

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.

-  : Market-/type-specific equipment (Your vehicle may not have the equipment with this symbol.)
-  : Vehicle equipped with the hydraulic brake system
-  : Vehicle equipped with the full-air brake system

Abbreviations

This manual uses the following abbreviations, as interpreted below.

Abbreviations	Description
ABS	Anti-lock Brake System
ACEA	Association des Constructeurs Europeens d'Automobiles (Association of European Automobile Constructors)
API	American Petroleum Institute
ASR	Anti-Slip Regulator
ASTM	American Society for Testing and Materials
BS	British Standards
DIN	Deutsche Industrie Normen
EBD	Electronic Braking force Distribution
EGR	Exhaust Gas Recirculation
ELR	Emergency Locking Retractor
FAME	Fatty Acid Methyl Esters
FMVSS	Federal Motor Vehicle Safety Standards
GVM	Gross Vehicle Mass
HBB	Hydraulic Brake Booster
JASO	Japanese Automobile Standards Organization
JIS	Japanese Industrial Standards
LLC	Long Life Coolant
LSPV	Load Sensing Proportioning Valve
PTO	Power Take-Off
r/min	revolutions per minute
SAE	Society of Automotive Engineers
SVS	Service Vehicle Soon
VIN	Vehicle Identification Number

HOW TO USE THIS MANUAL AND HOW TO FIND A SPECIFIC TOPIC

0

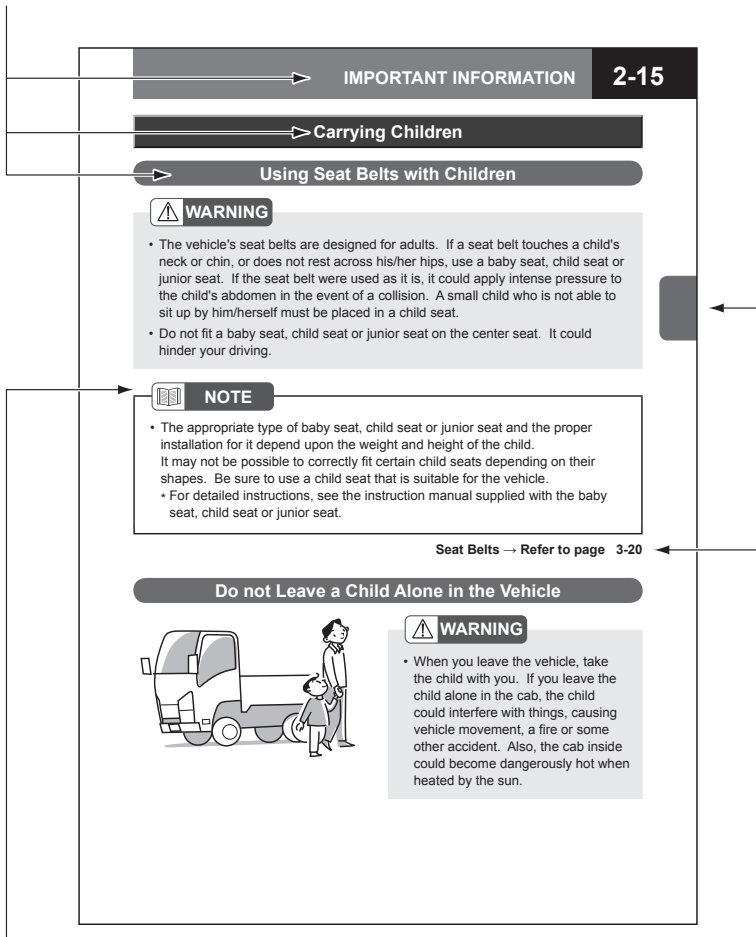
• HOW TO USE THIS MANUAL	0-2
• HOW TO FIND A SPECIFIC TOPIC	0-3
• CHAPTER DESCRIPTION	0-5
• PICTORIAL INDEX	0-6
• WARNING/INDICATOR LIGHT INDEX	0-14
• WARNING/CAUTION LABELS	0-16

Chapter/section titles

These titles are useful for getting the gist of the content at a glance.

Chapter index tab

Use this for quick access to your desired chapter.



 **DANGER**

 **WARNING**  **CAUTION**

 **ADVICE**  **NOTE**

Symbols

See the preceding page for the meanings of these symbols.

Reference page

Refers you to a page (or pages) of this manual that concerns the present topic and that you should also read.

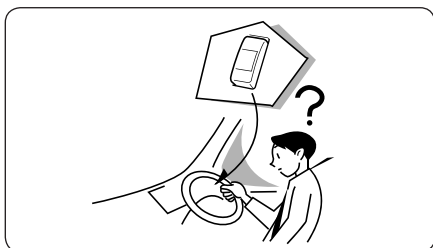
All values in this manual are indicated primarily according to the International System of Units (or in SI units) with the conventional metric values and American units indicated in parentheses.

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 0-5

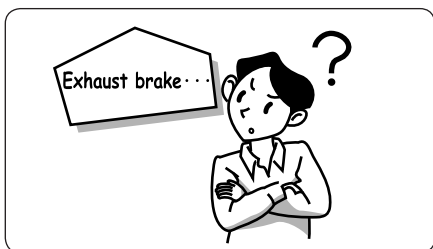
Search for the page describing the specific topic by using the general table of contents under CHAPTER DESCRIPTION, the CHAPTER INDEX, and/or the TABLE OF CONTENTS on the first page of each chapter.



Use the pictorial indexes
 ➔ Pages 0-6 to 0-13

PICTORIAL INDEX

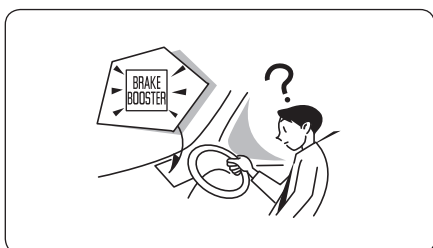
If you don't know the name of the switch or other device for which you need information, locate the page describing it by using the pictorial indexes.



Use device names as keys
 ➔ Pages 10-1 to 10-3

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.



Use the Warning/Indicator Light Index
 ➔ Pages 0-14 to 0-15

WARNING/INDICATOR LIGHT INDEX

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



If you have a problem with your vehicle
 ➔ Pages 8-2 to 8-70

IN CASE OF EMERGENCY

0-4



PICTORIAL INDEX 0-6**VEHICLE INFORMATION 1****IMPORTANT INFORMATION 2**

Describes what you should know before you can operate the vehicle safely and smoothly.

DOORS, WINDOWS AND SEATS 3

Shows the proper way to open/close the doors, windows and fuel filler cap. Also explains how to adjust the mirrors and seats including how to correctly fasten the seat belts.

CONTROLS AND INSTRUMENTS 4

Explains how to start and stop the engine; describes various controls and instruments; describes special equipment.

COMFORT AND CONVENIENCE 5

Contains information on the audio system, air conditioning system, and other comfort and convenience features.

TIPS ON SAFE AND SMOOTH OPERATION .. 6

Describes the points you should be aware of to operate the vehicle safely and smoothly under various conditions and in different seasons.

SERVICE AND MAINTENANCE 7

Describes daily and periodic inspections and other vehicle care and maintenance information necessary to keep your vehicle in good condition.

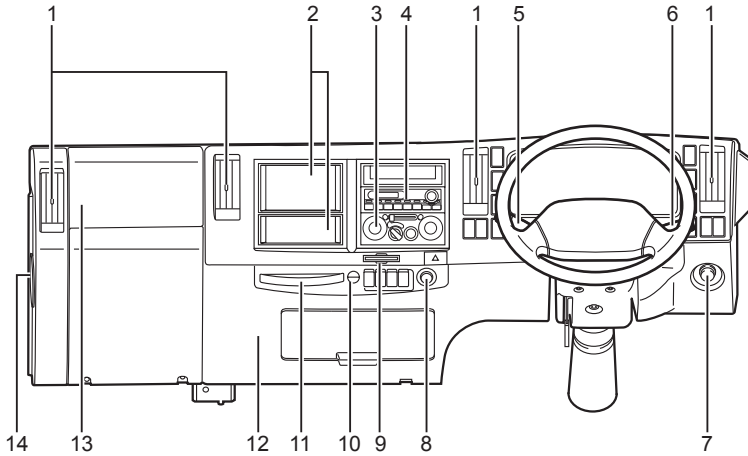
IN CASE OF EMERGENCY 8

Enumerates possible emergency situations and describes the actions you should take to deal with any one of them.

MAIN DATA 9**INDEX 10**

Interior

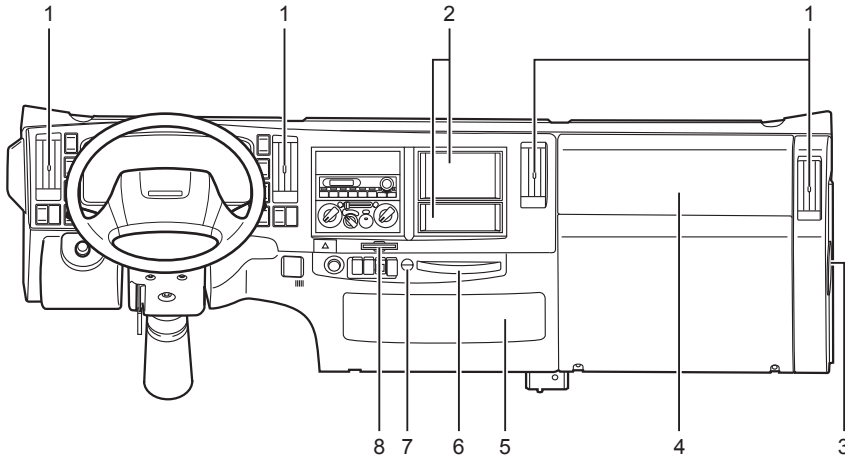
Right-hand Drive



No.	Equipment	Page
1	Air flow direction control lever	5-3
2	Small article storage pocket	5-19
3	<input type="checkbox"/> Ventilator	5-4
4	<input type="checkbox"/> AM/FM radio	5-31 5-51
	<input type="checkbox"/> CD player (with AM/FM radio)	5-39
5	<input type="checkbox"/> Exhaust brake switch	4-41
	Windshield wiper and windshield washer switch	4-43
6	Combination light control switch	4-37

No.	Equipment	Page
7	<input type="checkbox"/> Idling control knob	4-36
	<input type="checkbox"/> Cigarette lighter	5-15
8	<input type="checkbox"/> Accessory power outlet (24V)	5-17
	9	Card holder
10	Hook	5-26
11	<input type="checkbox"/> Cup holder	5-24
12	Relay box	8-48
13	<input type="checkbox"/> Glove compartment	5-20 5-21
	14	Windshield washer fluid tank

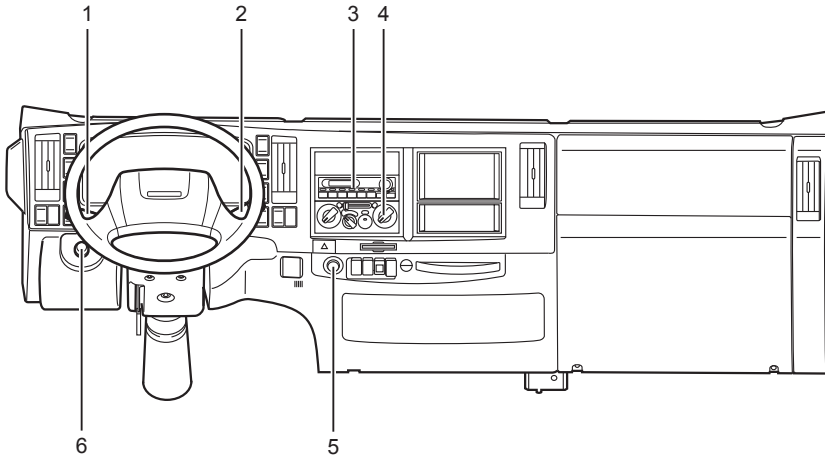
Left-hand Drive



No.	Equipment	Page
1	Air flow direction control lever	5-3
2	Small article storage pocket	5-19
3	Windshield washer fluid tank	7-148
4	<input type="checkbox"/> Glove compartment	5-20 5-21

No.	Equipment	Page
5	Relay box	8-48
6	<input type="checkbox"/> Cup holder	5-24
7	Hook	5-26
8	Card holder	5-19

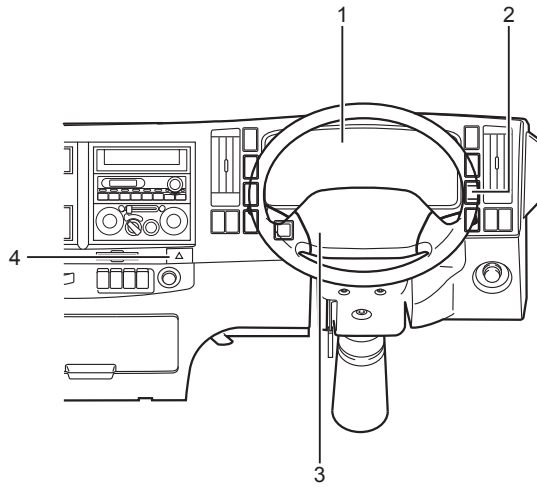
Left-hand Drive



No.	Equipment	Page
1	Combination light control switch	4-37
2	<input type="checkbox"/> Exhaust brake switch	4-41
	Windshield wiper and windshield washer switch	4-43
3	<input type="checkbox"/> AM/FM radio	5-31 5-51
	<input type="checkbox"/> AM/FM radio (with USB player)	5-60
	<input type="checkbox"/> CD player (with AM/FM radio)	5-39
	<input type="checkbox"/> CD/USB player (with AM/FM radio)	5-80

No.	Equipment	Page
4	<input type="checkbox"/> Ventilator	5-4
	<input type="checkbox"/> Heater/manual air conditioner	5-6
5	<input type="checkbox"/> Cigarette lighter	5-15
	<input type="checkbox"/> Accessory power outlet (24V)	5-17
6	Idling control knob	4-36

Right-hand Drive Model

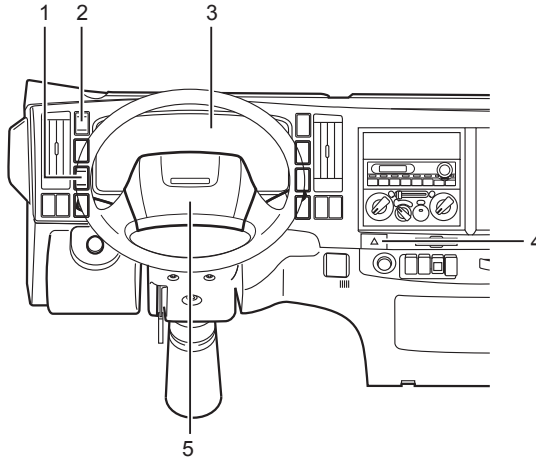


No.	Equipment	Page
1	Instruments, warning lights and indicator lights	4-10 4-17
2	<input type="checkbox"/> Front fog light switch	4-40

No.	Equipment	Page
3	Horn button	4-45
4	Hazard warning flasher switch	4-40

Left-hand Drive Model

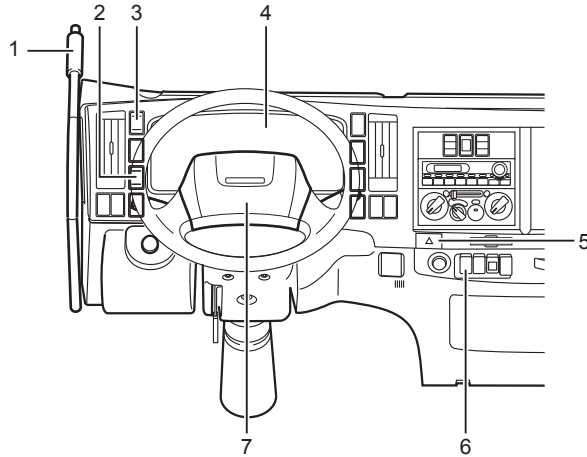
Model without Power Take-Off (PTO)



No.	Equipment	Page
1	<input type="checkbox"/> Front fog light switch	4-40
2	<input type="checkbox"/> ASR OFF switch	4-61
3	Instruments, warning lights and indicator lights	4-10 4-17

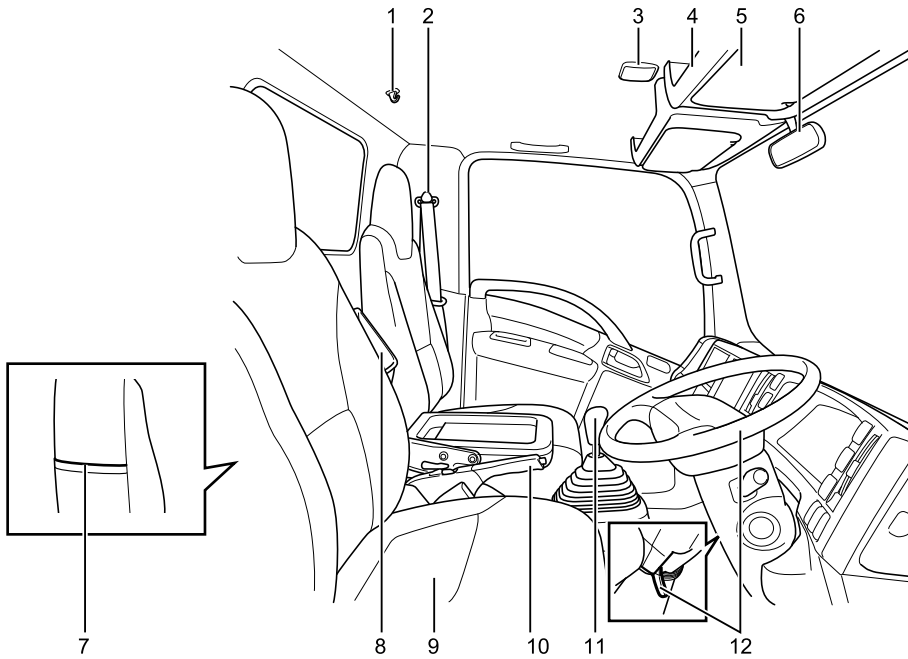
No.	Equipment	Page
4	Hazard warning flasher switch	4-40
5	Horn button	4-45

Model with PTO



No.	Equipment	Page
1	<input type="checkbox"/> PTO lever	4-65
2	<input type="checkbox"/> Front fog light switch	4-40
3	<input type="checkbox"/> ASR OFF switch	4-61
4	Instruments, warning lights and indicator lights	4-10 4-17

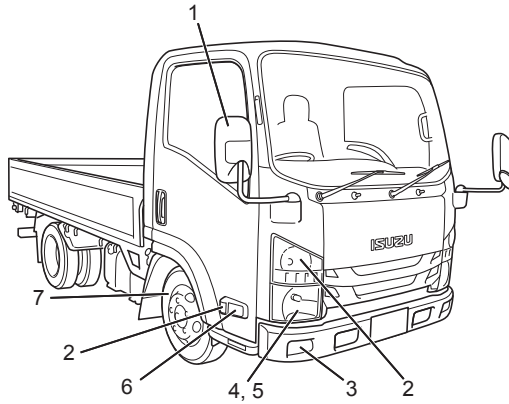
No.	Equipment	Page
5	Hazard warning flasher switch	4-40
6	<input type="checkbox"/> PTO switch	4-67 4-68
7	Horn button	4-45



No.	Equipment	Page
1	<input type="checkbox"/> Coat hook	5-26
2	Seat belt	3-20
3	Dome light	5-14
4	<input type="checkbox"/> Overhead tray	5-23
5	<input type="checkbox"/> Sun visor	5-15
6	<input type="checkbox"/> Inside mirror	3-18
7	Seatback pocket (driver's side)	5-24

No.	Equipment	Page
8	<input type="checkbox"/> Back panel tray (storage receptacle)	5-25
9	Seat	3-13
10	Parking brake lever	4-49
11	Gearshift lever	4-52
12	Fully adjustable steering	3-17

Exterior














No.	Equipment	Page
1	Outside rearview mirrors	3-19
2	Turn signal light	8-32
3	<input type="checkbox"/> Front fog light	8-32
4	Clearance light	8-32

No.	Equipment	Page
5	Headlight	8-32
6	<input type="checkbox"/> Cornering light	8-32
7	Tires	7-101











Warning/Indicator Light Index

Instrument Panel

WARNING LIGHTS

Name	Symbol	Color	Page
<input type="checkbox"/> V Check engine warning light		Amber	4-26
Engine oil pressure warning light		Red	4-23
<input type="checkbox"/> V Engine overheat warning light		Red	4-24
<input type="checkbox"/> V ABS warning light		Amber	4-22
Generator warning light		Red	4-25
Water separator (fuel filter) warning light		Red	4-27
<input type="checkbox"/> FAB Air pressure warning light		Red	4-20
<input type="checkbox"/> HB Brake system warning light		Red	4-19
Parking brake warning light		Red	4-30
Brake booster warning light		Red	4-20
Seat belt warning light		Red	4-19

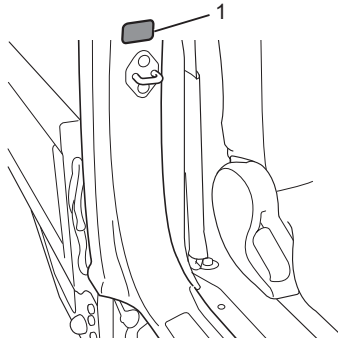
INDICATOR LIGHTS

Name	Symbol	Color	Page
<input type="checkbox"/> Glow plug indicator light		Amber	4-31
High beam indicator light		Blue	4-29
<input type="checkbox"/> ASR indicator light		Green/ Amber	4-31
<input type="checkbox"/> Exhaust brake indicator light		Green	4-30
Turn signal and hazard warning indicator light – left		Green	4-29
Turn signal and hazard warning indicator light – right		Green	4-29
<input type="checkbox"/> SVS indicator light		Amber	4-26
<input type="checkbox"/> Air cleaner indicator light		Amber	4-25
<input type="checkbox"/> PTO indicator light		Red	4-32
Low fuel warning light	 Low fuel warning light	Amber	4-28

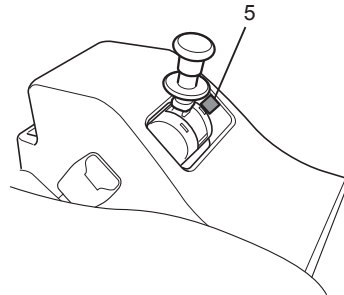
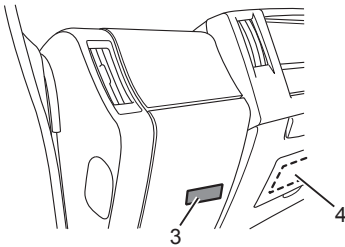
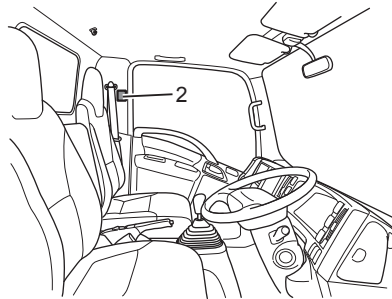
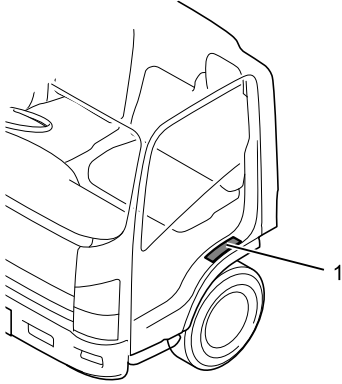
Warning/Caution Labels in Your Vehicle

- 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.

