulty. Please contact the nearest Isuzu Dealer.
- The air springs may not be able to restore the original vehicle height (vehicle position) if you load the vehicle excessively or in a lopsided manner.

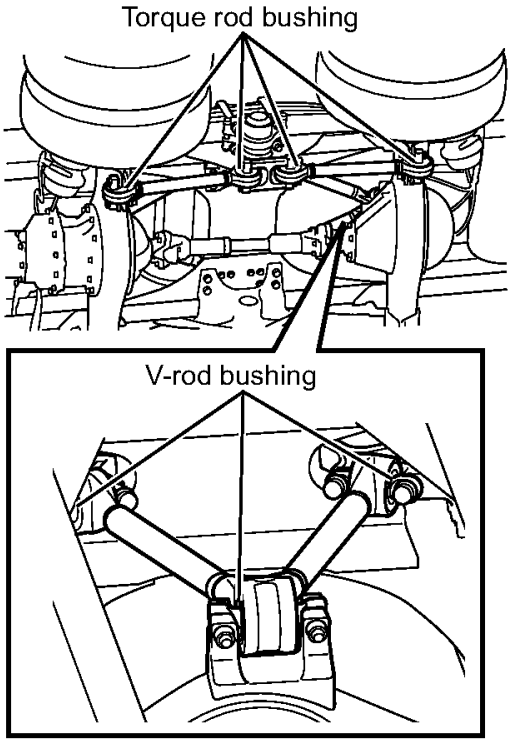
Trunnion Suspension [V]

Rear axle for FXZ/FYH models

Trunnion suspension uses leaf springs. Cracks in the torque rod bushings can cause cargo to fall over and be damaged, as well as to make the vehicle attitude unstable. If there is any abnormality, contact the nearest Isuzu Dealer.

Refer to page
8-2 Maintenance Schedule

Inspection of bushings



Inspect the V-rod and torque rod bushings for cracks and damage visually. Any abnormality will cause the vehicle to be unstable. Immediately contact the nearest Isuzu Dealer.

Clutch [M/T]

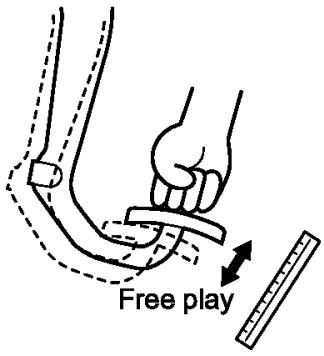
The clutch disc wears down as the clutch is used, and this causes the free play of the clutch pedal to decrease. If you continue to use the clutch with reduced clutch pedal play, the clutch slips easily. On the other hand, if the pedal free play is too much, the clutch disengages poorly, making gearshifts difficult.

Checking the Clutch System Function

Refer to page
9-27 Checking the Clutch System Function [M/T]

Checking the Clutch Pedal Free Play and Stroke

Checking the Clutch Pedal Free Play



Lightly press the clutch pedal by hand until you feel a slight resistance. The distance of the pedal movement to this point is the free play.

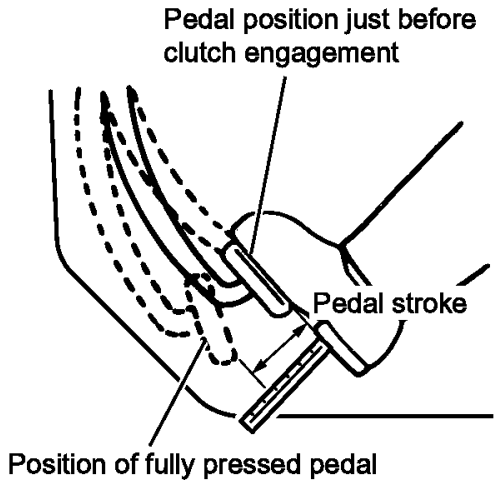
Specification	Clutch pedal free play [Reference value]
MJT7 transmission vehicles	40 - 60 mm (1.57 - 2.36 in)
ZF9S1310 transmission vehicles	25 - 40 mm (0.98 - 1.57 in)

ADVICE

- If the free play of the clutch pedal is not within the specified range, make adjustments at the clutch booster.

Refer to page
10-70 Adjustment of Clutch Booster (MJT7 Model Transmission)

Checking the Clutch Pedal Stroke



1. Make sure that the parking brake lever is pulled completely. Start and run the engine at idle and then press the clutch pedal fully.
2. Move the gearshift lever to the 1st position and then release the pedal slowly. The clutch pedal is normal if the pedal stroke from the fully pressed position to the position just before the clutch engages is 60 mm (2.36 in) or more.

ADVICE

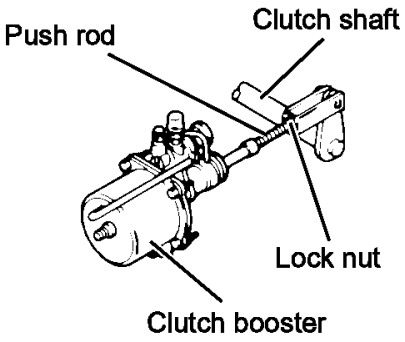
- If the clutch pedal stroke is not within the specified range, contact the nearest Isuzu Dealer.

Adjustment of Clutch Pedal Free Play

Adjustment of Clutch Booster (MJT7 Model Transmission)

ADVICE

- Vehicles with transmission model ZF9S1310 do not require clutch booster adjustment, continue with the following steps to make another adjustment at the master cylinder.



If the free play of the clutch pedal is not within the specified range, make adjustments at the clutch booster and the clutch master cylinder with the engine stopped.

1. Remove the return spring from the clutch booster.
2. Loosen the push rod lock nut.
3. Turn and extend the push rod until it becomes stiff.
4. From this point, turn the push rod back the number of turns indicated in the table below.

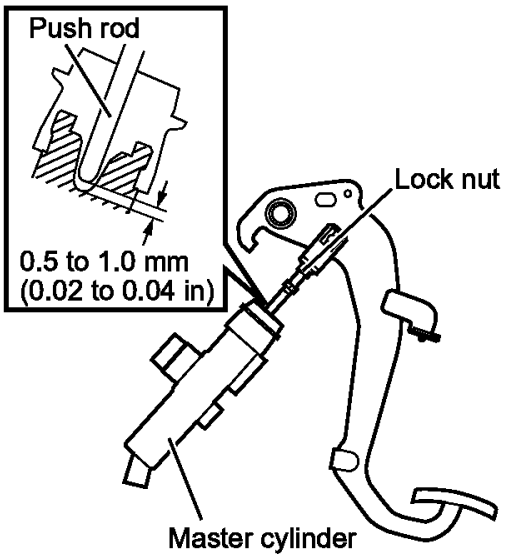
Transmission model	Number of turns
MJT7 transmission vehicles	2 - 1/2 to 3

5. Tighten the lock nut to specified torque.

Lock nut tightening torque	
M10	**20.6- 39.2 N·m** (2.1 - 4.0 kgf·m/**15.2 - 28.9 lb·ft**)
M12	**41.2 - 51.0 N·m** (4.2 - 5.2 kgf·m/**30.4 - 37.6 lb·ft**)

6. Check the free play of the clutch pedal. If the free play is not up to the specification, continue with the following steps to make another adjustment at the master cylinder.

Adjustment of Master Cylinder



1. Remove the return spring from the clutch pedal.
2. Loosen the master cylinder push rod lock nut.
3. Turn in the push rod until it makes contact with the piston.
4. Return the push rod from this position by 2/5 to 4/5 of a turn. At this point, the gap between the tip of the push rod and the piston should be 0.5 to 1.0 mm (0.02 to 0.04 in).
5. Fasten the lock nut firmly and install the return spring.

Clutch Fluid [M/T]

Clutch fluid is used to create hydraulic pressure to engage and disengage the clutch. Be sure to use the specified oil when replacing it.

⚠ CAUTION

- When refilling the tank with clutch fluid, be careful not to let dust or water enter the tank; otherwise, the clutch may not work.
- Be careful not to spill clutch fluid on a painted surface or let it come in contact with your skin. If the fluid is spilled on a painted surface, wipe it off immediately. If the fluid comes in contact with your skin, wash it off with water immediately.
- Use only the specified clutch fluid and change it according to the Maintenance Schedule.
- Clutch fluid is highly hygroscopic. Close the cap of the container tightly when storing it.
- Do not mix the specified clutch fluid with one of any other brand.
- If clutch fluid decrease too rapidly, there might be a problem in the clutch system or the clutch disc might be worn out beyond safe limits. Have your vehicle inspected the nearest Isuzu Dealer immediately.
- Before refilling the tank, clean the area around the cap and pour clutch fluid from a clean container. Foreign objects getting in the tank will lead to a clutch system failure.
- Clutch fluid melts paint and vehicle component materials such as plastic, vinyl and rubber. It is also highly corrosive for metals. If it is spilled, wipe it off the affected surface immediately and wash the affected surface fully with water.
- Do not mix clutch fluid with fluid of a non-specified brand. Due to chemical reaction, any mixture of different brand fluids will cause failure of the clutch system.

Refer to page
8-2 Maintenance Schedule
8-40 Recommended Fluids, Lubricants and Diesel Fuels

Checking the Clutch Fluid Level

Refer to page
9-18 Checking the Clutch Fluid Level [M/T]

Adding Clutch Fluid

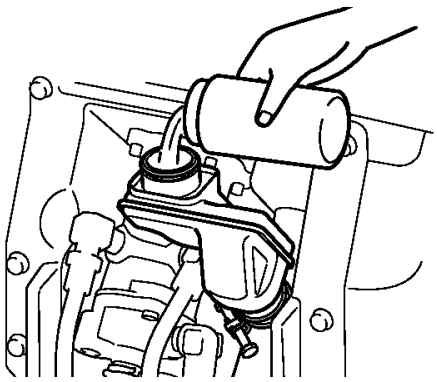
Refer to page
9-18 Checking the Clutch Fluid Level [M/T]

Changing Clutch Fluid

Change the clutch fluid according to the Maintenance Schedule using the specified fluid. Since a clutch fluid change requires operation of the related components, have this service performed by your Isuzu Dealer.

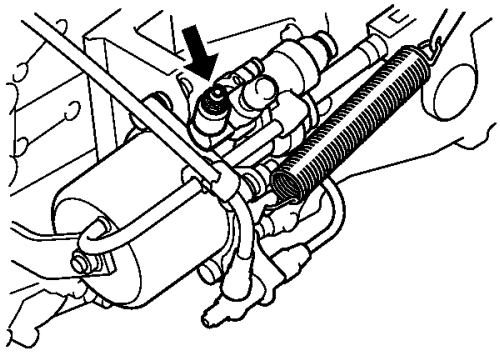
Bleeding the Clutch Hydraulic System

If air is present in the clutch hydraulic system, the clutch may disengage incompletely. Bleed the system if the clutch is used when the quantity of the clutch fluid in the tank is extremely low or the clutch piping is removed during a maintenance operation. Do not perform bleeding by yourself; it should be done with the help of another person.

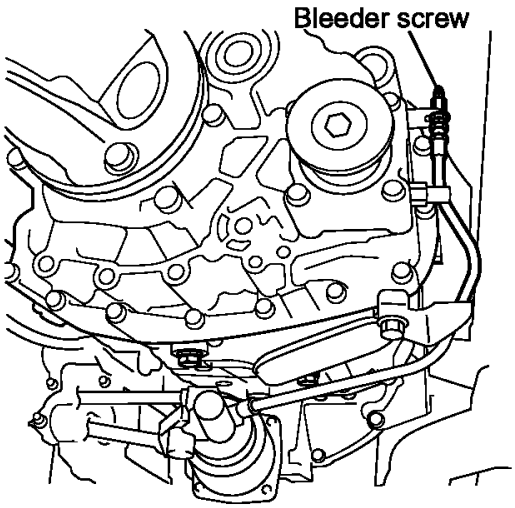


1. Chock the wheels and firmly apply the parking brake.
2. Check the level of the clutch fluid in the clutch fluid tank and add fluid as required.

MJT7 model transmission

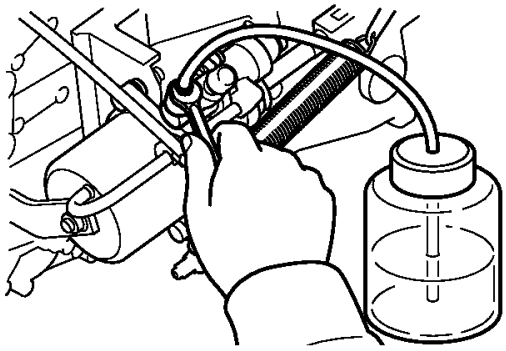


ZF9S1310 model transmission

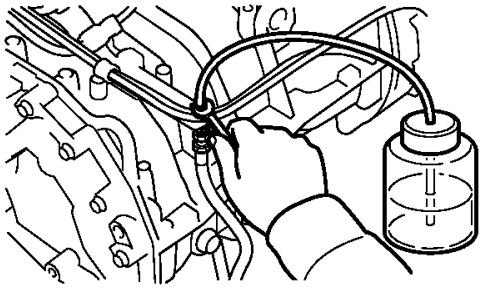


3. Detach the rubber cap from the bleeder screw on the clutch booster. Wipe clean the bleeder screw.

MJT7 model transmission

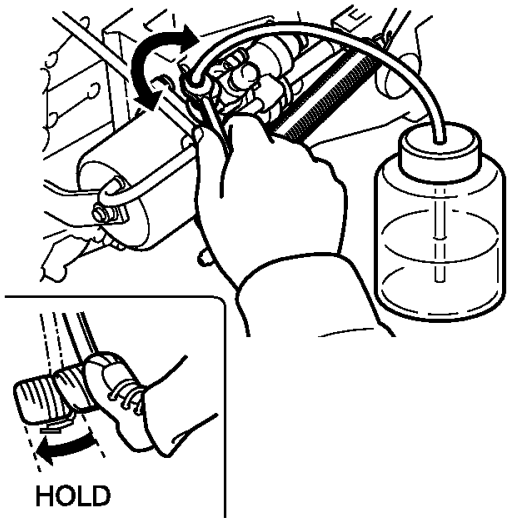


ZF9S1310 model transmission

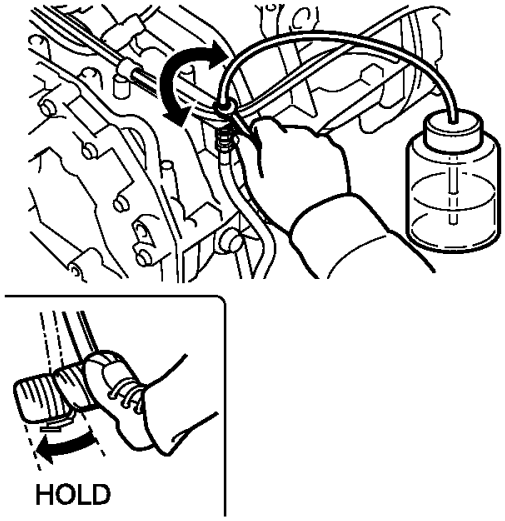


4. Attach one end of a bleeder hose to the bleeder screw and put the other end in a clear container. Fill the container with clutch fluid to about one-third (1/3) of its capacity.

MJT7 model transmission



ZF9S1310 model transmission



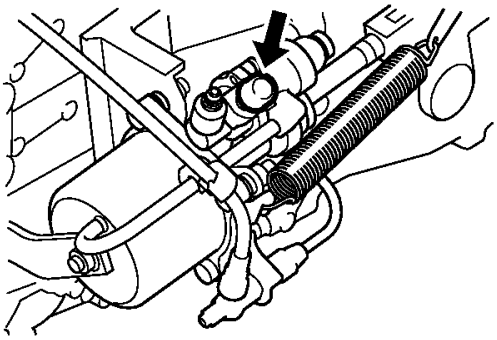
5. Press the clutch pedal several times and keep it pressed the last time.
6. Loosen the bleeder screw to let the clutch fluid containing air bubbles flow into the container and then tighten the bleeder screw immediately.
7. Release the clutch pedal slowly.
   When the clutch pedal does not return, pull it up.
   Repeat steps 5 and 6 until the fluid from the tube no longer contains air bubbles.
   After bleeding, install the rubber cap in position.

⚠ CAUTION

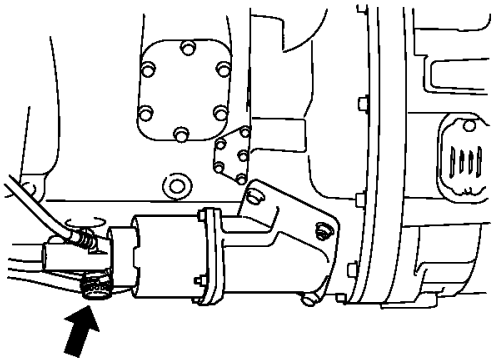
- **While bleeding, ensure that the fluid level in the clutch fluid tank is not below the "MIN" line.**

Clutch Booster Exhaust Cover [M/T]

MJT7 model transmission



ZF9S1310 model transmission



Remove and clean the clutch booster exhaust cover according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule

Manual Transmission Oil [M/T]

The transmission is the mechanism that transmits the drive force of the engine. Transmission oil lubricates the inside of the transmission and protects the gears inside it. It also prevents the gears from wearing or seizing.
Change the transmission oil according to the Maintenance Schedule.

⚠ WARNING

- **If the level of transmission oil is extremely low, the transmission might become damaged and this could lead to an accident. Periodically check the oil level according to the Maintenance Schedule.**
- **Do not touch the transmission oil when it is hot. You are likely to be burned.**

⚠ CAUTION

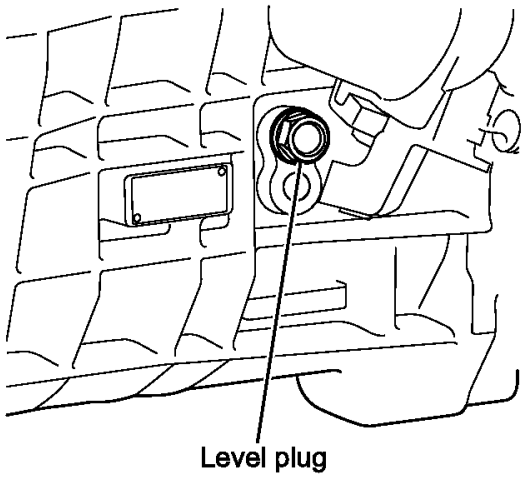
- **The vehicle must be parked on a flat and level surface when changing the oil. On sloping ground, oil level cannot be checked correctly, and when the oil is not filled sufficiently, the transmission may be damaged.**
- **When checking the oil level, be sure to also check for oil leakage from the transmission.**

ADVICE

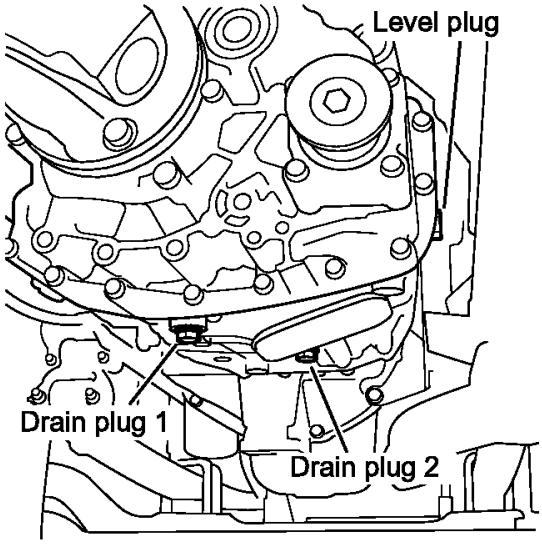
- Use the oil quantity indicated later in this section only as a guideline. After changing the oil, ensure that it is at the required level.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

Refer to page
8-2 Maintenance Schedule
8-15 Maintenance Schedule - ZF9S1310 Model Transmission
8-40 Recommended Fluids, Lubricants and Diesel Fuels

MJT7 model transmission



ZF9S1310 model transmission



Transmission Oil Maintenance Alerts

Distance remaining

Maintenance alert

Transmission oil
Distance to replacement
＊,＊＊＊km

Distance exceeded

Maintenance alert

Transmission oil
Distance to replacement
—＊,＊＊＊km

This message appears on the multi-information display when the next replacement interval for the transmission oil is near, and the distance remaining until the replacement timing or the distance exceeded after the replacement timing is displayed.
When the time for maintenance is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

NOTE

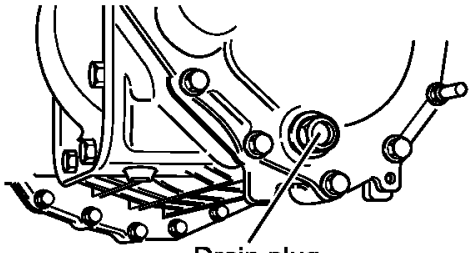
- Checking and setting the maintenance period can be done from the "Maintenance alert" on the multi-information display.

Refer to page
3-43 Maintenance Alert
10-80 Changing the Transmission Oil (MJT7 Model Transmission)
10-82 Changing the Transmission Oil (ZF9S1310 Model Transmission)
10-92 Rear Axle Differential Gear Oil

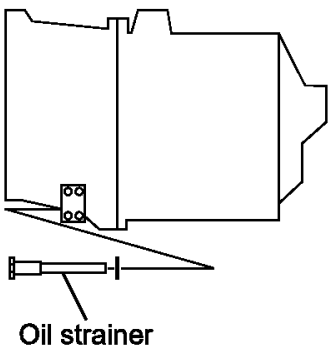
Changing the Transmission Oil (MJT7 Model Transmission)

ADVICE

- Any dirt on the plug should be wiped off before installing it.
- Since the case of the MJT7 model transmission is made of aluminum, be extremely careful not to tighten the plug excessively when installing the level plug. Tightening to a torque larger than the one specified may damage the threaded portion.
- Unless you add oil up to the filler plug hole, the inside of the transmission may seize and become damaged.
- Replace the oil filter when replacing the transmission oil.

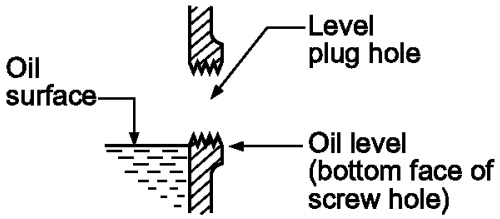


1. Place a container under the drain plug to receive oil.



2. Remove both the level plug and drain plug to discharge the oil. Also, remove the drain plug on the transmission rear cover.
   Take off the plug at the front section of transmission to remove the oil strainer, wash it with light oil, dry or air-blow it, and then reinstall it. Be sure to wipe away any dirt on the drain plug and then reinstall the plug by tightening to the specified torque.

Oil strainer plug tightening torque
62 - 88 N·m (6.4 - 9.0 kgf·m/46 - 65 lb·ft)



Drain plug tightening torque (other than above)
49 - 88 N·m (5.0 - 9.0 kgf·m/36 - 65 lb·ft)

3. After the drain plug is installed, add the oil from the level plug hole, up to the lower edge of the hole.
4. After refilling, confirm that the oil level is up to the lower edge of the oil level plug hole.
5. Install the oil level plug to the specified torque.

Oil level plug tightening torque
49 - 88 N·m (5.0 - 9.0 kgf·m/36 - 65 lb·ft)

6. For a vehicle equipped with a transmission oil cooler, drive the vehicle for 2 or 3 minutes or idle it for at least 5 minutes to allow the oil to flow into the piping.
   Stop the engine, and after the air bubbles in the transmission have disappeared, remove the level plug again and add the oil up to the lower edge of the level plug hole. Install the level plug by tightening to the specified torque.

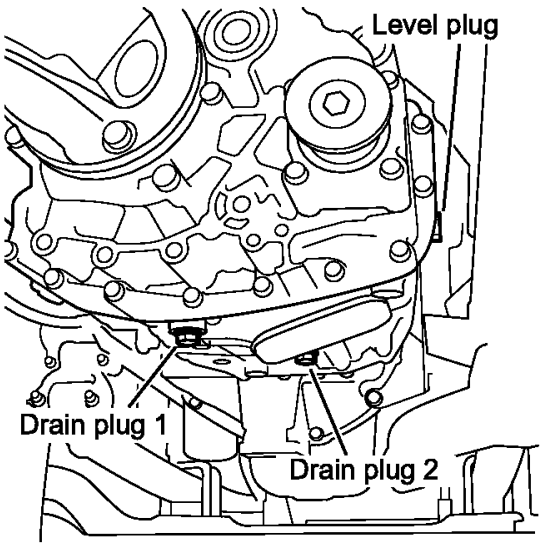
Oil level plug tightening torque
49 - 88 N·m (5.0 - 9.0 kgf·m/36 - 65 lb·ft)

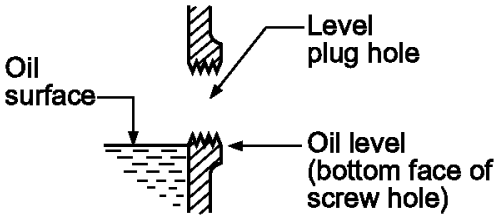
Specification	Oil quantity [reference value]
Without PTO	18.2 liters (4.81 US gal./4.00 Imp gal.)
With PTO	19.2 liters (5.07 US gal./4.22 Imp gal.)

The oil quantity includes the amount in the cooler lines. In the case of a PTO-equipped vehicle, pour in an additional 1.0 liter (0.26 US gal./0.22 Imp gal.).

Changing the Transmission Oil (ZF9S1310 Model Transmission)

Transmission oil must be changed at the specified intervals.





1. Place a container under the drain plug to receive oil.
2. Remove the oil level plug and then the drain plugs 1 and 2 to discharge the oil into the container.
3. Install the drain plugs 1 and 2 to their specified torques with new gaskets. Thoroughly wipe clean the drain plug 2 before installing it.
4. Refill the transmission with new oil up to the lower edge of level check plug hole. After refilling, confirm that the oil level is up to the lower edge of the oil level plug hole.
5. Install the oil level plug to the specified torque with a new gasket.