Warning/Caution Labels – Cab Interior



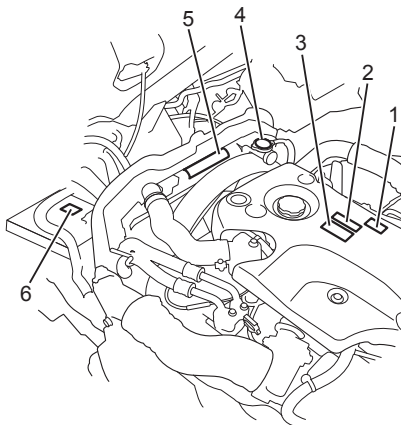
No.	Description
1	<input type="checkbox"/> Tire air pressure



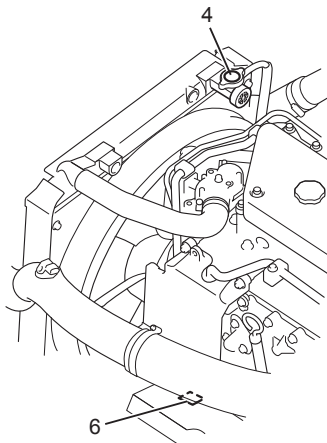
No.	Description
1	<input type="checkbox"/> Cab tilt instruction
2	Engine periodic check
3	<input type="checkbox"/> Engine maintenance lid
4	Fuse
5	<input type="checkbox"/> Wheel parking brake

Warning/Caution Labels – Engine Compartment

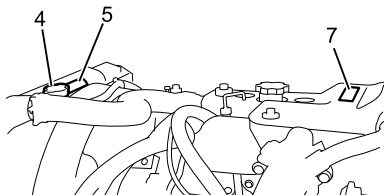
4JJ1 engine



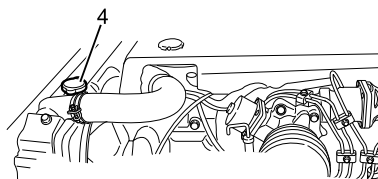
4HK1 engine



4JB1-TC/4JH1 engine

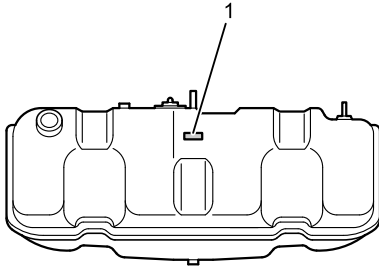


4HG1-T engine



No.	Description
1	<input type="checkbox"/> Engine oil level check
2	<input type="checkbox"/> Fuel filter element
3	<input type="checkbox"/> Engine oil
4	Radiator cap
5	<input type="checkbox"/> Engine coolant
6	<input type="checkbox"/> Engine control module
7	<input type="checkbox"/> Engine oil change

Warning/Caution Labels – Fuel Tank



No.	Description
1	<input type="checkbox"/> Diesel fuel

0-20

WARNING/CAUTION LABELS



VEHICLE INFORMATION

1

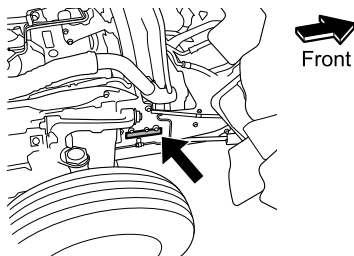
-
- **Vehicle Identification Number (VIN) and Engine Number** 1-2
-

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.

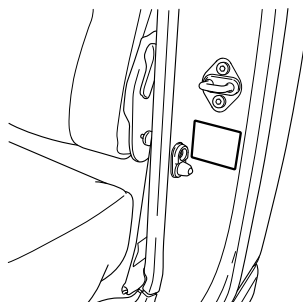
VIN

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 left-hand door striker indicates the VIN together with other information such as option codes.



ADVICE

- The location of the ID plate may differ depending on the market. For further details, ask your Isuzu Dealer.

VEHICLE INFORMATION

1-3

You can determine the vehicle model, engine model, and so on, from the VIN stamped on the frame or indicated on the ID plate.

J A A N L R 5 5 E G 7 1 0 0 0 0 1

1 2 3 4 5 6

No.	Description
1	World Manufacturer Identifier (WMI)
2	Model code NLR : 4 × 2 truck NLR model NMR: 4 × 2 truck NMR model NPR : 4 × 2 truck NPR model N1R : 4 × 2 truck NQR model 1LR : 4 × 2 truck QLR model 1MR : 4 × 2 truck QMRmodel
3	Engine code 55: 4JB1 engine 71: 4HG1 engine 75: 4HK1 engine without air compressor 77: 4JH1 engine 85: 4JJ1 engine 90: 4HK1 engine with air compressor

No.	Description
4	Wheelbase code
5	Model year code G: 2016 model H: 2017 model J: 2018 model
6	Production sequential number

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
RDU	4JJ1
RDQ	4HK1
RDT	4JB1-TC
RDM	4JH1-TC
RDP	4HG1-T

Option Codes	Transmission
R45	MSB5S
RM5	MSB5M
RSM	MY5T
RST	MY6S

Option Codes	Brake system
Z06	Full-air brake system

Option Codes	Rear axle
G73	Heavy-duty ϕ 292 mm
R39	Standard ϕ 244 mm
6CP	Heavy-duty ϕ 320 mm
8BW	Heavy-duty ϕ 343 mm

Option Codes	Other components
86M	Generator 12V-60A
K83	Generator 24V-35A
TLZ	Generator 24V-50A
KG2	Generator 24V-60A
7YN	Generator 24V-80A
NFU	Generator 24V-90A
8GJ	Manual transmission
NT2	Model conforming to Euro II emission standards
NT4	Model conforming to Euro IV emission standards

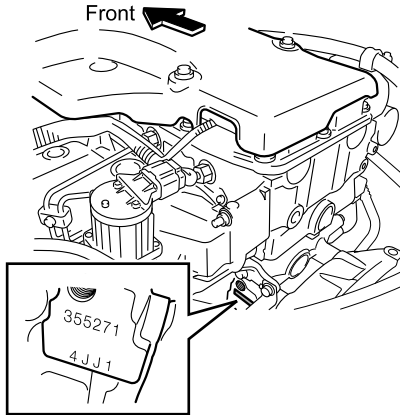


ADVICE

- 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.

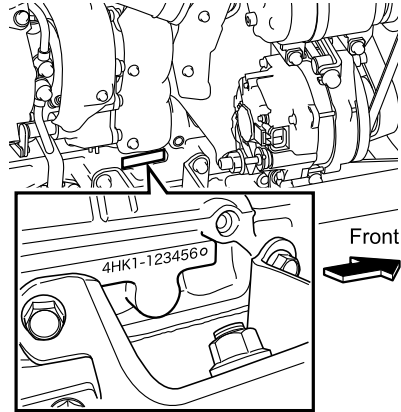
Engine Number

4JJ1 engine



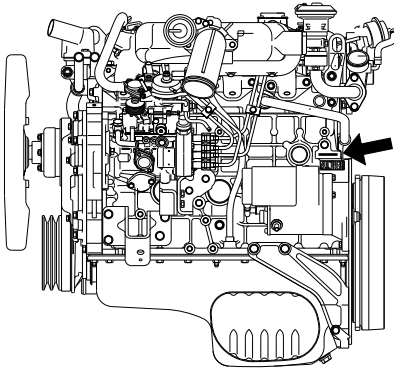
The engine number is stamped on the left-side rear part of the engine block.

4HK1 engine



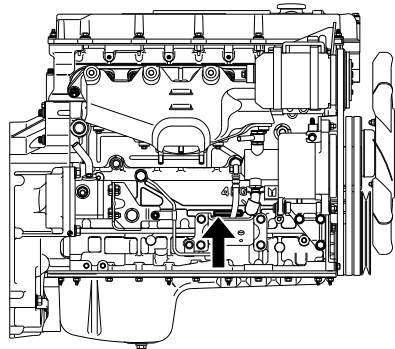
The engine number is stamped on the right-side front part of the engine block.

4JH1/4JB1-TC engine



The engine number is stamped on the left-side rear part of the engine block.

4HG1-T engine



The engine number is stamped on the right-side front part of the engine block.

1-6

VEHICLE INFORMATION



IMPORTANT INFORMATION

2

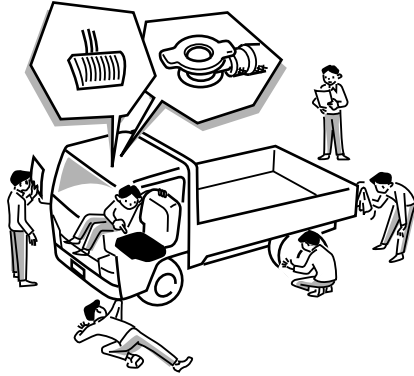
• Before Driving	2-2
• Carrying Children	2-15
• Driving	2-17
• Stopping and Parking	2-28
• Staying Safe	2-35
• Preventing Breakdowns	2-39
• When to Visit Your Isuzu Dealer	2-42
• Turbocharger	2-44
• Particulate Matter (PM) Catalytic Converter <input type="checkbox"/>	2-45

This chapter contains information and cautions that you should observe for safe and comfortable vehicle operation. Be sure to read it before using the vehicle.

Before Driving

Proper care and driving is important not only in extended service life of your vehicle, but also in improved fuel and oil economy. Drive carefully and defensively.

Perform Daily (Pre-operation) Inspections



ADVICE

- 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.

[1. Checking components that showed abnormalities during the previous operation]

Check item	Reference page
Checking components that showed abnormalities during previous operation	7-18

[2. Checks performed with the engine inspection hatch opened or cab tilted]

Check item	Reference page
Fan belt looseness and damage	7-49
Engine oil level	7-22
Engine coolant level	7-32
Power steering fluid level	7-137

[3. Checks performed in the driver's seat]

Check item	Reference page
Brake fluid level (Brake fluid doubles as clutch fluid.) [HB]	7-80 (7-124)
Brake pedal free play	7-90
Exhaust sound from brake valve [FAB]	7-91
Increase in air pressure [FAB]	7-88
Clutch pedal free play	7-128
Operation of meters, gauges and warning/indicator lights	4-10, 4-17
Engine startability, abnormal noise and color of exhaust gases	7-20
Parking brake lever stroke	7-90
Windshield washer fluid spray condition and windshield wiper effectiveness	7-148, 7-149
Windshield washer fluid level	7-148
Steering wheel free play and mounting condition	3-17, 7-136
Operation of horn and turn signal lights	4-38, 4-45
Fuel level	4-16
Operation of door locks	3-3

[4. Checks performed during a walk around the vehicle]

Check item	Reference page
Illumination, flashing or for stained or damaged lights	7-152
Battery fluid level	7-158
Condensation in air tank (draining water) [FAB]	7-100
Leaf spring damage	—
Leakage of oil, engine coolant, fuel, brake fluid, power steering fluid and HBB oil (if equipped).	—
Water collecting in the fuel filter (bottom)	7-75

[5. Checking wheels and tires]

Check item	Reference page
Air pressure	7-88
Cracks and other damage	7-106
Abnormal wear	7-107
Tread depth	7-107
Disc wheel mounting condition	7-108

[6. Checks performed while driving]

Check item	Reference page
Brake effectiveness	7-92
Checking the engine at low speeds and during acceleration	7-21
Clutch system function	7-124

Use the Specified Fuel**⚠ CAUTION**

- Be sure to use diesel fuel. For models conforming to Euro IV emission standards, be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower) or 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 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 Euro IV 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.

Fuel Tank Filler Cap

→ Refer to page 3-10

Fuel

→ Refer to page 6-20

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.
- Be sure to wipe off the fuel that is spilled at refueling.

CAUTION

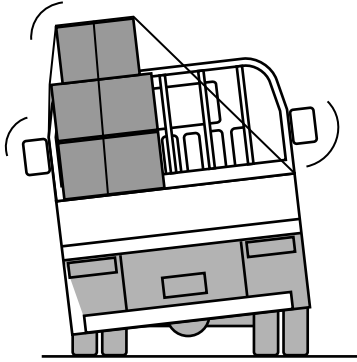
[Caution when refueling the vehicle]

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

Fuel Tank Filler Cap

→ Refer to page 3-10

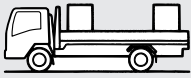
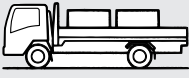
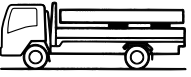
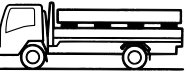


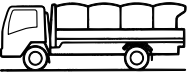
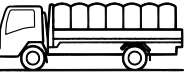
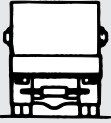

Load Cargo Correctly

**WARNING**

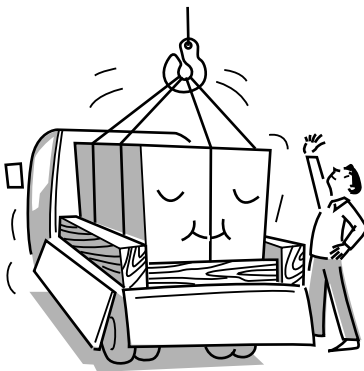
- Overloading can result in an accident because it places too much strain on the wheel bolts with the result that they break and the wheels come off.

CAUTION

- The weight of the payload must be limited within the gross vehicle mass (GVM) rating and distributed over the front and rear axles so as not to exceed the axle capacities.
- 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.

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.		

Loading Heavy Cargo



CAUTION

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

Loading Farming Equipment

**CAUTION**

- The frame may become deformed when farming equipment is loaded from the rear of the cargo bed. In addition, the frame may become deformed even when loading farming equipment that has a weight under the maximum loading capacity.

**NOTE**

- When loading farming equipment, a device for securing the cargo bed is required. Use a car carrier or attach a rear support stand. If you have any questions, contact an Isuzu Dealer.

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.

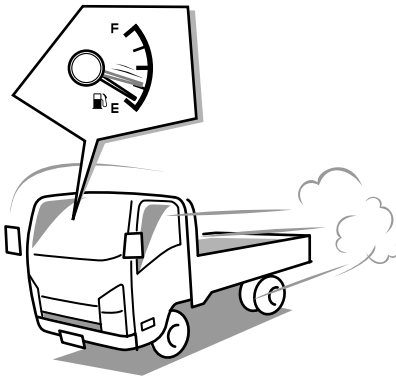
Make Sure There is No Flammable Material between the Cab and Cargo Bed



WARNING

- Be careful not to allow the ends of ropes or edges of tarpaulins to come lower than the heat protector at the back of the cab. During vehicle operation, the engine's heat could set them on fire. Carefully secure the ends of ropes and edges of tarpaulins.

Economical Driving



Driving too fast or driving so slowly that the engine knocks can lead to poor fuel economy.

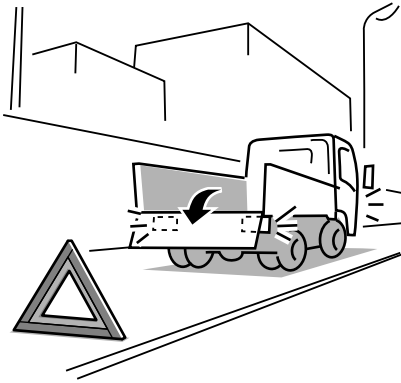
In vehicles with exhaust brake, driving with the exhaust brake switched on all the time or using the exhaust brake frequently to adjust your speed can also lead to poor fuel economy.

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.

Unloading Cargo

**CAUTION**

- When you load or unload cargo at the roadside and the cargo bed's gates or other body parts obscure the tail lights, 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.

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.

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. For proper pedal operation, it is also essential to lay floor mats properly. Incorrectly installed floor mats would hinder free movement of the pedals.
- 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.

Choose Your Footwear Suitable for Driving



CAUTION

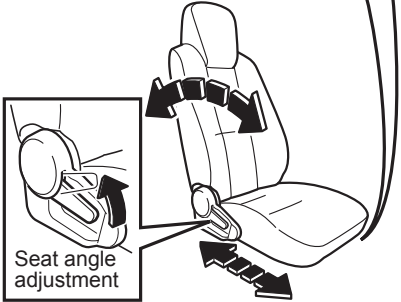
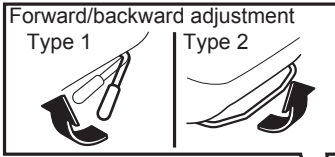
- Choose footwear that ensures proper operation of pedals when driving the vehicle. Use of footwear unsuitable for driving may cause an accident.

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.

- Seats** → Refer to page 3-13
- Seat Belts** → Refer to page 3-20
- Mirrors** → Refer to page 3-18

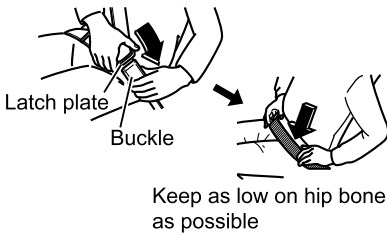


Seat Adjustment

Adjusting the seat for a correct driving posture is a fundamental part of safe driving.

Fastening Your Seat Belt

Be sure to wear your seat belt. Sit up straight with your lower back pressed against the seat and the lap belt as low on your hips as possible.



	Seat adjustment recommendations
a	Make adjustments that allow you to easily turn the steering wheel with your elbows slightly bent.
b	Position the seatback so it is always touching your shoulders.
c	Make sure you can adequately press each pedal.

	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.

Passengers and Seat Belts

Only one person at a time should use each seat belt.

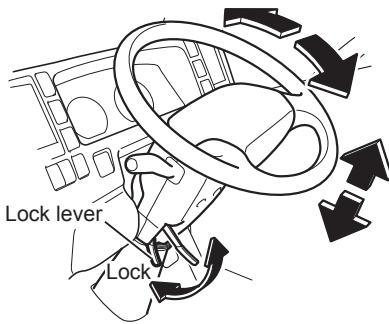
WARNING

- Be sure to adjust the seat before driving. Achieve the correct driving posture, gently rock the seat to make sure it is locked in place, and put on your seat belt before you start driving. All passengers must wear seat belts.
- For a child who is so small that the seat belt touches his/her face or does not rest across his/her hips, use a child seat or other suitable restraint, not the seat belt. Using the seat belt could be dangerous.

Carrying Children → Refer to page 2-15

Adjusting the Position of the Steering Wheel

You can adjust the position of the steering wheel in the up-down and fore-aft directions. After making an adjustment, make sure the steering wheel and lock lever are securely locked.



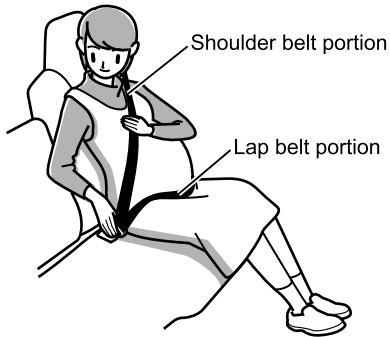
WARNING

- When you have adjusted the steering wheel, try pulling the steering wheel up and down to check that it is securely locked in position before driving.
- Adjust the position of the steering wheel before you start driving. Adjusting the position of the steering wheel while driving would be extremely dangerous because the steering wheel would rattle up and down, preventing precise steering.

Fully Adjustable Steering

→ Refer to page 3-17

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.

Seat Belts → Refer to page 3-20

Carrying Children

Using Seat Belts with Children

 **WARNING**

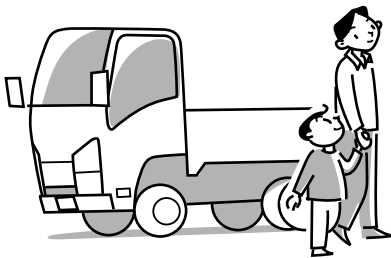
- The vehicle's seat belts are designed for adults. If a seat belt touches a child's neck or chin, or does not rest across his/her hips, use a baby seat, child seat or junior seat. If the seat belt were used as it is, it could apply intense pressure to the child's abdomen in the event of a collision. 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.

 **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.

Seat Belts → Refer to page 3-20

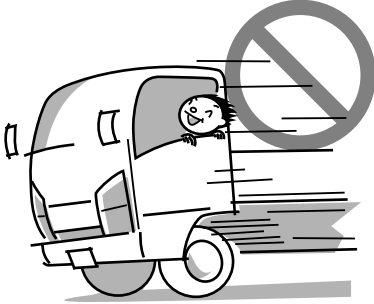
Do not Leave a Child Alone in the Vehicle



 **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.

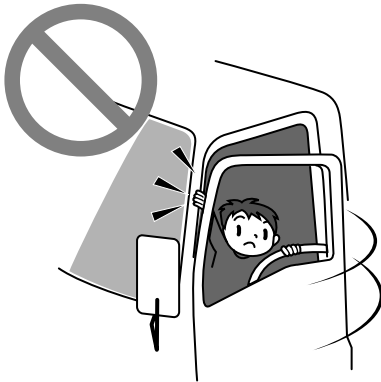
Do not Allow a Child to Put His/Her Head or Hands Out of the Window



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.

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 (if equipped) 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.

Opening and Closing Doors

→ Refer to page 3-3

Power Windows

→ Refer to page 3-7

Driving

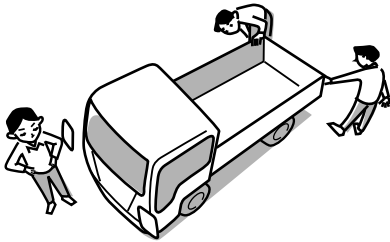
Proper care and operation will not only extend the service life of your vehicle but also improve oil and fuel economy.

Operation of New Vehicle

The subsequent performance and the service life of your vehicle are under the direct influence of the care and treatment that your vehicle will receive during the initial break-in period. It is therefore always recommended that during the initial 1,000 km (600 miles) break-in period, the following few simple precautions are carefully observed.

1. It is recommended that the engine speed is restricted to the following.
 - 4JJ1 engine model: 2,400 r/min
 - 4HK1 engine model: 2,300 r/min
 - 4JB1-TC engine model: 2,800 r/min
 - 4JH1/4HG1-T engine model: 2,600 r/min
2. Avoid engine racing, abrupt starting and needless hard stops by popping the clutch.
3. Always let the engine idle until it becomes thoroughly warmed up.

Check around the Vehicle before Starting the Engine



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.

Starting the Engine

→ Refer to page 4-4

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 ventilator, 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.

Starting the Engine

CAUTION

- Make sure that the parking brake lever is securely pulled. Make sure the gearshift lever is in the "N" position and then hold the clutch pedal down fully before starting the engine.
- Be sure to sit in the driver's seat to start the engine. If you are not sitting in the driver's seat (if, for example, you reach through the window or through the door opening), you cannot confirm the "N" position. If you start the engine with the gearshift lever in a position other than "N", the vehicle could move.

Starting the Engine

→ Refer to page 4-4

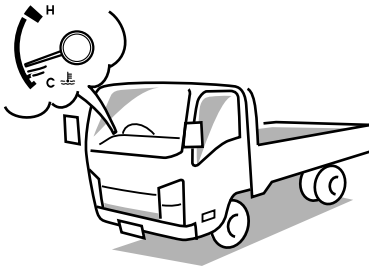
If the Vehicle Has not Been Used for a Long Period



ADVICE

- Before using a vehicle that has not been driven for a long period, 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 allow it to idle for at least 5 minutes. Check for abnormal noises.
- For instructions on warming up the engine, refer to "Starting the Engine" on page 4-4.