Plug tightening torque	
Oil level plug	60 N·m (6.1 kgf·m/44 lb·ft)
Drain plug 1	
Drain plug 2	120 N·m (12.2 kgf·m/88 lb·ft)

6. For a vehicle equipped with a transmission oil cooler, drive the vehicle for 2 or 3 minutes or idle it for at least 5 minutes to allow the oil to flow into the piping. Stop the engine, and after the air bubbles in the transmission have disappeared, remove the level plug again and add the oil up to the lower edge of the level plug hole. Install the level plug by tightening to the specified torque.

Oil level plug tightening torque
60 N·m (6.1 kgf·m/44 lb·ft)

Oil quantity [reference value]	
Without PTO	8.0 liters (2.11 US gal./1.76 Imp gal.)
With PTO	8.5 liters (2.25 US gal./1.87 Imp gal.)

ADVICE

- The dirt on the plug should be wiped off before installing it.

NOTE

- The transmission model and model code are indicated on the ID plate in the cab.

Automatic Transmission Fluid [A/T]

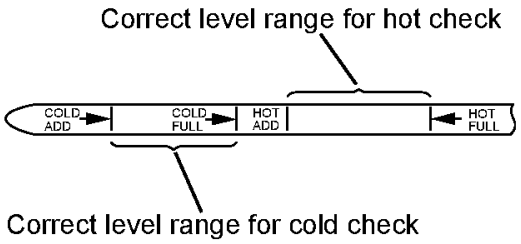
Checking the Fluid Level

ADVICE

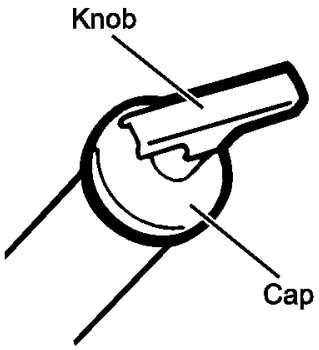
- To prevent dust or other foreign matter from entering the transmission, clean the area around the dipstick before pulling out the dipstick.

Hot Check

1. Start the engine and drive the vehicle for about 10 minutes for warm-up. Take this 10 minutes as a guide to raise the transmission fluid temperature to between 71 and 93°C (160 and 200°F). Depending on the climate conditions, this driving time may be adjusted.
2. Park the vehicle on a level surface and firmly apply the parking brake.



3. With the engine at idle and with the brake pedal depressed, shift the range by pushing the selector button in the sequence of "D" - "N" - "R" - "N".
4. Keeping the engine at idle, pull out the dipstick, wipe its end with a clean rag, push it back all the way into the guide tube and pull it out again.
5. Check the fluid level at the end of the dipstick. If it is within the HOT range, the fluid level is OK.
6. If the fluid level is low, fill automatic transmission fluid through the dipstick guide tube. Also check for the leak of automatic transmission fluid.



ADVICE

- After the inspection, reattach the dipstick securely by turning the knob while the cap pressed.
- The COLD range is for fluid level check in case warm-up cannot be done like when automatic transmission fluid is changed or the automatic transmission is repaired at an Isuzu Dealer with dedicated facilities. For regular inspection, be sure to check by the HOT range after the warm-up.

Method Using the Electric Fluid Level Sensor

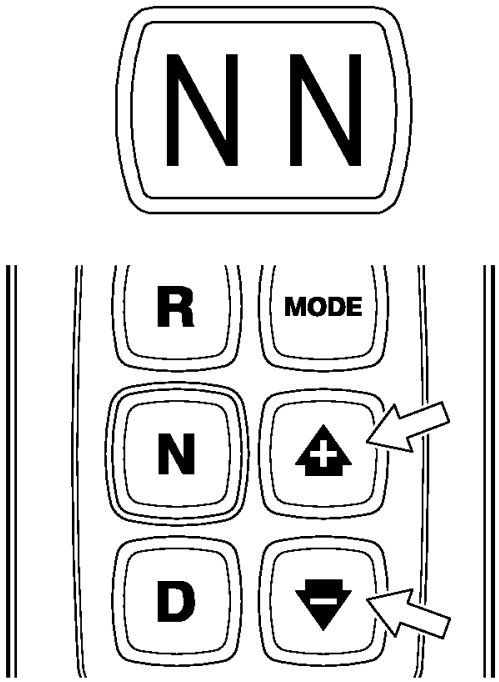
Park the vehicle on a level surface and apply the parking brake. Check the fluid level with the transmission in "N" and the engine idling. The automatic transmission fluid level sensor can detect the fluid level when the vehicle is on a level surface and the following four conditions are simultaneously satisfied.

- The engine is idling.
- Transmission is in "N".
- Vehicle speed is 0 km/h (0 MPH).

• Transmission fluid temperature is 40 to 104°C (104 to 220°F).

With the above four conditions met, the sensor starts working after a 2-minute standby time.

Prognostic Features



Pressing the manual selector buttons (Upshift/Downshift) at the same time will display the diagnostic contents.

ADVICE

- Perform each diagnostic under the following conditions.
  - The vehicle is stopped in a safe, flat location.
  - The gear is in neutral.
  - The parking brake is engaged.
  - The oil temperature is (40 to 104°C (104 to 219°F)).
  - The engine has been idling for 2 minutes or more.

If the TCM determines that it is time for replacement in any of the monitors ("Oil life, Filter life, or Transmission health"), the service indicator (wrench mark) will come on/flash.

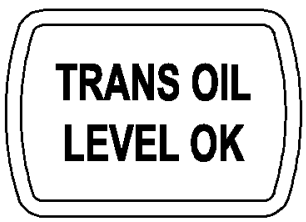
Manual selector buttons (Upshift/Downshift)	Diagnostic contents	Resetting method after replacement or repair
Push once	Oil level information.	
Push twice	Oil life monitor	• Press and hold the MODE button for 10 seconds with the monitor displayed. • With the ignition ON and engine OFF, press N-D-N-D-N-R-N (within a 3 second interval). • Reset via Allison Doc. (The monitor will display "100" after resetting.)

Manual selector buttons (Upshift/Downshift)	Diagnostic contents	Resetting method after replacement or repair
Push three times	Filter life monitor	• Press and hold the MODE button for 10 seconds with the monitor displayed. • With the ignition ON and engine OFF, press N-R-N-R-N-D-N (within a 3 second interval). • Reset via Allison Doc. (The monitor will display [FILTERS OK] after resetting.)
Push four times	Transmission health monitor	• Reset via Allison Doc. (However, if the clutch, etc., has been replaced, the values learned via Allison Doc also need to be reset.)
Push five times	Diagnostic Trouble Code display (Pressing the MODE button will display up to the past 5 diagnostic codes. When the diagnostic is finished, press the neutral button.)	• Press and hold the MODE button for 10 seconds with the monitor displayed. • Reset via Allison Doc.

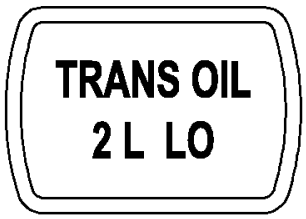
ADVICE

- When performing the above diagnostics, TES-295 or TES-668 licensed automatic transmission fluid should be used. If other fluids are used, the diagnostic results will differ, which may lead to transmission failure.

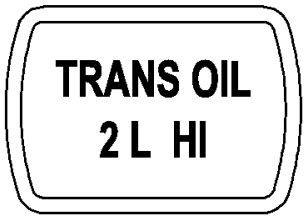
Oil Level Information



When the automatic transmission fluid level is correct, the shift selector display shows [TRANS OIL LEVEL OK]. The fluid level on the display will not always match the level as measured on the dipstick, since the fluid level sensor only updates the display after making corrections due to temperature changes. Example: [TRANS OIL LEVEL OK] means that the fluid level is correct.



If the automatic transmission fluid level is too low, the display shows [TRANS OIL *L LO]. "LO" stands for "low fluid level" and the "*L" shows how many more liters of fluid is needed for the proper fluid level.
Example: Display [TRANS OIL 2 L LO] means that if you add about 2 liters (0.53 US gal./0.44 Imp gal.) of fluid, the fluid level will be within the proper range.

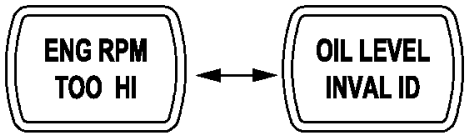


If the automatic transmission fluid level is too high, [TRANS OIL *L HI]. "H I" stands for "high fluid level" and the "*L" shows how many liters of excessive fluid is in the transmission.
Example: Display [TRANS OIL 2 L HI] means that there is about **2 liters** (0.53 US gal./**0.44 Imp gal.**) more fluid than the FULL level quantity in the transmission.

ADVICE

- If the shift selector display shows a too low automatic transmission fluid level, you should reconfirm the fluid level by using the dipstick.

Example: ENG RPM TOO HI



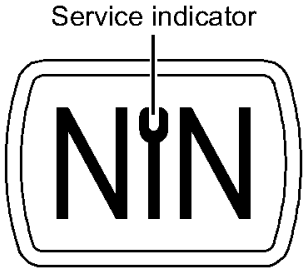
If any condition exists that prevents the shift selector display from showing the transmission fluid level, the messages in the following table will be indicated in the display.

Message	Descriptions
SETTLING [time remaining until standby is complete]	Standby time is too short.
ENG RPM TOO LO	Engine speed (r/min) is too low.
ENG RPM TOO HI	Engine speed (r/min) is too high.
MUST BE IN NEUTRAL	"N" range is not selected.
OIL TEMP TOO LO	The temperature of the automatic transmission fluid in the oil pan is lower than the fluid temperature range for which fluid level measurement is possible.

Message	Descriptions
OIL TEMP TOO HI	The temperature of the automatic transmission fluid in the oil pan is higher than the fluid temperature range for which fluid level measurement is possible.
VEH SPD TOO HI	The vehicle is not stationary.
SENSOR ERROR	Faulty sensor (speed sensor, throttle sensor, temperature sensor, fluid level sensor, etc.) Please contact the nearest Isuzu Dealer.

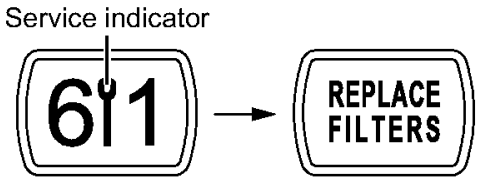
To cancel the fluid level display mode, press both the " ↑ " and " ↓ " selector buttons at the same time five times or select "D", "N" or "R" using the selector button.

Oil Life Monitor



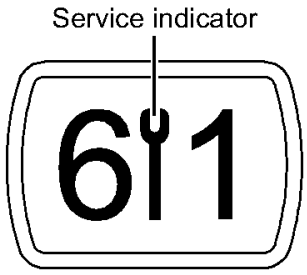
If replacement is not needed, the remaining oil life (100% to 00%) is displayed. Example: [OIL LIFE 100%].
If the service indicator comes on when the D range is selected, change the oil. In this case, the service indicator will come on for 2 minutes whenever the D range is selected.

Filter Life Monitor



If replacement is not needed, [FILTERS OK] will be displayed.
If the service indicator flashes when the D range is selected, access the filter life monitor. To access the filter life monitor, press the shift up and shift down buttons simultaneously 3 times. When [REPLACE FILTERS] is shown on the display, replace the filter.

Transmission Health Monitor

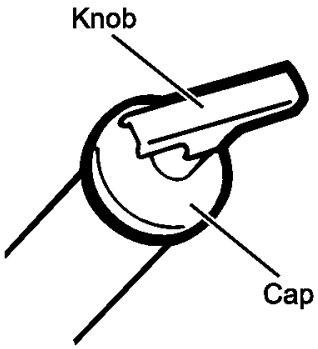


This function monitors the condition of the transmission and indicates this condition to the driver with the messages [TRANSHEALTH OK] and [TRANSHEALTH LO]. If [TRANSHEALTH LO] is displayed and the service indicator remains on continuously, contact the nearest Isuzu Dealer.

NOTE

- [TRANSHEALTH NA] may be displayed under the following conditions, but this is not a malfunction.
  - The TCM learning has never been performed, such as in the case of a new vehicle.
  - The TCM has been replaced with a new one, or a learning reset has just been performed.

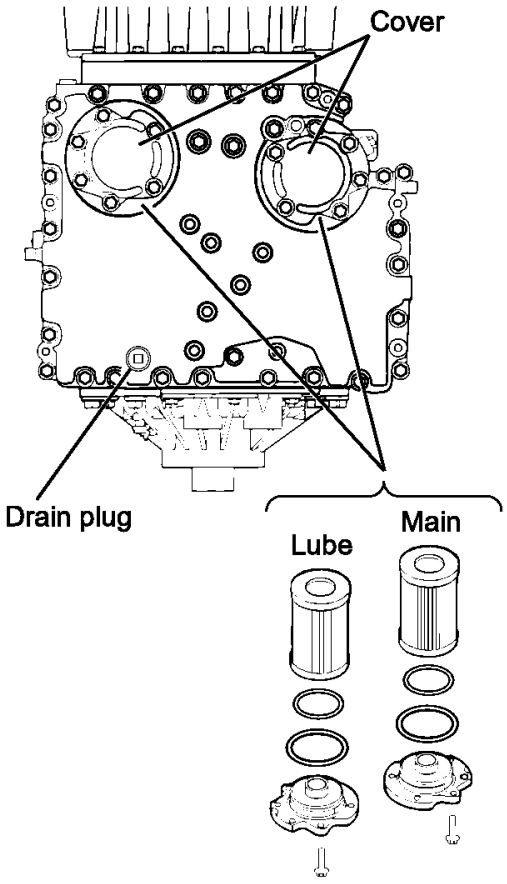
Changing the Transmission Fluid



1. Place a container under the drain plug to receive fluid.
2. Remove the dipstick and drain plug to discharge the fluid into the container.

ADVICE

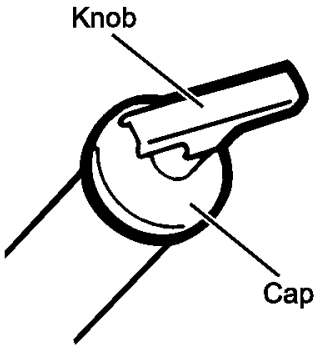
- Use the fluid quantities indicated below only as guidelines when changing the transmission fluid. After changing the fluid, you should make sure the fluid is at the required level.
- Change the filter according to the Maintenance Schedule.
- Drained fluid must be disposed of in the method conforming to the regulatory requirement in your country.
- The transmission cannot be completely drained of fluid because a certain quantity of fluid remains in the torque converter and hydraulic circuits.



3. Remove the ATF filters after removing their covers.
4. Install new ATF filters with O-rings and seals coated with a thin film of fluid.
5. After installing the drain plug, pour new fluid from the guide tube of the dipstick to refill the transmission.

ADVICE

- Any dirt on the plug should be wiped off before installing it.



6. Reattach the dipstick securely by turning the knob while the cap is pressed.
7. Park the vehicle on a level surface and firmly apply the parking brake.
8. With the engine at idle and with the brake pedal depressed, shift the range by pressing the selector button in the sequence of "D" - "N" - "R".
9. Press the selector button "N" to put in the neutral.
10. Pull out the dipstick, wipe its end with a clean rag, and push it back into the guide tube.
11. Check that the fluid level at the end of the dipstick is within the COLD range.
12. If the fluid level is low, fill automatic transmission fluid through the dipstick guide tube.
13. Start the engine and drive the vehicle for about 10 minutes for warm-up. Take this 10 minutes as a guide to raise the transmission fluid temperature to between 71 and 93°C (158 and 199°F). Depending on the climate conditions, this driving time may be adjusted.
14. Park the vehicle on a level surface and firmly apply the parking brake.
15. Check the fluid level by referring to the "Checking the Fluid Level".
    In order to ensure the correct level, check the fluid level at least two times.

Total system fluid capacity [reference value]
48.0 liters (12.7 US gal./**10.6 Imp gal.**)

Replacement fluid amount [reference value]
37.0 liters (9.8 US gal./**8.2 Imp gal.**)

Refer to page
10-83 Checking the Fluid Level

Rear Axle Differential Gear Oil

The differential is the mechanism that transmits drive force to the wheels. Differential gear oil lubricates the inside of the differential and protects the gears inside it. It prevents the gears from wearing or seizing.
The rear axle differential gear oil level must be checked for its level and it must be changed according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule
8-40 Recommended Fluids, Lubricants and Diesel Fuels

CAUTION

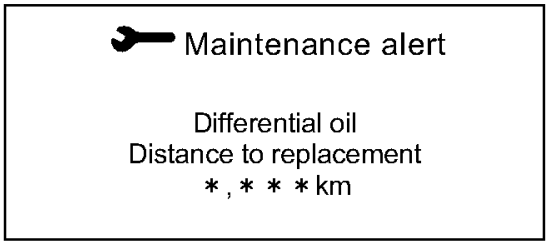
- **Hot differential gear oil can cause severe skin burns. Allow the differential to cool before draining the differential gear oil.**

ADVICE

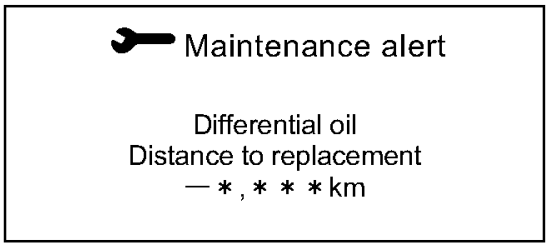
- After changing the oil, ensure that it is at the correct level.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.
- Use the oil quantities indicated later in this section only as guidelines when changing the rear axle differential gear oil.
- An air suspension vehicle must be jacked up in order to change the oil.

Differential Gear Oil Maintenance Alerts

Distance remaining



Distance exceeded



This message appears on the multi-information display when the next replacement interval for the differential gear oil is near, and the distance remaining until the replacement timing or the distance exceeded after the replacement timing is displayed.
When the time for maintenance is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

NOTE

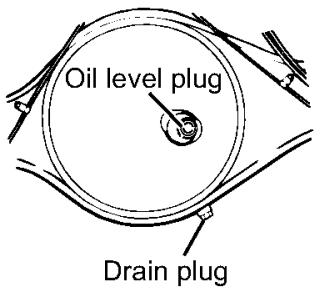
- Checking and setting the maintenance period can be done from the "Maintenance alert" on the multi-information display.

Refer to page
3-43 Maintenance Alert
10-94 Changing the Rear Axle Differential Gear Oil

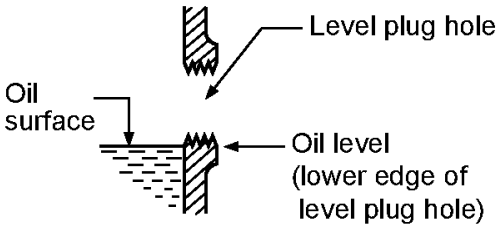
Checking the Rear Axle Differential Gear Oil Level

ADVICE

• Any dirt on the plug should be wiped off before installing it.



1. Remove the oil level plug.



2. Check that the oil level is up to the lower edge of the oil level plug hole.
   If the oil level is too low, add oil through the oil level plug hole.
3. Fasten the oil level plug to the specified torque.

MS11/MT20 type axle

Filler plug tightening torque
48 - 67 N·m (4.9 - 6.8 kgf·m/**35 - 49 lb·ft**)

RT210 type axle

Plug tightening torque	
Square head plug	**29 - 59 N·m** (3.0 - 6.0 kgf·m/**22 - 43 lb·ft**)
Hex head plug	**49 - 88 N·m** (5.0 - 9.0 kgf·m/**36 - 65 lb·ft**)

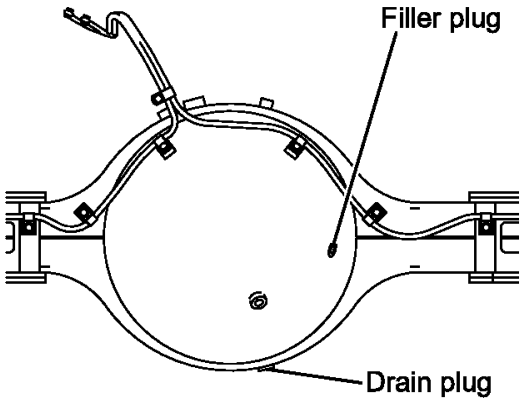
Changing the Rear Axle Differential Gear Oil

ADVICE

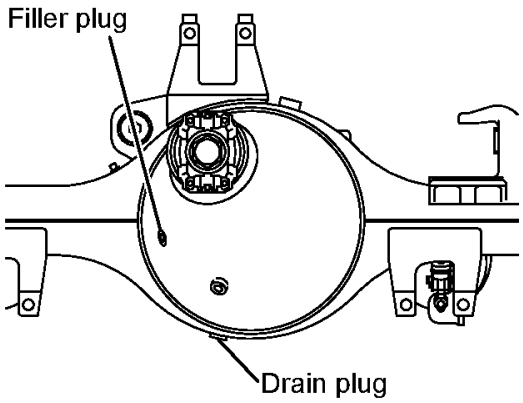
• Any dirt on the plug should be wiped off before installing it.

MS11/MT20 Type Axles

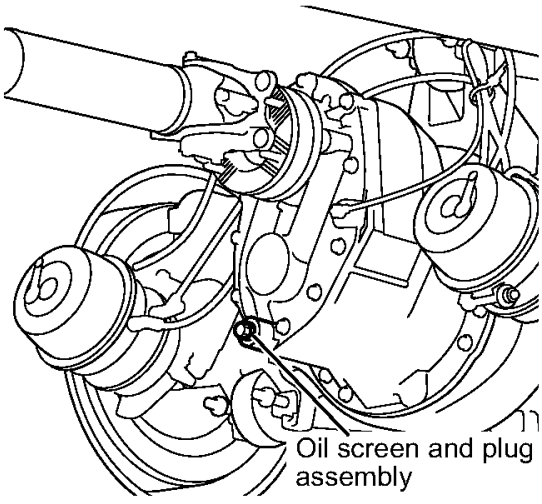
Rear axle (FXR model), forward rear axle (FXM model) and rearward rear axle (FXZ/FYH models)



Forward rear axle (FXZ/FYH models)

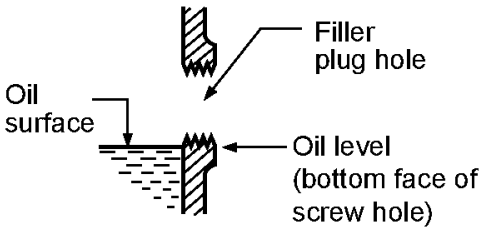


1. Place a container under the drain plug(s) to receive oil.
2. Remove the filler plug to discharge the oil into the container.



3. If equipped with an oil pump, remove the oil screen and plug assembly from the cover. Clean the oil screen, then reinstall it and tighten the plug to the specified torque.

Oil screen and plug assembly tightening torque
65 N·m (6.6 kgf·m/**48 lb·ft**)



4. After installing the drain plug by tightening it to the specified torque, refill the rear axle case with new oil through the filler plug hole up to the lower edge of the filler plug hole.
5. Install and tighten the filler plug to the specified torque.

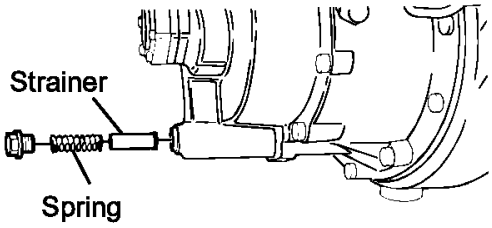
Filler plug tightening torque
48 - 67 N·m (4.9 - 6.8 kgf·m/**35 - 49 lb·ft**)

ADVICE

- Any dirt on the plug should be wiped off before installing it.

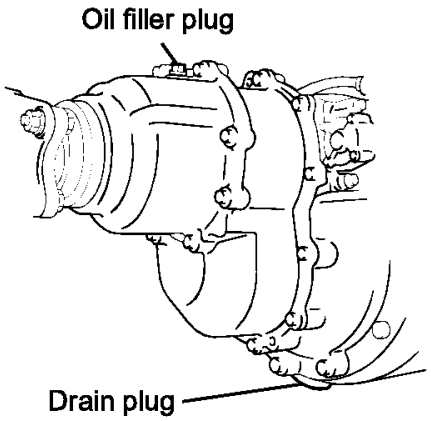
RT210 Type Axle

17.5-inch forward rear axle

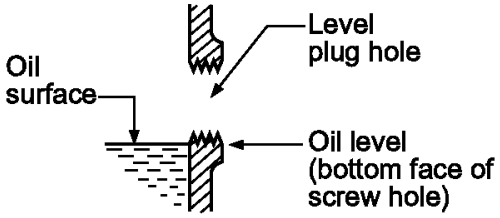


1. Remove both level plug and drain plug(s) to discharge the oil into the container. For the 17.5-inch forward rear axle, remove the oil strainer plug, and pull out the oil strainer. Wash the oil strainer with light oil, dry it, then reinstall it and tighten the oil strainer plug.

16.5-inch forward rear axle



2. After installing the drain plug, refill the rear axle case with new oil through the level plug hole and up to the lower edge of the hole.
   For the 16.5-inch forward rear axle, remove the oil filler plug at the top of the inter axle differential as well, and add about **0.5 liters** (0.13 US gal./**0.11 Imp gal.**) of oil.



3. After refilling, confirm that the oil level is up to the lower edge of the oil level plug hole.
4. Install the level plug.

Plug tightening torque	
Square head plug	**29 - 59 N·m** (3.0 - 6.0 kgf·m/**22 - 43 lb·ft**)
Hex head plug	**49 - 88 N·m** (5.0 - 9.0 kgf·m/**36 - 65 lb·ft**)

ADVICE

- Any dirt on the plug should be wiped off before installing it.

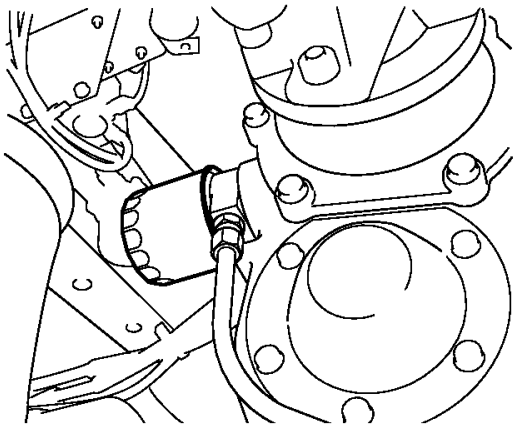
Quantity of Rear Axle Differential Gear Oil to Be Changed

Use the oil quantities indicated below only as guidelines when changing the rear axle differential gear oil.