Recommendations for Warming Up the Engine



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



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.

Do not Run the Engine in a Garage**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.

Do not Forget to Release the Parking Brake**ADVICE**

- Pulling away with the parking brake still applied can damage the brake system.
- Before pulling away, make sure the parking brake is not set by checking that the parking brake warning light is not on.

Parking Brake Warning Light

→ Refer to page 4-30

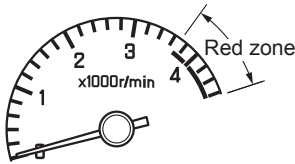
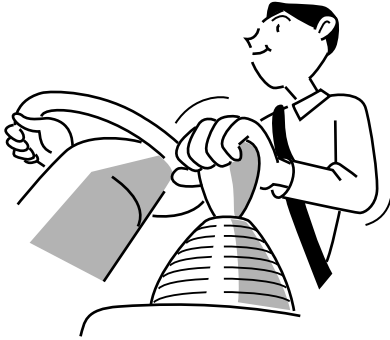
Parking Brake Lever

→ Refer to page 4-49

Pulling Away**ADVICE**

- Pull away gently in 1st gear. Pulling away in a high gear, pulling away rapidly or slipping the clutch for a long time while pulling away would damage the clutch.

Appropriate Gearshifts



Engine model	Red zone (r/min)
4JJ1	3,900 - 4,600
4HK1	3,300 - 4,000
4JB1-TC/4JH1	4,200 - 4,600
4HG1-T	3,700 - 4,600



ADVICE

- 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

[Cautions for downshifts]

- Allowing the engine to overrun can result in engine damage. Do not allow the engine to overrun when downshifting.
- Driving uphill
Downshift early to avoid heavy engine load.
- Driving downhill
In principle, you should use the same gear(s) that you used to drive up the hill. Drive at a speed that does not cause the engine to overrun (exceed its r/min limit) and the tachometer needle to enter the red zone.

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.

Tachometer → Refer to page 4-13

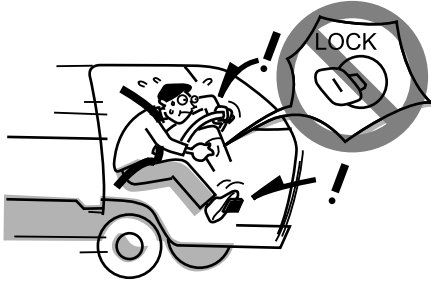
Gearshift Lever → Refer to page 4-52



NOTE

[What is engine brake?]

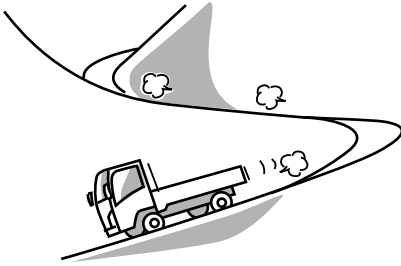
- Engine brake is the braking effect that occurs when you release the accelerator pedal while driving. The lower the gear, the stronger the engine brake.

Never Stop the Engine While Driving**WARNING**

- Do not move the starter switch away from the "ON" position while the vehicle is being driven. If the engine stops while the vehicle is moving, the brakes would not work properly, and the steering wheel and clutch pedal would become extremely stiff and hard to operate. The engine could also be damaged.
- Stopping the engine while driving would be extremely dangerous because the power steering would stop working, making the steering wheel extremely hard to turn.
- Stopping the engine while driving would be extremely dangerous because the warning lights, indicator lights and other electrical circuitry would completely stop working.
- 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.

Starter Switch → Refer to page 4-34

Driving Down a Long Slope



When driving down a long slope, use engine brake and the 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. Even so, use the foot brakes appropriately to prevent the engine over-revving.

Exhaust Brake Switch

→ Refer to page 4-41



CAUTION

- Frequent use of the foot brakes can cause vapor lock and 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.



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 vapor lock?]

- If the brakes overheat due to frequent use, the heat can cause the brake fluid to boil so that air bubbles are created in the brake fluid. Pressing the brake pedal simply compresses the air bubbles; pressure is not transmitted to the wheel cylinders, so the brakes' effectiveness sharply deteriorates. This phenomenon is called vapor lock.

[What is brake fade?]

- Frequent use of the brakes can cause the brakes to overheat so that the frictional force of the brake linings 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.

Driving in Bad Weather (Rain, Icy Roads, Snowy Roads, etc.)



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.



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.
- 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.

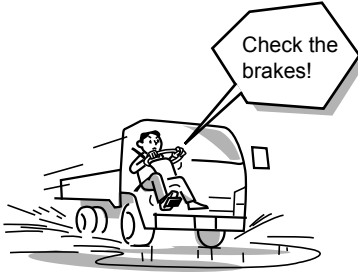


NOTE

[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.

When the Vehicle Has Been Driven on a Flooded Road or Washed



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 or wheel parking brake chamber
 - 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

Sidewinds

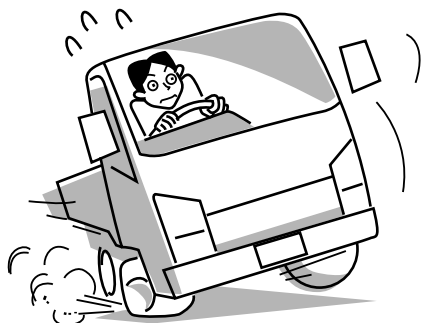


ADVICE

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

Dealing with a Blowout or Flat Tire while Driving



WARNING

- 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.



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.

Spare Tire → Refer to page 7-122

Handling the Jack → Refer to page 7-144

Changing Tires → Refer to page 7-112

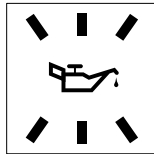
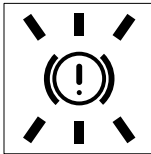
If the Underside of the Vehicle Receives a Hard Bump



ADVICE

- 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 brake fluid leakage (hydraulic brake models), air leakage (full-air brake models), 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.

If 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.

**How to Read the Instruments
(Instruments Layout)**

→ Refer to page 4-10

Warning and Indicator Lights Layout

→ Refer to page 4-17

Stopping and Parking

Parking



ADVICE

- 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.
- 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.

Applying the Parking Brake



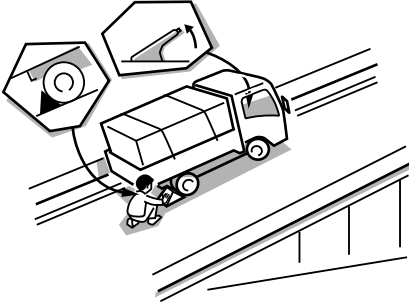
ADVICE

- 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.

Parking Brake Lever

→ Refer to page 4-49

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.

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 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.

Keep Flammable Material Away from the Vehicle



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 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) while the engine is idling.

Stopping and Parking with the Engine Running

WARNING

- When stopping and parking with the engine running: Be sure to place the gearshift lever in the "N" position to select neutral. Then, firmly apply the parking brake. Unless you take these steps, any unintended pressure on the accelerator pedal could cause an accident.

CAUTION

- To prevent a fire, make sure there is no flammable material near the muffler, and exhaust pipe. Be careful not to get burned by hot exhaust gases.

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

WARNING

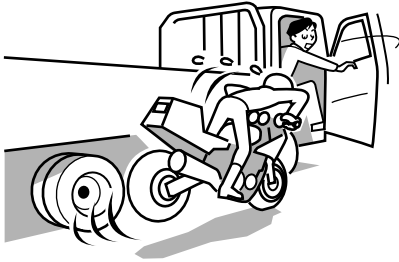
- Do not touch the gearshift lever while the vehicle is stationary with the engine idling. If you touch the gearshift lever at this time, a gear could be selected and the vehicle could move even with the parking brake applied. The risk of knocking against the gearshift lever and causing an accident is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

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.

Look Around before Opening a Door



CAUTION

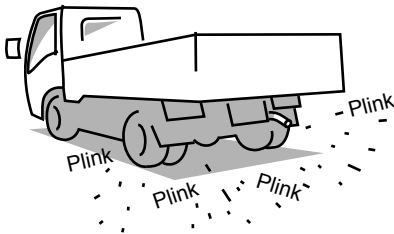
- Before opening a door, check the area around the vehicle by looking forward, rearward and to the sides. If you suddenly open a door without checking the surrounding area, the door could be hit by a vehicle behind you or a pedestrian.

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.
- Do not leave your vehicle unattended with the engine running. If the engine should overheat, you would not be there to react to the temperature warning light or gauge. This could result in costly damage to your vehicle and its contents.

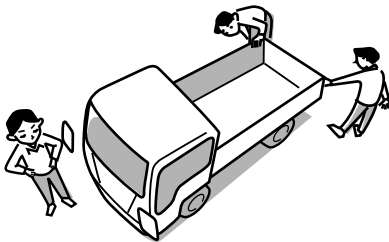
Metallic Plinking Sound from the Muffler



NOTE

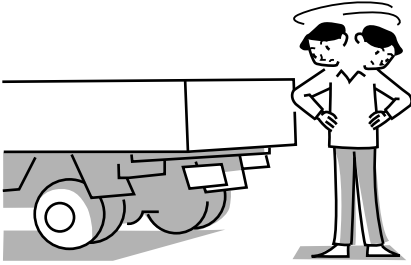
- Immediately after stopping the engine, you may hear a metallic plinking sound from the muffler. This sound occurs as the muffler cools down and contracts. It does not indicate an abnormality or breakdown.

Starting to Drive When the Vehicle Has Been Parked



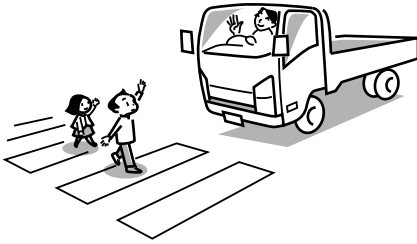
Before pulling away, perform a thorough safety check, making sure there are no children or obstructions around the vehicle.

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).

Staying Safe**When the Engine Coolant is Hot****WARNING**

- Do not loosen or remove the radiator cap while the engine coolant is hot. Doing so would be dangerous because steam and hot air would shoot out.

When the Engine Overheats

→ Refer to page 8-27

When the Silencer and Exhaust Pipe are Hot**CAUTION**

- When the engine is running and immediately after vehicle operation, 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.

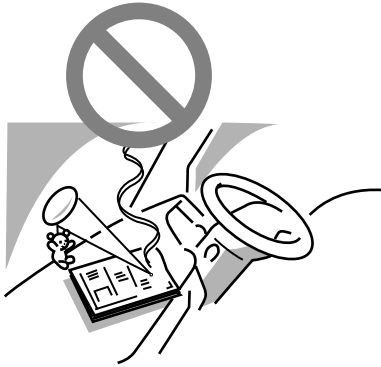
After Using the Ashtray

 **WARNING**

- Be sure to close the ashtray after using it. Otherwise, any unextinguished cigarette butt could set fire to other cigarette butts, resulting in a fire.
- Do not allow the ashtray to become overly full of cigarette butts. Also, do not put flammable material in the ashtray.
- Never throw lit cigarette butts out the window. They not only litter the road and around but also can cause a roadside fire.

Ashtray → Refer to page 5-18

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.

Do not Use a Mobile Telephone while Driving



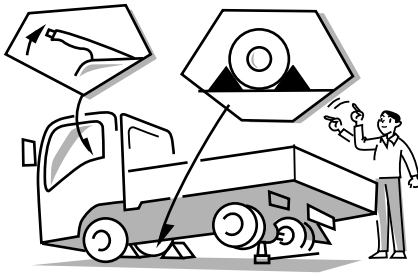
⚠ CAUTION

- 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.

Using the Jack

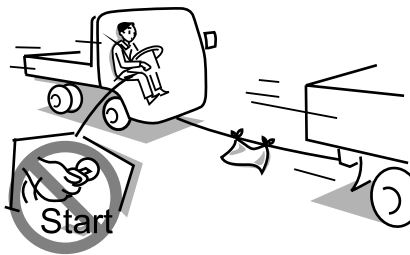
⚠ WARNING

- Jacking up a vehicle on slope or soft ground is extremely dangerous. Be sure to jack up the vehicle on a firm, level surface.
- Set the jack in the correct position. Do not forget to first apply the parking brake and place chocks around the wheels.
- When a rear wheel is jacked up, the parking brake has no effect. Failing to first put chocks in the correct places would be dangerous because the vehicle could move.
- Do not look under the vehicle or get under the vehicle while the vehicle is jacked up. Doing so would be dangerous.



Tools → Refer to page 7-7
Handling the Jack → Refer to page 7-144

If the Battery Goes Flat

**⚠ CAUTION**

- Do not try to start the engine by pushing or towing the vehicle. You could damage the engine.

When the Battery Goes Flat

→ Refer to page 8-12

Preventing Breakdowns

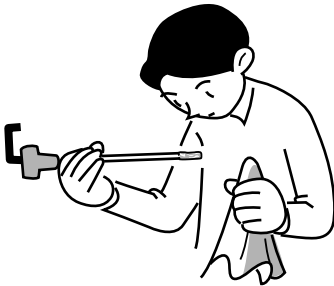
Do not Rest Your Foot on the Clutch Pedal while Driving



ADVICE

- 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.

Is the Engine Oil Dirty?



ADVICE

- The engine oil performs the following important functions:
 - It prevents engine parts from becoming worn.
 - It cools engine parts.
 - It cleans engine parts.
 - It seals the combustion chambers and prevents rust.
 Replace the engine oil at regular intervals.

Daily Checks (Preoperational Checks)

→ Refer to page 7-16

Engine Oil

→ Refer to page 7-22

Maintenance Schedule

→ Refer to page 7-173

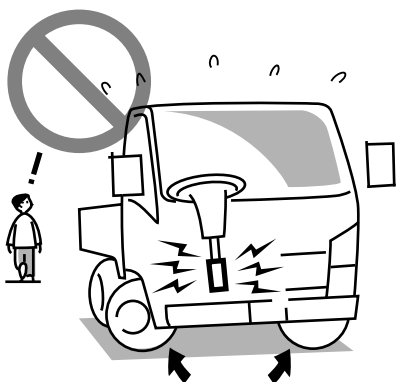
Do not Climb onto the Engine



ADVICE

- 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.

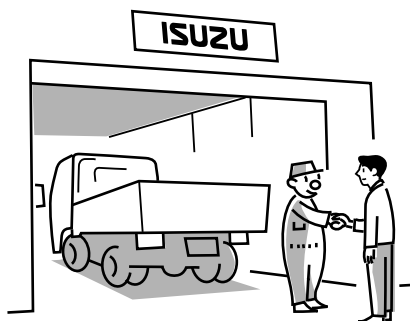
Do not Leave the Steering Wheel Fully Turned for a Long Time



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.

Make Sure the Vehicle is Inspected at Regular Intervals



ADVICE

- Inspections and maintenance enable you to use the vehicle with peace of mind. They also extend the vehicle's service life.

Daily Checks (Preoperational Checks)

→ Refer to page 7-16

Engine Oil

→ Refer to page 7-22

Maintenance Schedule

→ Refer to page 7-173

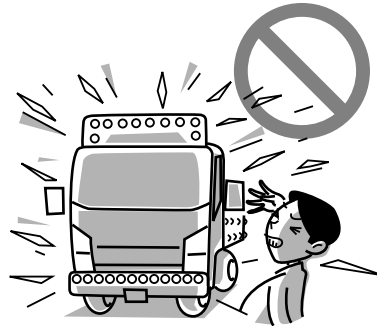
In a Vehicle Equipped with a Hydraulic Brake Booster (HBB), Do Not Keep the Brake Pedal Depressed for an Extended Period

 **WARNING**

- Failure to follow the above instruction will cause the oil inside the HBB oil pump to get very hot. This could damage the HBB tank and deteriorate seals and also could cause damage to the HBB oil pump, HBB unit and/or HBB hosing. Eventual leakage of HBB oil, sudden increase in brake pedal resistance and fire could unexpectedly result in an accident.

When to Visit Your Isuzu Dealer**Do not Modify the Vehicle****CAUTION**

- 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.

**Have Engine Adjustments Made by Your Isuzu Dealer****CAUTION**

- Do not make engine adjustments yourself.
Be sure to consult your Isuzu Dealer.

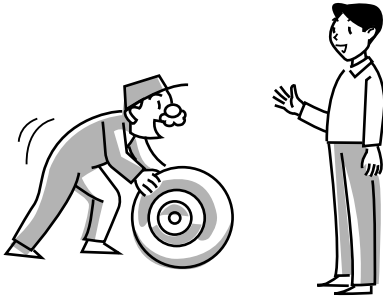
Electric Welding



ADVICE

- 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.

Replacing Tires and Wheels



CAUTION

- Consult your Isuzu Dealer before replacing tires or wheels. Never use wheels that are not designed for the vehicle, tires of different types at the same time or tires that are not the specified size. Doing so would impede safe vehicle operation.

Wheels and Tires → Refer to page 7-101

Changing Tires → Refer to page 7-112

Installing Electrical Equipment



WARNING

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

**ADVICE**

[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.

Turbocharger**Engine Starting in General**

The turbocharged engine should be started in a way which ensures the bearings supporting the rotating parts of the turbocharger are sufficiently lubricated. Do not race a cold engine.

Engine Shut-off in General**ADVICE**

- After highway driving, at least 3 minutes of operation should be at idle until it cools 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.

Particulate Matter (PM) Catalytic Converter 

The PM catalytic converter uses an oxidation catalyst to reduce the unburnt portion of the exhaust particulate matter to water and carbon dioxide.

Generally speaking, the temperature of the exhaust from diesel engines is low when the engine is idling, and as the oxidation catalyst is not activated in this condition, various types of emissions accumulate within the catalyst. If the engine were then to be revved up or the vehicle were to be accelerated from a standstill, the temperature of the exhaust would rise rapidly, causing the accumulated matter to be forced out instantly as white smoke.

The volume of white smoke emitted in this way tends to be proportional to the duration of idling. And although the discharge of white smoke disappears gradually over the course of one or two minutes, it obscures visibility in the area of the vehicle and poses a hindrance to other traffic. As such, it can lead to accidents, and the appropriate care should therefore be taken.

**CAUTION**

- For models conforming to Euro IV emission standards, be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower).
The use of poor quality fuel, water removers and other additives can adversely affect the PM catalytic converter and other engine components, leading to engine malfunction and breakdown.
- The muffler and exhaust pipe will be extremely hot when the engine is operating and immediately after it has been stopped. Avoid accidental contact with these components when working in their vicinity to, for example, raise the cab and load or unload cargo. Failure to observe this precaution can result in burns.

**ADVICE**

- The performance of the catalyst will temporarily drop when the engine has been continually idling for an extended period of time.
- In order to prevent the emission of white smoke, and also in consideration of environmental protection and the prevention of global warming, continuous idling over long periods of time should be avoided.

**NOTE**

- If the engine is revved up or the vehicle is accelerated from a standstill after a period of continuous idling, a large amount of white smoke may be emitted from the exhaust pipe. This is normal and not indicative of a vehicle malfunction.
- The PM catalytic converter uses an oxidation catalyst to reduce the unburnt portion of the exhaust particulate matter to water and carbon dioxide; its purpose is not the elimination of black smoke.
- The PM catalytic converter is built into the muffler and cannot be disassembled.

Inspection and Maintenance

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 can't locate a fault, contact the nearest Isuzu Dealer.

Symptom	Cause	Corrective action	Reference page
White exhaust smoke	Engine not sufficiently warmed up	Allow engine to warm up.	4-36
	Excessive engine oil	Correct oil level.	7-22
	Engine control system faulty	⊙	—
	Fuel system is faulty	⊙	—
	Continuous idling for a long period (more than two 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 element.	7-57 7-59
	Fuel system is faulty	⊙	—
	Exhaust system clogged	⊙	—



ADVICE

- Any item for which there is a ⊙ in the "Corrective action" column requires repairs and adjustments. Contact the nearest Isuzu Dealer.

2-48

IMPORTANT INFORMATION

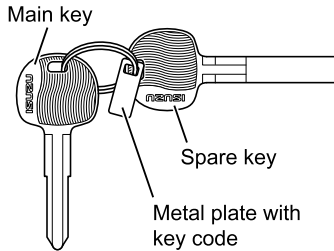


DOORS, WINDOWS AND SEATS

3

• Key	3-2
• Opening and Closing Doors	3-3
• Getting In and Out of the Vehicle	3-6
• Power Windows <input type="checkbox"/>	3-7
• Manually Operated Windows <input type="checkbox"/>	3-9
• Fuel Tank Filler Cap	3-10
• Tool Box <input type="checkbox"/>	3-12
• Seats	3-13
• Fully Adjustable Steering	3-17
• Mirrors	3-18
• Seat Belts	3-20

Key



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.

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.

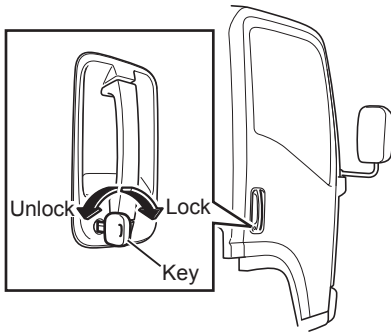
Opening and Closing Doors



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. If you abruptly open the door, it may be struck by a vehicle, etc. coming from behind.
- Never leave the key in the vehicle.
- Tilt the cab only after fully closing the doors.

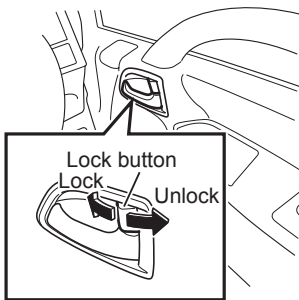
Locking and Unlocking the Front Doors



Locking and Unlocking the Door from Outside Using the Key

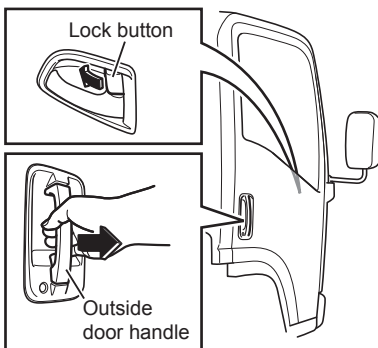
Firmly insert the key.

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.



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.

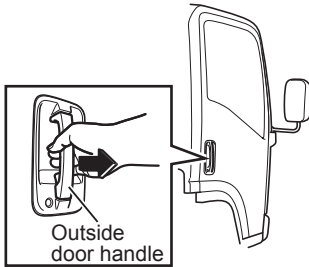


ADVICE

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

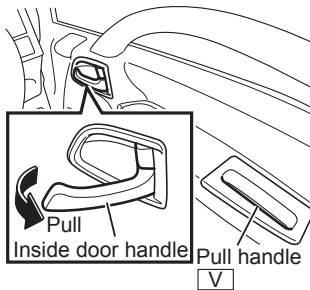
Power Door Lock (Central Door Lock) **How the Power Door Lock System Operates**

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**From Outside the Vehicle**

To open the door, pull the outside door handle.

To close the door, push the outside door handle.

**From Inside the Vehicle**

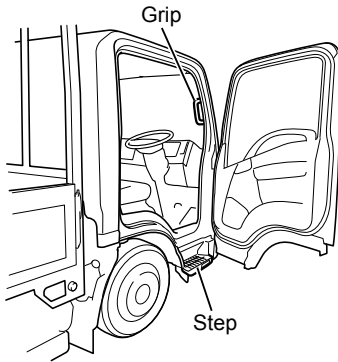
To open the door, pull the inside door handle.

If your vehicle is equipped with a pull 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.

Getting In and Out of the Vehicle



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.

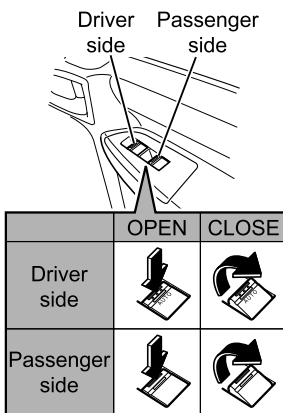
Power Windows v

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.

Window Switches on Driver's Door



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, raise the switch lightly.

To Close the Driver's Window

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

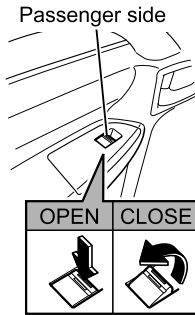
To Open the Passenger's Window

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 raised.

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.

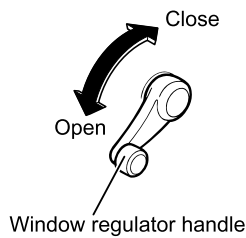
The window continues to lower while the window switch is being pressed and continues to rise while the switch is being raised. It will stop moving at any position when the switch is released.

**NOTE**

- When the rear power window lock switch is in the "LOCK" position, it is not possible to open and close the rear windows.

Manually Operated Windows **CAUTION**

- Be sure that you and the passenger are at no risk of having any part of the body become trapped in the window. You should be especially careful if a child is with you.

Window Regulator Handle

Turn the window regulator handle to open or close the window.

Fuel Tank Filler Cap**WARNING**

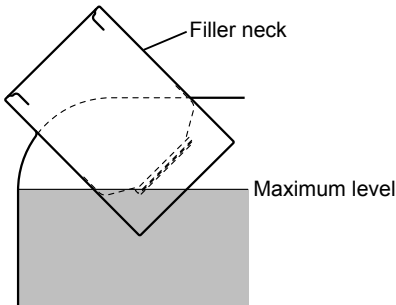
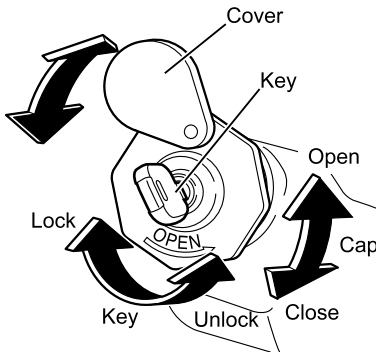
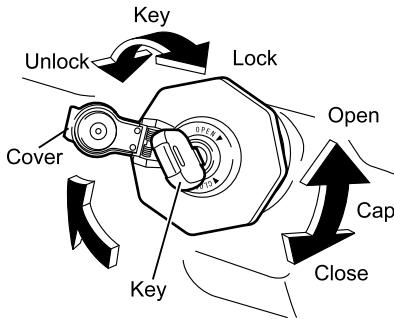
- Be sure to place the starter switch in the "ACC" or "LOCK" position to shut down the engine before refueling the vehicle. Refueling while the engine is running could cause a fire in your vehicle.
- When refueling, never smoke or place any ignition source nearby. There is a risk of fire.
- After refueling, make sure that the fuel tank filler cap is tightly closed.
- Do not use any fuel tank filler cap that is not an Isuzu genuine part. The use of an improper fuel tank filler cap could cause fuel spillage in the event of an accident. The use of an improper fuel tank filler cap could also affect the fuel system and the emission control system.
- Be sure to wipe off the fuel that is spilled at refueling.

**CAUTION**

- Be sure to use diesel fuel. For models conforming to Euro IV emission standards, be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower) or 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 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 Euro IV emission standards could prevent the vehicle from complying with local legal requirements.
- Be sure to slowly open the fuel tank filler cap. If you open it quickly, fuel may spurt out.

Using Self-service Filling Stations

→ Refer to page 2-5



Opening and Closing the Fuel Tank Filler Cap

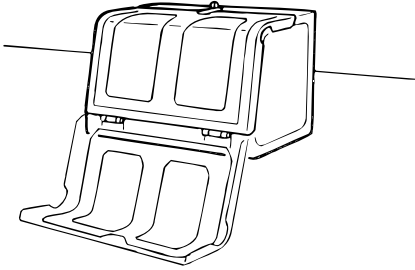
1. Eliminate static from your body before opening the fuel tank filler cap.
2. Open the cover, then firmly insert the key and turn it to the "OPEN" position.
3. Slowly turn the cap counterclockwise to open it.
4. Refuel the tank.
5. Securely screw the fuel tank filler cap onto the fuel tank.
6. Turn 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

- If the fuel tank filler cap is not tightly closed, leaking fuel could start a fire while driving.
- Do not refuel beyond the maximum level of the fuel tank.

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.

Tool Box 

The tool box is located on the vehicle's outer chassis (either in the middle or near the rear).

**CAUTION**

- Securely close the tool box so the lid does not come open while the vehicle is moving.

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.

Adjusting the seat for a correct driving posture is a fundamental part of safe driving.

Make sure you can turn the steering wheel easily.



Make sure you don't need to move your shoulders off the seatback.

Make sure you can properly fasten the seatbelt.

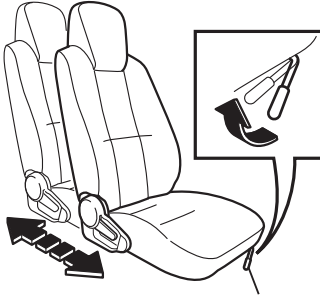
Make sure you can adequately press the pedals.

**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.
- 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 the event of a collision or sudden stop. Raise the seatback, and apply the seat belt correctly while sitting straight 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 adjusting 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 passengers or luggage when adjusting your seat.

Driver's Seat

Type 1

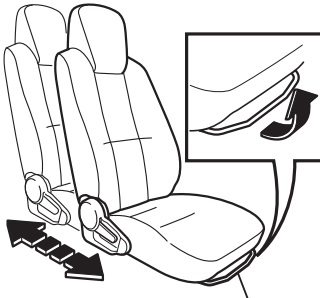


Fore-aft position adjustment lever

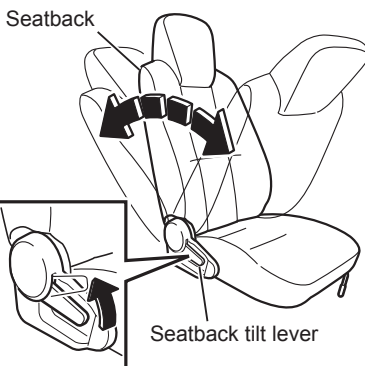
Forward/backward Adjustment

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.

Type 2



Fore-aft position adjustment lever

**Reclining Adjustment**

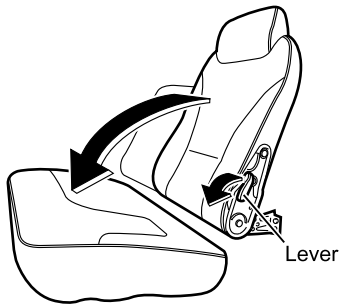
To recline the seatback, raise the seatback tilt lever and gently lean back to the desired position.

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.

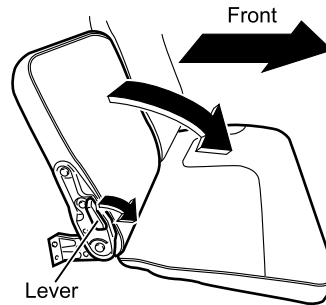
Passenger Seat/Center Seat

You can tip the seatback forward if you pull forward the lever at the side of the seatback. Normally, you should keep the seatback in the raised position.

Passenger's seat



Center seat

**CAUTION**

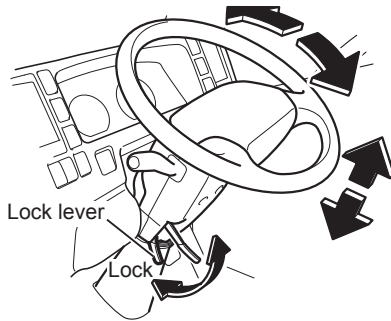
- Baggage must not be placed on the center seat. If the baggage falls on the floor when the vehicle is braked, it may prevent the driver from operating the pedals.

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.



Adjustment

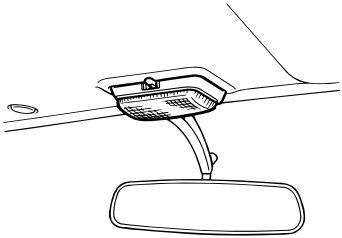
1. Lift the lock lever toward you to unlock the steering column.
2. Sit in the correct driving position, and then move the steering wheel up and down and forward and backward to select the optimum steering wheel position.
3. Firmly lock the steering wheel at the selected position by moving the lock lever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

Inside Mirror

Type 1



Adjustment

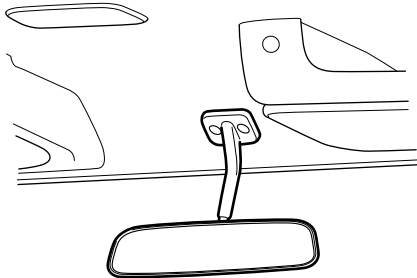
Move the mirror to a position where it provides a proper rear view.



CAUTION

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

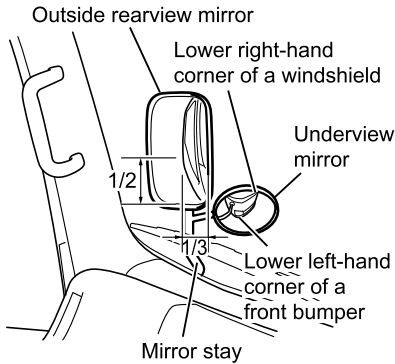
Type 2



Outside Rearview Mirrors

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.

Pillar mirror



Outside Rearview Mirror

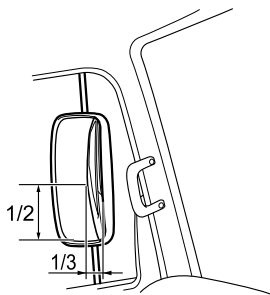
Lateral-direction: Adjust the mirror so that you can see an image of the vehicle's side within the inner one-third of the mirror.

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.

Underview Mirror

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.

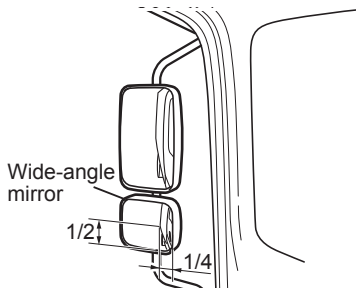
Door mounted mirror



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

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.

**CAUTION**

- Adjust the mirrors when the vehicle is stationary, not while the vehicle is in motion.
- When checking the rear of the vehicle with mirrors, be careful that this does not distract your attention 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.
- Do not drive with the mirrors folded.

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.
- Seat belts provide full protection only when the driver and passenger(s) fasten them while sitting upright and fully back on the seat.
- Wearing a seat belt with the seatback excessively reclined could be very dangerous in a collision or sudden stop since the occupant may slide under the belt and be seriously injured. Seat belts work best only when the occupant is sitting well back and straight up in the seat.
- Be sure to insert the latch plate into the buckle until a click is heard. An incompletely inserted latch plate is dangerous in the event of a collision or sudden stop.
- 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. A seat belt running over the waist would press the abdomen with a strong force and could increase the likelihood of injuries in a collision or sudden stop.
- 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. For further details, please contact your Isuzu Dealer.
- Use a child restraint system that fits the size of the infant or child. Install the system according to the manufacturer's instructions.
- 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.
- Too much slack could increase the amount of injury because the belt would not be able to properly restrain you in an accident.
- Expectant mothers or people suffering from chest or abdominal conditions should check with their doctor for specific recommendations about wearing seat belts.
- 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.
- 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.

WARNING (Continued)

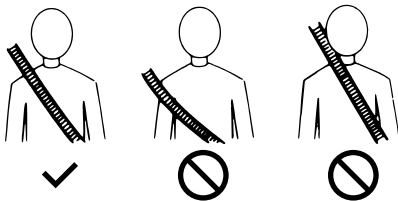
WARNING (Continued)

- If your vehicle has been involved in a collision, the seat belts worn at the time may have lost their original strength due to impact even if they appear intact. These seat belts must be inspected and, if necessary, replaced by the nearest Isuzu Dealer.
- Be careful to keep the buckles and retractors free of dust and foreign matter.
- Wearing seat belts is a legal requirement. The driver is responsible not only for wearing a seat belt himself/herself but also for prompting all passengers to wear their seat belts. It is necessary, however, to check with a doctor about the appropriateness of a seat belt for an expectant mother or a passenger with a chest/abdominal condition.

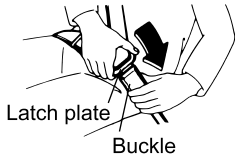
- Seats** → Refer to page 3-13
- Seat Belt Warning Light** → Refer to page 4-19
- Seat Belt Care** → Refer to page 7-168

Three-Point Seat Belts

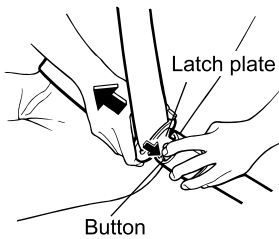
Every seat except the center seat on your vehicle is equipped with a three-point seat belt. The seat belt extends or retracts freely if the wearer moves slowly, but it locks and restrains the occupant during forward force caused by the occupant's body following a strong shock. Adjust the driver's shoulder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



Buckle

Keep as low on hip bone
as possible

Button

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.
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.



ADVICE

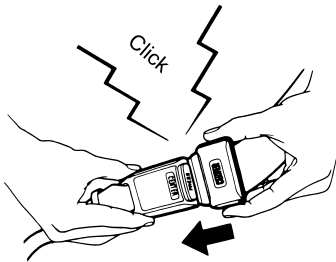
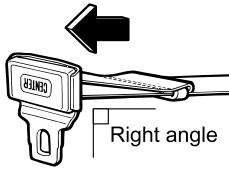
- While being automatically retracted, the seat belt could damage a nearby window or interior trim unless the latch plate is properly held. Hold the latch plate to ensure that the belt is taken up slowly.
- Before closing the door, check that the retracted seat belt is taut. A slack belt could become 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.

**NOTE**

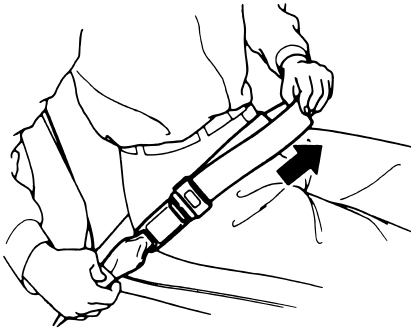
- The three-point seat belts are provided with an emergency locking retractor (ELR) function.

[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.

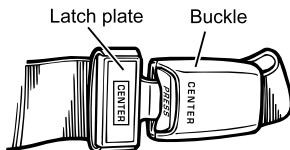
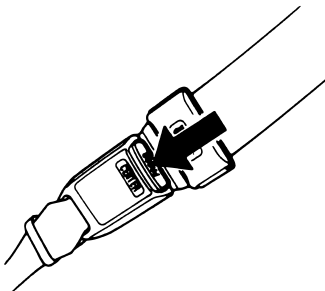
Two-Point Seat Belt (Center Seat)**To Fasten**

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

- 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.



CONTROLS AND INSTRUMENTS

4

STARTING AND STOPPING THE ENGINE

4-3

**INSTRUMENTS, WARNING LIGHTS AND
INDICATOR LIGHTS**

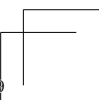
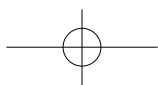
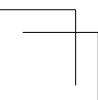
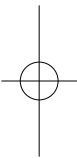
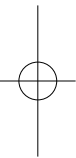
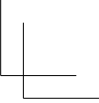
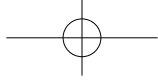
4-9

SWITCHES

4-33

DRIVING CONTROLS

4-47



STARTING AND STOPPING THE ENGINE

• Starting the Engine	4-4
• Stopping the Engine	4-7

Starting the Engine

Make sure that the switches, including those for the windshield wiper, light control and air conditioner, are in the off position.

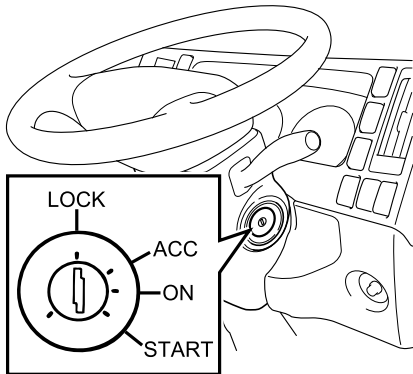
Turn the starter switch to the "ON" position to check that the warning and indicator lights turn on normally and the fuel level is proper.



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.

Starting the Engine



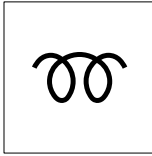
WARNING

- 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.

Starter Switch → Refer to page 4-34

**CAUTION**

- 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 you lean through the window from outside of the vehicle to start the engine, the vehicle may start moving if the gearshift lever is in any position other than "N". This is very dangerous. Never start the engine that way.
- When the engine does not start, wait for at least 2 seconds and then turn the starter switch again.

Glow plug indicator light

1. Fully press the clutch pedal.
2. When the starter switch is turned to the "ON" position, (if your vehicle is so equipped) the glow plug indicator light comes on and it goes out in about 0.5 seconds when the engine is warm, or in about 4 seconds when the engine is cold.

**ADVICE**

- Do not step on the accelerator pedal before starting. When the accelerator pedal is pressed before the starter switch is turned on, the "START FUEL ENRICH SYSTEM" may not function correctly. Accordingly, starting becomes substantially more difficult.

3. After confirming that the glow plug indicator light has gone out (if equipped), turn the starter switch to the "START" position to start the engine.
4. If your vehicle is equipped with an idling control knob, use the knob to stabilize the engine speed when the engine runs rough during warm-up.

**CAUTION**

- Do not leave the vehicle at this time.

5. When your vehicle has warmed up, fully turn the idling control knob counterclockwise and run the engine at idle.

**ADVICE**

- At low ambient temperatures, a cold engine may emit more smoke (white smoke) than usual.
- In certain situations where the starter switch is placed in the "ON" position or the brake pedal is pressed several times during idling, the vacuum may be depleted and a warning buzzer may sound.

Brake Booster Warning Light HB

→ Refer to page 4-20

**NOTE**

[Preheating] (if equipped)

- Diesel engines are compression ignited, which makes them difficult to start when they are cold because the compression alone cannot create a temperature high enough for fuel to ignite. "Preheating" means warming the compressed air inside the combustion chambers to facilitate engine starting. Be sure to start the engine after the glow plug indicator light has gone out.

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. Otherwise, a seizure or other failures may result. Before stopping the engine, run the engine at idle for approximately 3 minutes to cool it down after applying the parking brake and making sure of the following: The gearshift lever is in the "N" position.
- 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.

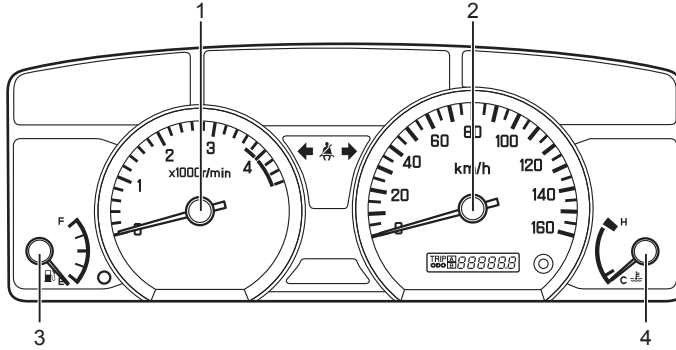


INSTRUMENTS, WARNING LIGHTS AND INDICATOR LIGHTS

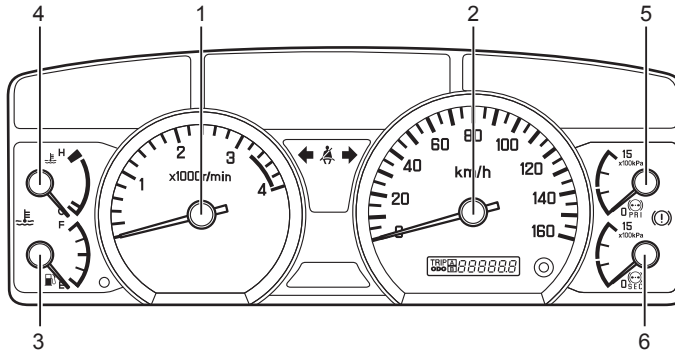
• How to Read the Instruments (Instruments Layout)	4-10
• Speedometer	4-11
• Tachometer	4-13
• Air Pressure Gauge FAB	4-14
• Engine Coolant Temperature Gauge	4-15
• Fuel Gauge	4-16
• Warning and Indicator Lights Layout	4-17
• Warning and Indicator Lights	4-19
• Warning Buzzer	4-32

How to Read the Instruments (Instruments Layout)



Hydraulic brake model



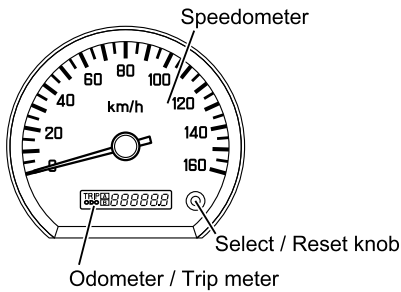
Full-air brake model



No.	Name	Reference page
1	Tachometer	4-13
2	Speedometer	4-11
3	Fuel gauge	4-16
4	Engine coolant temperature gauge	4-15

No.	Name	Reference page
5	 Air pressure gauge (primary)	4-14
6	 Air pressure gauge (secondary)	4-14

Speedometer



The speedometer indicates the vehicle speed in km/h. The speedometer is an integral unit with the odometer/trip meter. Each time you press the reset button lightly with the starter switch in the "ON" position, the odometer/trip meter shows "ODO", "TRIP A" and "TRIP B" in this sequence and one at a time to indicate the selected meter.

Odometer/Trip meter (type 1)



Odometer

The total distance traveled by your vehicle is indicated in km. When 999,999 kilometers are exceeded, "B" is displayed.

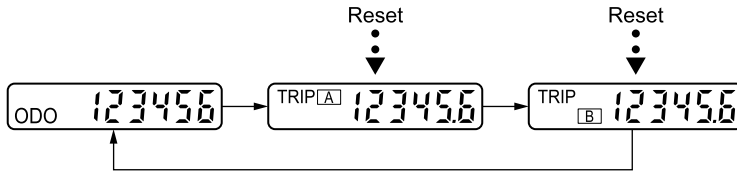
Odometer/Trip meter (type 2)



Trip Meter

Use the trip meter to learn the distance between the specific points or the distance traveled during a specific period of time. The value to the right of the decimal point indicates 100-m units. In addition, two separate distances can be associated with "TRIP A" and "TRIP B". Use the two trip meters by switching between "TRIP A" and "TRIP B" as appropriate.