Type	Differential size		Oil quantity [reference value]
Single axle	18 inch		**15.0 liters** (3.96 US gal./**3.30 Imp gal.**)
Tandem drive axle	15 inch	Forward rear axle	**16.0 liters** (4.23 US gal./**3.52 Imp gal.**)
		Rearward rear axle	**14.0 liters** (3.70 US gal./**3.08 Imp gal.**)
	16.5 inch	Forward rear axle	**18.0 liters** (4.76 US gal./**3.96 Imp gal.**)
		Rearward rear axle	**12.0 liters** (3.17 US gal./**2.64 Imp gal.**)
	17.5 inch	Forward rear axle	**18.0 liters** (4.76 US gal./**3.96 Imp gal.**)
		Rearward rear axle	**12.0 liters** (3.17 US gal./**2.64 Imp gal.**)

Replacing the Oil Filter [V]

RT40 Type Axle



1. Turn the old oil filter to remove it.
2. Apply oil to the seal ring.
3. Install the new oil filter by turning it until it comes in contact with the seal ring.
4. Tighten the oil filter by turning it a further three quarters (3/4) of a turn.
5. Start the engine and let it warm up.
6. Check the area around the filter for any oil leaks.

⚠ CAUTION

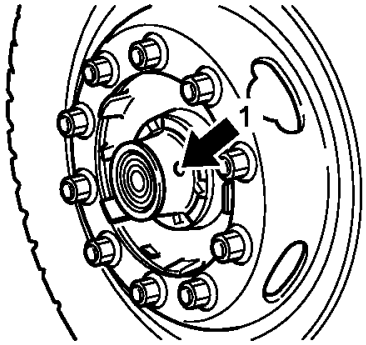
- **Use only an Isuzu genuine oil filter. Any other oil filter has a projection, which will interfere with the carrier before the filter comes in contact with the seal. This will result in a serious oil leakage problem.**

Front Wheel Hub Bearing Oil [V]

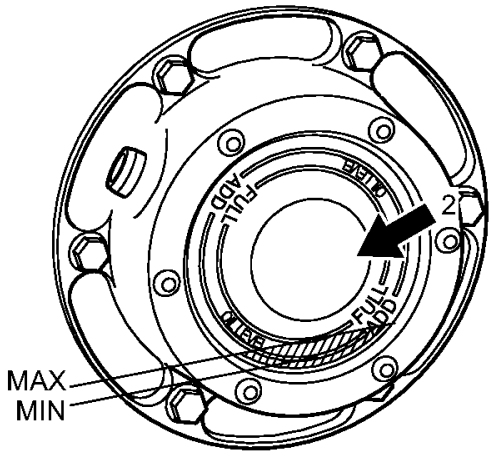
The wheel hub bearing oil must be changed according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule
8-22 Maintenance Schedule for MFS73/ MS11/RQ4670/MT20 Type Axle
8-40 Recommended Fluids, Lubricants and Diesel Fuels

Changing the Front Wheel Hub Bearing Oil



1. Turn the wheel until the drain plug (1) faces straight down.
2. Place a container under the drain plug to receive oil.
3. Remove the drain plug to discharge the wheel hub bearing oil into the container.



4. Install the drain plug. Refill the wheel hub bearing with the specified gear oil through the filler hole (2).
5. Check that the oil level is correct.

ADVICE

- It takes a relatively long time for the oil to enter the bearing and its level to stabilize.

Per wheel oil quantity [reference value]
0.40 liters (0.11 US gal./**0.09 Imp gal.**)

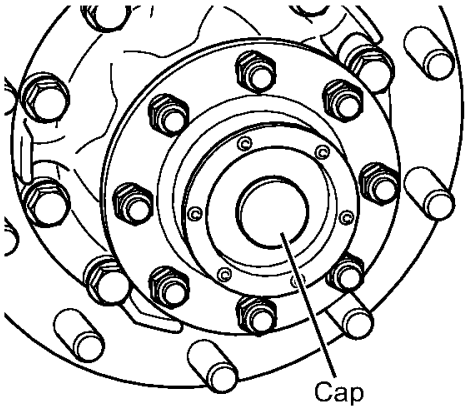
Rear Wheel Hub Bearing Oil [V]

Rearward Rear Axle of FXM Model

Check and change the wheel hub bearing oil according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule
8-22 Maintenance Schedule for MFS73/ MS11/RQ4670/MT20 Type Axle
8-40 Recommended Fluids, Lubricants and Diesel Fuels

Checking the oil level



Checking the Oil Level

Check the oil level through the inspection window in the hub. Confirm that the oil surface reaches the bottom edge of the cap. If the oil level is too low, remove the cap from the inspection window in the hub, and add oil until the oil surface reaches the bottom edge of the window opening.

Changing the Oil

Changing the wheel hub bearing oil involves disassembly work, so have it done by your Isuzu Dealer.

Steering Wheel

Checking the Steering Wheel Free Play and Looseness

Refer to page
9-23 Checking the Steering Wheel Free Play and Looseness

Power Steering Fluid

Power steering fluid is an oil that allows steering to operate smoothly.
The power steering fluid level must be checked and it must be changed according to the Maintenance Schedule.

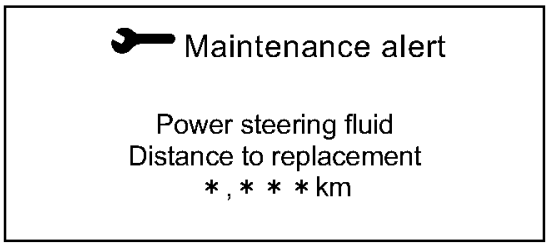
Refer to page
8-2 Maintenance Schedule

⚠ CAUTION

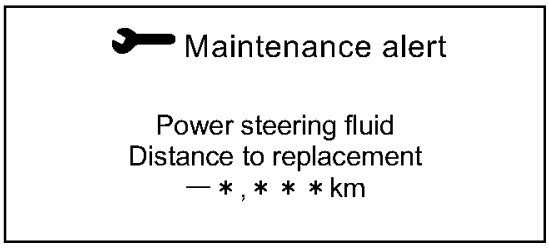
- **Do not mix the recommended power steering fluid with fluids of other brands. Due to chemical reactions, any mixture of differently branded fluids will cause failure of the system.**

Power Steering Fluid Maintenance Alerts

Distance remaining



Distance exceeded



This message appears on the multi-information display when the next replacement interval for the power steering fluid is near, and the distance remaining until the replacement timing or the distance exceeded after the replacement timing is displayed.
When the time for maintenance is approaching, the message is displayed in amber when the starter switch is turned to the "ON" position. It remains on the display until "Enter" in the multi-information display switch is pressed once or the vehicle is started.
When this message comes on, have the vehicle inspected/serviced at your Isuzu Dealer.

NOTE

- Checking and setting the maintenance period can be done from the "Maintenance alert" on the multi-information display.

Refer to page
3-43 Maintenance Alert
10-103 Refilling

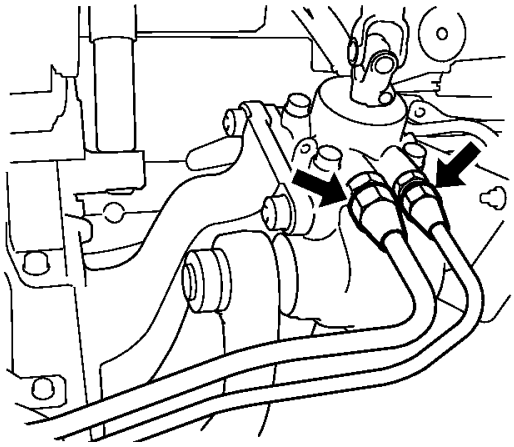
Checking the Power Steering Fluid Level

Refer to page
9-8 Checking the Power Steering Fluid Level

Changing the Power Steering Fluid

Draining

1. Apply the parking brake firmly and chock the rear wheels.



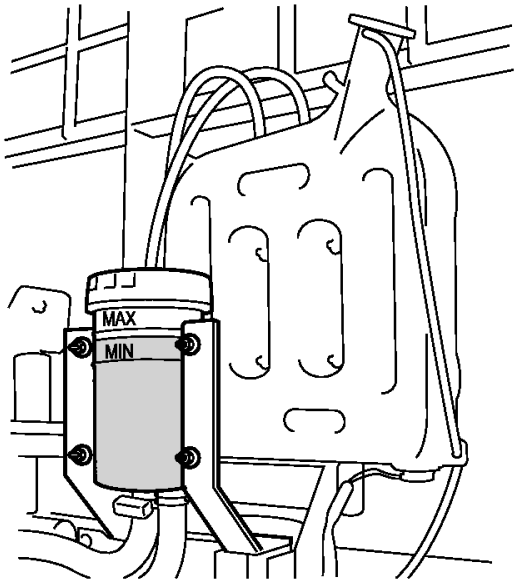
2. Apply the head of the jack to the jacking point firmly.
3. Raise the vehicle until the front wheels are completely clear of the ground.
4. Disconnect the oil pipe joints of the power steering unit and then turn the steering wheel in both directions slowly to drain fluid out of the system.

Refilling

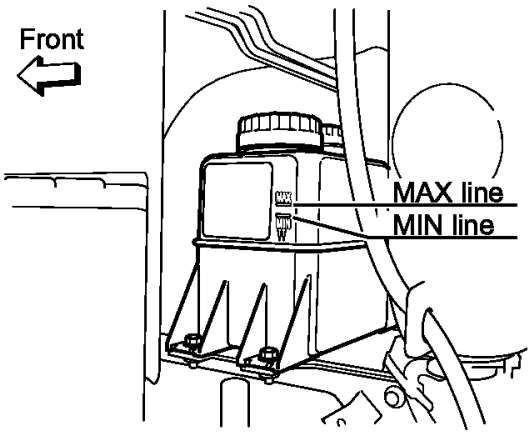
⚠ CAUTION

- **Before adding fluid, clean the area around the cap and pour fluid from a clean jug or container. Foreign matter getting in the tank will cause power steering system failure.**
- **While refilling the system, keep the power steering fluid tank full of fluid by adding it as necessary to prevent air from getting mixed in the hydraulic system.**

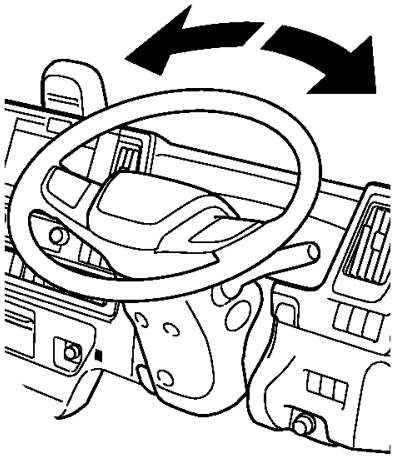
FXM/FXR/FXZ models



FYH model

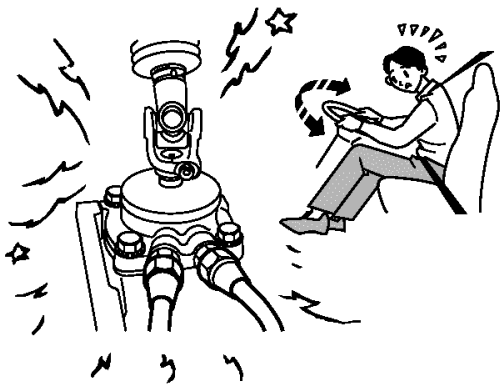


1. Connect the oil pipe joints of the power steering unit and refill the power steering fluid tank with the specified power steering fluid.
2. When the power steering fluid tank is filled with the fluid up to the specified level, wait for 2 to 3 minutes to allow the fluid level to lower.



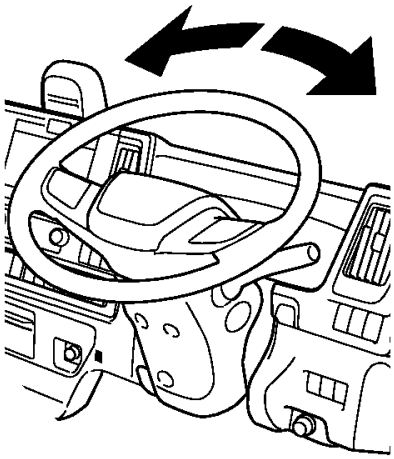
3. Without running the engine, fully turn the steering wheel in both directions a few times.
4. Lower the vehicle and start the engine. While running the engine at idle, fully turn the steering wheel in both directions a few times. If you do not hear abnormal sounds, the system has been properly bled.

Bleeding



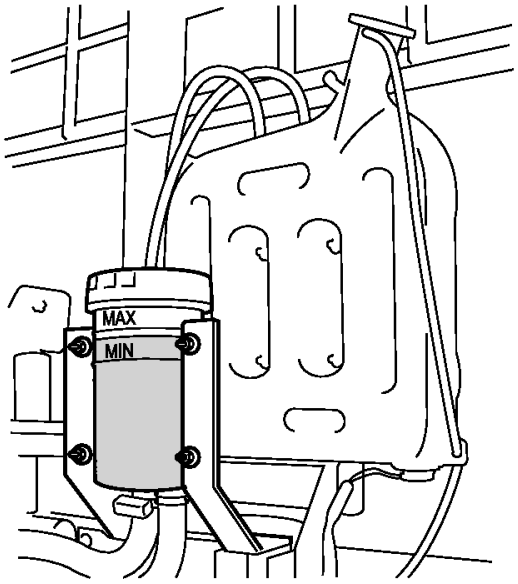
If you hear an abnormal sound when you turn the steering wheel, air has entered into the hydraulic system. Follow the steps below to bleed the system.

1. Apply the parking brake firmly and chock the rear wheels.
2. Apply the head of the jack to the jacking point firmly.
3. Raise the vehicle until the front wheels are completely clear of the ground.
4. Start the engine. Turn the steering wheel fully in both directions a few times.

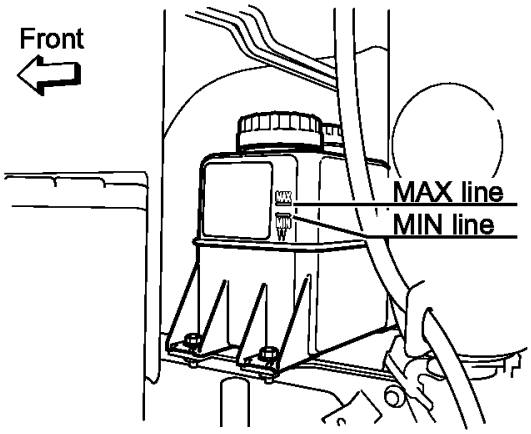


5. Lower the vehicle. With the engine still running, fully turn the steering wheel in both directions a few times.
   If you do not hear abnormal sounds, the system has been properly bled.
   If you still hear abnormal sounds, this means there is air remaining in the power steering system. To expel the remaining air from the system, fully turn the steering wheel in both directions a few times to increase the fluid temperature. When the fluid temperature has risen to 60 to 80°C (140 to 176°F), stop the engine and wait for about 5 minutes (the air will dissipate when the fluid gets hot).

FXM/FXR/FXZ models



FYH model



6. Check the level of the fluid in the power steering fluid tank and also check the joints for fluid leaks.
7. Test drive the vehicle on a road while checking that the steering wheel turns smoothly and the system produces no abnormal sound when you turn the steering wheel.

Power Steering Fluid Filter

The power steering fluid filter is responsible for removing dirt and debris from the power steering fluid.
The power steering fluid filter must be cleaned according to the Maintenance Schedule.

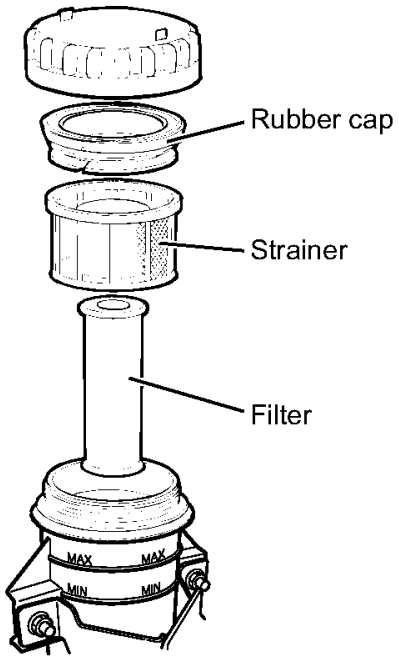
Refer to page
8-2 Maintenance Schedule

Cleaning the Power Steering Fluid Filter

FXR/FXM/FXZ Models

ADVICE

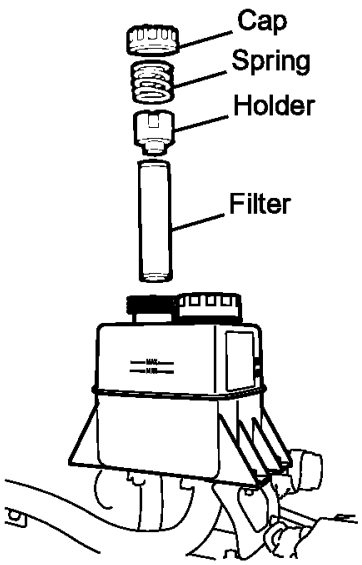
- During filter cleaning, be careful not to let dust or other foreign matter get inside the tank. Foreign matter in the steering fluid might cause failure of the power steering system.
- Blow compressed air onto the filter's outside surface, not onto the inside surface.
- The diesel fuel used for cleaning must be disposed of in a method conforming to the regulatory requirement in your country.



1. Remove the cap from the power steering fluid tank.
2. After removing the rubber cap, take out the strainer and check it for foreign matter. Remove any foreign matter.
3. Take out the filter slowly while being careful not to drop foreign matter collected on it into the tank.
4. Wash the filter in diesel fuel.
5. Blow compressed air at about **200 kPa** (2.0 kgf/cm²/**28 psi**) on the outside surface of the filter to clean foreign matter from inside the filter.
6. Wash the filter in diesel fuel again to remove foreign matter.
7. Blow compressed air at about **200 kPa** (2.0 kgf/cm²/**28 psi**) on the filter to evaporate diesel fuel.
8. Install the filter in the power steering fluid tank.
9. Install the strainer in the power steering fluid tank and fit the rubber cap in position.

10. Close the power steering fluid tank by installing the cap.

FYH Model

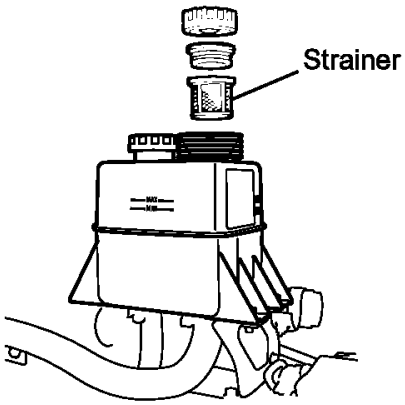


1. Remove the cap.
2. Remove the spring and the holder, and withdraw the filter. Take out the filter slowly while being careful not to drop foreign matter collected on it into the tank.
3. Wash the filter in diesel fuel.
4. Blow compressed air at about 200 kPa (2.0 kgf/cm²/28 psi) on the outside surface of the filter to drop foreign matter inside the filter.

ADVICE

- Blow compressed air onto the filter's outside surface, not onto the inside surface.

5. Once again, wash the filter with diesel fuel and completely remove any dirt from it.
6. Dry the filter with compressed air so as to completely remove all traces of diesel fuel.
7. Install the filter, holder, and spring in that sequence, and then close the cap.



8. Remove the strainer from the replenishing port, check to see if dust or other matter is adhering to it, and clean it. Check to see if the fluid level is satisfactory.

ADVICE

- During the filter cleaning, be sufficiently careful not to let dust or other foreign matter get inside the tank. Foreign matter getting in the tank will cause power steering system failure.

Fuel Tank

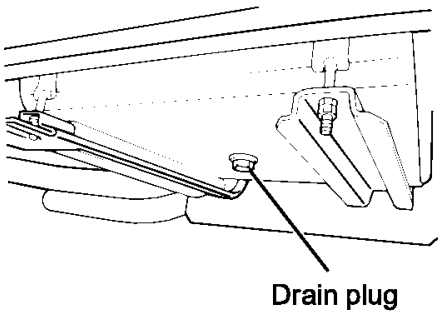
Sediment and water collected in the fuel tank must be removed according to the Maintenance Schedule.

Refer to page
8-2 Maintenance Schedule

ADVICE

- The contaminant and fuel discharged from the tank must be disposed of in a method conforming to the regulatory requirement in your country.

Removing Sediment and Water from the Fuel Tank



1. Remove the cap from the fuel tank and pump out the fuel.
2. Remove the drain plug to discharge water and sediment out of the tank.
3. Install the drain plug.

Capacity of fuel tank	Drain plug tightening torque
200 liters (53 US gal./**44 Imp gal.**)	**29.0 N·m** (3.0 kgf·m/**22 lb·ft**)
400 liters (106 US gal./**88 Imp gal.**)	

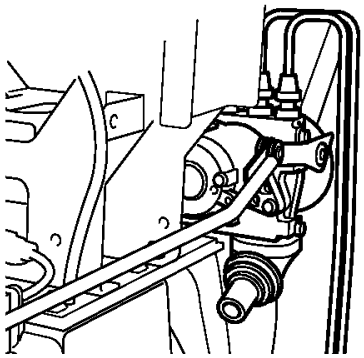
Do not reuse a drain plug gasket.

Cab Tilt

Checking the Cab is Lowered and Cab Tilt Handle is Locked

Refer to page
9-11 Checking the Cab is Lowered and Cab Tilt Handle is Locked

Cab Tilt Pump Oil



Change the cab tilt pump oil according to the Maintenance Schedule. Oil replacement requires disassembling of the relevant components, so you should have it done by your Isuzu Dealer.

Refer to page
8-2 Maintenance Schedule
8-40 Recommended Fluids, Lubricants and Diesel Fuels

Other Maintenance and Care

Windshield Washer Fluid

The windshield washer fluid acts to remove dirt.

Checking Windshield Washer

Refer to page
9-23 Checking Windshield Wipers and Windshield Washer

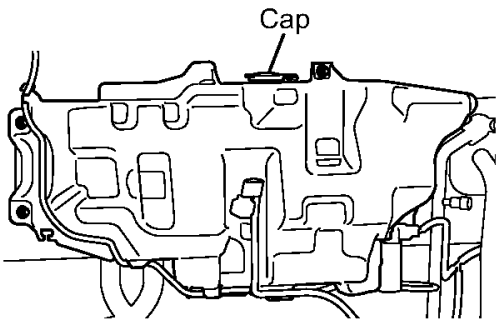
Checking the Windshield Washer Fluid Level

Refer to page
9-8 Checking the Windshield Washer Fluid Level

Refilling Windshield Washer Fluid

ADVICE

- Upon factory shipment, new vehicles contain only tap water in the washer fluid tank. Adjust the concentration of the fluid to suit your own usage.
- Follow the instructions provided with the windshield washer fluid regarding the ratio for mixing with tap water.
- Poor quality products, engine coolant, and soapy water must not be used. Failure to observe this precaution can result in nozzle blockage or damage to painted surfaces.
- The washer should never be used while the tank is empty. Operating the washer with the tank empty can result in motor damage.



1. Open the front lid.

Refer to page
7-12 Front Lid

2. Open the cap (black) and fill the washer tank with windshield washer fluid up to the opening of the tank.
   The capacity of the tank is approximately **5 liters** (1.32 US gal./**1.1 Imp gal.**).

Windshield and Windshield Wiper Blades

The windshield wiper blades act to wipe away rain, snow, and dirt to maintain the field of view.

⚠ CAUTION

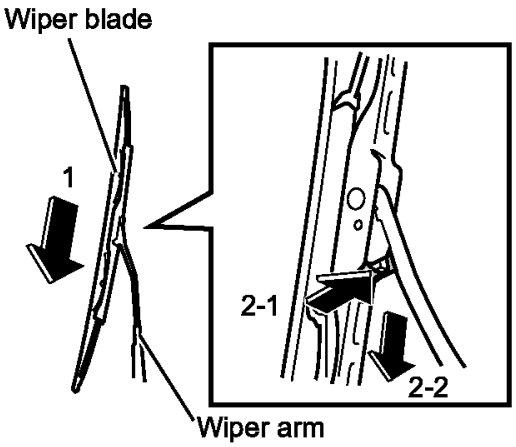
- **Clear ice or packed snow from the wiper blades before using the wipers.**

Checking Windshield Wipers

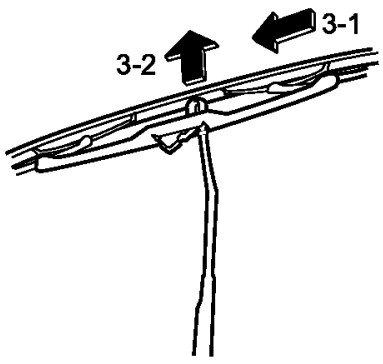
Refer to page
9-23 Checking Windshield Wipers and Windshield Washer

Windshield Wiper Blade Replacement

Removal

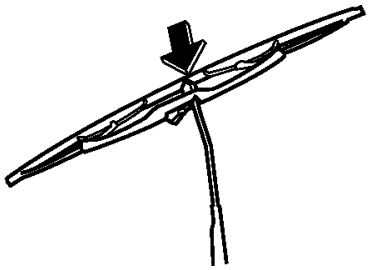


1. Pull the wiper arm up to the vertical position.
2. While pressing the wiper-blade hook towards the arm, slide the blade downwards (towards the base of the arm).

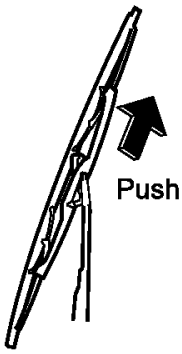


3. With the blade and arm almost perpendicular, remove the blade from the arm.

Installation



1. Insert the blade while holding it almost perpendicular to the arm.



Push up the blade.