If you want to reset the trip meter, use the select/reset knob to select and display the trip meter that you want to reset. The starter switch should be in the "ON" position. Then, press and hold the knob down for at least one second.



→ :Select / Reset knob-Press once

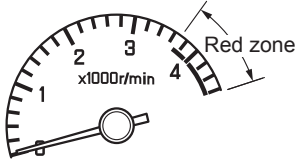
••▶ :Select / Reset knob-Press and hold (more than 1 second)



NOTE

- When you turn the starter switch to the "ON" position, the odometer/trip meter shows what was displayed the last time you turned the switch to the "LOCK" or "ACC" position.
- You can set the odometer to display on the odometer/trip meter each time you turn the starter switch to the "ON" position. To do this, turn the starter switch to the "LOCK" or "ACC" position while the odometer is being displayed, and then, with the select / reset knob pressed, turn the starter switch to the "ON" position. Within 3 seconds after turning the switch to the "ON" position, turn the starter switch back to the "LOCK" or "ACC" position. Follow the same procedure to cancel the setting.

Tachometer



Engine model	Red zone (r/min)
4JJ1	3,900 - 4,600
4HK1	3,300 - 4,000
4JB1-TC/4JH1	4,200 - 4,600
4HG1-T	3,700 - 4,600

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.

The graduation and the red zone of tachometer are various depending on the models fitted.

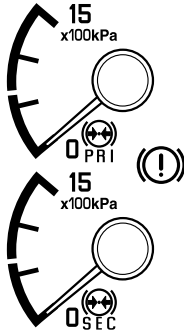
**ADVICE**

- 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.

Appropriate Gearshifts

→ Refer to page 2-21

Gearshift Lever → Refer to page 4-52

Air Pressure Gauge FAB

Proper air pressure range

780 - 890 kPa
(8.0 - 9.1 kgf/cm²/114 - 129 psi)

Air pressure warning light



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

If the needle enters the red zone, the air pressure warning light comes on and the warning buzzer sounds (To stop the buzzer, pull up the parking brake lever).

If the air pressure warning light comes on, immediately stop driving and engage the parking brake. Place the gearshift lever into "N". Then, run the engine at idle to increase air pressure. If air pressure will not increase, or there is a great difference between the readings of the two gauges, or it takes time for the needles to go up, contact the nearest Isuzu Dealer.

Checking Air Pressure

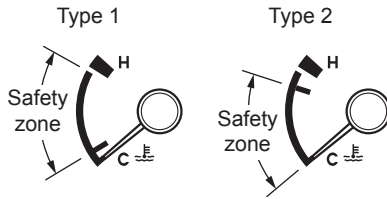
→ Refer to page 7-88

WARNING

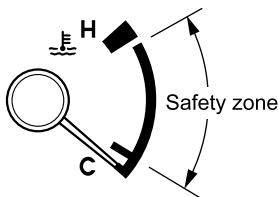
- Do not drive your vehicle if the needles are in the red zone or the air pressure warning light is on. Brakes are then not fully functional, and it is dangerous to operate the vehicle.

Engine Coolant Temperature Gauge

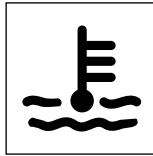
Hydraulic brake model



Full-air brake model



Engine overheat warning light



With the starter switch in the "ON" position, this gauge indicates the temperature of the engine coolant. "C" means cold while "H" means hot. If the engine overheats, the engine overheat warning light comes on (if equipped) and a warning buzzer sounds. During operation, the needle should stay in the safety zone.



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 reserve tank. Add engine coolant as required.
- The engine can seize up if it is stopped immediately after driving. Take appropriate actions for engine overheating.

Engine Coolant → Refer to page 7-32
When the Engine Overheats

→ Refer to page 8-27

Fuel Gauge



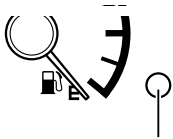
With the starter switch in the "ON" position, this gauge indicates the quantity of fuel remaining in the fuel tank. "F" means the tank is full while "E" means the tank is almost empty.



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" or "ACC" position and then to the "ON" position again.

Low Fuel Warning Light



Low fuel warning light

When your vehicle is running out of fuel, the low fuel warning light comes on.



ADVICE

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

Low Fuel Warning Light

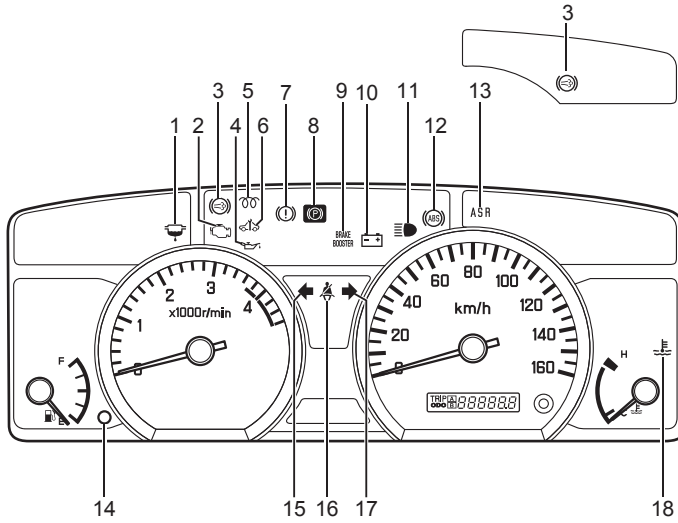
→ Refer to page 4-28

When the Fuel Runs Out

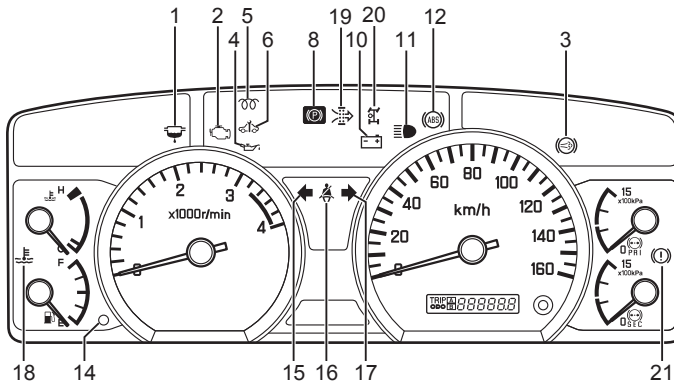
→ Refer to page 8-16

Warning and Indicator Lights Layout

Hydraulic brake model



Full-air brake model



No.	Name	Reference page	No.	Name	Reference page
1	Water separator (fuel filter) warning light	4-27	10	Generator warning light	4-25
2	<input type="checkbox"/> Check engine warning light	4-26	11	High beam indicator light	4-29
3	<input type="checkbox"/> Exhaust brake indicator light	4-30	12	<input type="checkbox"/> ABS warning light	4-22
4	Engine oil pressure warning light	4-23	13	<input type="checkbox"/> ASR indicator light	4-31
5	<input type="checkbox"/> Glow plug indicator light	4-31	14	Low fuel warning light	4-28
6	<input type="checkbox"/> SVS indicator light	4-26	15	Turn signal and hazard warning indicator light - left	4-29
7	<input type="checkbox"/> HB Brake system warning light	4-19	16	Seat belt warning light	4-19
8	Parking brake warning light	4-30	17	Turn signal and hazard warning indicator light - right	4-29
9	<input type="checkbox"/> HB Brake booster warning light	4-20	18	<input type="checkbox"/> Engine overheat warning light	4-24
			19	<input type="checkbox"/> Air cleaner indicator light	4-25
			20	<input type="checkbox"/> PTO indicator light	4-32
			21	<input type="checkbox"/> FAB Air pressure warning light	4-20

Warning and Indicator Lights

Seat Belt Warning Light



This warning light comes on when the driver is not wearing the seat belt while the starter switch is in the "ON" position.



NOTE

- This warning light goes out as soon as the driver buckles the seat belt.

Brake System Warning Light HB



This warning light should come on when the starter switch is turned to the "ON" position, and then should go out after the engine is started.

The brake system warning light comes on while the engine is running (after startup) in the following situations:

- Drop in the level of brake fluid (due to brake wear or fluid leakage, etc.)
- Abnormality in the charging system (such as a generator malfunction or either loosening or splitting of the fan belt, etc.)
- On an anti-lock brake system (ABS) model, abnormality in the ABS (the ABS warning light will also come on.)

ABS Warning Light V

→ Refer to page 4-22



CAUTION

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

Air Pressure Warning Light FAB

This warning light should normally come on when the starter switch is turned to the "ON" position, and then should go out after the engine has started.

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.

Air Pressure Gauge FAB

→ Refer to page 4-14

Brake Booster Warning Light HB

The warning light and buzzer will come on simultaneously whenever:

- The brake booster's vacuum becomes insufficient, either during driving or when the starter switch is in the "ON" position.
- There is an abnormality in the charging system (such as a generator malfunction or either loosening or splitting of the fan belt, etc.).
- The hydraulic brake booster (HBB) system becomes faulty.
- If your vehicle is equipped with an exhaust brake, a problem occurs with the exhaust brake while it is being used. (The warning buzzer will stop sounding when the parking brake is engaged.)

[Vacuum booster models]

The brake booster warning light and warning buzzer should come on to indicate low vacuum reserve for brake power assist.

[HBB models]

When the hydraulic brake booster pressure is low, and/or the hydraulic brake booster fluid (Dexron® III) level is low, the light and warning buzzer should come on. Do not use brake fluid in the brake booster reservoir. Use only Dexron® III ATF.

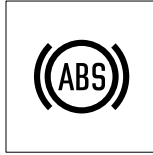
- If this happens while driving:
 - Do not pump the brakes. The system is designed to stop the truck with reserve power assist if the pedal is held down. This reserve is greatly reduced each time you apply and release the brakes.
 - Stopping distance may be longer.
 - You may have to push much harder on the brake pedal.Have the vehicle repaired before you continue driving.
The buzzer stops when the parking brake lever is pulled up.

**CAUTION**

- If your vehicle is equipped with an exhaust brake, and the warning light and warning buzzer come on while the exhaust brake is being used, immediately pull off to a safe place well clear of traffic and take the following actions.
 - With the engine still running, turn off the exhaust brake switch. A problem in the exhaust brake system will be confirmed if the warning light goes out in several seconds.
 - If the warning light does not go out, the problem will be in the brake booster for the foot (main) brake.
Have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.
- This light should come on to provide a bulb check when the starter switch is turned to the "ON" position. It should go out when the engine has started. If the light does not come on when the starter switch is turned to "ON", it could indicate a burned out bulb or a blown fuse. Have the system repaired if the light does not come on during this check.
- Do not drive while the buzzer sounds, as the brakes and clutch are not operating to their full capacity.

Exhaust Brake Switch

→ Refer to page 4-41

ABS Warning Light 

This warning light should come on when the starter switch is turned to the "ON" position, and then should go out after approximately 3 seconds.

For hydraulic brake models, this warning light comes on together with the brake system warning light whenever there is a problem in the anti-lock brake system (ABS). In this case, the ABS stops working but the brakes still function as ordinary service brakes.

For full-air brake models, this warning light comes on whenever there is a problem in the anti-lock brake system (ABS). In this case, the ABS stops working but the brakes still function as ordinary service brakes.

**CAUTION**

- If this warning light comes on while driving, immediately stop your vehicle at a safe place well clear of traffic and take the following actions.
 - Stop the engine.
 - Restart the engine. Check if the ABS warning light comes on and then goes out. If it does, there is no problem. The ABS operates normally.
 - Move the vehicle slowly forward. Gradually increase the speed to 15 km/h (9 MPH). If the light goes off, the ABS is normal.
- If the indicator light does not come on or go out, or comes on repeatedly, have the vehicle inspected/serviced at the nearest Isuzu Dealer as soon as possible.
- Even if a problem has occurred in the ABS, the brakes will still work as normal brakes. In this case, the ABS has no influence on the operation of the brake system.

Anti-lock Brake System (ABS) 

→ Refer to page 4-55

Engine Oil Pressure Warning Light



This warning light should come on when the starter switch is turned to the "ON" position, and then should go out after the engine is started.

While the engine is running, this warning light comes on if the engine oil pressure, which lubricates the engine components, is abnormal.

For 4JJ1 or 4HK1 engine models equipped with an engine oil level sensor, this warning light comes on when the engine oil level is too low.



ADVICE

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

Engine Oil → Refer to page **7-22**

Engine Overheat Warning Light 

This warning light comes on when the engine has overheated. When the engine overheats, the engine coolant temperature gauge needle reaches the red zone, and the engine overheat warning light comes on, and 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 radiator cap. Hot vapor will come out and you may be scalded. Add engine coolant only when the engine coolant temperature has dropped.

Adding the Engine Coolant

→ Refer to page 7-36

**CAUTION**

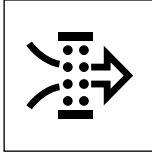
- If you continue to drive the vehicle with the engine overheat warning light on steady, the engine may seize up.

**ADVICE**

- Do not shut down an overheating engine immediately. Otherwise, the engine may seize up. Take appropriate actions for engine overheating.

When the Engine Overheats

→ Refer to page 8-27

Air Cleaner Indicator Light 

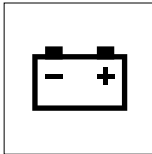
This indicator light comes on when the air cleaner element requires cleaning.

Cleaning the Air Cleaner Element

→ Refer to page 7-59

Changing the Air Cleaner Element

→ Refer to page 7-57

Generator Warning Light

This warning light should come on when the starter switch is turned to the "ON" position, and then should go out after the engine is started.

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).

**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.

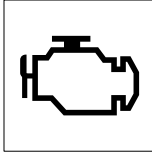
Fan Belt → Refer to page 7-49

Handling the Battery

→ Refer to page 7-153

When the Battery Goes Flat

→ Refer to page 8-12

Check Engine Warning Light 

This warning light should come on when the starter switch is turned to the "ON" position, and then should go out after the engine is started and finishes with diagnostic.

If this warning light comes on while the engine is running, this alerts you to a problem with the engine electronic control system.



ADVICE

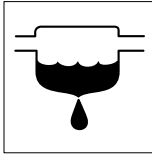
- If this warning light comes on while the engine is running, avoid driving at high speeds and promptly have the vehicle inspected at the nearest Isuzu Dealer.
- If this warning light comes on either intermittently or continuously while driving, service is required. Even if the vehicle is drivable, and 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 SVS indicator light will come on when the starter switch is in the "ON" position and the engine is not started, to let you know the bulb is working.

The indicator light will go off after the engine starts.

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

Water Separator (Fuel Filter) Warning Light

This warning light comes on when water in the water separator (fuel filter) needs draining.

Drain water following the instructions in the "Draining Water from the Fuel Filter" and make sure the warning light goes out.

**CAUTION**

- If this warning light comes on while the engine is running, immediately drain water from the fuel filter. If you still continue driving with the warning light on, the fuel injection system may fail.

Draining Water from the Fuel Filter

→ Refer to page 7-75

Bleeding the Fuel System (4JJ1 Engine Model with Chassis-side Fuel Filter (Type 1))

→ Refer to page 8-17

Bleeding the Fuel System (4JJ1 Engine Model with Chassis-side Fuel Filter (Type 2)) (4HK1/4JB1-TC/4HG1-T Engine Models)

→ Refer to page 8-19

Bleeding the Fuel System (4JH1 Engine Model)

→ Refer to page 8-20

Low Fuel Warning Light



Low fuel warning light

This warning light comes on when the fuel level in the tank becomes too low while the engine is running.

**ADVICE**

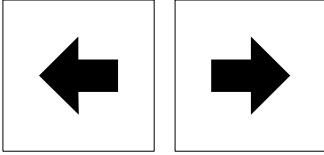
- If the low fuel warning light comes on, add fuel at the earliest possible time.
- If the vehicle runs out of fuel, air bleeding procedure must be performed.

Fuel Gauge → Refer to page 4-16

When the Fuel Runs Out

→ Refer to page 8-16

Turn Signal and Hazard Warning 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.

Turn Signal Switch

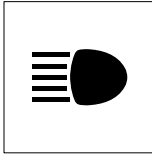
→ Refer to page 4-38



ADVICE

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

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).

Light Control Switch

→ Refer to page 4-37

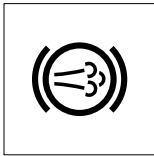
Parking Brake Warning Light



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.
- Be careful not to drive the vehicle with the parking brake lever still pulled up.

Exhaust Brake Indicator Light 

This indicator light comes on when the exhaust brake switch is turned on.

**ADVICE**

- The exhaust brake indicator light flashes 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 Switch

→ Refer to page 4-41

ASR Indicator Light 

ASR

When the starter switch is turned to the "ON" position, the indicator light should come on and change color from amber to green before it goes out 3 seconds later. This indicator light stays on green while the anti-slip regulator (ASR) is in operation. This indicator light comes on amber if there is a problem with the ASR or when you disengage the ASR using the ASR OFF switch.

**CAUTION**

- If the ASR indicator light comes on amber while driving without operation of the ASR OFF switch, pull off to a safe place well clear of traffic and take the following actions.
 - Stop the engine.
 - Turn the starter switch to the "ON" position. The system is normal if the indicator light comes on first amber and then green before it goes out 3 seconds later. The ASR is operating satisfactorily.
- If the indicator light does not come on or go out, or comes on repeatedly, have the vehicle inspected/serviced at the nearest Isuzu Dealer as soon as possible.

Anti-Slip Regulator (ASR) 

→ Refer to page 4-60

Glow Plug Indicator Light 

This indicator light comes on when the starter switch is turned to the "ON" position and goes out when preheating is completed. When the indicator light has gone out, the engine may be started.

Starting the Engine → Refer to page 4-4

PTO Indicator Light 

This indicator light comes on when the dump control or power take-off (PTO) lever is operated, or when the PTO switch is pressed.

Power Take-Off (PTO)

→ Refer to page 4-64

Warning Buzzer

A warning buzzer sounds under the following conditions.

Warning	Buzzer pattern	Location		Condition
		In cab	Outside cab	
Brake booster <input type="checkbox"/>	Continuous beep	•	×	Refer to page 4-20.
Low air pressure <input type="checkbox"/>	Continuous beep	•	×	Parking brake is released when air pressure is below specification.
Engine overheat <input type="checkbox"/>	Continuous beep	•	×	Engine has overheated.
Back up <input type="checkbox"/>	Long, repeated beep	×	•	Gearshift lever is placed in "R" position.

•: Long lasting alarm ×: No alarm



ADVICE

- The warning buzzer may not sound if there is a problem with the system. If this occurs, the system needs to be inspected. Please contact the nearest Isuzu Dealer.

SWITCHES

• Starter Switch	4-34
• Idling Control Knob <input type="checkbox"/>	4-36
• Combination Light Control Switch	4-37
• Front Fog Light Switch <input type="checkbox"/>	4-40
• Hazard Warning Flasher Switch	4-40
• Exhaust Brake Switch <input type="checkbox"/>	4-41
• Windshield Wiper and Windshield Washer Switch	4-43
• Horn Button	4-45

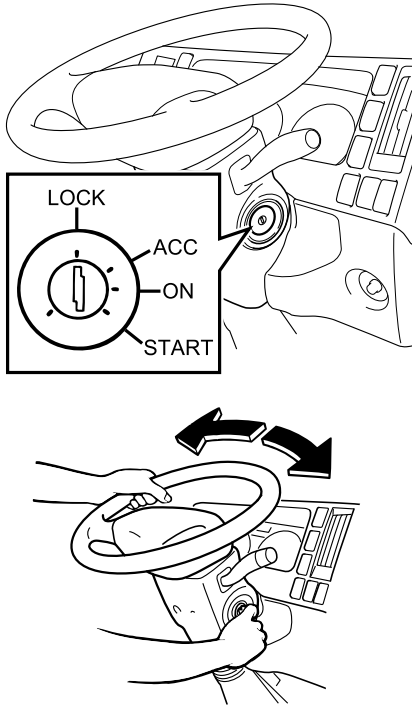
Starter Switch**WARNING**

- 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.
- 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.

Starter Switch



LOCK : Lock is in the position fully counterclockwise.
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 : Accessory is in the first position clockwise.
In this position, the audio and other accessories can be used with the engine stopped.

ON : This "ON" position is in the second position clockwise.
The key stays in this position while the engine is running. This position is also used for preheating before engine start.

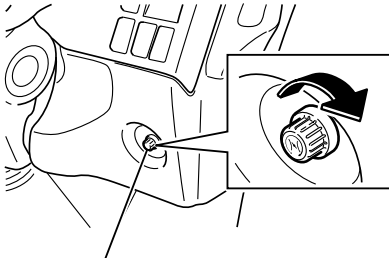
START : Start is in the position furthest clockwise.
The engine is started in this position. Release the key as soon as the engine has started. The key automatically returns to the "ON" position.



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.

Idling Control Knob V



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.
 - 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.

NOTE

- Use the idling control knob to stabilize the engine speed at start when it runs rough.

Starting the Engine

→ Refer to page 4-4

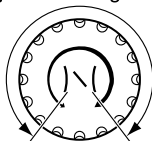
4JJ1/4HK1 Engine Models



ADVICE

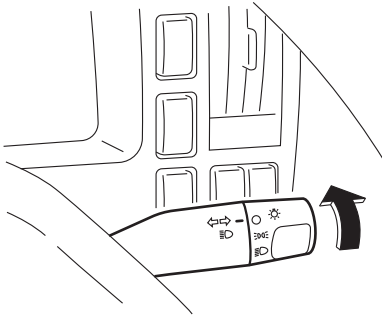
- The idling control knob has an operating range of 300 degrees. Do not try to turn the knob beyond this range. Otherwise, the vehicle may develop a problem.

Adjustment angle 300°



Combination Light Control Switch

Light Control Switch



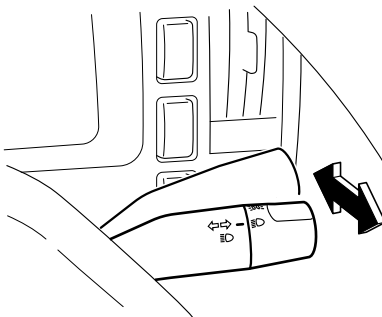
Turning the light control switch to the position indicated in the table causes the relevant lights to illuminate.



ADVICE

- 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		
	○	☰☷	☷☰
Headlight	OFF	OFF	ON
Clearance light		ON	
Taillight			
License plate light			
Illumination light control			



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**

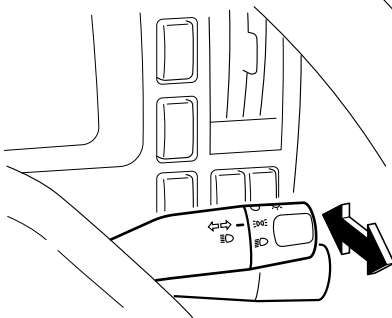
- Use low beam whenever there are vehicles ahead in the same lane or oncoming vehicles in the opposite lane.

When the Bulb Does not Come On

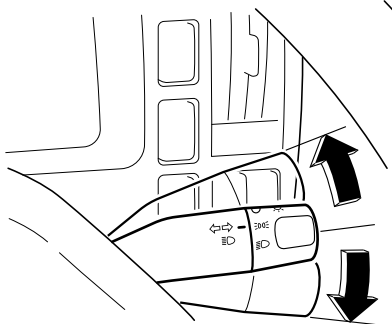
→ Refer to page 8-32

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**

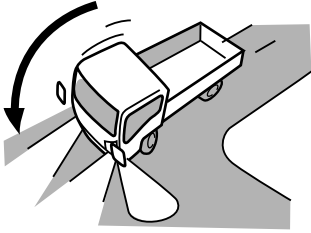
When turning left or right, move the lever up or down to flash the turn signal light.

**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.

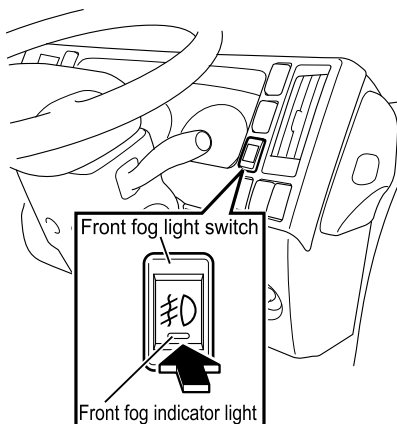
**Cornering Light**

The cornering light illuminates the area to which the vehicle is turning. With the headlights or clearance lights on, the cornering lights come on in coordination with the turn signal lights.

When the Bulb Does not Come On

→ Refer to page 8-32

Front Fog Light Switch



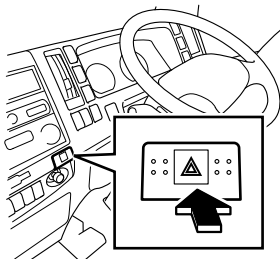
With the light control switch positioned in "☞☞☞" or "☞☞☞", when this switch is pressed, the front fog lights come on and the front fog indicator light comes on. To turn off the lights, press the switch again. The front fog lights are useful when forward visibility is poor such as in fog.

WARNING

- When replacing a front fog light bulb, do not use one of a larger wattage than the specified wattage. Otherwise, the wiring may be burned.

When the Bulb Does not Come On
→ Refer to page 8-32

Hazard Warning Flasher Switch



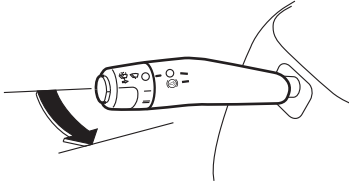
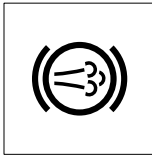
The hazard warning flasher is used to signal other vehicles that your vehicle is stationary on the road because of an accident or component failure.

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.

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. To disengage the exhaust brake, press the accelerator pedal or the clutch pedal. Releasing the pedal reengages the exhaust brake.

- If your vehicle is equipped with an exhaust brake that operates in connection with the service brakes, the exhaust brake will operate and the exhaust brake indicator light will come on when the brake pedal is depressed, even if the exhaust brake switch is set to off.

 **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.
- Even if the gearshift lever is placed in the "N" position, the exhaust brake does not disengage until the engine is warmed up if the warm-up system is on.

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 is pressed.
- The gearshift lever is in the "N" position.
- The vehicle is traveling at 5 km/h (3 MPH) or lower speeds.

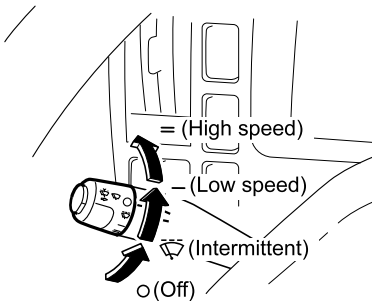
**NOTE**

- If your vehicle is equipped with an anti-lock brake system (ABS), 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.
- It is advisable to operate the exhaust brake when descending a slope or when stop-and-go driving is involved.

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



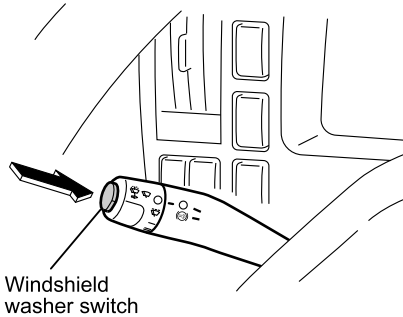
ADVICE

- 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.

Lever position	○		—	=
Wiper state	Stopped	<input checked="" type="checkbox"/> Intermittent (Light rain)	Low speed (Moderate rain)	High speed (Heavy rain)

Windshield Washer Switch



Windshield washer fluid is sprayed over the windshield when this switch is pressed. 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 before using the windshield washer.

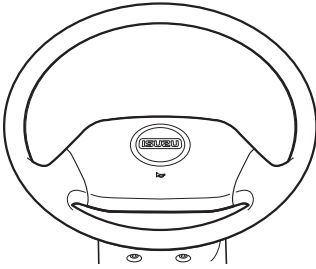


ADVICE

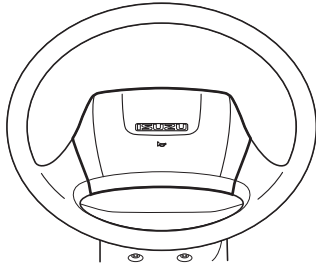
- If windshield washer fluid does not come out in sufficient quantity, immediately release the switch. Otherwise, the windshield surface may sustain damage.
- Do not hold the switch pressed for more than 30 seconds. Otherwise, the washer pump may sustain damage.
- If windshield washer fluid does not 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.

Windshield Washer Fluid

→ Refer to page 7-148

Horn Button**Type 1**

To sound the horn, press the pad with a horn symbol on the steering wheel.

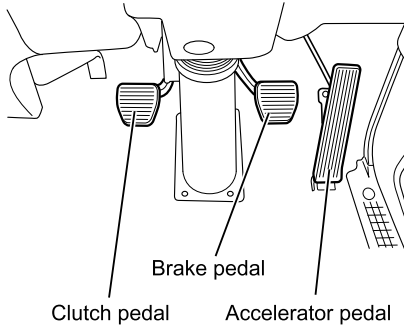
Type 2



DRIVING CONTROLS

• Pedals	4-48
• Parking Brake Lever	4-49
• Gearshift Lever	4-52
• Hydraulic Brake Booster (HBB) <input type="checkbox"/>	4-53
• Anti-lock Brake System (ABS) <input type="checkbox"/>	4-55
• Electronic Braking force Distribution (EBD) <input type="checkbox"/>	4-59
• Anti-Slip Regulator (ASR) <input type="checkbox"/>	4-60
• Power Take-Off (PTO) <input type="checkbox"/>	4-64
• Particulate Matter (PM) Catalytic Converter <input type="checkbox"/>	4-69

Pedals



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.
- Do not drive with your foot resting on the clutch pedal. Doing so may damage the clutch.

Parking Brake Lever



CAUTION

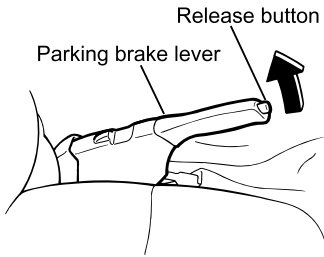
- When parking or stopping your vehicle, pull the parking brake lever and make sure that the vehicle does not start moving.
- Avoid parking your vehicle on a slope as much as possible and choose a level and flat place. If it is unavoidable to park your vehicle on a slope, be sure to set the parking brake fully, make sure that the vehicle does not move, and block the wheels with chocks for added safety. Engage the transmission in a gear for more secure parking.
- 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.
- Unless the parking brake is fully released during driving, a fault and/or a fire may be caused.
- Illumination of the parking brake warning light does not mean that the parking brake is fully applied. The parking brake lever must be fully pulled up.
- After using the parking brake during driving, be sure to check if any failure has been caused.



NOTE

- Your vehicle has either of two types of parking brake.
 - Center parking brake (hydraulic brake model):
When you pull the parking brake lever, the center parking brake works on the propeller shaft to lock the rear axle.
 - Wheel parking brake (full-air brake model):
When you pull the parking brake lever, the wheel parking brake activates the rear wheel brakes to lock them.

Operation of Parking Brake



Parking brake warning light

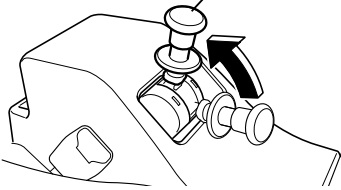
**Model with Center Parking Brake**

HB

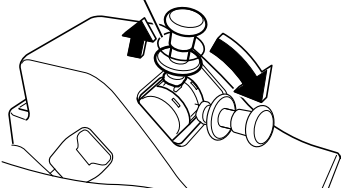
When parking the vehicle, fully apply the parking brake lever without pressing the release button. The parking brake warning light in the instrument panel will come on when the lever is pulled up.

To release the parking brake, press the release button while raising the lever a little and then lower the lever. The parking brake warning light in the instrument panel will go out.

Parking brake lever



Release knob



Parking brake warning light

**Model with Wheel Parking Brake****FAB**

Pull the parking brake lever from the fully released position to the lever locked position. 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.

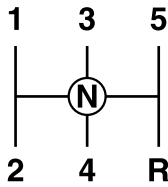
The parking brake warning light will then go out.

**CAUTION**

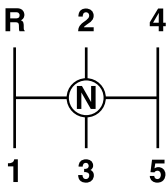
- If the parking brake warning light remains on when the parking brake lever is lowered, a brake failure or a drop in air pressure may be the cause. Check the air pressure for correct level.
- Do not get or step on the parking brake lever. The parking brake lever may be damaged, resulting in a malfunction.

Gearshift Lever

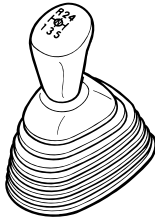
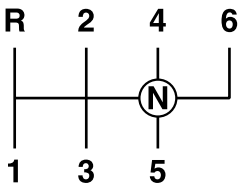
MSB model, 5-speed



MYY model, 5-speed



MYY model, 6-speed



A manual transmission model requires fully depressing the clutch pedal when making a gearshift.

When the gearshift lever is placed into "R (reverse)", the back up lights come on and, in a model with back up warning, a buzzer will also sound.



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. Otherwise, the transmission may be damaged.
- Pull away gently in 1st gear. Pulling away in a high gear, pulling away rapidly or slipping the clutch for a long time while pulling away would damage the clutch.

Hydraulic Brake Booster (HBB) V

HBB is a brake booster device that utilizes hydraulic pressure from the HBB pump integral with the power steering pump.

**CAUTION**

- If the brake booster warning light comes on or a warning buzzer continues to sound, there may be a problem with the HBB.
If this warning light comes on while driving, immediately pull off to a safe place well clear of traffic and promptly contact the nearest Isuzu Dealer for inspection.

Brake Booster Warning Light HB

→ Refer to page 4-20



**NOTE****[HYDRAULIC BRAKE BOOSTER CHARACTERISTICS]**

In the HBB models, an unusual sound from under the instrument panel may be heard from the hydraulic system while brakes are used. It does not mean trouble. It is not a sign of malfunction.


- If you pump the brakes with the engine off, a squeaking sound can be heard. This comes from the auxiliary accumulator. It is not a malfunction. With the engine running, a similar sound can be heard during sudden braking.
- Another characteristic of the HBB system is that the brake pedal may be depressed easily to the floor with the vehicle at a stop. This is not a sign of malfunction.
- When the engine is running, the system automatically charges the accumulator whenever pressure has been reduced after braking. Auto charge may be activated without braking, depending on temperature changes in the accumulator. During auto charge, a hissing and clicking sound can be heard. This is not a malfunction.
- With the engine running, a booming sound can be heard during hard braking. This comes from the brake-fluid pump. It is not a malfunction.

Applying continuous hard braking for a long time will lead to considerable temperature rise in the hydraulic booster pump. Such overworking of the brakes is best avoided.

[VACUUM OR HYDRAULIC POWER ASSISTED BRAKES]

If the engine stops, do not pump the brakes. The system is designed to stop the vehicle with reserve power assist if the brake pedal is held down. This reserve is greatly reduced each time you apply and release the brakes. If, when you turn the steering wheel during braking, the vehicle does not turn, release some pressure from the brake pedal.

Without power assist the vehicle can still be stopped by pushing much harder on the brake pedal, however, the stopping distance may be longer.

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 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.
- For full-air brake models, ABS operation consumes the brake system air. When the air pressure drops and the air pressure warning light 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.

**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 or 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. In addition, in models with hydraulic brakes, you may also feel some vibration if the brake pedal is pressed at this time.
- When ABS is operating, vibration is felt on the brake pedal (hydraulic brake model) and steering wheel and you may hear the system operating. This is normal when ABS is properly operating.
- If your vehicle is equipped with an exhaust brake, and ABS is activated while the exhaust brake is in operation, the exhaust brake may release.
- 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 Indications and Signs**ABS warning light****Operation Indications of ABS**

When the starter switch is placed into the "ON" position, the ABS warning light comes on and then goes out in approx. 3 seconds. The ABS is normal if the warning light goes out.

Operation Signs of ABS

When ABS is activated, slight vibration is generated on the brake pedal (hydraulic brake model) and steering wheel, and an operating sound can be heard from the ABS equipment.

**NOTE**

- If the ABS warning light does any of the following, the ABS may be faulty. Please contact the nearest Isuzu Dealer.
 - If the ABS warning light comes on during driving
 - The light does not come on when the starter switch is placed into the "ON" position
- Even if a problem has occurred with the ABS, the regular brakes will still work normally. However, ABS will not operate.

ABS Warning Light

→ Refer to page 4-22

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**

- When braking suddenly, continue pressing brake pedal hard so that the ABS can take effect.
- When braking suddenly, do not pump the brakes (pushing and releasing the brake pedal little by little). Pumping brakes will increase the braking distance.
- 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 bumps such as light reflectors on the road.
 - When driving on a bumpy road, stone-paved road or track.
 - When driving over an iron plate or manhole lid.

CAUTION (Continued)

CAUTION (Continued)

- 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, 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.
- For full-air brake models, ABS operation consumes the brake system air. When the air pressure drops and the air pressure warning light 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 brake pedal (hydraulic brake model) and 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.

Electronic Braking force Distribution (EBD) 

EBD is a function that uses the ABS to distribute braking force ideally between the front and rear wheels in order to compensate for changes in load conditions or any shift of the load due to acceleration or deceleration, thus preventing premature locking of the rear wheels.

**CAUTION**

- If a problem should occur with the EBD function, the ABS warning light and the brake warning light will come on simultaneously.
- The rear wheels will lock more easily if there is a problem with the EBD function. Have it checked and serviced at the nearest Isuzu Dealer as soon as possible.

**NOTE**

- When the EBD operates, the brake pedal may push back slightly or you may hear a sound similar to that generated by the ABS when operational. Neither of them indicate any abnormal condition.

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 ASR OFF switch.

**CAUTION**

- When ASR is activated, the ASR indicator light (green) comes on. 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.

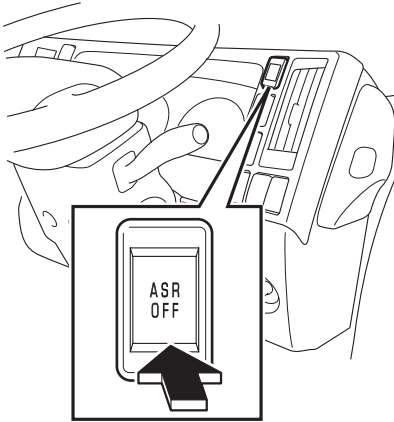
**NOTE**

- When using a speed tester or brake tester, press the ASR OFF switch to cancel the ASR device.
- 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.

[This is not a sign of ASR malfunction]

- The engine speed may suddenly decrease, but this is because the ASR device is operating.

ASR OFF Switch



ASR indicator light

ASR

(Amber)

Use this switch when you want to cancel the ASR. When you press this switch while the ASR is active after starting the engine, the ASR is cancelled and the ASR indicator light (amber) in the instrument panel comes on. 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 Operation Check and ASR Operation**ASR indicator light****(Green/Amber)****ASR Operation Check**

When the starter switch is turned to the "ON" position, the ASR indicator light comes on amber and then turns green before it goes out in about 3 seconds. ASR is normal if the indicator light goes out.

When ASR is Operational

When ASR is operating, the ASR indicator light (green) comes on. When the ASR OFF switch is pressed, the ASR indicator light (amber) comes on.

**NOTE**

- If the ASR indicator light does any of the following, ASR may be faulty. Please contact the nearest Isuzu Dealer.
 - When the ASR indicator light (green) remains on while driving on a firm, dry road.
 - When the ASR indicator light (amber) comes on during driving (when the ASR OFF switch is not operated).
 - The ASR indicator light does not come on when the starter switch is turned to the "ON" position.
- If the ASR is faulty, it does not interfere with normal driving. However, the ASR will not function.

ASR Indicator Light → **Refer to page 4-31**

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.
- Even if ASR is equipped, avoid sudden operation of the accelerator pedal, clutch pedal 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 ASR OFF switch to disable the ASR system.

ASR OFF Switch → Refer to page 4-61

Power Take-Off (PTO) 

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.
- When operating the PTO and special equipment, be sure to place the gearshift lever into the "N" position, firmly pull the parking brake lever and keep the brake pedal fully depressed with your right foot.
- 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**].

**ADVICE**

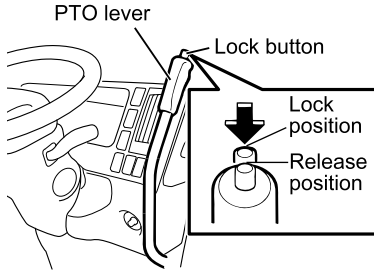
- The PTO cannot be engaged during fast idle control immediately after cold engine startup or when the engine speed is increased with the idling control knob. Wait until engine warm up completes or return the idling control knob to the lowest setting before operating the PTO.

**NOTE**

[Fast idle control]

- A supplementary function to warm up the engine by automatically increasing the idling speed while the engine is cold.

Lever-type PTO

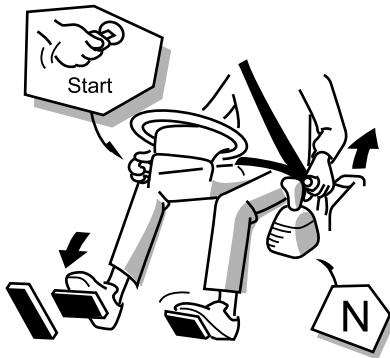


Operation of Lock Button

Releasing the lock button with the PTO lever in either of the off or on position causes the lever to be fixed in that position. Be sure to press and hold the lock button when operating the PTO lever.

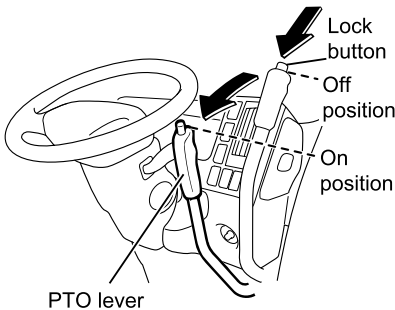
CAUTION

- When operating the PTO lever, move the lever after unlocking has been confirmed. The lever may break if the lock button is pressed when force is being applied to the lever.



To Engage the PTO

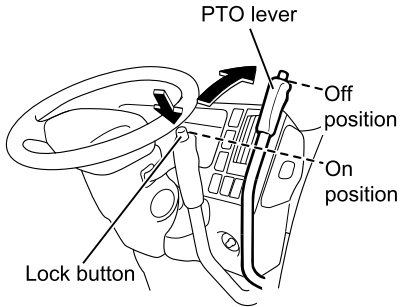
1. Fully pull up the parking brake lever, and with the vehicle at a complete stop, set the gearshift lever in the "N" position. Then, start the engine.



2. Depress the clutch pedal fully, and after waiting for a short time, lower the PTO lever while pressing the lock button in order to engage the PTO.

CAUTION

- When operating the PTO lever, move the lever after unlocking has been confirmed. The lever may break if the lock button is pressed when force is being applied to the lever.



3. Slowly remove your foot from the clutch pedal.
4. Operate the special equipment by following the special equipment's instructions.

To Disengage the PTO

1. While depressing the clutch pedal, press the lock button on the PTO lever and move the lever from the on position to the off position.



CAUTION

- When operating the PTO lever, move the lever after unlocking has been confirmed. The lever may break if the lock button is pressed when force is being applied to the lever.

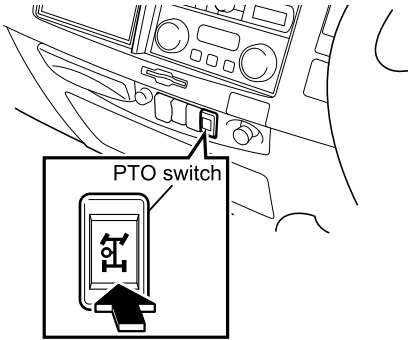
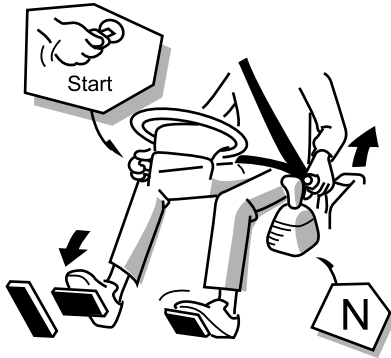
2. Slowly remove your foot from the clutch pedal.



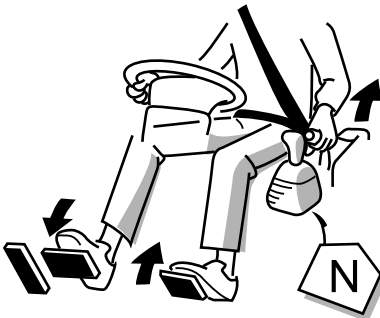
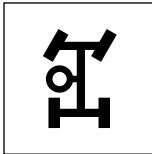
CAUTION

- Before starting the vehicle, you should confirm the following.
 - The special equipment is in a safe condition for driving.
 - The PTO lever is in the off position.

Switch-type PTO



PTO indicator light



To Engage the PTO

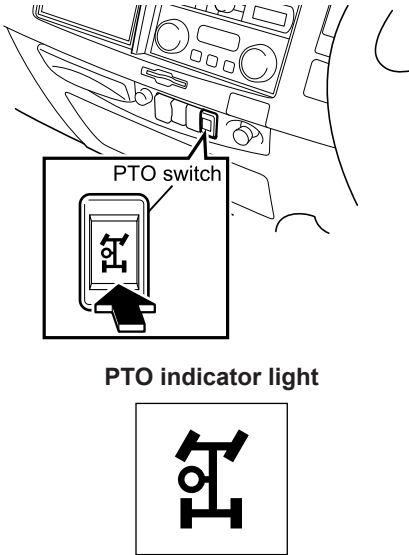
1. Fully pull up the parking brake lever, and with the vehicle at a complete stop, set the gearshift lever in the "N" position. Then, start the engine.
2. Depress the clutch pedal fully, and after waiting for a short time, press the PTO switch.
At this time, the PTO indicator light in the instrument panel will come on.



ADVICE

- If the PTO switch is set to the on position immediately after pressing down the clutch pedal, a gear grinding noise may occur or the PTO may not engage. Operating the switch before the vehicle has come to a complete stop can also have the same consequences.