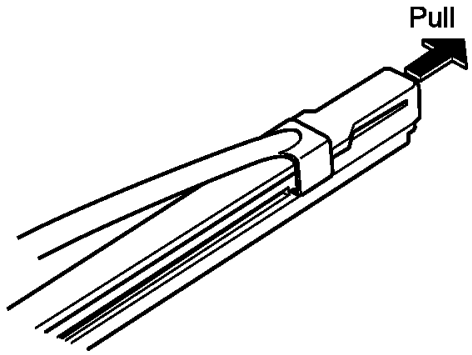
2. Then, with the blade and arm oriented in the same direction, push up the blade until it locks into place on the arm.

ADVICE

- Do not lower the wiper arm with its blade removed; the windshield glass may be scratched.
- Whenever a wiper blade has been attached, ensure that it is locked into place. Failure to observe this precaution can result in the wiper blade becoming dislocated when the windshield wiper switch is turned on.

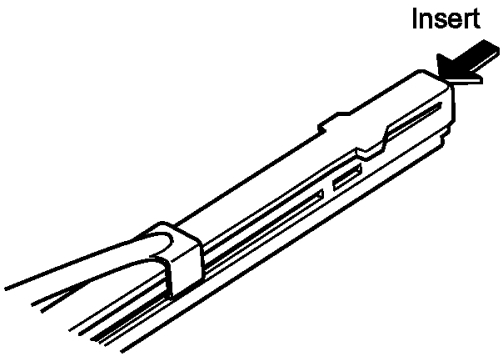
Wiper Rubber Insert Replacement

Removal

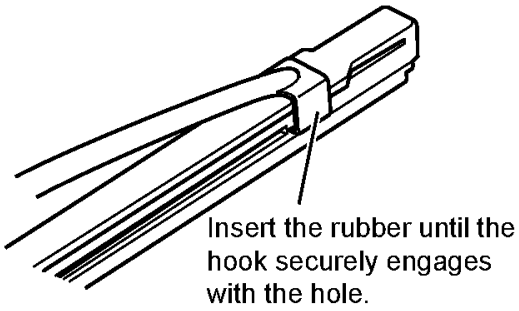


1. Remove the wiper blade from the wiper arm.
2. Pull the wiper rubber insert in the direction indicated by the arrow and extract it from the wiper blade.

Installation



1. Insert a new wiper rubber insert into the wiper blade.



2. Continue pushing in the wiper rubber insert until the wiper blade's hook engages with the hole in it, and then confirm that the rubber insert is securely held in place.
3. Attach the wiper blade to the wiper arm.

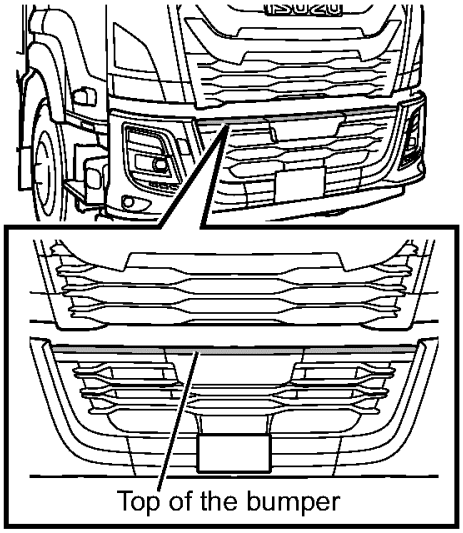
Windshield Care



If not fully cleaned by the windshield wipers, the windshield should be cleaned using Isuzu genuine glass cleaner.

⚠ CAUTION

- **When cleaning the windshield, do not place your feet or stand on the top of the bumper if it does not have a step. The top of the bumper is slippery and could cause a fall or other injury.**



Battery

The battery provides power to start the engine, as well as for many electric systems, such as the various lamps and accessories.

Battery Handling Precautions

⚠ DANGER

- **Usage or charging of the battery when the battery fluid is below the "LOWER LEVEL" line can accelerate deterioration and give rise to dangerous situations such as the generation of heat and even explosion.**
- **If battery fluid should enter an eye, immediately wash away using a large amount of water and continue washing for at least 5 minutes. Following this, you should seek medical assistance**
- **When using tools or other metal objects in the vicinity of the battery, take care to prevent them from coming into contact with the positive terminal. As the vehicle itself will conduct electricity, any such contact can result in a short-circuit and a highly dangerous electric shock.**
- **A vehicle battery generates extremely flammable hydrogen gas. For this reason, operations producing sparks or requiring the usage of open flames must never be carried out near a vehicle battery. Failure to observe this precaution can result in explosion if the hydrogen gas ignites. Whenever wiping up battery fluid, a damp cloth should be used.**

⚠ WARNING

- **Always stop the engine whenever the battery is to be inspected.**
- **Dilute sulfuric acid is used as the battery fluid. Special care must be taken to ensure that this fluid does not come into contact with skin, clothing, or metal surfaces.**
- **When disconnecting cables, turn the starter switch to the "LOCK" position, wait at least 3 minutes, and then disconnect the cables starting with the negative cable from the terminals. If the negative cable is disconnected within 3 minutes, the engine control module may malfunction. When reconnecting them, the negative cable should be reconnected last.**

ADVICE

- Battery fluid should never be filled beyond the "UPPER LEVEL" line. Failure to observe this precaution can result in battery fluid spillage and corrosion of battery terminals and other components. Any spilled battery fluid should be immediately washed away with water.
- Whenever battery fluid has been added, the battery should be recharged (by driving the vehicle). In winter months in particular, battery fluid can freeze and damage the battery case if you fail to recharge the battery.
- If the battery fluid level continues to drop at an unusually fast rate, have an inspection carried out immediately by the nearest Isuzu Dealer.

Keep the battery clean. If the battery is left in a dirty condition, contaminants can get mixed into the battery fluid, the battery plates can be damaged, short circuits can occur on the top surface of the battery and the battery's service life can be reduced.

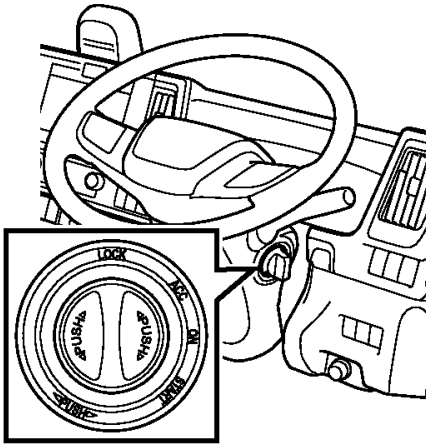
Icons for Safety Precautions

Be sure to read warning/caution labels on the battery before inspecting the battery. The following icons are used in the labels.

Refer to page
0-9 Warning/Caution Labels – Chassis

Icons	Details
	Refer to instruction manual/booklet
	Wear eye protection
	No children allowed
	No open flames
	Explosive material
	Corrosive substance

When Performing Inspection or Maintenance



Before starting inspection and maintenance of electric systems, including the battery, follow the procedure below.

1. Turn off the switches.
2. Turn the starter switch to the "LOCK" position, wait at least 3 minutes, and then disconnect the negative cable from the negative terminal.

There is a danger that electrical components could be damaged if inspection or maintenance is carried out if the battery remains connected.

Removing the Battery

When the battery is to be removed, turn the starter switch to the "LOCK" position, wait at least 3 minutes, and then disconnect the negative cable from the negative terminal. If the battery cable remains connected to the negative terminal, any contact made by tools and the like between the positive terminal and the vehicle body could lead to a short-circuit and dangerous electrical shocks. The electrical system can also be damaged.

⚠ CAUTION

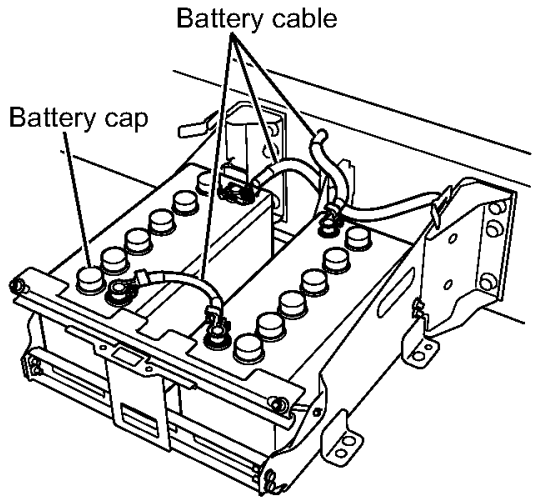
- **If the negative cable is disconnected from the negative terminal on the battery within 3 minutes after turning the starter switch to the "LOCK" position, the engine control module may malfunction.**

Charging the Battery

⚠ DANGER

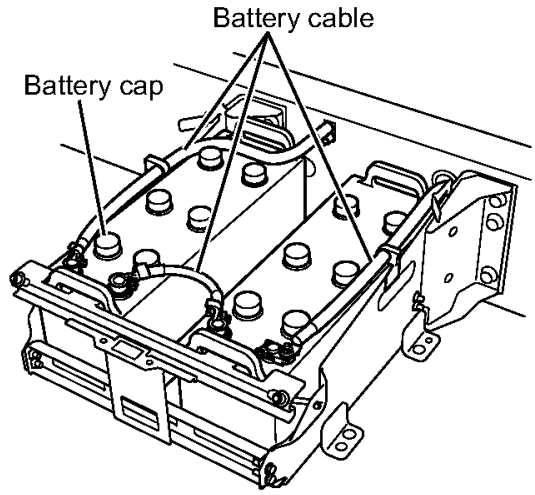
- **Do not use open flames in the vicinity of the battery when it is being charged. Hydrogen gas is generated by the battery during the charging process; accordingly, failure to observe this precaution can result in fire or explosion.**

Except 115F51 model



- Before charging the battery, remove it from the vehicle to a location with good ventilation and take off the battery caps. If, on the other hand, the battery is to be charged while still on the vehicle, be sure to first disconnect the battery cables.
- Whenever a charger is being connected to or disconnected from a battery, ensure that it is turned off.
- Battery cables must always be disconnected when performing quick charging.
  Failure to observe this precaution can result in generator burnout.

115F51 model



Installing the Battery

1. When installing the battery in your vehicle, ensure that it is oriented correctly and securely fastened without any looseness. If the battery is not installed correctly, the battery case and battery plates can be damaged as a result of vibrations during driving.
2. When connecting the battery cables, start with the positive terminals, and then connect the negative terminal of the 24V battery, and finally the negative terminal of the 12V battery.

CAUTION

- **Take care to avoid mixing up the positive and the negative terminals when connecting battery cables. Incorrect connection to these terminals can result in flow of excessive current and burnout of the generator or vehicle wiring.**

NOTE

- The ESC warning light may turn on when the battery cables are disconnected or the battery voltage is low. The ESC function turns off while the ESC warning light is on, but the ESC warning light will turn off by driving the vehicle normally for a while, then the ESC function will resume. If the ESC warning light remains on even after driving for a while, contact the nearest Isuzu Dealer.

Using the Battery as a Direct Power Source

The battery should not be used as a direct source of 12V power.
If your battery must be used as a direct power source, please consult with your Isuzu Dealer.

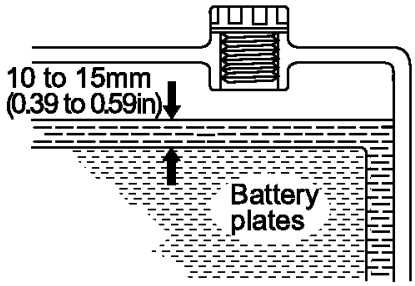
Checking the Battery Fluid Level

Refer to page
9-18 Checking the Battery Fluid Level

Filling Battery Fluid

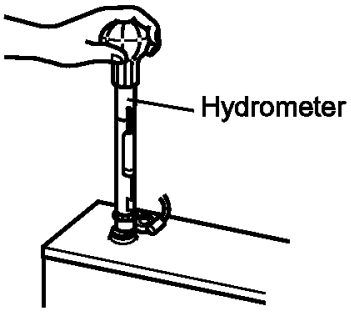
ADVICE

- Battery fluid should never be filled beyond the "UPPER LEVEL" line. Failure to observe this precaution can result in battery fluid spillage and corrosion of battery terminals and other components. Any spilled battery fluid should be immediately washed away with water.
- Whenever battery fluid has been added, the battery should be recharged (by driving the vehicle). In winter months in particular, battery fluid can freeze and damage the battery case if you fail to recharge the battery.
- If the battery fluid level continues to drop at an unusually fast rate, have an inspection carried out immediately by the nearest Isuzu Dealer.



If the quantity of battery fluid inside the battery is insufficient, remove the cover and cap, and then add distilled water until the surface is close to the "UPPER LEVEL" line or in a range between 10 and 15 mm (0.39 and 0.59 in) from the top of the battery plates. When you have finished adding the distilled water, securely install the cap and battery cover.

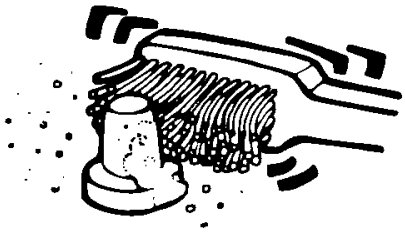
Checking the Specific Gravity of Battery Fluid



1. Check the specific gravity of the battery fluid using a hydrometer. If the specific gravity is too low, the battery should be charged.

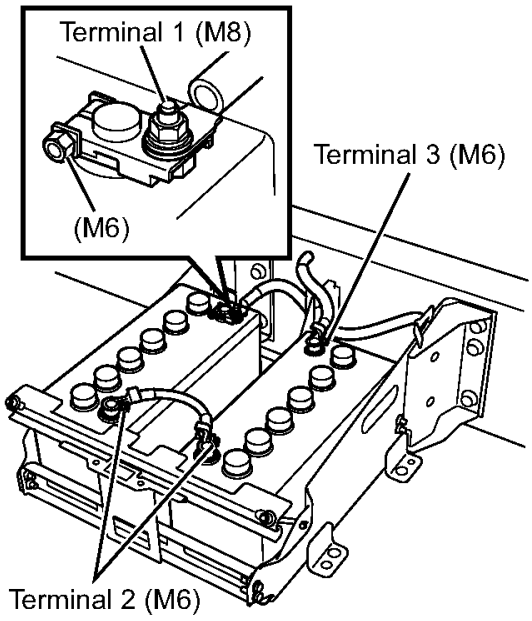
Specific gravity at a fluid temperature of 20°C (68°F)
1.27 - 1.29

Checking the Battery Terminals

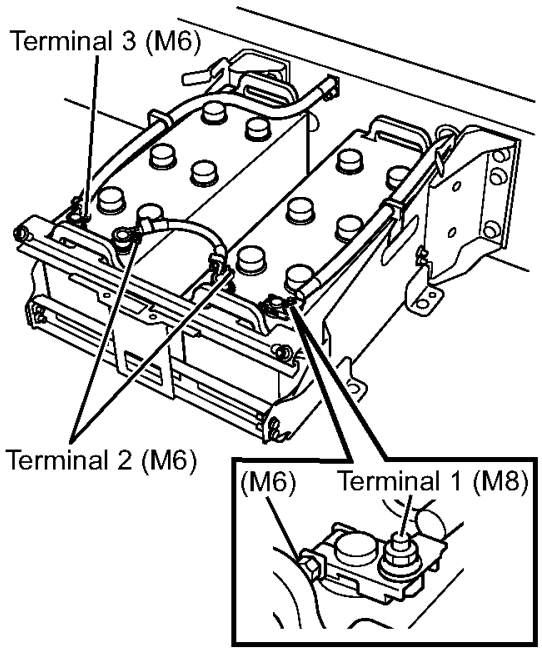


1. Check the terminals for looseness and corrosion.
2. If a terminal is found to be corroded and coated in white powder, wash this away with warm water and then wipe fully dry. Excessively corroded terminals should be polished using a wire brush or sandpaper.

Except 115F51 model



115F51 model



3. After cleaning, securely connect the battery cables to prevent them from becoming loose. After connecting the battery cables, apply a thin layer of grease to the terminals.
   See "When the Battery Goes Flat" regarding steps to be taken should the battery be completely discharged.

Tightening torque for terminal nuts		
Terminal 1	M6 nut	**5 - 7 N·m** (0.5 - 0.7 kgf·m/**43 - 61 lb·in**)
	M8 nut	**11 - 14 N·m** (1.1 - 1.4 kgf·m/**95 - 122 lb·in**)
Terminal 2	M6 nut	**5 - 7 N·m** (0.5 - 0.7 kgf·m/**43 - 61 lb·in**)
Terminal 3	M6 nut	**5 - 7 N·m** (0.5 - 0.7 kgf·m/**43 - 61 lb·in**)

ADVICE

- When tightening the battery terminals, arrange the battery cables so they are not forcibly bent.

Refer to page
11-10 When the Battery Goes Flat

Battery Disposal

DANGER

- **Keep batteries away from fire, and do not allow their positive and negative terminals to touch, such as with metal tools, etc. Sparking could cause ignition and explosion.**
- **Do not store used batteries in a place where children or others can touch them. Contact with the electrolyte may cause blindness or burns.**

WARNING

- **Do not store used batteries in an inverted position. Leaked electrolyte will not only damage the surrounding area, but the leakage may also cause a fire.**

CAUTION

- **Do not dispose of batteries with household waste.**
- **To prevent short circuits, cover the battery contacts with adhesive strip.**
- **Used batteries will be recycled. Do not dispose of them but contact the store where you purchased your new battery.**

Lighting Equipment

The vehicle uses many types of lights in various locations. Burned out lights may lead to an unexpected accident. Be sure to check the condition of the lights to use the vehicle safely.

Checking the Lighting Equipment

1. Check for damage or dirt on lights.

Refer to page
9-6 Checking for Damage or Dirt on Reflectors and Lights

2. Check whether lights light and flash.

Refer to page
9-19 Checking Exterior Light Operation

3. Check each bulb for blowout.
4. If a bulb has blown out, replace it. Always place the starter switch in the "LOCK" position and place all the other switches in the off position before replacing the blown bulbs.
5. If the bulb has not blown out, the fault may be in the wiring or relay. Contact the nearest Isuzu Dealer.

⚠ WARNING

- **If the LED lights do not light, have your vehicle inspected at the nearest Isuzu Dealer. Reckless disassembly or repair of the LED lights may lead to malfunctions of the parts or electric shock.**

Bulb Wattage

Position	Lights		Bulb wattage
Front	Headlight		LED
	Front fog light		LED
	Front turn signal light		LED
	Clearance light/daytime running light [V]		LED
	Side turn signal light (cab side)		LED
Side	Side turn signal light (vehicle side)		LED
Rear	Taillight and stop light	LED type	LED
		Bulb type	5/21W
	Rear turn signal light	LED type	LED
		Bulb type	21W
	Back up light	LED type	LED
		Bulb type	21W
	License plate light	1-light type	10W
		2-lights type	5W

Position	Lights	Bulb wattage
Interior	Interior light (fluorescent light)	LED
	Dome light	LED
	Map light	LED
Roof	Roof-mounted clearance light [V]	5W

Contact the nearest Isuzu Dealer when replacing lights that are not listed here.

CAUTION

- **Using bulbs with a wattage other than that specified could cause the bulb or the wiring to become hot. This could result in the warping of the lens and case, and it could also lead to the outbreak of fire.**
- **Bulbs are hot immediately after they go out. When replacing the bulbs, avoid being burned by making sure they are fully cooled.**
- **Never drive the vehicle with the bulbs not working. This could result in an accident.**

ADVICE

- When one bulb of a pair of lights, such as a headlight blows out, the other bulb is approaching the end of its useful life. We recommend that both be changed at the same time.

NOTE

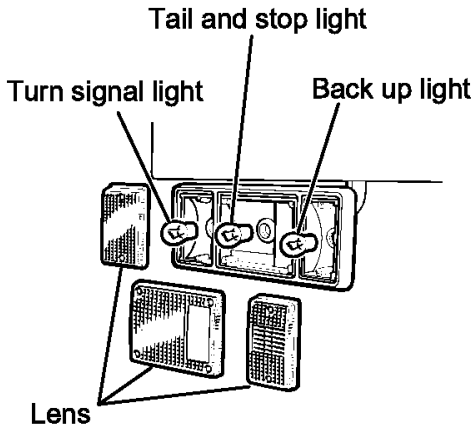
- For the lights (lighting equipment) such as headlights, inside of the lens can mist up momentarily when driving in the rain or during the car wash. Also, the temperature difference between inside and outside of the lights can sometimes cause the water condensation inside the lens. This is not abnormal because this is the same phenomenon as the windshield or door glass fogs up when it rains. If it is demisted minutes after the light is turned on, things are normal.

Replacing the LED Lights

ADVICE

- LED lights do not need to be replaced, but if something is abnormal, contact the nearest Isuzu Dealer.

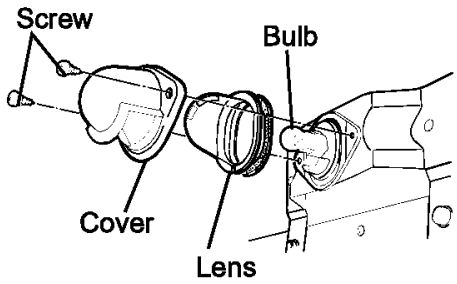
Replacing the Rear Turn Signal Lights, Taillights, Stop Lights, and Back Up Lights



Bulb type

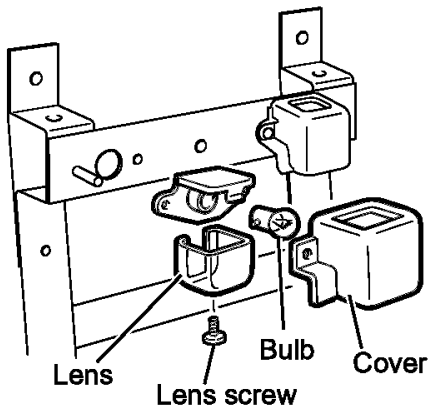
1. Loosen the screws and remove the lens.
2. Loosen the bulb by turning it counterclockwise while pressing on it.
3. To install the lights, follow the removal procedure in reverse.

Replacing the License Plate Light



1-light type

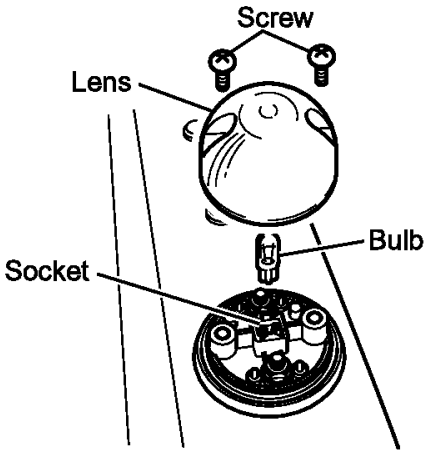
1. Loosen the screws and remove the cover.
2. Loosen the bulb by turning it counterclockwise while pressing on it.
3. Remove the lens.
4. To install the lights, follow the removal procedure in reverse.



2-lights type

1. Loosen the screws and remove the cover.
2. Loosen the lens screw and remove the lens.
3. Remove the bulb by pushing it in and turning it counterclockwise.
4. Fit a new bulb in reverse order.

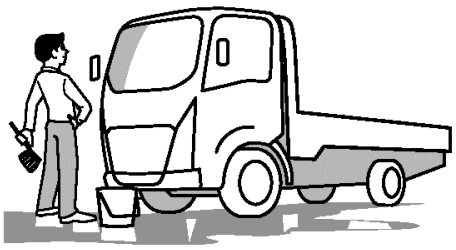
Replacing the Roof-Mounted Clearance Light [V]



1. Loosen the screws and remove the lens.
2. Remove the bulb and replace it with a new one.
3. To install the lights, follow the removal procedure in reverse.

Exterior Maintenance

Washing



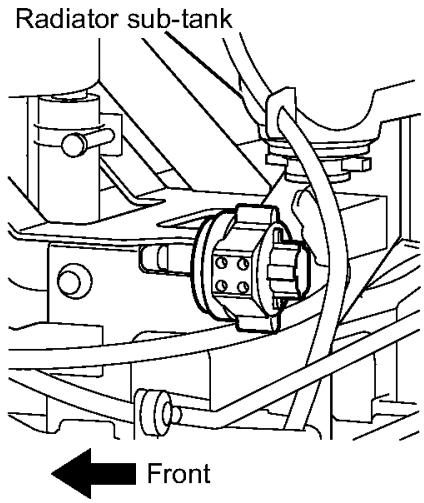
If the vehicle is operated with foreign material adhering to the exterior, this material may react chemically with paint or plating, resulting in staining, discoloration, rusting or corrosion of components. Also, the material may become trapped within mechanical components, adversely affecting their functions or forming an aerodynamic resistance. In the following cases, therefore, the vehicle must be washed and all foreign matter removed.

- When soot, iron powder, dead bugs, bird droppings, tree sap or oily matter from coal tar and smoke has adhered to painted surfaces.
- When the vehicle has been driven in coastal areas.
- When the vehicle has been driven on roads where road chemicals have been applied.
- When a large amount of mud or dirt has adhered to the exterior.

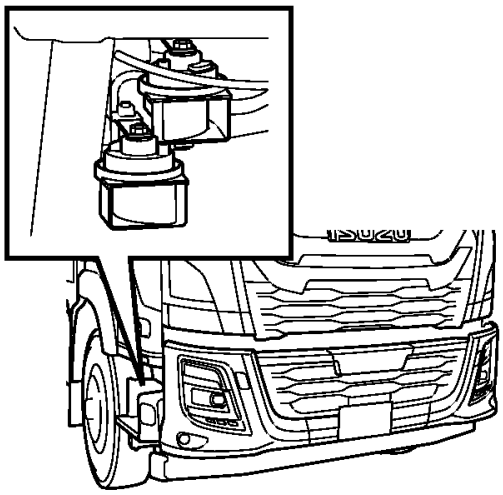
⚠ CAUTION

- **When pouring water with a hose or the like, make sure that water does not enter the air intake duct (port to intake air).**
- **Do not apply water directly in order to clean the cab interior. Failure to observe this precaution can result in malfunction or breakdown of electronic control units and electrical components, or in rusting of the cab floor.**
- **Do not apply water from a high-pressure washer nozzle directly to the electric connectors. Failure to observe this precaution can lead to faulty operation of the electrical system.**
- **Do not spray high pressure water at or near the brake valves behind the front lid. Failure to observe this precaution can lead to faulty operation of the related components.**
- **Do not spray water directly at the air conditioning filter area, the air conditioning piping, or the heater hose connections behind the front lid. Failure to observe this precaution can result in water entering the cab.**
- **Be careful that water or steam from high-pressure washing does not get directly on the warning buzzers.**

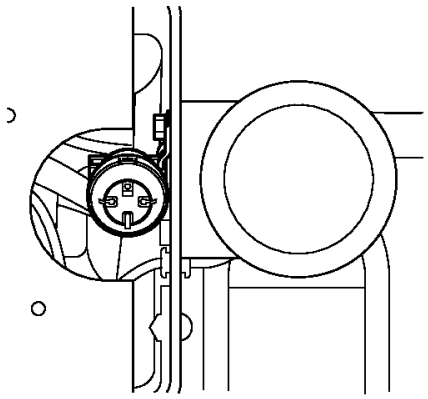
Buzzer location (rear of the cab on the left side of the vehicle)



Buzzer location (inside the front lid)



Buzzer location (inside the rear end frame on the right side of the vehicle)



ADVICE

- If automatic washing is used with vehicles having dark or metallic coating, the painted surfaces can be damaged by the brushes, lose their luster, or be very noticeably scratched.
- When cleaning the front lid, circulate the inside air with the inside/outside air selector switch to prevent water from getting into the air conditioner.
- Do not apply water directly to the air conditioning filter, or the connections for the air conditioning pipe or heater hose inside the front lid. Failure to observe this precaution can result in water entering the cab.
- Do not apply water to the engine compartment or to electrical components.
  Failure to observe this precaution can lead to a poorly starting and operating engine and problems in electrical system components.
- Be careful not to allow water to enter the exhaust pipe. Failure to observe this precaution may expose the sensor installed inside the exhaust pipe to water, resulting in a failure of the sensor.
- Ensure that mirrors and the antenna are retracted before washing the vehicle.
- Do not apply water to the tail end of the exhaust pipe. Failure to observe this precaution can lead to fault exhaust gas measurement sensors by getting wet.



- When washing the vehicle, be sure to observe the following precautions to avoid heat deformation of the plastic parts, mechanical breakage and water entry into the cab.
  - Avoid washing with water jet of high pressure and/or of high temperature.
  - Keep the distance of more than 0.4 m (15.75 in) between the washer nozzle and the vehicle, and hold the nozzle at a right angle to the door glasses.
- Ensure that all detergent is fully washed and wiped away. Particularly in the case of strong alkaline detergents (typically those for industrial uses), there is a danger that hairline cracks can develop in lighting-cluster lenses if the vehicle is operated without detergent being fully wiped away.

1. Fully turn on the tap, and wash out the undercarriage and suspension.
2. Close all openings and wash the cab and cargo body panels using a neutral detergent.
3. Clean wheels and tires using a brush and detergent.

4. After washing away all remaining detergent, use a shammy or other clean cloth to fully remove all moisture and water droplets.

Vehicle Storage

In order to maintain your vehicle's attractive appearance as long as possible, special consideration must be given to its storage location.
If the vehicle is stored or kept for an extended period of time in any of the following locations, a chemical change may occur in the paintwork, resulting in staining, discoloration, rusting, and corrosion of components.

- Locations where a large amount of oily matter, soot, heavy smoke or metal powder can adhere to the vehicle.
- Areas around pharmaceutical plants and other facilities that discharge chemical matter.
- Coastal areas
- Locations where a large amount of dead bugs, bird droppings or tree sap can adhere to the vehicle.

Waxing

Painted and chrome-plated surfaces should be waxed once or twice a month, or whenever water is being poorly repelled on the surfaces. Ensure that wax is not applied in direct sunlight, and that the temperature of the painted surface is no more than 40°C (104°F).
Always follow the instructions provided with your wax product.

⚠ CAUTION

- **Wax must not be applied to the windshield. Failure to observe this precaution can result in irregular reflection of light, impairing your view.**

ADVICE

- Do not use wax containing abrasive material. Failure to observe this precaution can lead to scratching of painted surfaces or plastic components.
- The application of wax to rubber component surfaces can result in permanent whitening.

NOTE

- Wax must not be applied to the windshield. A layer of wax can impair your view in rainy weather and can also lead to rough movements of the windshield wiper.
- If engine oil or grease comes into contact with the windshield, staining or discoloration may result. It must be immediately cleaned away.

Interior Maintenance

Remove dust and dirt from the interior of the cab using an automotive cleaner or vacuum cleaner, and gently wipe surfaces clean using a cloth wet with warm or cold water.

⚠ WARNING

- **When cleaning the interior of the vehicle, water should never be sprayed directly. Failure to observe this precaution can lead to vehicle malfunction and possibly to fire if water should enter the audio system, other electrical components located underneath the floor carpet, seat belt with pretensioners, or the body or components of the SRS airbag.**
- **Petroleum ether, gasoline, alcohol or other organic solvents should not be used to clean seat belts.**
  In addition, seat belts should be neither bleached nor dyed. The performance or strength of the seat belts could be impaired, such that in the case of a collision, the belts could be insufficiently effective, and serious life-threatening injuries could result. When cleaning, use warm water in which a small amount of neutral detergent has been dissolved to gently wipe the seat belts, and do not use them until they are dry.

⚠ CAUTION

- **The interior of the vehicle must never be cleaned using acidic or alkaline solvents, or petroleum ether, gasoline, alcohol or other organic solvents, dyes, or bleaches. They can cause discoloration , staining, peeling of paint, melting, or deformation. Also, certain types of cleaning products may contain these compounds. Be sure to read cleaning product labels carefully.**
- **Do not use polishing wax or polishing cleaner when cleaning the interior of the vehicle. The equipment and parts inside the vehicle could be reflected in the windshield, obstruct the driver's view, and lead to an accident.**
- **Air fresheners (liquid, solid, gel or plate types) must not come into direct contact with, or spill onto, interior components such as the air conditioning or audio system. Compounds contained in these products can cause discoloration, staining or peeling of paint.**
- **Glass cleaners that contain these compounds must not be used to clean the inside of the windshield or window glass. To clean the glass, wipe using a cloth wet with warm or cold water.**
- **Be aware that there is a risk of injury from hitting your hands against the seat rails and seat frames when cleaning or picking things up from under the seats.**

Seat Belt Care

A dirty seat belt can develop retracting problems, and for this reason, regular inspection and upkeep are required.

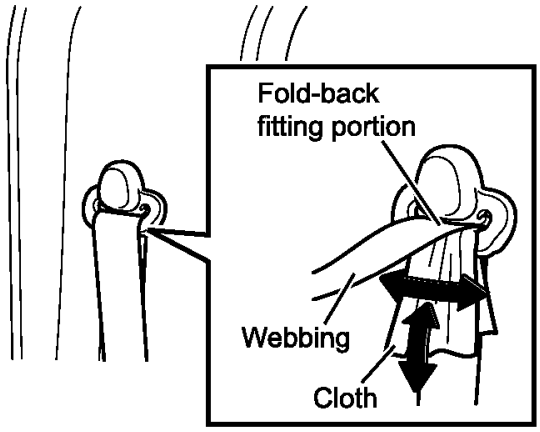
⚠ CAUTION

- **Seat belt webbing can lose its strength when bleached or dyed, or when cleaned using gasoline, paint thinners, alcohol or other volatile substances.**
- **Do not disassemble the seat belt mechanism in order to remove any foreign material or objects that may have entered the buckle. Instead, arrange for inspection and maintenance to be carried out by your Isuzu Dealer.**

Cleaning a Seat Belt's Fold-back Fitting Portion

ADVICE

- Avoid using anything like a tool to pass the cloth through the fold-back fitting portion or try to remove stubborn dirt. Using such an object can result in plastic parts or seat belt webbing damage.

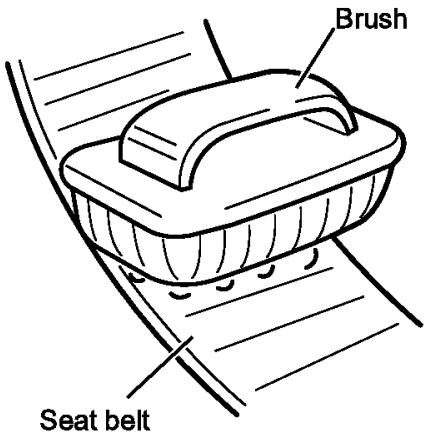


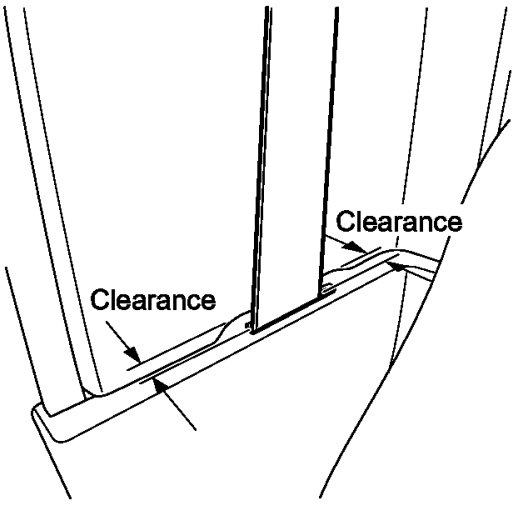
1. Fold a piece of cotton cloth, absorbent gauze, or the like of approximately 50 mm (2 in) in width into a rectangle.
2. Mix one part neutral detergent into approximately twenty parts warm water.
3. Wet the cloth in the detergent mixture, pass it through the fold-back fitting portion of the belt, and slide it back and forth and laterally until dirt can no longer be seen.
4. Remove the cloth, remove moisture from the fitting portion of the belt using a dry cloth, and then allow it to dry naturally out of direct sunlight.
5. Check to be sure the seat belt retracts and pulls out correctly.

Cleaning a Belt Webbing

ADVICE

- If the above-described upkeep operations do not improve the operation of the seat belt through the retractor, there is a possibility that the belt is making contact with the pillar trim. In this case, arrange for inspection and maintenance to be carried out by your Isuzu Dealer.
- If the belt is not winding and unwinding correctly, or if inspection reveals problems such as loose mountings, metal parts deformation, webbing damage, fraying or discoloration, arrange for replacement to be carried out by your Isuzu Dealer.





1. Fully extract the belt and examine for any difference in color between the front and back surfaces.
2. Mix one part neutral detergent into approximately twenty parts warm water.
3. Wet a nail brush or another similar brush having soft bristles (of nylon or the like) in warm water, and use this to clean away dirt.
4. Wipe the seat belt dry using a dry cloth, and then allow it to dry naturally out of direct sunlight.
5. Check to be sure the seat belt retracts and pulls out correctly.

Fabric Seat Covering and Carpet Care

Remove dirt and dust using a home-use electric vacuum cleaner.
Do not remove the carpet. Use standard household cleaning products and methods to remove stains from food, drink and the like.
Be sure to use neutral detergents or cleaning products indicated as higher alcohol based detergents.

In an Emergency 11

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- When the Engine Stops While Driving 11-7
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11-2 In an Emergency

Troubleshooting

Performing regular inspections and maintenance prevents damage. Be sure to perform inspections and maintenance at regular intervals. Also, quickly rectify any fault in the vehicle (even a small fault) to prevent it from becoming more serious.
If a symptom shown in the following table occurs, perform inspections and take corrective action in accordance with the table. If you are unable to perform a repair, the corrective action shown in the table does not eliminate a symptom or you cannot locate a fault, contact the nearest Isuzu Dealer.

ADVICE

- Any item for which there is a ◎ in the "Corrective action" column requires repairs and adjustments. Contact the nearest Isuzu Dealer.

Symptom		Cause	Corrective action	Reference page
Engine does not start	Starter does not turn over, or is weak	Flat batteries	Recharge or replace	11-10
		Battery terminals detached, loose or corroded	After repairing corroded section, connect the terminals firmly	—
		Starter ground wire terminal detached, loose or corroded	After repairing corroded section, connect the terminals firmly	—
		Engine oil viscosity too high	Change to oil with proper viscosity	8-44
		Starter or electrical system is faulty	◎	—
		Selector button is not in the "N" position	Press selector button "N" and make sure that "NN" is shown on the shift selector display	4-62
		Have not depressed brake pedal or apply parking brake	Depress brake pedal or apply parking brake	4-57
	Starter turns over	No fuel	Make sure there are no fuel leaks, and then add fuel	—
		Air in the fuel system	Bleed fuel system	11-13
		Fuel filter is clogged	Replace filter	10-35
		Fuel is frozen	Warm fuel pipe with hot water or wait until it gets warmer	—
		Preheating system is faulty	◎	—
		Common rail system is faulty	◎	—
		There is no AdBlue®	Add AdBlue®	4-168
		The quality of AdBlue® is poor	◎	—
		Fuel system is faulty	◎	—
Engine starts, but immediately stops		Idling speed too low	Adjust the idling speed	4-54
		Fuel filter is clogged	Replace filter	10-35
		Air cleaner is clogged	Clean or replace element	10-30
		Common rail system is faulty	◎	—

11-4 In an Emergency

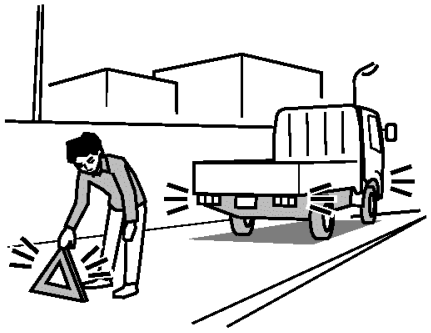
Symptom	Cause	Corrective action	Reference page
Unsteady engine speed	There is water or air in the fuel system	Drain water from fuel filter or bleed fuel system	10-34 11-13
	Fuel system is faulty	◎	—
White or black exhaust smoke	Engine not sufficiently warmed up	Allow engine to warm up sufficiently	4-54
	Excessive engine oil	Correct oil level	9-10
	Air cleaner clogged	Clean or replace element	10-30
	Air inlet opening disconnected	◎	—
	Fuel system is faulty	◎	—
	DPD is faulty	◎	—
	DPD filter clogged	◎	—
Engine is overheating	No engine coolant	Add engine coolant	10-17
	Front of radiator is clogged with dirt	Wash clean with tap water	10-19
	Sub-tank cap not sufficiently tightened	Make sure it is firmly tightened	—
	Fan belt loose	Adjust the tension or replace the belt	10-26
	Engine coolant dirty	Clean the radiator interior or change engine coolant	10-17
	Fan clutch is faulty	◎	—
	Sub-tank cap dirty or faulty	Clean or replace	—
Oil pressure is low	Improper engine oil viscosity	Change to oil with proper viscosity	8-44
	Engine oil level too low	Add engine oil	10-7
	Engine inner components are faulty	◎	—
	Meter, indicator/warning lights or switches faulty	◎	—
Air pressure is low	Air compressor faulty	◎	—
	Air leaking from pipes	◎	—
	Air governor faulty	◎	—

Symptom	Cause	Corrective action	Reference page
Not enough engine power	Parking brake not fully released	Make sure it is fully released	—
	Brake dragging	◎	—
	Clutch slipping (manual transmission model)	Adjust clutch free play	10-70
	Air cleaner is clogged	Clean or replace element	10-30
	Fuel filter is clogged	Replace filter	10-35
	Common rail system is faulty	◎	—
	Engine control system faulty	◎	—
	Engine faulty	◎	—
	DPD clogged	◎	—
Brakes not effective	Clearances between the brake disc and pad are too large	◎	—
	Clearances between the drum and lining are too large	◎	—
	Low air pressure	Raise engine speed to supply air	—
Uneven braking	Unbalanced air pressure in tires	Adjust to proper air pressure	9-12
	Tire unevenly worn	Replace tire	10-53
	Clearances between the brake disc and pad are not uniform for each wheel	◎	—
	Clearances between the drum and lining are not uniform for each wheel	◎	—
Exhaust brake not working	Low air pressure	Raise engine speed to supply air	—
	Air system is faulty	◎	—
	The electrical system is faulty	◎	—

11-6 In an Emergency

Symptom		Cause	Corrective action	Reference page
Steering wheel hard to turn		Loaded too far forward	Load properly	—
		Power steering fluid level too low	Add fluid	10-100
		Insufficient air in front tires	Adjust to proper inflation pressure	9-12
Excessive play in the steering wheel		Wheel bolts and nuts loose	Tighten to the specified torque	10-60
		Unbalanced inflation pressure in the tires	Adjust to proper inflation pressure	9-12
		Unbalanced tires	◎	—
		Excessive steering wheel play	◎	—
Poor steering wheel return		Poor lubrication in the steering mechanisms	Lubricate the mechanism	—
		Poor wheel alignment	◎	—
Clutch disengages poorly		Insufficient air	Fill with air	—
		Insufficient clutch fluid	Add fluid	9-18
		Excessive clutch pedal free play	Adjust to proper level	10-70
Loud or abnormal noises	From the transmission	Insufficient transmission oil	Add oil	10-83
		Transmission inner components faulty	◎	—
	From differential	Insufficient differential gear oil	Add oil	10-92
		Differential inner components faulty	◎	—
	From the suspension	Spring pins, shackles, or stoppers worn	◎	—
	From the propeller shaft	Poor lubrication in each component	Lubricate them	8-25
		Splines or bearings worn	◎	—

When the Vehicle Breaks Down during Driving



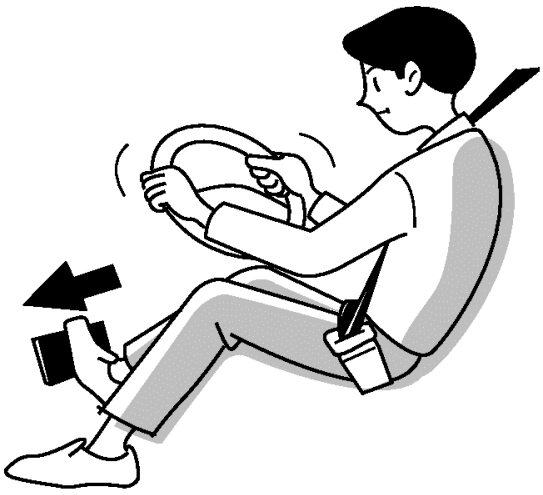
1. Operate the hazard warning flasher and pull the vehicle immediately over to a safe place that does not impede traffic (shoulder, verge). Place the triangle reflectors to alert other traffic to the presence of your vehicle.
2. Have the other passengers get out and wait in a safe place.
3. Walk to a safe place and take appropriate measures by using the closest telephone, etc.

⚠ WARNING

[If there is a fuel leak]

- **Leaking fuel from the vehicle is dangerous due to possible combustion or explosion. Stop the engine immediately.**

When the Engine Stops While Driving



Do not panic. Press the brake pedal to reduce speed, head immediately for a safe place, stop the vehicle and perform an inspection. If the engine stopped because the vehicle ran out of fuel while driving, refueling alone will not be enough to restart the engine. Bleed the fuel system after refueling the vehicle.

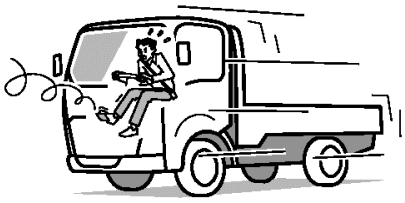
Refer to page
11-12 When the Fuel Runs Out

11-8 In an Emergency

⚠ WARNING

- **Vehicle operations will change, so stop the vehicle in a safe place with the following in mind.**
  - **The power steering system will not work so the steering wheel will be hard to turn. It will require more strength than during normal operation.**
  - **The brake air pressure will not rise, so immediately stop the vehicle at a safe place.**

When the Brakes Do not Work



If the brakes become ineffective unexpectedly, reduce speed by quickly shifting down from 3rd to 2nd to 1st gear using the selector button. Gradually pull the parking brake lever while firmly holding on to the steering wheel. Stop the vehicle on the side of the road.

⚠ CAUTION

- **It is very dangerous to suddenly pull the parking brake lever all the way while moving at high speed. Reduce speed first by shifting down and then gradually pull the parking brake lever.**

NOTE

- In worst case conditions on a mountain road or similar situations, stop the vehicle by scraping along a guardrail or cliff, or drop the front and rear wheels of one side into a ditch at the side of the road.

When the Parking Brakes Do Not Work

When the parking brake does not work even when you pull the parking brake lever, the brake system has failed, regardless of whether the warning light comes on, and the system requires repair.
When the vehicle operates properly with sufficient air pressure, you can drive the vehicle with the foot brake alone. In that case, contact the nearest Isuzu Dealer.

When a Tire Goes Flat

WARNING

- **If you continue to drive on a flat tire, undue force will be applied to the wheel bolts, possibly causing the bolts to break and the wheel to come off.**
- **If you feel any abnormality in a tire while driving, immediately stop in a safe place. If you continue to drive on a flat tire, undue force would be applied to the wheel bolts, possibly causing the bolts to break and the wheel to come off.**



When a tire goes flat while driving, avoid hard braking, hold on to the steering wheel firmly and stop the vehicle.
The tire should be changed on a flat space to prevent obstructing other vehicles or pedestrians.

ADVICE

- If a blowout or flat tire occurs while you are driving, calmly grip the steering wheel and gradually apply the brakes to decelerate. (Hard braking would be dangerous because it could cause the steering wheel to be pulled to one side.) Stop the vehicle in a safe place, and change the tire.

Refer to page
7-7 Handling the Jack
10-61 Spare Tire [V]
10-53 Changing the Wheels and Tires (ISO 10-bolt Wheels)

When the Engine Stalls and Cannot be Restarted

In manual transmission models, place the gearshift lever in the "N" position and push the vehicle to a safe place.
In automatic transmission models, push selector button "N". Then, make sure that the shift selector display is showing "NN" and push the vehicle to a safe place.

Refer to page
11-37 When Towing

CAUTION

- **In case of emergency with manual transmission models, place the gearshift lever in "R (reverse)", "1 (1st gear)" or "2 (2nd gear)" if the starter turns over. Then, keep turning the starter switch with your foot off the clutch pedal to move the vehicle.**

NOTE

- For vehicles with hill start aid (HSA), cancel the HSA by pressing the HSA OFF switch.

Refer to page
4-103 HSA OFF Switch

When the Battery Goes Flat

Use a jumper cable (sold separately) and the batteries of another vehicle to start the engine in this sequence.

CAUTION

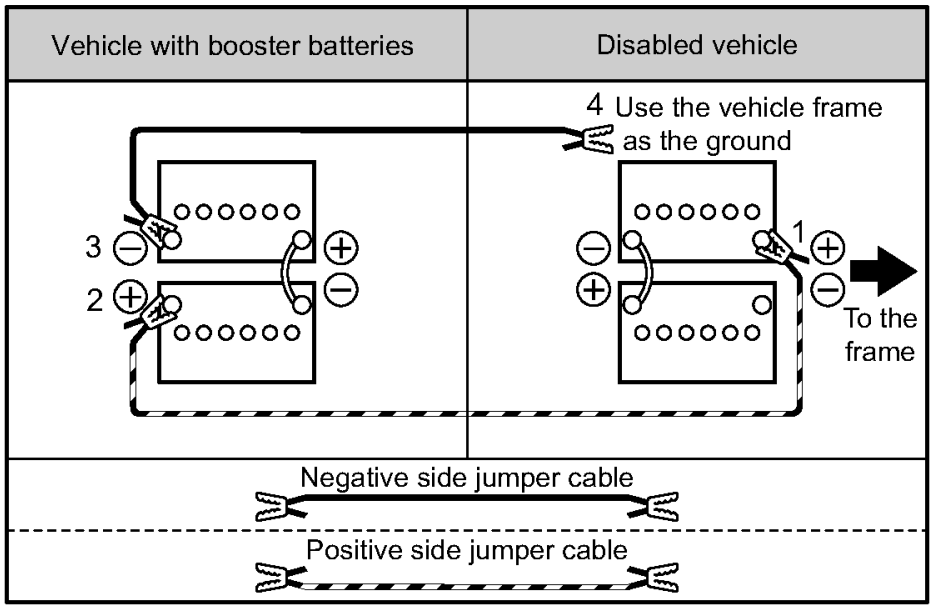
- **For safety and the protection of the vehicle, do not try to start the engine by pushing or towing the vehicle. You could damage the engine.**
- **Make sure that the booster batteries in the vehicle providing the charge have the same voltage as the disabled vehicle.**
- **Under no circumstances should the battery's positive and negative terminals be put in contact with one another.**
- **When connecting the cables, under no circumstances should the clips be allowed to touch each other.**
- **Ask the nearest Isuzu Dealer to recharge the battery.**
- **Do not disconnect a battery terminal with the engine running. It could cause a breakdown in the electrical system.**

1. Check the battery fluid level in the disabled vehicle.

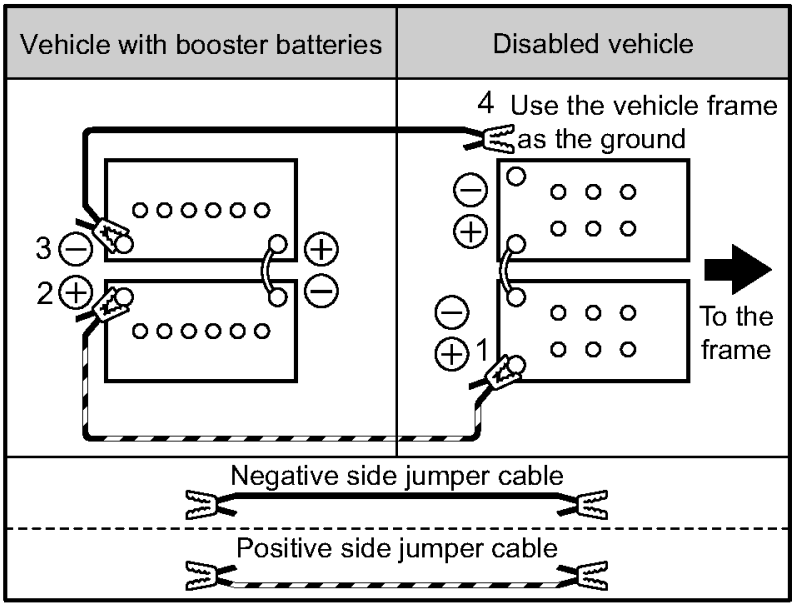
Refer to page
9-18 Checking the Battery Fluid Level

2. Use a vehicle that has a charged battery with the same voltage.
3. Remove the battery cover and connect the jumper cables in the numbered sequence in the drawing.