3. Slowly remove your foot from the clutch pedal.
4. Operate the special equipment by following the special equipment's instructions.




To Disengage the PTO

1. Press the PTO switch while depressing the clutch pedal. Then make sure that the PTO indicator light in the instrument panel goes out and PTO drive is stopped.
2. Slowly remove your foot from the clutch pedal.



CAUTION

- Before starting the vehicle, you should confirm the following.
 - The special equipment is in a safe condition for driving.
 - The PTO switch is in the off position.

Particulate Matter (PM) Catalytic Converter 

The PM catalytic converter uses an oxidation catalyst to reduce the unburned material in PM in exhaust gases to water and carbon dioxide.

As a general rule, while idling, diesel engines have low exhaust gas temperatures. The oxidation catalyst is not actively engaged, so the particles in the exhaust gases build up inside the catalyst. If the engine is revved or the vehicle is started and accelerated in this state, the temperature of the exhaust gas will increase sharply and the particles that have built up inside the catalyst will be discharged all at once as white smoke.

The amount of white smoke discharged tends to increase in proportion to idling time. This smoke will clear in one or two minutes, but care must be exercised since it may obscure the driver's field of vision, cause trouble for the other vehicles on the road, and possibly lead to accidents.

**WARNING**

- The engine, exhaust piping, radiator, and other similar components will remain at a high temperature for some time after the vehicle has been driven. Care must be taken to avoid burns. You should wait until the engine and other components have cooled down before carrying out inspections.

**CAUTION**

- For models conforming to Euro IV emission standards, be sure to use low-sulfur diesel fuel (with sulfur content no higher than 50 ppm).
The use of poor quality fuel, water removers and other additives, gasoline, kerosene, or alcohol-based fuel either as is or as part of a mixture can not only lead to a badly affected fuel filter and poor sliding of fuel-lubricated components within injectors, but also to engine breakdown as a result of the adverse effect they have on the engine and the PM catalytic converter. If the vehicle is filled with an incorrect fuel by mistake, the fuel must be fully removed from the system before refilling with a correct fuel. If the engine were to be started with an incorrect fuel in the system, dangerous situations such as the outbreak of fire and engine damage could result.

**ADVICE**

- Continuous idling for prolonged periods will temporarily downgrade the catalytic functions.
- To prevent the discharge of white smoke and to reduce contributions to pollution and global warming, do not idle the engine for prolonged periods.
- Clouds of white smoke may be discharged from the exhaust pipe if the engine is revved or the vehicle is started up and accelerated after continued idling: This is normal and not indicative of a vehicle malfunction.
- The PM catalytic converter is a device that uses the action of an oxidation catalyst to reduce the unburned materials contained in PM of the exhaust gases to water and carbon dioxide: It does not eliminate black smoke.
- The PM catalytic converter is built into the muffler and therefore is not detachable.

Precautions to Observe Before Driving

When you must idle the engine for prolonged periods:

When the PM catalytic converter (which incorporates an oxidation catalyst) is installed, clouds of white smoke may be discharged from the exhaust pipe if the engine is revved or the vehicle is started up and accelerated after continued idling for a prolonged period (more than one to two hours).

**CAUTION**

- If you accelerate quickly after idling the engine for a prolonged period, the vehicle may discharge clouds of white smoke that could obscure your field of vision as well as that of drivers behind you. If you must idle the engine for a prolonged period, check that the area around your vehicle is safe, press on the accelerator, and make sure that the white smoke discharged from your vehicle's exhaust pipe will not cause trouble for other vehicles on the road before you drive off.

**ADVICE**

- Continuous idling can temporarily downgrade the catalytic functions.
- To prevent a discharge of white smoke and to contribute to the prevention of air pollution and global warming, do not idle the engine for prolonged periods.

**NOTE**

- Clouds of white smoke may be discharged from the exhaust pipe if the engine is revved or the vehicle is started up and accelerated after continued idling: This is normal and not indicative of problems.

Precautions to Observe While Driving

Congested roads:

When you drive on congested roads, the exhaust gas temperature will drop as it does when the engine is idling. This means that the oxidation catalyst will not be actively engaged, so particles in the exhaust gases will build up inside the catalyst. If the engine is revved in this state or the vehicle is started up and accelerated once you are clear of the congestion, the exhaust gas temperature will increase sharply and the particles that have built up inside the catalyst will be discharged all at once as white smoke.

The amount of white smoke discharged tends to increase in proportion to the time spent driving in congestion. This smoke will clear in one or two minutes, but since it may obscure your field of vision, cause problems for other vehicles on the road, and possibly lead to accidents, care must be exercised when driving on congested roads for prolonged periods (1 to 2 hours).

**ADVICE**

- Driving along congested roads for prolonged periods may temporarily downgrade the catalytic functions.

**NOTE**

- If the engine speed is increased (if you press the accelerator) after driving on congested roads for a prolonged period, clouds of white smoke may be discharged from the exhaust pipe: This is normal and not indicative of problems.



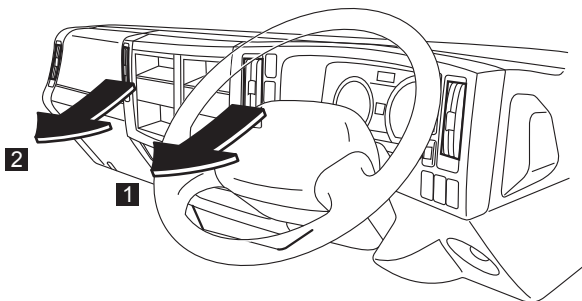
COMFORT AND CONVENIENCE

5

• Air Outlets	5-2	• Seatback Pocket (Driver's Side)	5-24
• Ventilator <input type="checkbox"/>	5-4	• Cup Holder <input type="checkbox"/>	5-24
• Heater/Manual Air Conditioner <input type="checkbox"/>	5-6	• Back Panel Tray (Storage Receptacle) <input type="checkbox"/>	5-25
• Interior Lights	5-14	• Coat Hook <input type="checkbox"/>	5-26
• Sun Visor <input type="checkbox"/>	5-15	• Hook	5-26
• Cigarette Lighter <input type="checkbox"/>	5-15	• Operating Tips for the Radio and CD Player	5-27
• Accessory Power Outlet (24V) <input type="checkbox"/>	5-17	• Antenna	5-30
• Ashtray <input type="checkbox"/>	5-18	• AM/FM Radio (Type 1) <input type="checkbox"/>	5-31
• Small Article Storage Pocket	5-19	• CD Player (with AM/FM Radio) <input type="checkbox"/>	5-39
• Card Holder	5-19	• AM/FM Radio (Type 2) <input type="checkbox"/>	5-51
• Glove Compartment with Lid <input type="checkbox"/>	5-20	• AM/FM Radio (with USB Player) <input type="checkbox"/>	5-60
• Glove Compartment without Lid <input type="checkbox"/>	5-21	• CD/USB Player (with AM/FM Radio) <input type="checkbox"/>	5-80
• Seat Side Tray <input type="checkbox"/>	5-22		
• Overhead Tray <input type="checkbox"/>	5-23		
• Seatback Tray <input type="checkbox"/>	5-23		

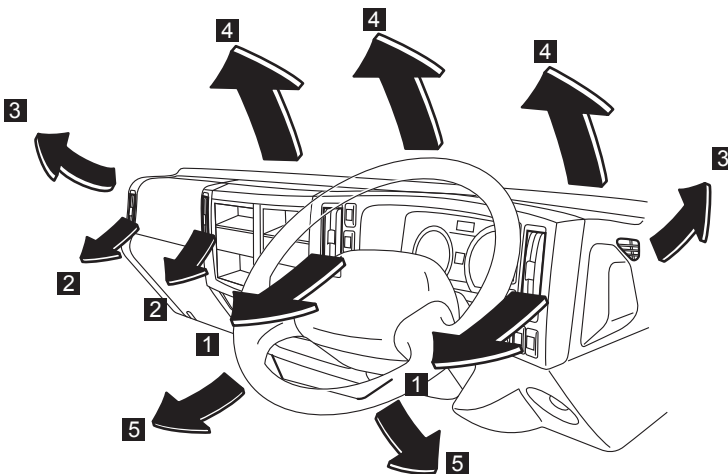
Air Outlets

Ram Air Vent Model



No.	Air outlets	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.

Other Models

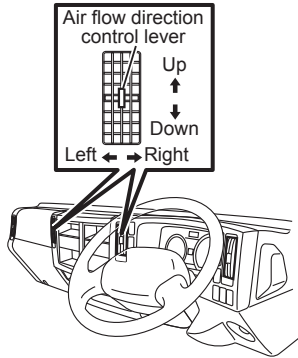


No.	Air outlets	Features
1	Driver side outlet	Air flow direction is adjustable with the lever.
2	Passenger side outlet	Air flow direction is adjustable with the lever.
3	<input type="checkbox"/> Door windows	Air is delivered towards the door window.
4	<input type="checkbox"/> Windshield	Air is delivered towards the windshield.
5	<input type="checkbox"/> Foot outlet	Air is delivered towards the feet.

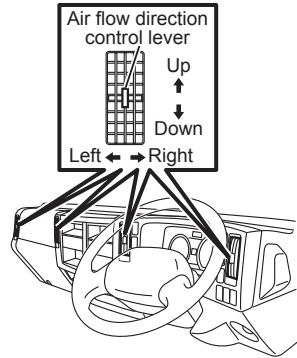
Air Flow Direction Control Lever

Use the control lever to adjust the airflow direction from the outlet. To close the outlet, move the lever down.

Ram air vent model



Other models

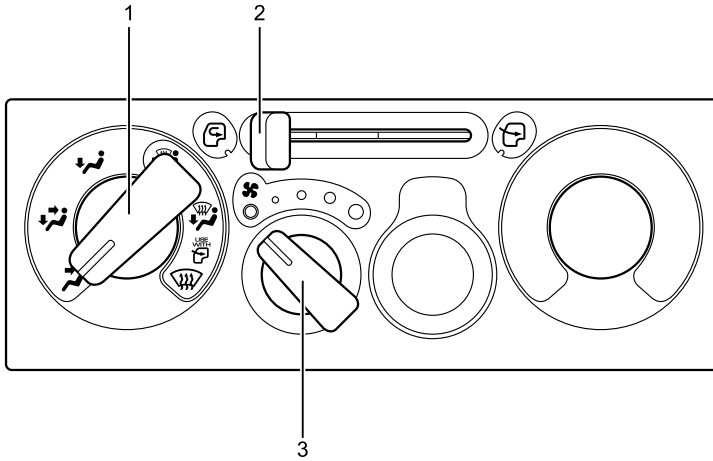


5-4

COMFORT AND CONVENIENCE

Ventilator

How to Use the Controls



No.	Name
1	<input type="checkbox"/> Outlet selector knob
2	Air selector lever

No.	Name
3	Fan speed control knob

1. Outlet selector knob

Knob position	Air delivery	Outlet
	Face	Air flows through outlets 1 and 2.
	Bi-level	Air flows through outlets 1, 2 and 5.
	Feet	Air flows through outlets 5.
	Feet, door windows and windshield	Air flows through outlets 5 and some through outlets 3 and 4.
	Feet, door windows and windshield	Air flows through outlets 5 and air of a greater volume than in position "" flows through outlets 3 and 4.
	Door windows and windshield	Air flows through outlets 3 and 4.

**NOTE**

- The "☀️" sign advises you to place the air selector lever in the outside air ventilation position when using the "☂️", "☀️", "☀️" position to defog the windshield.

2. Air selector lever

Lever position	Purpose	
	Outside air ventilation	Use this position to ventilate the cab's interior. (This position should be normally selected.)
	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).

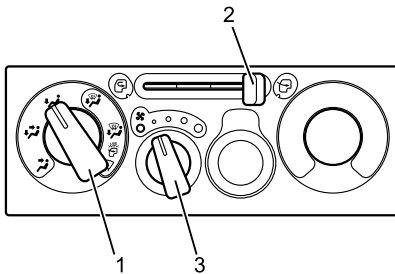
**NOTE**

- Extended use of the inside air recirculation position causes the windshield and windows to fog up easily, making visibility poor.

3. Fan speed control knob

The fan speed can be adjusted to any of the 4 speeds available.

Ventilation

**Outside Air Ventilation**

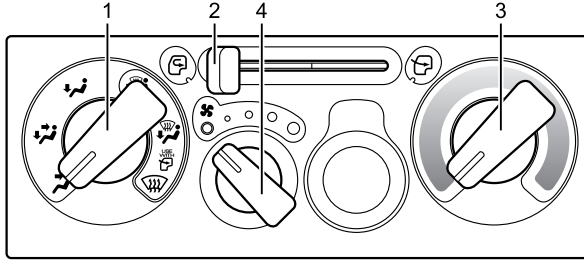
Turn the outlet selector knob (1) (if equipped) to the preferred position. Move the air selector lever (2) to the "☂️" position.

Adjust the fan speed control knob (3) to the preferred speed.

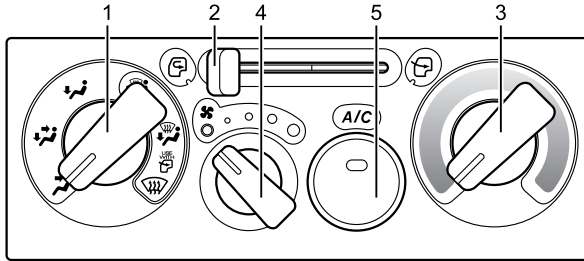
Heater/Manual Air Conditioner

How to Use the Controls

Model without air conditioner











Model with air conditioner









No.	Name
1	Outlet selector knob
2	Air selector lever
3	Temperature control knob

No.	Name
4	Fan speed control knob
5	Air conditioning switch (A/C switch)



1. Outlet selector knob

Knob position	Air delivery	Outlet
	Face	Air flows through outlets 1 and 2.
	Bi-level	Air flows through outlets 1, 2 and 5.
	Feet	Air flows through outlets 5.
	Feet and defroster 1	Except models for Russia: Air flows through outlets 5 and some through outlets 3 and 4.
		Models for Russia: Air flows through outlets 5 and some through outlets 1, 2, 3 and 4.
	Feet and defroster 2	Except models for Russia: Air flows through outlets 5 and air of a greater volume than in position "  " flows through outlets 3 and 4.
		Models for Russia: Air flows through outlets 5 and air of a greater volume than in position "  " flows through outlets 1, 2, 3 and 4.
	Defroster	Air flows through outlets 3 and 4.

**NOTE**

- The "" sign advises you to place the air selector lever in the outside air ventilation position when using the "", "", "" position to defog the windshield.
- When using the "", "" position for the models for Russia, air flows through outlets 1 and 2. If you feel too warm on your face, move the air flow direction control lever down.

2. Air selector lever

Lever position	Purpose	
	Outside air ventilation	Use this position to ventilate the cab's interior. (This position should be normally selected.)
	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.

3. Temperature control knob

Use this knob to select the preferred cab interior temperature. Turn the knob counterclockwise to lower the outlet air temperature and clockwise to raise it.

4. Fan speed control knob

The fan speed can be adjusted to any of the 4 speeds available.

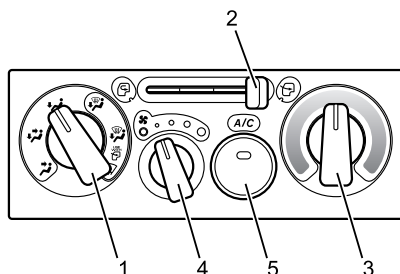
5. Air conditioning switch (A/C switch)

Press this switch to use the air conditioning system. The indicator light inside the switch will come on to show that the air conditioning system is in operation. The air conditioning system can also be used for dehumidifying while the heater is being used.

**NOTE**

- Even if the A/C switch is turned on, the air conditioning system will not operate when the fan speed control knob is placed in the stop position. Make sure that the fan speed control knob 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.

Ventilation

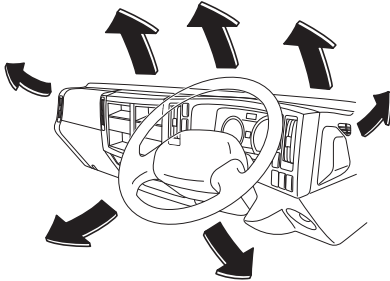
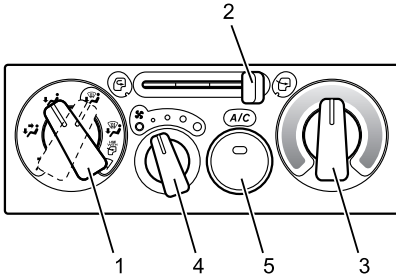


Outside Air Ventilation

Press the A/C switch (5) to the "OFF" position. Turn the outlet selector knob (1) to the preferred position. Move the air selector lever (2) to the "☞" position. Set the temperature control knob (3) to the desired position.

Adjust the fan speed control knob (4) to the preferred speed.

How to Use the Heater

**Normal Heating**

Set the outlet selector knob (1) to the "feet" or "feet/windshield" position. Use the "feet/windshield" position for warming your feet while defogging the windshield.

Set the air selector lever (2) to the "feet" position.

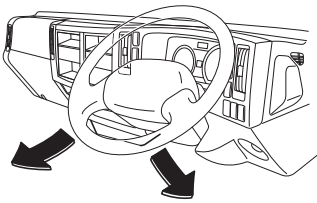
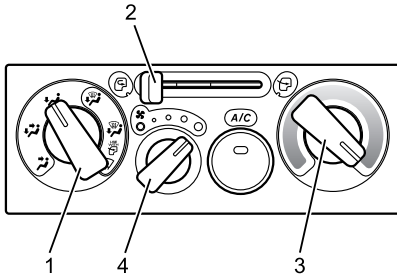
Set the air selector lever (2) to the "feet" position.

Adjust the temperature control knob (3) and the fan speed control knob (4) to the desired positions.

To dehumidify the cab interior while heating, press the A/C switch (5) to the "ON" position.

**NOTE**

- As the heater uses the heat from the engine coolant, its heating effect is weak when the engine coolant temperature is low.



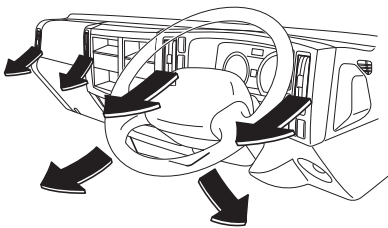
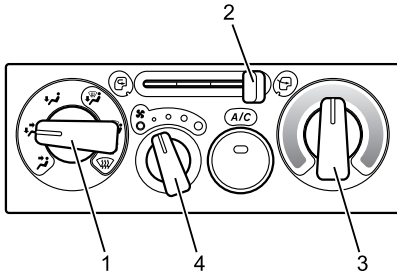
Maximum Heating

Turn the outlet selector knob (1) to the "فرد" position, set the air selector lever (2) to the "☞" position, and turn the temperature control knob (3) fully towards the high temperature direction. Set the fan speed control knob (4) to the maximum speed position.



NOTE

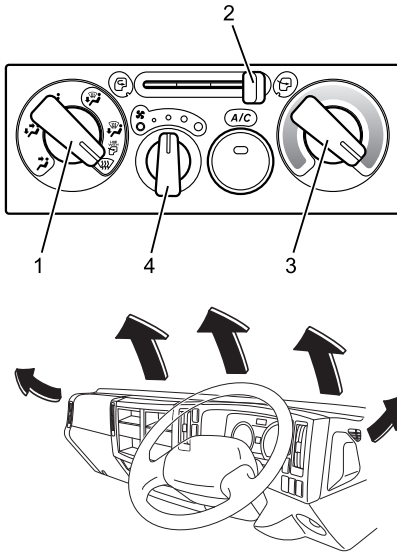
- Extended use of the inside air recirculation position causes the windshield and windows to fog up easily, making visibility poor.



Bi-level Heating

Set the outlet selector knob (1) to the "فرد" position. Set the air selector lever (2) to the "☞" position. Set the temperature control knob (3) to the middle position. Adjust the fan speed control knob (4) as desired.

Defogging and Defrosting the Windshield



Defogging

Set the outlet selector knob (1) to the "☼" position.

Set the air selector lever (2) to the "☼" position.

Turn the temperature control knob (3) to a high-temperature position according to your preference. For defogging in the summer months, set the temperature control knob (3) to any desired position.

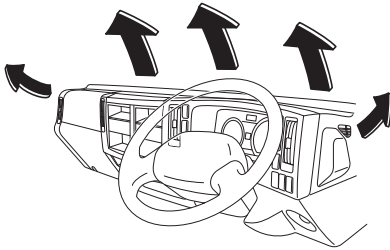
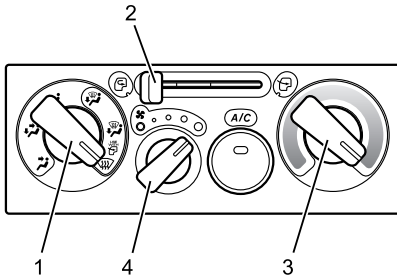
Set the fan speed control knob (4) to any speed position (not the OFF position).

If your vehicle is equipped with an air conditioning system, using the dehumidifying effect of the system is very effective for defogging.



NOTE

- Do not use the maximum cooling position when operating the air conditioning system with the outlet selector knob (1) set to the "☼" position. The outside surface of the windshield will get foggy, impeding forward visibility.



Defrosting

Set the outlet selector knob (1) to the "☐" position.

Set the air selector lever (2) to the "☐" position.

Turn the temperature control knob (3) fully towards the high-temperature direction.

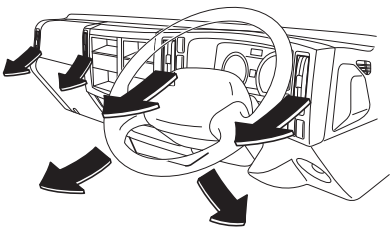
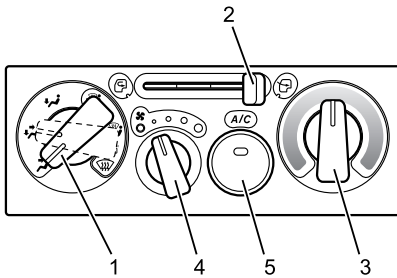
Set the fan speed control knob (4) to the maximum speed position.



NOTE

- After defrosting, be certain to return the air selector lever (2) to the "☐" position. Failure to do so will cause the windshield to fog up, impeding forward visibility.

Cooling



Normal/Moderate Cooling

This setting is suitable for extended periods of cooling or moderate cooling.

Press the A/C switch (5) to the "ON" position.

Set the outlet selector knob (1) to the "☐" position for normal cooling or set it to the "☐" position for moderate cooling.

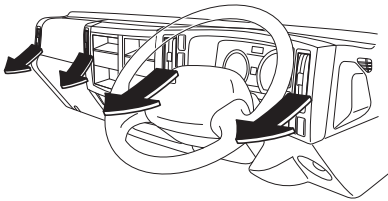
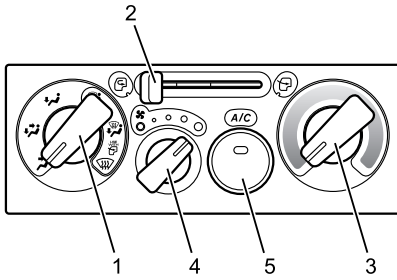
Adjust the temperature control knob (3) to the desired position.

Adjust the fan speed control knob (4) as desired.