Except 115F51 model



115F51 model



4. After connecting the cables, start the engine of the vehicle with the booster battery.
5. Slightly rev up the engine of the vehicle with the booster battery and start the engine of the disabled vehicle.
6. If the engine in the disabled vehicle starts, remove the jumper cables in the reverse sequence as they were connected.

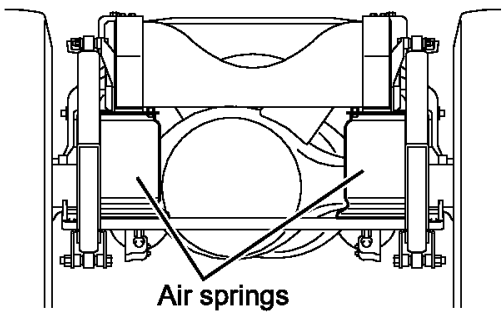
WARNING

- **Check the battery fluid level before connecting the jumper cables. Usage or charging of the battery when the battery fluid is below the "LOWER LEVEL" can accelerate deterioration, and give rise to dangerous situations such as the generation of heat and may even cause an explosion. Perform the work after adding the battery fluid.**
- **A vehicle battery generates flammable gas that could explode. Be careful of the following to avoid creating sparks.**
  - **Do not connect one end of the jumper cable shown in Step 4 in the drawing directly to the battery's negative terminal. Connect the jumper cable to a metal part of the engine that is away from the battery.**
  - **Do not let the cable connected to the positive terminal come in contact with the cable connected to the negative terminal or the body.**
  - **Keep flames away from the battery.**
- **Use care not to become entangled in any belts when connecting the cable.**

NOTE

- When it is difficult to start the engine in a cold area, first start the engine of the vehicle with the booster batteries and a few minutes after that start the engine of the disabled vehicle.

When the Air Springs are Broken [V]



When the air springs break or air leaks, avoid hard braking, hold on to the steering wheel firmly, and stop the vehicle in a safe place. Since repairing the air springs is required, stop driving and contact the nearest Isuzu Dealer.

When the Fuel Runs Out

When the fuel runs out, air will enter the fuel system, so refueling alone will not be enough to restart the engine. Use the following methods to bleed the fuel system.

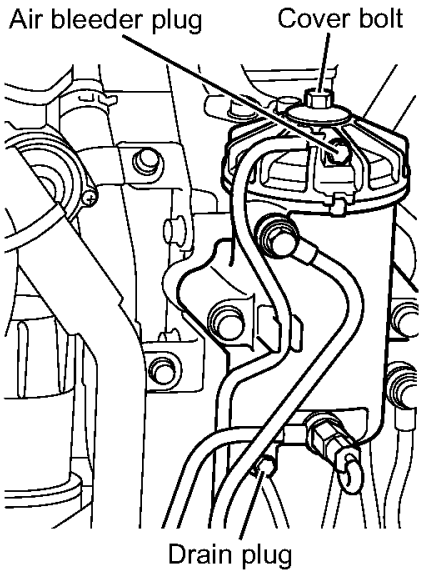
⚠ WARNING

- **Wipe off any fuel that adheres to the vehicle body or the engine compartment below the cab. This could cause a fire.**

⚠ CAUTION

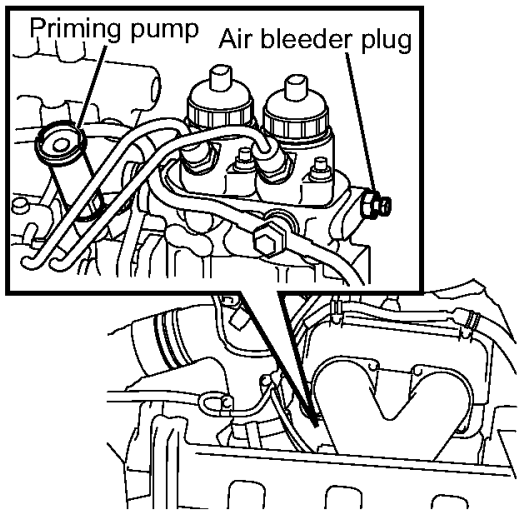
- **Before starting the engine, sit in the driver's seat and make sure that the gearshift lever is placed in the "N" position. For automatic transmission models, make sure that "N" is shown on the shift selector display.**
  Do not start the engine unless you are sitting in the driver's seat. For example, do not start the vehicle by reaching through the window from outside, or from outside the vehicle with the door open. Pay particular attention to the fact that manual transmission vehicles will move when the engine is started with the transmission in a position other than "N".

Bleeding the Fuel System



1. Turn the priming pump cap until it pops off.
2. Loosen the fuel filter air bleeder plug.
3. Operate the priming pump to feed the fuel to the system. Air bubbles will emerge from the air bleeder plug.
4. Tighten the air bleeder plug when no more air bubbles are found in the fuel.

Supply pump

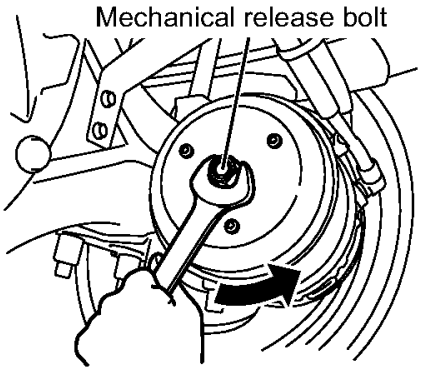


5. Loosen the air bleeder plug on the supply pump.
6. Operate the priming pump to feed the fuel to the system. Air bubbles will emerge from the air bleeder plug.
7. Tighten the air bleeder plug when no more air bubbles are found in the fuel.
8. After tightening the air bleeder plug, operate the priming pump at least 150 times.
9. Push and turn the priming pump cap to put it in the original position. Make sure the cap is tightened securely.
10. Wipe off the leaked fuel, start the engine and make sure that fuel has not leaked. If the engine does not start, repeat the bleeding procedure from Step 8.

When the Parking Brake Cannot be Released

⚠ CAUTION

- **When the spring brake is released manually to move the vehicle with a wheel parking brake, the brakes will not work. Do not release the spring brake on a slope.**
- **Do not release the brake manually, other than when the vehicle is being towed by a tow truck or the vehicle is being moved temporarily.**
- **Contact the nearest Isuzu Dealer immediately after moving the vehicle.**
- **The piggyback assembly has a high-load spring inside. Disassembling it may result in a fatal accident due to the high-load spring. Do not disassemble it.**

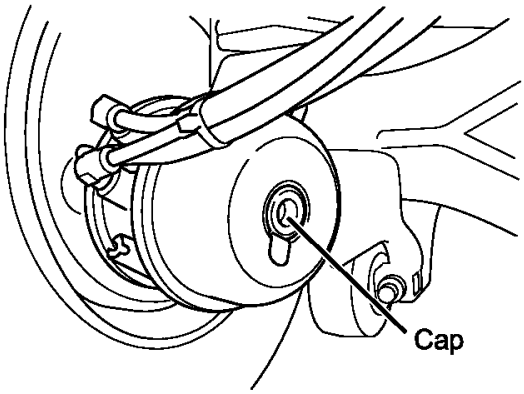


Model with disc brakes

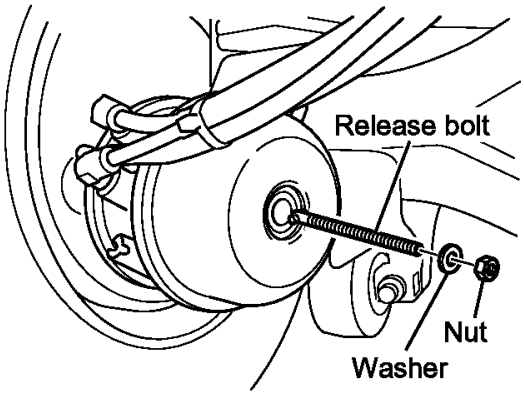
1. Firmly chock the wheels.
2. Turn the mechanical release bolt counterclockwise to release the parking brake.
   Extruded length of mechanical release bolt: Approx. 69 mm (2.72 in).
3. To return from mechanical release to normal, perform the same sequence of operations in reverse.

Mechanical release bolt tightening torque
25 - 45 N·m (2.5 - 4.6 kgf·m/**18 - 33 lb·ft)**

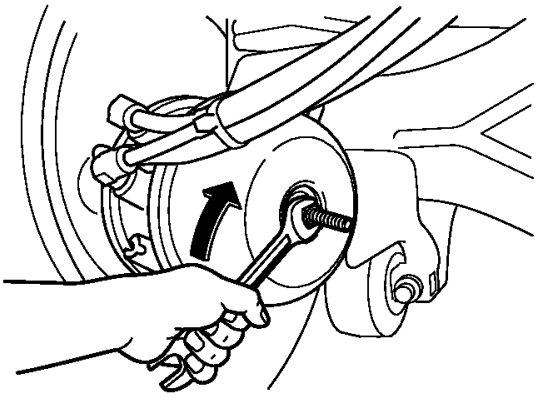
Model with drum brakes



1. Firmly chock the wheels.



2. Remove the cap and insert the release bolt, a tool carried on the vehicle, as far as it goes. Rotate it 90° clockwise and lock.

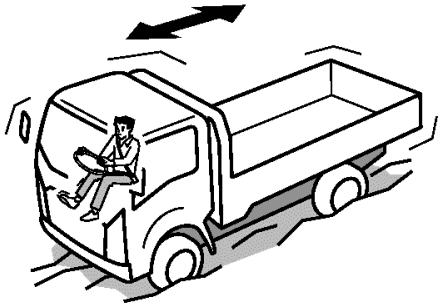


3. Pull on the release bolt to make sure that it is secure, attach the washer and nut, and tighten them.

Tighten to (Extruded length of release bolt)
Approx. 85 mm (3.35 in)

4. To remove the release bolt, perform the same sequence of operations in reverse order. (Return the release bolt to the tool bag.)

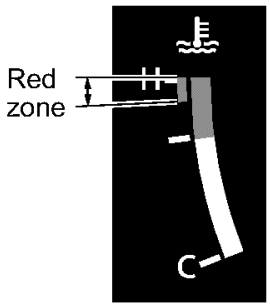
When Driving on Bad Roads



Pressing the accelerator pedal will dig the vehicle deeper into the mud and make it harder to extricate.
Either put stones, tree branches or blankets under the tires to gain traction, or repeatedly drive forward and in reverse and use the vehicle's momentum to extricate it.

When the Engine Overheats

Engine coolant temperature gauge



Overheating

Overheating

Stop in a safe place
Cool engine while idling

If engine power drops and the needle on the engine coolant temperature gauge goes up above the upper limit of the safety zone and enters the "H" zone, the engine is overheating. "Overheating" will be displayed on the multi-information display and the warning buzzer will sound. Either steam or boiling water will squirt out of the radiator. Take the following corrective actions immediately.

CAUTION

- **If you continue to drive the vehicle with the "Overheating" message appearing on the display, the engine may seize up.**

Inspection and Repairs for Overheating

1. Operate the hazard warning flasher and pull the vehicle immediately over to a safe place that does not impede traffic (shoulder, verge) and park it.
2. Lower the temperature of the engine for a while with the engine idling.

ADVICE

- Do not stop an overheating engine immediately. Otherwise, the engine may seize up.

3. When the needle of the engine coolant temperature gauge returns to the middle of the safety zone, stop the engine.

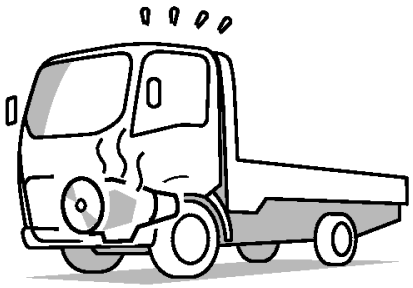
11-18 In an Emergency

WARNING

- **Do not loosen or remove the sub-tank cap while the engine coolant is still hot. Scalding fluid and steam can be blown out under pressure if either cap is taken off too soon, and cause burns. Perform inspection, refilling, and replacement of coolant only when it has cooled.**
- **When removing the sub-tank cap, use a thick cloth to cover the cap and turn it little by little.**
- **Engine coolant is toxic and must not be ingested. If the engine coolant gets in your eyes, rinse your eyes immediately.**
- **Engine coolant is flammable, and therefore, it must be kept away from flames and other heat sources.**

ADVICE

- When the cooling fan for the radiator is not turning, turn off the engine immediately.



4. Check the engine coolant level in the sub-tank after the engine has sufficiently cooled. If the level is insufficient, add engine coolant. Also, check to see if the fan belt is loose or has been damaged.
5. Inspect to see if there is any dirt, etc. attached to the front surface of the radiator and intercooler. Also, inspect to see if there is anything blocking the core. If there is anything attached, clean and remove it.
6. After the inspection, regardless of the vehicle condition, please contact the nearest Isuzu Dealer.

ADVICE

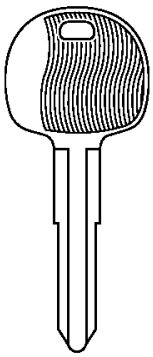
- Make sure that the needle on the engine coolant temperature gauge is below "C" before adding engine coolant. Adding engine coolant when the engine is not sufficiently cool could cause a breakdown in the engine or damage it.
- When tap water only has been used for engine coolant in an emergency, adjust the engine coolant concentration as soon as possible.

Refer to page
10-13 Engine Coolant
10-25 Fan Belt
10-22 Cleaning the Radiator and Intercooler

When the Passive Entry and Start System Does Not Work Properly [V]

The passive entry and start system fails to recognize the remote control unit when the remote control unit battery has run out or when affected by the surrounding environment. In this case, perform the following operations to lock/unlock the doors or start the engine.

Locking and Unlocking the Doors

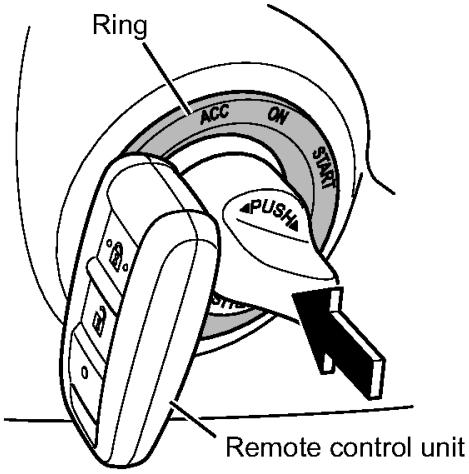


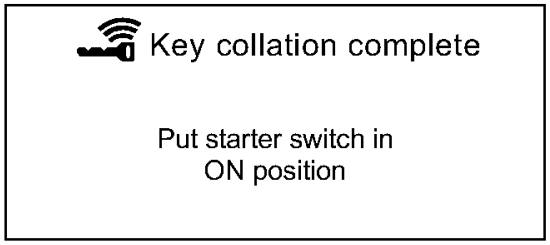
Use the key to lock/unlock the door.

Refer to page
2-28 Opening and Closing the Front Doors

Starting the Engine

1. Firmly pull the parking brake lever and make sure the selector button is in the "N" position. And then firmly press the brake pedal with your right foot.







2. Press the starter switch while holding the remote control unit to the ring.
   - "Key collation complete" is displayed on the multi-information display.
   - If the key cannot be recognized, "Authenticate key" is displayed on the multi-information display, and a long beep continues to sound. Make sure that the remote control unit is touching the ring.

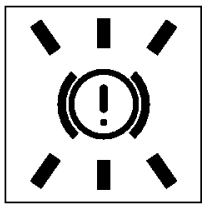
3. Confirm that "Key collation complete" is displayed on the multi-information display, and turn the starter switch within 10 seconds to start the engine.
   - If the engine was not started within 10 seconds, start again from step 2.

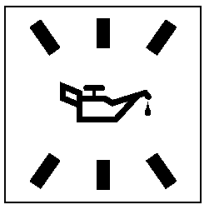
Refer to page
4-46 Starting and Stopping the Engine

ADVICE

- When you cannot start the engine even after following the procedures, contact the nearest Isuzu Dealer.

When a Warning Light or Indicator Light Comes On or Flashes





ADVICE

- If a warning light comes on or flashes, do not ignore it and keep driving. Be sure to take corrective action referring to the explanation of the meters, warning lights and indicator lights.

Refer to page
3-2 Instruments Layout
3-8 Instrument Panel Warning/Indicator Lights

When a Warning Buzzer Sounds

The warning buzzers sound to notify the driver of the vehicle's condition and the operating status of various functions. Check the following table and do the repairs described on the referenced page as necessary.

ADVICE

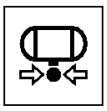
- If the buzzer does not stop sounding, even if you do the repairs, contact the nearest Isuzu Dealer.
- The warning buzzer may not sound if there is a problem with the buzzer system. If this occurs, the system needs to be inspected. Please contact the nearest Isuzu Dealer.

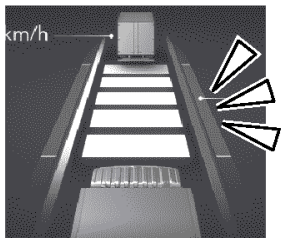
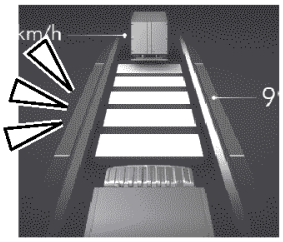
Warning Buzzer

While Driving

If the warning light and multi-information display indicator are displayed

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Continuous beep	Insufficient coolant Check for coolant leaks and fill. As there is a risk of burns, do not remove sub-tank cap while it is hot	●	**Engine coolant level warning** Engine coolant level is low.	10-15

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Continuous beep	Overheating Stop in a safe place Cool engine while idling	●	**Engine overheat warning** Engine has overheated.	3-5 11-17
Continuous beep		●	**Brake warning light** There is an abnormality in the brake system.	3-22
Continuous beep	Except models for Australia 	●	**Low air pressure warning** The air pressure has dropped below the specified pressure level.	3-29
	Models for Australia 			
	 Low air pressure Fill with air			
Continuous beep		●	**Low accessory air pressure warning** The air pressure in the accessory air tank drops below the specified pressure level.	3-29
Continuous beep		●	**EBS brake abnormal** There is an abnormality in the EBS, ABS, or ESC/ASR systems.	4-126
	 EBS brake abnormal Stop in a safe place Contact the dealer			

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Continuous beep	 (Flashes)	●	**Warning of exceeding the maximum speed limit** The speed limit recognized by the camera is exceeded while driving.	5-56
Rapidly repeated beeps	Brake! 	●	**AEBS warning (autonomous brake)** Obstacles located so close to your vehicle in the forward direction that there is a strong possibility of a collision are detected, and the AEBS autonomously operates the brakes.	5-12
Rapidly repeated beeps	 	●	**Lane departure warning system (LDWS)** The lane departure warning system senses that the vehicle is departing its lane.	5-77
Rapidly repeated beeps	Attention Take a break?	●	**Weaving warning** The weaving warning has operated.	5-93
Short, repeated beeps	Warning Brake!	●	**AEBS warning (driver attention alert)** Obstacles located in the forward direction are detected, and the driver is encouraged to operate the brakes.	5-12
Short, repeated beeps	 (Flashes)	●	**ESC warning** The ESC is operating.	4-133

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Two long beeps	 (Flashes)	●	**Seat belt warning** The vehicle speed exceeds 20 km/h (12 MPH) while a seatbelt is unfastened in the driver seat, passenger seat, or the center seat when the starter switch is "ON" position.	1-4
Three short beeps	DPD regeneration needed Stop in a safe place to perform DPD regeneration	●	**DPD regeneration required warning** The manual regeneration procedure is necessary.	4-151
Three short beeps	DPD regeneration needed Stop in a safe place to perform DPD regeneration The engine may not be able to restart	●	**DPD regeneration required warning** The vehicle is continuing to drive without doing the manual regeneration procedure.	4-151
Three short beeps	Attention Keep distance from Preceding Vehicle	●	**Following distance warning** The vehicle is approaching a preceding vehicle and the driver needs to operate the brakes.	5-17
One short beep	Preceding vehicle start	●	**Preceding vehicle departure notification function warning** • The preceding vehicle moved forward for approximately 5 m but your vehicle does not start off. (when not driving with full speed range adaptive cruise control) • After following and then stopping behind a preceding vehicle, the preceding vehicle pulls away. (when driving with full speed range adaptive cruise control)	5-24

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
One short beep	 (Flashes) No entry 	●	**No entry warning** A no entry sign recognized by the camera is passed while driving.	5-57

●: In cab ○: Outside cab △: In cab and outside cab

While Stopped

If the warning light and multi-information display indicator are displayed

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Continuous beep	Door lock unavailable Key is in vehicle	△	**Key lock-in prevention alarm (when locking the door manually)** While the remote control unit was left in the vehicle, locking the door was attempted by pressing the lock button on the driver side or passenger side door and closing the door with the door handle pulled up. (model with passive entry and start system)	2-21
Continuous beep	Door lock unavailable Key is in vehicle	△	**Key lock-in prevention alarm (when pressing the request switch)** While the remote control unit was left in the vehicle, locking the door was attempted by pressing the request switch. (model with passive entry and start system)	2-21

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Continuous beep	Door lock unavailable Put starter switch in LOCK position	△	**Starter switch ON-position warning (when pressing the request switch)** While the starter switch was in the "ACC" or "ON" position, an attempt was made to lock the door by pressing the request switch. (model with passive entry and start system)	2-22
Continuous beep	Key undetectable No key found in vehicle	●	**Remote control unit carried out warning** While the starter switch was in the "ACC" or "ON" position, the remote control unit was carried out of the vehicle and the door was closed. (model with passive entry and start system)	2-22
Continuous beep	Door lock unavailable Door is open	△	**Door ajar warning** While the driver side or passenger side door had not been closed properly, an attempt was made to lock the door by pressing the request switch or operating the remote control unit. (model with passive entry and start system)	2-23
Continuous beep	Authenticate key Hold key over starter switch	●	**Start operation without remote control unit warning** The starter switch cannot be turned to the "ON" position because the unit cannot be recognized due to the remote control unit's dead battery or due to the surrounding radio wave conditions. (model with passive entry and start system)	2-23
Continuous beep	Low key battery Key battery is low Replace the battery	●	**Remote control unit (passive entry and start system unit) battery level warning** The battery in the remote control unit is running down. (model with passive entry and start system)	2-24

Buzzer pattern	Warning light/multi-information display	Location	Cause/operating conditions	Page
Continuous beep	Key system abnormal Remote controller key system abnormal Contact the dealer	●	**Abnormal passive entry and start system warning** The passive entry and start system has an abnormality and does not work properly. (model with passive entry and start system)	2-24
Continuous beep	Warning Cab is not locked Check that cab is locked	●	**Cab tilt warning [V]** The starter switch is turned to the "ON" position and if the cab is not fully locked.	7-16
Continuous beep	(P) (comes on)	●	**Warning for parking brake still applied** When driving while the parking brake is applied	4-60
Continuous beep	(P) (comes on)	●	**Warning for parking brake not applied** When starter switch turned to "ACC" or "LOCK" position without applying the parking brake	4-60
Short, repeated beeps	Caution!turn off the light Battery may go flat because forget to turn off the light	●	**Turn off vehicle lights** The door is opened while the starter switch is in the "LOCK" position and the lights on indicator light are lit.	4-81
Three beeps	Key undetectable No key found in vehicle	○	**Remote control unit carried out warning** While the starter switch was in the "ACC" or "ON" position, the remote control unit was carried out of the vehicle and the door was closed. (model with passive entry and start system)	2-22
Two short beeps	Key collation complete Put starter switch in ON position	●	**Immobilizer recognition completion alert** The remote control unit is recognized and the starter switch can be turned to the "ON" position. (model with passive entry and start system)	2-23

●: In cab ○: Outside cab △: In cab and outside cab

If the warning light and multi-information display indicator are not displayed

Buzzer pattern	Location	Cause/operating conditions	Page
Long, repeated beeps	●	**Key left inserted warning** The driver side door is opened with the key left inserted and the starter switch in the "ACC" or "LOCK" position. (model without passive entry and start system)	2-27
Long, repeated beeps	△	**Back up warning** Selector button is placed into "R" position.	4-62
Long, repeated beeps	○	**Power cab tilt in operation warning** • When tilting the cab up Pump lever is placed in "UP" position. • When lowering cab Pump lever is placed in "DOWN (driving)" position.	7-15
Two beeps	○	**Starter switch ON-position warning (when locking the door manually)** • While the starter switch was in the "ACC" or "ON" position, the lock button on the driver side door was pressed with the door opened. (model with passive entry and start system) • While the starter switch was in the "ACC" or "ON" position, an attempt was made to close the door after it was opened when it was previously locked. (model with passive entry and start system)	2-22

●: In cab ○: Outside cab △: In cab and outside cab

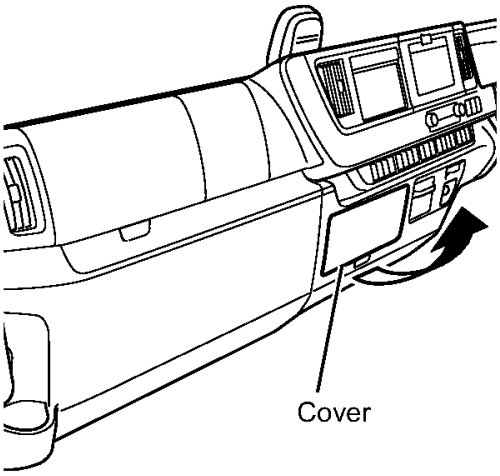
Replacing the Fuses and Relays

When the lights will not come on or flash, or the equipment in the electrical system does not operate, check to see if a fuse has blown.

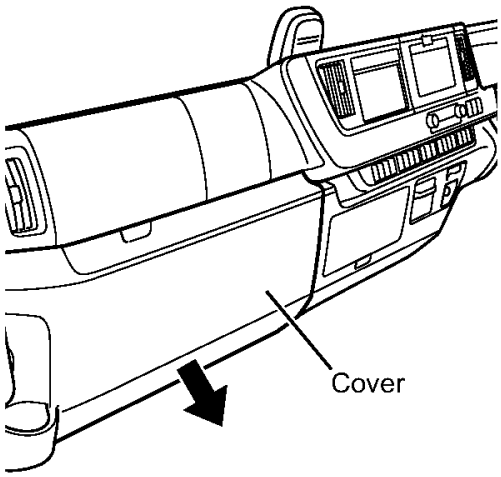
The Locations of Fuses and Relays

Fuses and relays are located in the lower center of the instrument panel, the left rear of the cab, the left side under the cab and inside the instrument panel in front of the passenger seat. Open the covers to perform inspection and replacement.

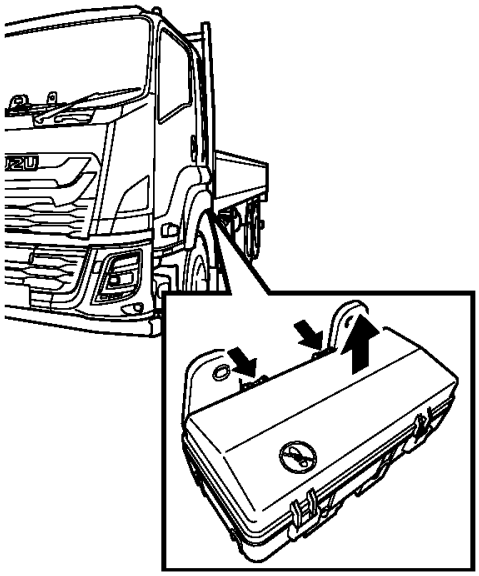
Lower center of the instrument panel



Inside the instrument panel in front of the passenger seat



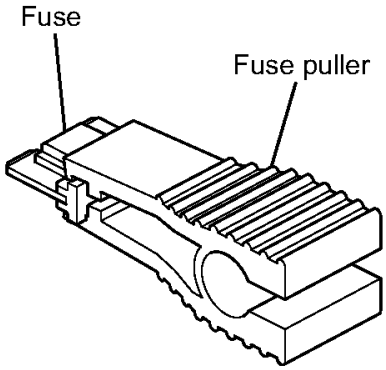
Left rear of the cab



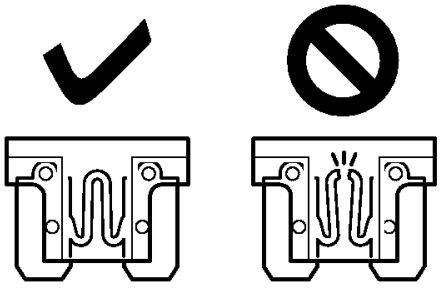
NOTE

- When replacing the fuses or relays inside the instrument panel cover in front of the passenger seat, consult the nearest Isuzu Dealer.

Replacing Fuses



1. Before replacing fuses, be sure to place the starter switch in the "LOCK" position and pull back on the parking brake lever.
2. Place the fuse puller on the fuse and pull it out. (The fuse puller is stored in the fuse box inside the cab.)

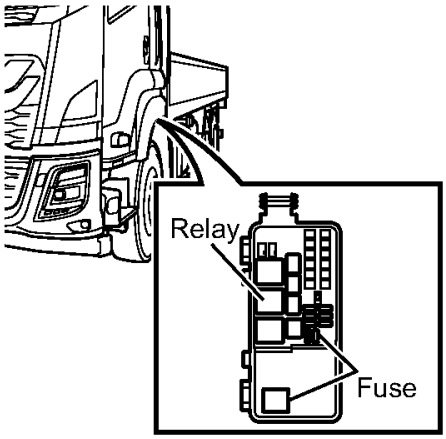


3. If the fuse appears is as shown in the right hand side of the diagram at left, the fuse is blown. Replace with a spare fuse. (Spare fuses are stored in the fuse box inside the cab.)

⚠ WARNING

- **Always use fuses specified by Isuzu. Using fuses with a rating other than that specified, or using wire or tin foil, etc., could result in fire or damage.**
- **If the new fuses blow right away and the cause is unknown, contact the nearest Isuzu Dealer.**
- **Do not inspect or replace fuses when the starter switch is in the "ON" position or when the HSA is operating while parked or stopped. Doing so may lead to an accident.**
- **When inspecting fuses, be sure to park the vehicle on flat, level ground and apply chocks to the wheels.**

Replacing Relays



When replacing the relays, contact the nearest Isuzu Dealer.

ADVICE

- It is not necessary to open or close the cover unless trouble is found.
- The relay box structure makes it difficult for water to enter. If you should spill water or a beverage on the cover, however, wipe it off before opening the cover.
- The area around the cover will get warm when the vehicle is being driven, but this is not abnormal.

Fuse and Relay Locations

Fuse Locations (Cab Interior)

Lower Center of the Instrument Panel/Inside the Instrument Panel in front of the Passenger Seat

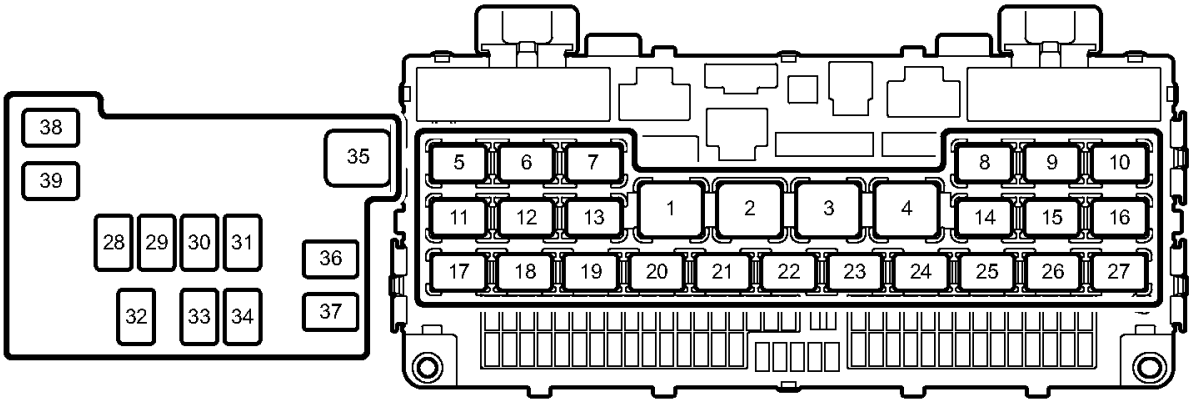
NOTE

- Refer to the label on the back of the cover for the layout of the fuses in the instrument panel on the passenger side in the cab.

Refer to page
0-6 Caution and Other Labels in Your Vehicle

Relay Locations (Cab Interior)

Lower Center of the Instrument Panel/Inside the Instrument Panel in front of the Passenger Seat

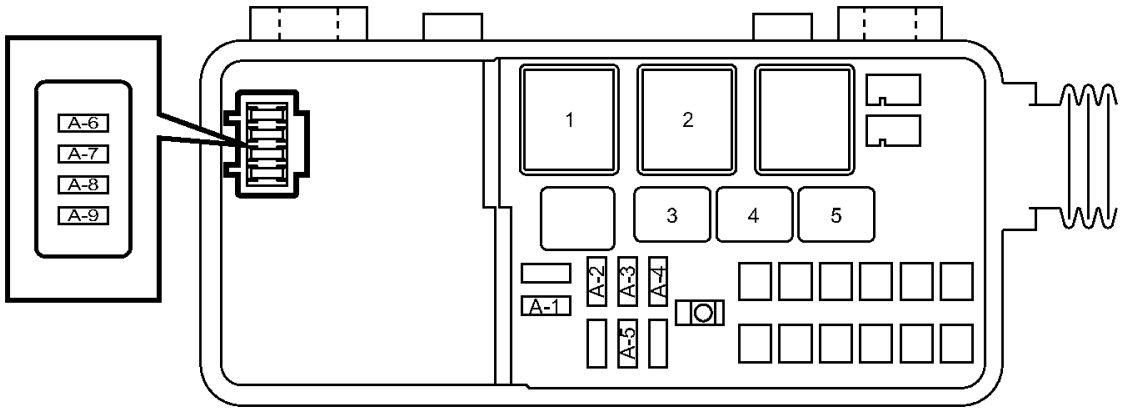


No.	Relay name
1	Accessory
2	Ignition main
3	Blower motor
4	Wiper key on
5	—
6	Power window
7	—
8	Back up lights
9	—
10	—
11	Daytime running light
12	Tail lights
13	12V ignition
14	—
15	—
16	Headlights high (model without adaptive driving beam (ADB) headlight)
17	—
18	Headlights low
19	12V accessory
20	12V tail lights
21	Headlights washer
22	Condenser fan

No.	Relay name
23	Washer motor
24	Horn
25	—
26	—
27	Front fog lights
28	—
29	—
30	—
31	—
32	—
33	Transmission neutral position switch (automatic transmission model)
34	Transmission neutral position switch (automatic transmission model)
35	A/C compressor
36	Power tilt
37	PTO main (manual transmission model)
38	PTO switch (manual transmission model)
39	Back up lights (automatic transmission model) PTO cut (manual transmission model)

Fuse and Relay Locations (Cab Exterior)

Left Rear of the Cab

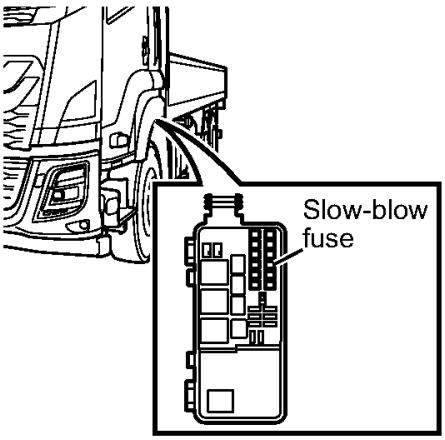


No.	Relay name
1	Ignition
2	ECM
3	Body tilt pump
4	Starter cutoff
5	Exhaust particulate sensor

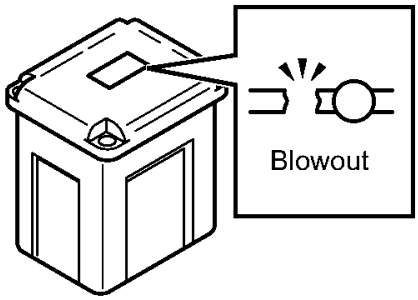
No.	Fuse name	Rating
A-1	SCR	20A

No.	Fuse name	Rating
A-2	ECM main	15A
A-3	Turbo	10A
A-4	PCV	15A
A-5	TCM	15A
A-6	ECM	10A
A-7	SCR ignition	10A
A-8	Ignition	10A
A-9	Back switch ignition	10A

When Slow-blow Fuses Blow Out



Slow-blow fuses protect the electrical circuits, and they are installed so that they can be quickly replaced if there is a malfunction.
If an overload exists in the circuit from the battery, the slow-blow fuse will blow out before the wiring harness is damaged to protect the electrical circuitry.



Inspection

When the headlights and other devices in the electrical system do not work, but there is no problem with the fuses, check the slow-blow fuse.
The slow-blow fuse is blown if it looks like the illustration to the left.
Immediately contact the nearest Isuzu Dealer.

⚠ WARNING

- **Always use fuses specified by Isuzu when replacing the slow-blow fuse. Using fuses with a rating other than that specified, or using wire or tin foil, etc., could result in fire or damage.**
- **If the new fuses blow right away and the cause is unknown, contact the nearest Isuzu Dealer.**
- **Do not inspect or replace fuses when the starter switch is in the "ON" position or when the HSA is operating while parked or stopped. Doing so may lead to an accident.**
- **When inspecting fuses, be sure to park the vehicle on flat, level ground and apply chocks to the wheels.**

ADVICE

- It is not necessary to open or close the cover unless trouble is found.
- The relay box structure makes it difficult for water to enter. If you should spill water or a beverage on the cover, however, wipe it off before opening the cover.
- The area around the cover will get warm when the vehicle is being driven, but this is not abnormal.

When Your Vehicle is Involved in an Accident

Stay calm and take the following steps:

1. Avoid a chain of accidents
   Operate the hazard warning flasher, pull the vehicle immediately over to a safe place that does not impede traffic (shoulder, verge) and stop the engine.
2. Aid the injured
   Render whatever first aid is possible to injured people until a doctor or ambulance arrives. In particular, do not move people with head injuries. If there is a danger of a series of accidents, move them to a safe place.
3. Contact the police
   Contact the police, give them the information on the location of the accident, the conditions, injured people and the extent of their injuries, and then receive instructions.
4. Confirm information from other parties (name, address and telephone number) and the conditions of the accident.
5. If necessary, contact the insurance company or the dealer you purchased the vehicle from.

ADVICE

- Make sure to notify the police and consult a doctor even for small accidents and light injuries. When receiving a blow to the head in particular, it is possible for symptoms to develop later even if there are no external wounds.

When Towing

To move a disabled vehicle, it is best to rely on someone in the wrecker or tow truck business. If that is not possible, follow these procedures.
When towing, use appropriate equipment and comply with local legal requirements.
Do not try to start the engine by towing or pushing the vehicle.

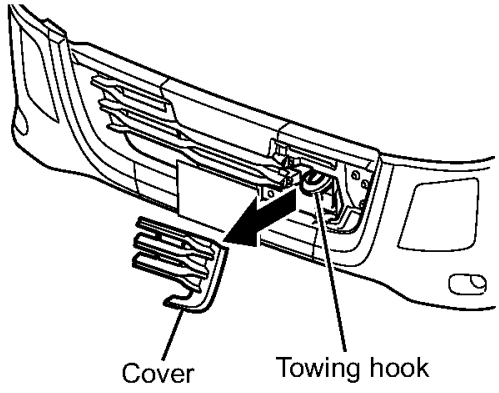
⚠ WARNING

- **Be sure to chock the wheels when disconnecting the propeller shaft. The vehicle could start to move and cause a serious accident.**

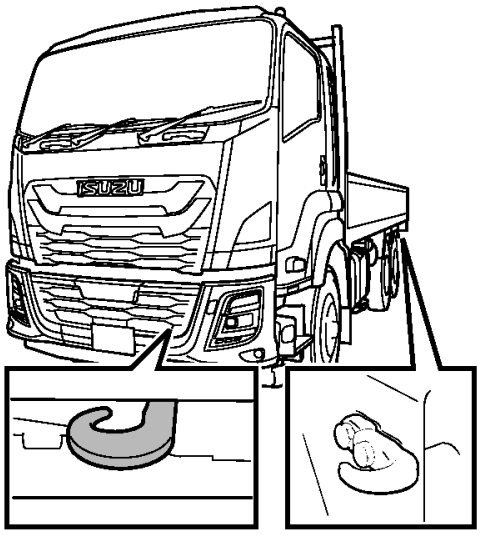
⚠ CAUTION

- **For MJT7 manual transmission model, place the gearshift lever in the "N" position, and disconnect the propeller shaft when towing to avoid damage to the transmission.**
- **For automatic transmission models, make sure the shift selector display is showing "NN", disconnect the propeller shaft when towing to avoid damage to the transmission.**
  Tow for a maximum distance of 10 km (6.2 miles) at speeds less than 40 km/h (25 MPH).
- **Whenever possible, tow a vehicle with the engine started.**
  If the engine is not started:
  - **The brakes will not be as effective;**
  - **The steering wheel will be hard to turn;**
  - **The steering wheel could lock, making it impossible to turn. This is extremely dangerous (particularly when the ignition key is removed).**
- **Do not tow the vehicle with the starter switch turned to the "ON" position with just the front wheels or rear wheels raised. The ESC/ASR may operate and cause an accident.**

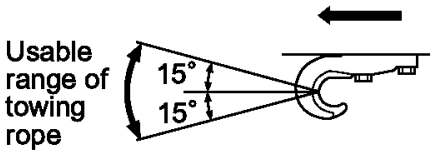
Refer to page
4-132 ESC OFF Switch

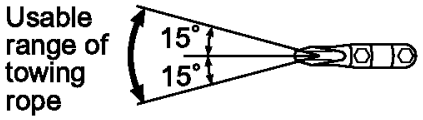


1. Remove the cover to use the front towing hook.



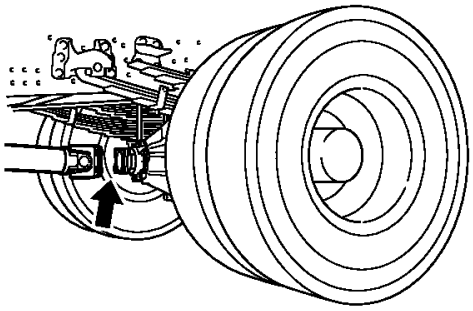
2. If the vehicle is towing or being towed, firmly attach a rope to the front or rear towing hook on the same side.
3. During towing, carefully watch the stop lights of the towing vehicle in order to prevent the rope from becoming slack. Ensure that there is no strong shock or lateral force applied to the vehicle.





⚠ CAUTION

- **Do not tow a vehicle at an angle of greater than 15°. This could exert too much stress on the vehicle and damage it.**
- **Attach a rope to the towing hook only. Attaching a rope to other part of the vehicle could damage it.**
- **Make sure there are no people near the towing rope and hook before towing a vehicle. If the rope snaps, people nearby could be injured.**
- **The towing hook is for use to tow a vehicle with about the same weight as the towing vehicle on good roads.**
- **When coming to channels or muddy areas, unload the vehicle. Do not use the towing hook to tow, but tow with a rope attached to the axle.**
- **For vehicles with hill start aid (HSA), cancel the HSA by pressing the HSA OFF switch.**



Towing Forward (All Wheels on the Ground, or the Front Wheels are off the Ground)

When it is possible to operate the steering wheel, the vehicle can be towed with all wheels on the ground.

If the engine cannot be started, the power steering system does not work, making steering difficult. In addition, when air pressure is low, the brakes will not work.

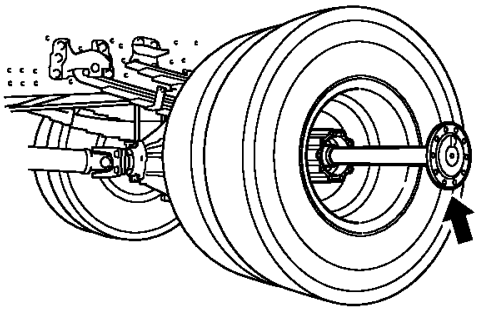
Either install a tow bar between the towing vehicle and the disabled vehicle, or use a tow truck to move the disabled vehicle.

Release the spring brake manually.

Disconnect the propeller shaft from the rear axle, and fix the propeller shaft to the frame.

⚠ WARNING

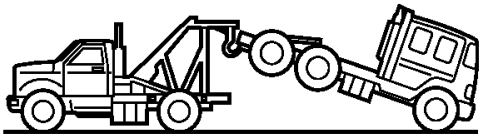
- **Be sure to block the wheels with chocks before disconnecting the propeller shaft. Failure to do so could cause a serious accident. The vehicle will start moving upon disconnecting the propeller shaft.**



If the rear axle fails or rear axle failure is suspected, remove the axle shaft and plug up the opening of the hub to prevent differential gear oil from leaking, or to prevent dirt or foreign objects from entering the axle.

When Towing from the Rear (Rear Wheels off the Ground)

Fix the steering wheel in a straight-ahead position.



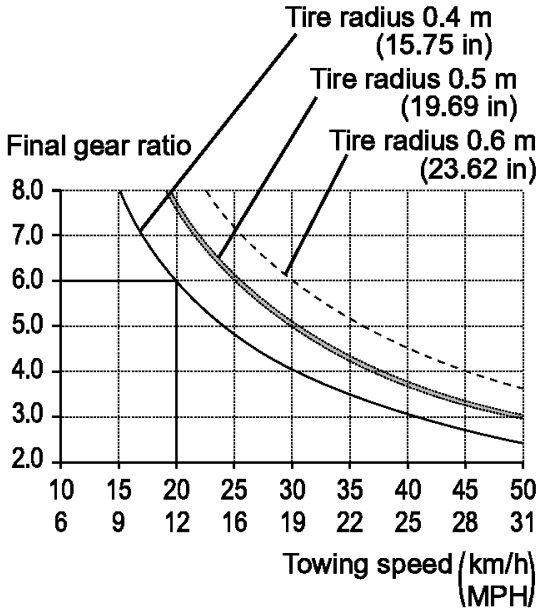
ADVICE

[Contact a tow truck at these times]

- When the vehicle will descend long hills. (The brakes could overheat and become ineffective.)
- When the transmission or differential fails.
- When the vehicle breaks down on a highway.
- When high range cannot be shifted to low range (ZF9S1310 transmission model)

Towing Vehicles with ZF9S1310 Model Transmission [V]

On ZF9S1310 transmission vehicles, select high range and place the gearshift lever in the "N" position. For the towing speed, refer to the following chart. Do not tow more than 100 km (62 miles). Other than the above, disconnect the propeller shaft when towing to avoid damage to the transmission.



Example:
Final gear ratio: 6
Tire radius: 0.4 m (15.75 in)
Towing speed: 20 km/h (12 MPH)

When towing vehicles equipped with a ZF9S1310 transmission, confirm the towing speed using the chart at left for the tire size and final gear ratio of the rear axle on your vehicle. Tow the vehicle so as not to exceed the towing speed.

Rear tire size	Tire radius (m)
11R22.5-16PR	0.5
12R22.5-16PR	
12R22.5-152/148	
295/80R22.5-152/148	

Option codes	Final gear ratio
W3A	4.875
W3B W3Z	5.571
W3P W4A	5.125
W3Y	6.143
W5W	4.556

Refer to page
0-4 Option Codes

Specifications 12

● Main Data and Specifications 12-2

● Others 12-12

12-2 Specifications

Main Data and Specifications

Engine

6UZ1 Engine Model

Specifications	
Water-cooled, overhead camshaft, direct injection engine with an inter-cooled turbocharger	
Compression ratio (to 1)	16.2
Displacement cc (cu. in)	9,839 (600.4)
Firing order	1-5-3-6-2-4
Fuel injection timing (static) degree	0°
Valve clearance mm (in)	Intake valves: 0.2 (0.008) and exhaust valves: 0.5 (0.020) in cold engine
Idling speed r/min	500 - 550
Fan belt tension mm (in)/Hz	Generator 60A: New belt: 6 - 7 (0.24 - 0.28) / 176 - 200 When reused: 8 - 9 (0.31 - 0.35) / 151 - 163 Generator 90A: New belt: 6 - 7 (0.24 - 0.28) / 174 - 194 When reused: 8 - 9 (0.31 - 0.35) / 148 - 160
Air conditioning compressor belt tension mm (in)/Hz	New belt: 11 - 15 (0.43 - 0.59) / 104 - 126 When reused: 15 - 17 (0.59 - 0.67) / 89 - 103
Oil filter	Element type
Engine oil capacity [Reference value] **liters** (US gal./**Imp gal.**)	When changing oil only: **21.5 - 28.0** (5.68 - 7.40 / **4.73 - 6.16**) When changing oil and filter: **28.0 - 34.5** (7.40 - 9.11 / **6.16 - 7.59**)
Engine coolant capacity [Reference value] **liters** (US gal./**Imp gal.**)	FXR/FXM/FXZ models: **42.8** (11.31 / **9.42**) FYH model with manual transmission: **40.4** (10.67/ **8.89**) FYH model with automatic transmission: **42.9** (11.33/ **9.45**)

Transmission

ALLISON4430 Model Automatic Transmission

Specifications		
Six-speed transmission (overdrive gear for 5th and 6th)		
Gear ratio (to 1)	1st	4.700
	2nd	2.210
	3rd	1.530
	4th	1.000
	5th	0.760
	6th*	0.670
	Rev.	5.550
Transmission fluid capacity [Reference value] **liters** (US gal./**Imp gal.**)	Total system fluid capacity: **48.0** (12.7/ **10.6**) Replacement fluid amount: **37.0** (9.8/ **8.2**)	

*: For models for Singapore, this transmission is controlled so that it cannot shift into 6th gear.

MJT7 Model

Specifications		
Seven-speed transmission (overdrive gear for 7th), synchromesh for 2nd to 7th		
Gear ratio (to 1)	1st	7.740
	2nd	5.697
	3rd	3.153
	4th	1.958
	5th	1.394
	6th	1.000
	7th	0.775
	Rev.	7.166
Transmission fluid capacity [Reference value] **liters** (US gal./**Imp gal.**)	Model without PTO: **18.2** (4.81 / **4.00**) Model with PTO: **19.2** (5.07 / **4.22**)	

12-4 Specifications

ZF9S1310 Model

Specifications		
Nine-speed transmission (overdrive gear for 8th), synchromesh for 1st to 8th		
Gear ratio (to 1)	Crawler	9.479
	1st	6.576
	2nd	4.678
	3rd	3.478
	4th	2.617
	5th	1.890
	6th	1.345
	7th	1.000
	8th	0.752
	Rev.	8.967
Transmission fluid capacity [Reference value] **liters** (US gal./**Imp gal.**)	Model without PTO: **8.0** (2.11 / **1.76**)	
	Model with PTO: **8.5** (2.25 / **1.87**)	

12-6 Specifications

Service Specifications

FXR Model

Engine	
Model	6UZ1-TCC
Engine oil capacity	Refer to page 12-2
Engine coolant capacity	

Transmission	
Model	ALLISON4430
Transmission oil capacity	Refer to page 12-3

Front axle		
Type		MFS73
Wheel alignment: Toe-in	mm (in)	-1 to 1 (-0.04 to 0.04)
: Camber	degree	RH 1°15'/LH 0°
: Caster	degree	2°
: King pin	degree	RH 5°15'/LH 6°30'
Front wheel hub bearing oil capacity [Reference value]	**liters** (US gal./**Imp gal.**)	**0.4×2** (0.11×2/**0.09×2**)

Rear axle	
Type	MS11-165
Differential gear oil capacity [Reference value] **liters** (US gal./**Imp gal.**)	**15.0** (3.96 / **3.30**)

Steering		
Steering wheel free play	mm (in)	10 - 60 (0.39 - 2.36)
Power steering fluid capacity [Reference value] **liters** (US gal./**Imp gal.**)		**4.5** (1.19 / **0.99**)

Service brakes		
Type		Full air dual circuit
Brake pedal free play	mm (in)	11 - 19 (0.43 - 0.75)

Parking brake	
Type	Spring actuator at rear wheels

Fuel	
Fuel tank capacity [Reference value] **liters** (US gal./**Imp gal.**)	**400** (105.7 / **88.0**)

Electrical system		
Battery type		[V] 65D23L, [V] 80D26L, [V] 115E41L
Generator	volt/amp.	[V]24 / 60, [V]24 / 90

FXM Model

Engine	
Model	6UZ1-TCC
Engine oil capacity	Refer to page 12-2
Engine coolant capacity	

Transmission	
Model	ALLISON4430
Transmission oil capacity	Refer to page 12-3

Front axle		
Type		MFS73
Wheel alignment: Toe-in	mm (in)	-1 to 1 (-0.04 to 0.04)
: Camber	degree	RH 1°15'/LH 0°
: Caster	degree	2°
: King pin	degree	RH 5°15'/LH 6°30'
Front wheel hub bearing oil capacity [Reference value]	**liters** (US gal./**Imp gal.**)	**0.4×2** (0.11×2/**0.09×2**)

Rear axle	
Type	MS11-165 + RQ4670
Differential gear oil capacity [Reference value] **liters** (US gal./**Imp gal.**)	**MS11-165: 15.0** (3.96 / **3.30**)
Rear wheel hub bearing oil capacity [Reference value] **liters** (US gal./**Imp gal.**)	**RQ4670: 0.5× 2** (0.13× 2/**0.11× 2**)

Steering		
Steering wheel free play	mm (in)	10 - 60 (0.39 - 2.36)
Power steering fluid capacity [Reference value] **liters** (US gal./**Imp gal.**)		**4.5** (1.19 / **0.99**)

Service brakes	
Type	Full air dual circuit
Brake pedal free play mm (in)	11 - 19 (0.43 - 0.75)

Parking brake	
Type	Spring actuator at forward and rearward rear wheels

Fuel	
Fuel tank capacity [Reference value] **liters** (US gal./**Imp gal.**)	**400** (105.7 / **88.0**)

Electrical system		
Battery type		[V] 65D23L, [V] 80D26L, [V] 115E41L
Generator	volt/amp.	[V]24 / 60, [V]24 / 90

12-8 Specifications

FXZ Model

Engine	
Model	6UZ1-TCC
Engine oil capacity	Refer to page 12-2
Engine coolant capacity	

Transmission	
Model	[A/T] ALLISON4430 [V] MJT7 [V] ZF9S1310
Transmission oil capacity	Refer to page 12-3

Clutch		
Clutch pedal free play [Reference value] mm (in)	MJT7 transmission vehicles	40 - 60 (1.57 - 2.36)
	ZF9S1310 transmission vehicles	25 - 40 (0.98 - 1.57)
Pedal stroke from the fully pressed position to the position just before the clutch engages mm (in)	60 (2.36) or more	

Front axle			
Type		[V] MFS73	[V] F066 [V] F075
Wheel alignment: Toe-in	mm (in)	-1 to 1 (-0.04 to 0.04)	
: Camber	degree	RH 1°15'/LH 0°	0°30'
: Caster	degree	2°	
: King pin	degree	RH 5°15'/LH 6°30'	7°30'
Front wheel hub bearing oil capacity [Reference value]	**liters** (US gal./**Imp gal.**)	**0.4×2** (0.11×2/**0.09×2**)	-
Front wheel hub bearing grease capacity [Reference value]	kg (lb)	-	0.805×2 (1.77×2)

Rear axle			
Type		[V] MT20-14X	[V] RT210
Differential gear oil capacity [Reference value]		Forward rear axle: **16.0** (4.23 / **3.52**)	Forward rear axle: **18.0** (4.76 / **3.96**)
	liters (US gal./**Imp gal.**)	Rearward rear axle: **14.0** (3.70 / **3.08**)	Rearward rear axle: **12.0** (3.17 / **2.64**)
Rear wheel hub bearing grease capacity [Reference value]	kg (lb)	-	1.820×2 (4.013×2)

Steering		
Steering wheel free play	mm (in)	10 - 60 (0.39 - 2.36)
Power steering fluid capacity [Reference value]	**liters** (US gal./**Imp gal.**)	**4.5** (1.19 / **0.99**)

Service brakes		
Type		Full air dual circuit
Brake pedal free play	mm (in)	11 - 19 (0.43 - 0.75)

Parking brake	
Type	Spring actuator at forward and rearward rear wheels

Fuel	
Fuel tank capacity [Reference value] **liters** (US gal./**Imp gal.**)	[V] 200 (52.8/44.0) [V] **400** (105.7 / **88.0**)

Electrical system	
Battery type	[V] 65D23L, [V] 80D26L, [V] 115E41L, [V] 115F51
Generator volt/amp.	[V] 24 / 60, [V] 24 / 90

FYH Model

Engine	
Model	6UZ1-TCC
Engine oil capacity **liters** (US gal./**Imp gal.**)	Refer to page 12-2
Engine coolant capacity **liters** (US gal./**Imp gal.**)	

Transmission	
Model	[V] ZF9S1310 [V] ALLISON4430
Transmission oil capacity **liters** (US gal./**Imp gal.**)	Refer to page 12-3

Clutch		
Clutch pedal free play [Reference value] mm (in)	ZF9S1310 transmission vehicles	25 - 40 (0.98 - 1.57)
Pedal stroke from the fully pressed position to the position just before the clutch engages mm (in)	60 (2.36) or more	

Front axle			
Type		[V] MFS73	[V] F066
Wheel alignment: Toe-in	mm (in)	-1 to 1 (-0.04 to 0.04)	
: Camber	degree	RH 1°15'/LH 0°	0°30'
: Caster	degree	2°	
: King pin	degree	RH 5°15'/LH 6°30'	7°30'
Front wheel hub bearing oil capacity [Reference value]	**liters** (US gal./**Imp gal.**)	**0.4×2** (0.11×2/**0.09×2**)	-
Front wheel hub bearing grease capacity [Reference value]	kg (lb)	-	0.805×2 (1.77×2)

Rear axle		
Type	[V] MT20-14X	[V] RT210
Differential gear oil capacity [Reference value] **liters** (US gal./**Imp gal.**)	Forward rear axle: **16.0** (4.23 / **3.52**) Rearward rear axle: **14.0** (3.70 / **3.08**)	Forward rear axle: **18.0** (4.76 / **3.96**) Rearward rear axle: **12.0** (3.17 / **2.64**)
Rear wheel hub bearing grease capacity [Reference value] kg (lb)	-	1.820×2 (4.013×2)

Steering	
Steering wheel free play mm (in)	10 - 60 (0.39 - 2.36)
Power steering fluid capacity [Reference value] **liters** (US gal./**Imp gal.**)	**7.5** (1.98 / **1.65**)

Service brakes	
Type	Full-air, dual brake system
Brake pedal free play mm (in)	11 - 19 (0.43 - 0.75)

Parking brake	
Type	Spring actuator at forward and rearward rear wheels

Fuel	
Fuel tank capacity [Reference value] **liters** (US gal./**Imp gal.**)	[V] 200 (52.8/44.0) [V] **400** (105.7 / **88.0**)

Electrical system	
Battery type	[V] 65D23L, [V] 80D26L, [V] 115E41L, [V] 115F51
Generator volt/amp.	[V] 24 / 60, [V] 24 / 90

Others

Statement of Compliance with the RE Directive (2014/53/EU), Regulation (EU) 2023/1542 and Related Regulations

Passive Entry and Start System



The following information is for the batteries used in your passive entry and start system when it is shipped from the factory. The brand and type of battery depends on your passive entry and start system. Manufacturer information for each brand and type of battery is as follows;

Battery Type: CR2023
Trade Name: Panasonic

Manufacturer
Panasonic Energy Co., Ltd.
Address: 1-1 Matsushita-cho, Moriguchi City, Osaka 570-8511, Japan
URL; https://www.panasonic.com/global/energy.html

Dispose of used battery according to the local laws.
Jetez la batterie usagée conformément aux lois locales.
Entsorgen Sie verbrauchte Batterien gemäß den örtlichen Gesetzen.
Smaltire la batteria usata secondo le leggi locali.
Descarte a bateria usada de acordo com as leis locais.

⚠ : This mark is a safety/warning mark.

- Do not ingest battery.

Chemical Burn Hazard

- This product contains a coin / button cell battery.
- If the coin / button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
- Keep new and used batteries away from children.
- If the battery compartment does not close securely, stop using the product and keep it away from children.
- If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

CAUTION

- Risk of explosion if the battery is replaced by an incorrect type.
- Replace battery with the same type.

CAUTION

- Risk of explosion or the leakage of flammable liquid or gas.
- Do not use in /store in /bring into environment of extremely high temperature or extremely low pressure due to the very high altitude.
- Do not attempt to burn, crush, or cut used battery.
- Do not charge. Charging is dangerous as it may cause leakage, heat generation, explosion, or fire.

⚠ : Ce pictogramme est une marque de sécurité/avertissement.

- Ne pas ingérer la pile.

Risques de brûlure chimique

- Ce produit contient une pile bouton.
- Si la pile bouton est avalée, elle peut causer de graves brûlures internes en seulement 2 heures et peut entraîner la mort.
- Conservez les piles neuves et usagées hors de portée des enfants.
- Si le compartiment de la pile ne ferme pas correctement, cessez d'utiliser le produit et conservez-le hors de portée des enfants.
- Si vous pensez que des piles ont pu être avalées ou placées à l'intérieur d'une partie du corps, consultez immédiatement un médecin.

AVERTISSEMENT

- Risque d'explosion si la pile est remplacée par un type incorrect.
- Remplacez la pile par une pile du même type.

AVERTISSEMENT

- Risque d'explosion ou de fuite de liquide ou de gaz inflammable.
- Ne jamais utiliser, stocker, placer dans un environnement à la température extrêmement élevée ou à la pression extrêmement basse en raison d'une très haute altitude.
- Ne jamais essayer de brûler, écraser ou couper des piles usagées.
- Ne pas charger. La charge est dangereuse car elle peut provoquer des fuites, un dégagement de chaleur, une explosion ou un incendie

⚠ : Dieses Symbol ist ein Sicherheits-/Warnsymbol.

- Verschlucken Sie die Batterie nicht.

Verätzungsgefahr

- Dieses Produkt enthält eine Knopfzellenbatterie.
- Falls die Knopfzellenbatterie verschluckt wird, kann dies innerhalb von nur 2 Stunden schwere innere Verätzungen verursachen und zum Tode führen.
- Halten Sie neue und gebrauchte Batterien von Kindern fern.
- Falls sich das Batteriefach nicht sicher schließen lässt, stellen Sie die Verwendung des Produkts ein und halten Sie es von Kindern fern.
- Falls Sie glauben, dass Batterien eventuell verschluckt oder in einen Teil des Körpers eingeführt worden sind, begeben Sie sich sofort in ärztliche Behandlung.

ACHTUNG

- Es besteht Explosionsgefahr, falls die Batterie durch eine Batterie der falschen Art ersetzt wird.
- Ersetzen Sie Batterien nur durch die gleiche Art.

ACHTUNG

- Es besteht Explosionsgefahr oder die Gefahr eines Austritts von brennbarer Flüssigkeit oder entzündlichem Gas.
- Das Produkt darf nicht in Umgebungen mit hohen Temperaturen oder extrem niedrigem Luftdruck aufgrund von extremen Höhenlagen verwendet / aufbewahrt / gebracht werden.
- Versuchen Sie nicht, gebrauchte Batterien zu verbrennen, zu zerstoßen oder zu schneiden.
- Nicht aufladen. Das Aufladen ist gefährlich, da es zu Leckagen, Hitzeentwicklung, Explosion oder Feuer führen kann.

 : Questo è un simbolo di sicurezza/avvertenza.

- Non ingerire la batteria.

Pericolo di ustioni chimiche

- Questo prodotto contiene una batteria a bottone/moneta.
- Se la batteria a bottone/moneta viene ingerita, può causare gravi ustioni interne in sole 2 ore e provocare la morte.
- Tenere le batterie nuove e usate lontano dalla portata dei bambini.
- Se il vano batteria non si chiude in modo saldo, interrompere l'utilizzo del prodotto e tenerlo lontano dalla portata dei bambini.
- Se si ritiene che le batterie siano state ingerite o inserite in qualsiasi parte del corpo, consultare immediatamente un medico.

ATTENZIONE

- Rischio di esplosione in caso di sostituzione della batteria con una di tipo errato.
- Sostituire la batteria con una dello stesso tipo.

ATTENZIONE

- Rischio di esplosione o di perdita di liquidi o gas infiammabili.
- Non utilizzare / immagazzinare / portare in ambienti con temperatura estremamente alta o pressione estremamente a causa dell'elevata altitudine.
- Non provare a bruciare, schiacciare o tagliare la batteria usata.
- Non caricare. La carica è pericolosa in quanto può causare perdite, generazione di calore, esplosioni o incendi.

⚠ : Esta marca é uma marca de segurança/aviso.

• Não ingerir a pilha.

Perigo de Queimadura Química

• Este produto contém uma pilha de tipo moeda/botão.
• Se a pilha de tipo moeda/botão for engolida, poderá causar queimaduras internas graves em apenas 2 horas e levar à morte.
• Manter as pilhas novas e usadas longe de crianças.
• Se o compartimento da pilha não se fechar completamente, cessar a utilização do produto e manter fora do alcance das crianças.
• Caso seja possível que as pilhas tenham sido engolidas ou colocadas dentro de qualquer parte do corpo, procurar cuidados médicos imediatamente.

CUIDADO

• Risco de explosão se a pilha for substituída por uma de tipo incorreto.
• Substituir a pilha por uma do mesmo tipo.

CUIDADO

• Risco de explosão ou fuga de líquidos ou gases inflamáveis.
• Não utilizar/armazenar/colocar em ambiente de temperatura extremamente alta, ou pressão extremamente baixa devido a altitude muito alta.
• Não tentar queimar, esmagar ou cortar a pilha usada.
• Nie ładuj. Ładowanie jest niebezpieczne, ponieważ może spowodować wyciek, generację ciepła, eksplozję lub pożar

For Australia (Statement of Compliance with the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020)

Electronic Key (Passive Entry and Start System)

⚠ WARNING

THIS PRODUCT CONTAINS A BUTTON/COIN BATTERY

The button/coin battery in the vehicle key is hazardous. Keep the new or used batteries out of reach of children at all times.
If swallowed or placed inside any part of the body, a lithium button/coin battery can cause severe or fatal injuries in two hours or less.
Seek immediate medical attention if it is suspected the battery has been swallowed or placed inside any part of the body.

For the Republic of Singapore

Keyless Entry System

Complies with
IMDA Standards
DA107248

This vehicle's keyless entry system conforms to the basic requirements of the Info-communications Media Development Authority of Singapore (IMDA) and related regulations.

Model name	Model number
RKE TXE	IK3600F
WAM MID	IM2035BB

Guidelines for Installation of Aftermarket Radio Frequency Transmitting Equipment

Purpose

This installation guidelines give requirement and recommendations for the installation in vehicles of

- radio frequency (RF) transmitting equipment.
- ancillary equipment associated with these.

NOTE

- These guidelines are intended to supplement, but not to be used in place of, detailed instructions for such installations which are the sole responsibility of the manufacturer of the involved radio telephone or land mobile radio.

General

1. Only the RF-transmitting equipment and ancillary equipment (microphone, converter, booster, etc.) with 'CE' mark or 'e' may be installed in vehicle.
2. Installation of RF-transmitting equipment shall be performed by competent personal permitted by the country regulation. The vehicle and RF-transmitting equipment manufacturer's instruction manuals and installation notes shall be followed.

NOTE

- Vehicle manufacturer's instructions take priority in case of conflict.
- Installation of RF-transmitting equipment to any part of the vehicle, other than an authorized connection or mounting location, may invalidate the vehicle warranty.
- If a problem is found and can not be rectified, and it is suspected that the RF-transmitting equipment is out of specification, the appropriate manufacturer, agent or supplier shall be consulted.
- Expenses incurred from any adverse effect of any such installation are not the responsibility of vehicle manufacturer.

3. The installation shall comply with national legal requirements for the installation and use of RF-transmitting equipment in vehicles.
4. Full consideration shall be given to the positioning of RF-transmitting equipment such that electromagnetic interference (EMI) and radio frequency interference (RFI) is minimized between the RF-transmitting equipment being installed and the vehicle electrical and electronic systems.
5. Care shall be taken when planning the installation that any additional equipment used does not constitute a safety hazard and does not contravene safety regulations.
6. Care shall be taken to ensure that any microphone/handset lead is not such that the lead can interfere with the vehicle controls or driver.
7. Where a hand portable or transportable unit is installed in road vehicles, the correct car adapter kit specified for the product shall be used.

Installation

Care shall be taken in
- choosing the antenna,
- sitting it in a recommended location,
- installing it correctly,
- ensuring that all connection in the antenna feeder are sealed to prevent dirt and water from entering the feeder and affecting its performance,
- ensuring that all connection are electrically tested after installation, and
- ensuring that a satisfactory VSWR reading is obtained.

Antenna

1. For RF-transmitting equipments with output power levels above 100mW (peak), an external antenna is strongly recommended.

2. The external antenna and feeder cable shall be impedance matched with a VSWR < 2.0.

3. The antenna should be a permanent-mount type located in the roof or the rear trunk lid. If a magnet-mount antenna is used, care should be taken to mount the antenna in the same location as a permanent-mount type.

NOTE

- Each vehicle model and body style reacts to radio frequency energy differently. When dealing with an unfamiliar vehicle, it is suggested that a magnetic-mount antenna be used to check the proposed antenna location for unwanted effects on the vehicle. An antenna location is a major factor in these effects.
- The best position for an antenna is on the metallic roof, preferably towards the center, but where possible with a distance of > λ/4 (λ = wavelength) from any opening, such as a sunroof or windows.

4. Care shall be taken when sitting an antenna next to an existing one or when mounting antennas with magnetic bases, as this could affect the accuracy or operation of the compass on vehicles so equipped.

[Radiation patterns and ground planes]

1. In order to create a symmetrical, non-directional radiation pattern, an antenna needs to be mounted vertically on a horizontal ground plane with – ideally – a radius of > λ/4 at the lowest frequency band used (see Table 1).

2. The antenna should not be located close to any electrically resonant structure.

3. Care shall be taken when sitting the antenna close to another, existing antenna. It is necessary to separate them by > λ/4 for transmit frequency f < 600 MHz and > λ for transmit frequency f > 600 MHz (see Table 1).

Table 1. Approximate frequency-to-wavelength conversion

Frequency f MHz	Wavelength λ cm	λ/4 cm
50	600	150
80	375	94
150	200	50
450	66	17
600	49.5	12
900	33	8
1800	16.5	4

[Ground-plane provision]

When the antenna installation is to be carried out on a non-metallic surface

- a ground-plane-independent antenna can be fitted directly to any surface (glass-fiber etc.) or onto a mounting bracket which may be supplied by the manufacturer,
- a standard antenna can be used with a ground plane fitted to the underside of the panel, for example a metallic plate complying with dimensions Table 1.

[Antenna position at vehicle]

Installation and use of RF transmitters with antenna outside the vehicle is shown by Table 2.

Table 2. Installation and use of RF transmitters with antenna outside the vehicle

Frequency bands (MHz)		Max. output power (W)	Antenna position at vehicle	Specific conditions for installation and/or use
1	1.8-30	50	1.2.3.4.5.	Ham Radio
2	50-54	50	1.2.3.	Ham Radio
3	142-176	50	1.2.3.	Ham Radio / General Service Radio
4	380-470	50	1.2.3.	Ham Radio / General Service Radio
5	870-915	5	1.2.3.	General Service Radio / Mobile Telephone
6	1200-1300	10	1.2.3.	Ham Radio
7	1710-1785	2	1.2.3.	Mobile Telephone
8	1885-2025	1	1.2.3.	Mobile Telephone

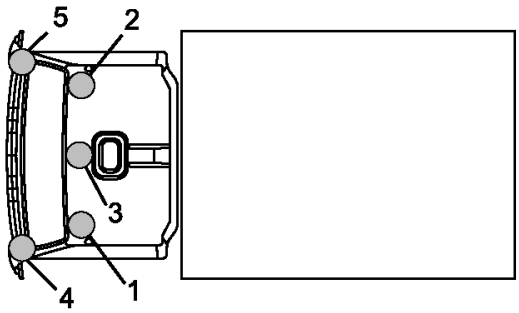


Figure 1. Drawing showing antenna installation points in the vehicle

Antenna location;
0: all location (vehicle exterior)
1: front left of roof
2: front right of roof
3: center of roof
4: left of bumper
5: right of bumper

[Case of "On-glass" antennas]

Glass mounted antennas should be kept as high as possible in the center of the rear window or windshield.

NOTE

- Care shall be taken to ensure that the glass is within the specified temperature range when fixing the antenna mount in order to obtain a good bond.

Antenna Cable

1. Use a high quality, one piece coaxial cable (at least 95% shield coverage) that is impedance matched for the RF-transmitting equipment (VSWR < 2.0).
2. Excess coaxial cable shall not be coiled, as this may affect the tuning of the antenna as well as producing electrical interference.
3. If possible, the antenna cable should be cut to the correct length.
4. The cable should be routed so as to avoid sharp bends.
5. Safety-sensitive electronic unit (e.g. airbag and ABS systems), circuits and harnesses shall not be used for parallel wiring.
6. If it is necessary to cross other wiring, cross at right angles.
7. If an extension feeder cable is required, suitable coaxial cable shall be used and correctly terminated with good quality, low-loss connectors.

NOTE

- Fit the correct antenna connectors at each end of the feeder cable to match the equipment using either crimp or soldered connectors as appropriate.

8. If the antenna cable provided is too short, wherever possible the cable should be replaced by a suitable feeder cable of correct length.

NOTE

- Extending the length of the feeder cable will result in additional losses, particularly at frequencies > 800 MHz.

9. Ensure that the feeder cable is not strained or distorted by, for example, excessive tightening of cable ties.
10. When vehicle trim is replaced, make sure that the panels do not trap the feeder cable.
11. Additional care should be taken when installing a glass mount to the rear screen of a hatch-back type vehicle to allow opening and to prevent damage to the feeder cable.

RF-transmitting Equipment

[Mounting of RF-transmitting equipment]

1. Location of a RF-transmitting equipment should be selected that provides a solid mounting point which does not interfere with the vehicle operator controls and provides adequate ventilation.
2. RF-transmitting equipment shall not be able to be damaged or its ventilation restricted. Special care should be taken to ensure that RF-transmitting equipment can not be damaged by ingress of water.
3. Access to vehicle equipment in the load storage area shall not be barred, e.g. by wheel jack, fire extinguishers or spare wheel.
4. The connections to the RF-transmitting equipment should be easily accessible in order that the equipment may be removed for operation in transportable mode, or for repairs and servicing.
5. It shall not hinder the operation of airbags or other safety equipment.

NOTE

- Great care should be taken not to mount any RF-transmitting equipment, microphones or any other item in the deployment path of a Supplemental Inflatable Restraint or "Air Bag".

[Routing of RF-transmitting equipment's cables]

1. Where possible, all cables should pass inside or underneath trim and through moldings in such a way as to afford maximum protection. If necessary, use sleeving, a proprietary protector and/or cable ties where required.
2. Select a route for the cable, ideally on the opposite side of the vehicle to the fuel pipe, clear of brake pipes, cables, controls, vehicle wiring and any hot components. Under no circumstances shall any cables be attached to the foregoing.
3. Cable shall be routed so that they avoid
   - sharp edges,
   - continual bending,
   - stress or strain,
   - abrasion,
   - extreme temperature, and
   - becoming a hazard to the occupants of the car.

Power Supply for RF-transmitting Equipment

[General]

1. A dedicated supply cable should be used for the RF-transmitting equipment installation which should be as short as possible to the battery positive and negative connections. Do not connect directly to the battery pillars, but use the battery terminals provided.

NOTE

- Connections shall not be made to any electronic control unit feeds under any circumstances. For example, avoid using cigar lighter as power sources for a RF-transmitting equipment.

2. It is also recommended that, unless a molded twin supply cable is used, the two supply lines be twisted together along their length in order to reduce radiated noise or induce noise.

NOTE

- The supply cable from the RF-transmitting equipment should approach the battery in such a way that, when terminated, the two wires can not be inadvertently reversed, e.g. one wire is shorter than the other.

3. If ignition switch control is desired, the handset or control unit positive lead may be connected through an appropriate in-line fuse to an available accessory circuit or ignition circuit not powered during cranking.

[Supply cable and routing]

1. Heavy-duty cable of a low electrical resistance should be used on long cable runs to minimize voltage drop.
2. The cable shall be of a higher current capacity than the protection fuse, and the correct fuse shall be fitted.
3. The cable should be as short as possible.
4. The cable shall be secured well clear of moving parts, (shock absorbers, steering, drive shaft, control pedals, etc.).
5. The cable shall be secured well clear of the engine, exhaust system or other hot items.

6. The supply cable run should, where possible, be separate from that of the in-car entertainment equipment control cables, although they may pass through the same holes in the chassis and body for ease of fitting; suitable grommets should be fitted if additional holes are drilled.
7. The cable shall be supported, avoiding sharp bends, and shall not be subjected to strain.
8. The cable shall be sited away from ignition coil, the high voltage circuits of the ignition systems and electronic control units and, where possible, other vehicle wiring.

[Vehicle Electrical Supply Systems with Voltages 24V]

1. A 12V tap shall not be taken from 24V vehicle batteries.

NOTE

- Most mobile RF-transmitting equipment operates from a 12V supply. ISUZU FXR77/ FXM77/FXZ77/FYH77 have a 24V, so it is essential that a suitable regulator or converter be used which will provide the nominal supply voltage and current for which the RF-transmitting equipment is designed.

2. The supply cable to the regulator or converter shall be as practicable and suitable fuses should be fitted as close as possible to the supply.

NOTE

- The installation of the RF-transmitting equipment shall be carried out such that the integrity of the vehicle isolated power supply is not impaired.

3. The unit shall be mounted in accordance with the manufacturer's instructions. Unless environmentally protected, it should be located in a dry and well-ventilated position.

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