NOTE

- When using the air conditioning system with the engine idling in extremely hot weather, place the air selector lever (2) in the "☐" position.



Maximum Cooling

Set the outlet selector knob (1) to the "❄️" position.

Press the A/C switch (5) to the "ON" position.

Move the air selector lever (2) to the "❄️" position.

Turn the temperature control knob (3) fully towards the low-temperature direction.

Set the fan speed control knob (4) to the maximum speed position.



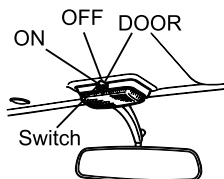
NOTE

- After prolonged parking in 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 move the air selector lever (2) to the outside air introduction position 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.

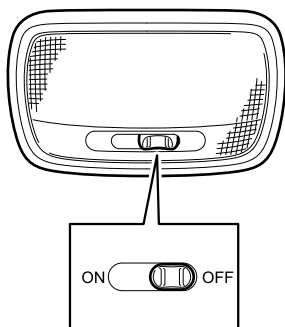
Interior Lights

Dome Light

Type 1



Type 2



The dome light operates regardless of the starter switch position. To make the dome light be controlled by the "DOOR" operation, move the dome light switch in half way between the "ON" and "OFF" positions.

ON : The light stays on regardless of the doors being open or closed.

DOOR: 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.

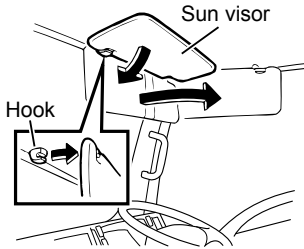
OFF : The light stays off regardless of the doors being open or closed.

**NOTE**

- To prevent the light from being left on and discharging the battery, be sure to completely close the doors.

Sun Visor 

Driver's side

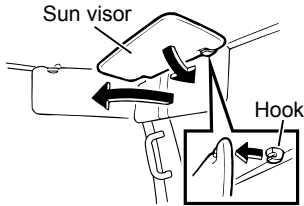
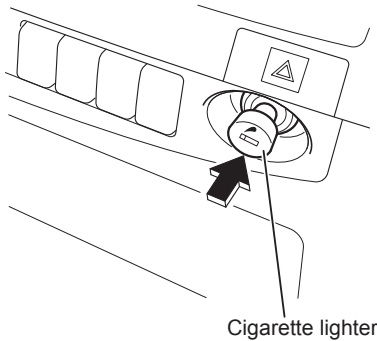


The sun visor protects your eyes in strong sunlight. Use it when sunlight is too bright. To reduce side glare, unhook the sun visor and swing it around to the side.

 CAUTION

- For safety, make sure to fold up the sun visor after use.

Passenger's side (model with passenger's side sun visor only)

Cigarette Lighter 

The cigarette lighter can be used when the starter switch is in the "ACC" or "ON" position.

1. Push the lighter in until it locks.
2. When the heater element becomes hot, the lighter pops out to the original position. Pull out and use it.

**WARNING**

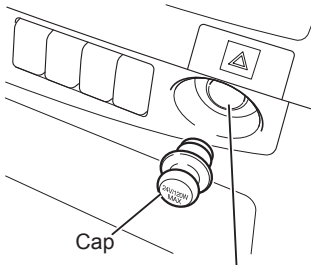
- As the lighter's tip can become extremely hot, take due precautions against burns.
- Do not leave your finger on the cigarette lighter once it has been pushed in. The lighter will overheat and be damaged or cause a fire.
- If the cigarette lighter does not pop out after more than 20 seconds, the lighter is defective. Pull out the lighter by hand immediately.
- Do not leave the vehicle with the cigarette lighter pushed in. This could cause a fire.
- As there is a burn hazard, do not touch the heater element when using the cigarette lighter.
- Do not bend the cigarette lighter. A bent lighter does not function properly and is dangerous.

**CAUTION**

- Check with your Isuzu Dealer if you have no alternative to using the cigarette lighter socket as an accessory power outlet.
- If the cigarette lighter has to be used as an accessory power outlet, internal deformation may occur. If this occurs, when the cigarette lighter is used, the heated cigarette lighter may pop out, may not release after it is pushed in, or may otherwise fail.
- To switch the cigarette lighter back from use as an accessory power outlet to use as a cigarette lighter, or if the cigarette lighter fails, be sure to replace it with an Isuzu genuine replacement. Do not use other cigarette lighters.
- When cleaning the cigarette lighter, do not use too much force. It may become bent.
- Keep the cigarette lighter socket and the heater free of ash and dirt.

**ADVICE**

- Do not use the cigarette lighter while the engine is not running. The cigarette lighter consumes a lot of electricity and could discharge the battery completely.

Accessory Power Outlet (24V) V

Accessory power outlet

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

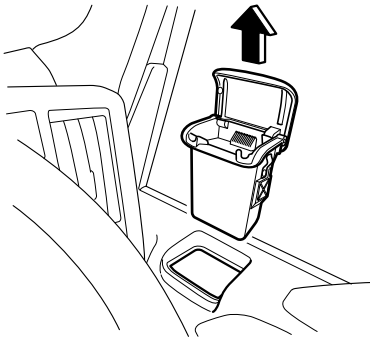
- The maximum allowable load of the accessory power outlet is 120W (5A). If you subject the accessory power outlet to more than the allowable load, the wiring may overheat and cause a fire. Use the accessory power outlet within the allowable load.
- The power source for the accessory power outlet is 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.

Ashtray **WARNING**

- Do not put any paper trash or other flammable material in the ashtray.
- After using the ashtray, be sure to close it. If a cigarette butt has not been extinguished completely, other butts in the ashtray may catch fire.
- Do not leave the ashtray full of cigarette butts.
- Put matches and cigarette butts in the ashtray only after they are fully extinguished.
- Never throw lit cigarette butts out the window. They not only litter the road and around but also can cause a roadside fire.

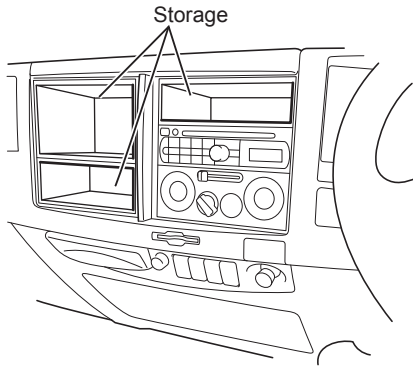
Driver's and Passenger's Ashtray

Open the lid to use.

Put out lit cigarettes on the crush-out tab.

To empty the ashtray, hold the lid and pull the ashtray up and out.

Small Article Storage Pocket



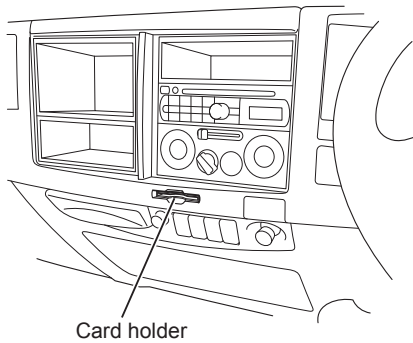
Use them for storing small articles.



CAUTION

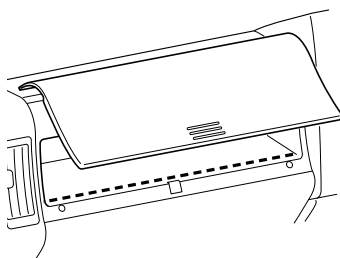
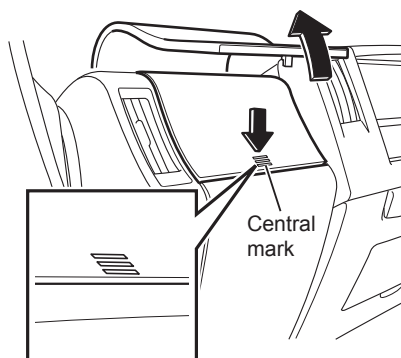
- Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.

Card Holder



Use this to hold your cards.



Glove Compartment with Lid V

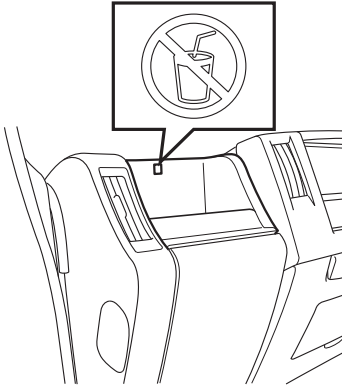
Press on the central mark to lock and unlock the lid.

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.
- The glove compartment lid will automatically spring open when it is unlocked. Do not put your face or head near the lid.
- Do not leave eyeglasses or a lighter in the vehicle. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.
- 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.

Seatback Pocket (Driver's Side)

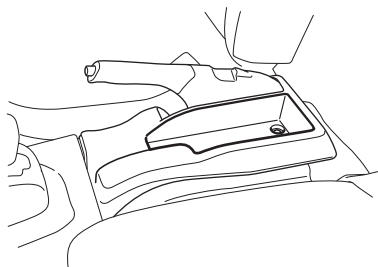
→ Refer to page 5-24

Glove Compartment without Lid **CAUTION**

- Do not place a cup or something similar containing a beverage.
- Do not place anything in the way blocking the vision.
- Do not place anything that can fall when tilting the cab.

Seat Side Tray v

Hydraulic brake model (right-hand drive model)

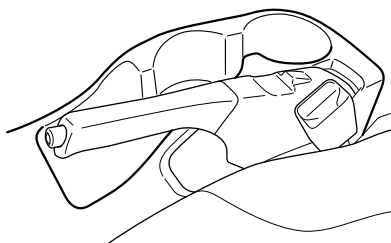


Use it for storing small articles.

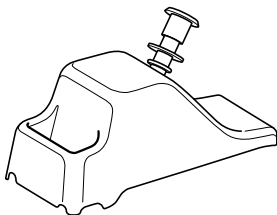
CAUTION

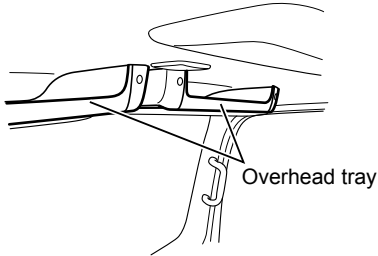
- Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.

Hydraulic brake model (left-hand drive model)



Full-air brake model

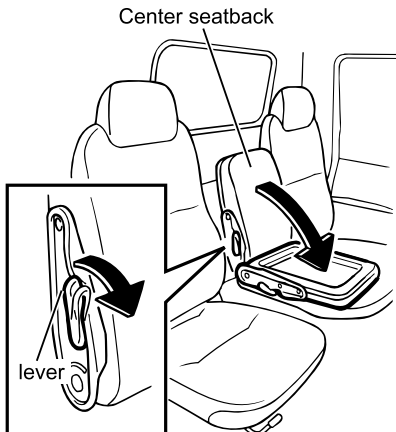


Overhead Tray 

Use the overhead trays as shelves.

**CAUTION**

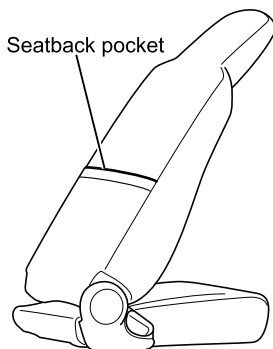
- Do not use either overhead tray to hold an object weighing more than 2 kg (71 oz) or an object that may fly out or fall down during vehicle operation. Doing so would be dangerous.
- Items may fly out or fall down when the cab is lowered after being tilted.
- Do not leave eyeglasses or a lighter in the vehicle. If the cab became hot, a lighter left there could explode and plastic eyeglass lenses or frames could deform or crack.

Seatback Tray 

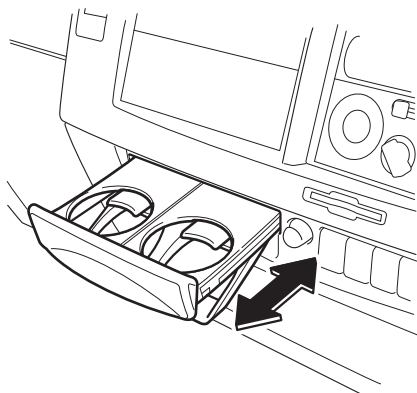
If you pull forward the lever and tilt the seatback of the center seat forward, you can use the seatback as a tray.

**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 (Driver's Side)

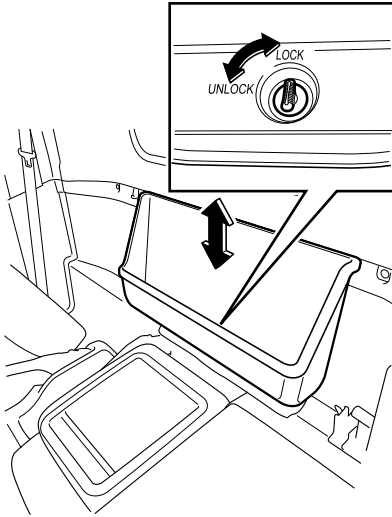
Use it for storing items such as vehicle registration documents or owner's manuals.

Cup Holder 

Pull towards you to open.

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).

Back Panel Tray (Storage Receptacle) v

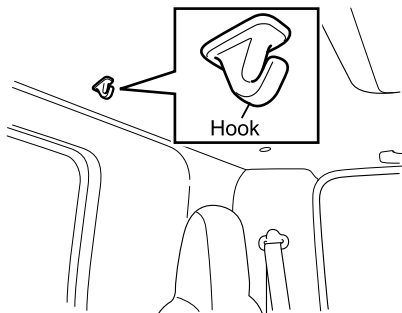
Use them for storing small articles. They can be removed.

Installation and Removal

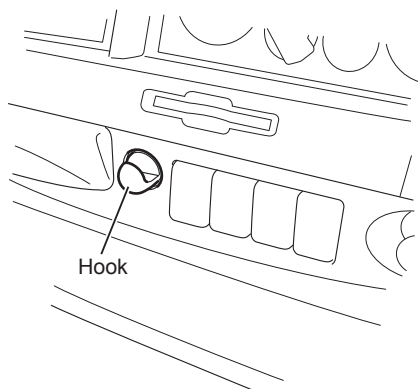
1. Turn the knob to the "UNLOCK" position.
2. Lift the back panel tray upward to remove it from the three tabs.
To install the back panel tray, perform this action in reverse. After installing the back panel tray, turn the knob to the "LOCK" position.

**CAUTION**

- Do not use the back panel tray to hold any object weighing more than 2 kg (71 oz) or an object that may fly or fall out during vehicle operation. Doing so would be dangerous.
- Items may fly or fall out when the cab is tilted.
- Do not leave eyeglasses or a lighter in the vehicle. If the cab became hot, a lighter left there could explode and plastic eyeglass lenses or frames could deform or crack.

Coat Hook 

Use this to hang clothing.

Hook

This can be used to hold plastic shopping bags.

**CAUTION**

- Do not hang anything weighing over 3 kg (106 oz) or that may fall off the hook while driving. Doing so may be dangerous.

Operating Tips for the Radio and CD Player**CAUTION**

- Operate the radio or CD player only while the vehicle is stationary. Operating them while the vehicle is moving could cause an accident.
- Adjust the volume so that sound outside of the vehicle can be heard. If outside sound cannot be heard, accidents may be harder to avoid.
- Do not install a radio equipment antenna near the vehicle's radio antenna. This could cause unwanted noise on the radio or while playing a CD.

**ADVICE**

- Do not use the radio or CD player for a long time when the engine is stopped. This may cause the battery to run out.
- Take care not to spill liquids, etc. on the radio or CD player.
- Do not disassemble or apply oil to radio or CD player.

Operating the CD Player



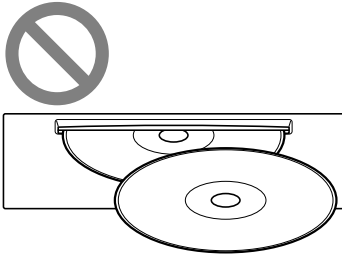
ADVICE

- Playback may not be possible due to recording conditions or disc characteristics, scratches, dirt, or deterioration.

Only CDs with the mark shown below can be used.



In the case of CD-R and CD-RWs with the marks shown below, playback may not be possible due to recording conditions or disc characteristics, scratches, dirt or deterioration. Also, disc's condition may cause the device to overheat or break.

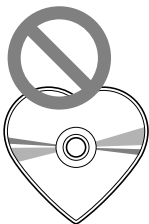


ADVICE

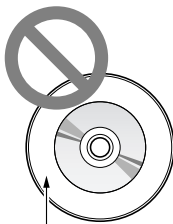
- Do not insert objects other than CDs into the CD slot or insert more than one CD at a time.

**ADVICE**

- Do not use lens cleaner.
- On cold or rainy days, condensation may form in the CD player preventing normal operation. If this occurs, eject the CD and use the air conditioning system to dehumidify or ventilate the cab interior for a while before reinserting the CD.
- Rough road driving with severe vibrations may cause the CD to skip.
- Using benzene, record disc cleaner or anti-static fluids may damage the CD. If a CD is dirty, wipe it with a soft cloth moistened with water to remove dirt and then wipe it again with a dry cloth to remove all the moisture. Wipe the CD from the center to the edge.
- CDs are easily damaged by heat, so do not place them in direct sunlight or near an air outlet during heating.
- Do not leave CDs inside the CD player or partially inserted for a long time. This may scratch the CDs and make them unusable.
- Do not use any CD as described below, otherwise such a CD may cause a breakdown.
 - CDs made in a special shape such as heart-shaped or octagon-shaped.
 - Adapters or CDs with special properties, such as Dual Discs and printable discs.
 - CDs with transparent or semi-transparent sections on the recording side.
 - CDs with warping or scratches.
 - CDs with personal seals or labels, or CDs with residue from removed seals or labels.
 - CDs with copy protection.



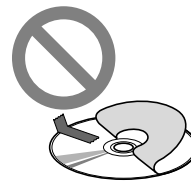
Special shapes



Transparent or semi-transparent sections

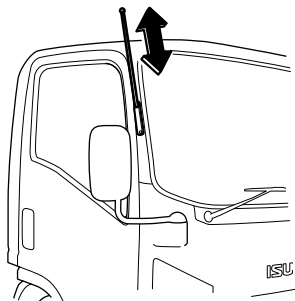


Warping or scratches



Seals or labels

Antenna



Pull the antenna out to its full length when using it.



ADVICE

- To prevent breaking the antenna, shorten it when passing through areas with low clearance or through a carwash.



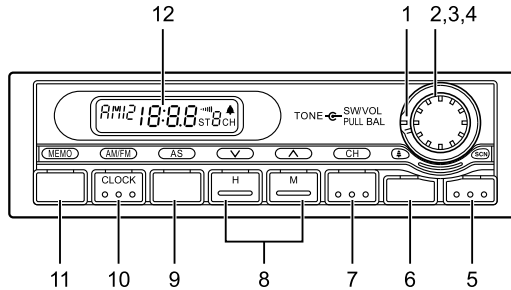
NOTE

[Radio reception]

- 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.

AM/FM Radio (Type 1) 

The AM/FM radio can be used when the starter switch is in the "ACC" or "ON" position.



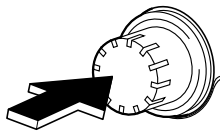
No.	Name
1	Tone adjustment control (TONE)
2	Power switch (SW)
3	Volume control (VOL)
4	Balance control (BAL)
5	Scan button (SCN)
6	Alarm button
7	Channel button (CH)

No.	Name
8	Tuning buttons
9	Automatic storing button (AS)
10	Band selector button (AM/FM) Time adjusting button (CLOCK)
11	Memory button (MEMO)
12	Display

Control Panel

Turning the Power On

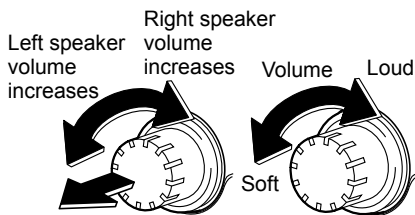
Press "SW" to turn the radio on. Press it again to turn it off.



Volume and Left-Right Balance Adjustment

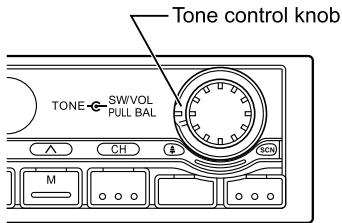
Turn the "VOL" control to adjust the volume.

Pull the "BAL" control out and turn it to adjust the left-right balance.



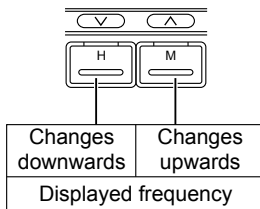
**ADVICE**

- Turning the power on or off with the volume set to maximum will have a bad effect on the equipment and your hearing. Set the volume to a moderate level.

**Tone Adjusting**

Turn the "TONE" control knob.

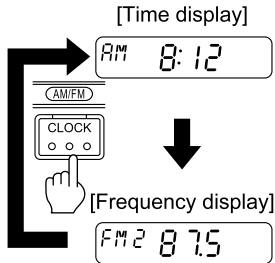
Turning clockwise emphasizes the treble, and turning it counterclockwise emphasizes the bass.

**Tuning**

1. Press the "AM/FM" button to select the band.
2. Each time the tuning button is pressed, the frequency changes by 1 kHz (AM) or 0.1 MHz (FM). Check the adjustments on the display.

**NOTE**

- When the displayed frequency reaches the highest frequency (1,629 kHz for AM, 108 MHz for FM) with the upward tuning button, it will return to the lowest frequency (522 kHz for AM, 87.5 MHz for FM). When the lowest frequency has been reached with the downward tuning button, it will return to the highest frequency.
- Program your preferred radio stations to the preset buttons in advance to conveniently use them during driving.



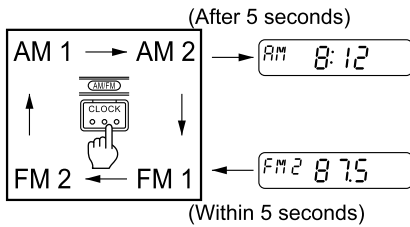
Display Selection

Each time you press the "AM/FM" button, the display toggles between the "time" indication and "frequency" indication.



NOTE

- If the "AM/FM" button is not pressed in 5 seconds, the display will return to the time indication.



AM/FM Band Selection

With the display indicating the time, press the "AM/FM" button. The display will change to the frequency indication. Press the "AM/FM" button again within 5 seconds to select the desired band. The display will cycle through the bands (AM1, AM2, FM1 and FM2) each time you press the button.



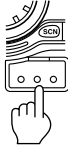
NOTE

- If the "AM/FM" button is not pressed in 5 seconds, the display will return to the time indication.

Radio Operation

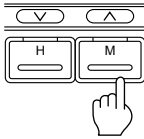
Scan Tuning

1. Press the "AM/FM" button to select the band.
2. Pressing the "SCN" button starts an automatic scan-seeek tuning upwards through frequencies. If the radio tunes to a receivable station, it receives the station for 5 seconds before the radio starts another scan-seeek tuning again.
If you press the "SCN" button during an automatic scan-seeek tuning, the automatic tuning will be cancelled and the radio continues to receive the last tuned station.



Seek-tuning

1. Press the "AM/FM" button to select the band.
2. Press and hold the tuning button for more than 0.5 seconds to start the seek-tuning. It will stop at any receivable station. If there is no receivable station, the radio will search from the highest frequency to the lowest frequency or vice versa.

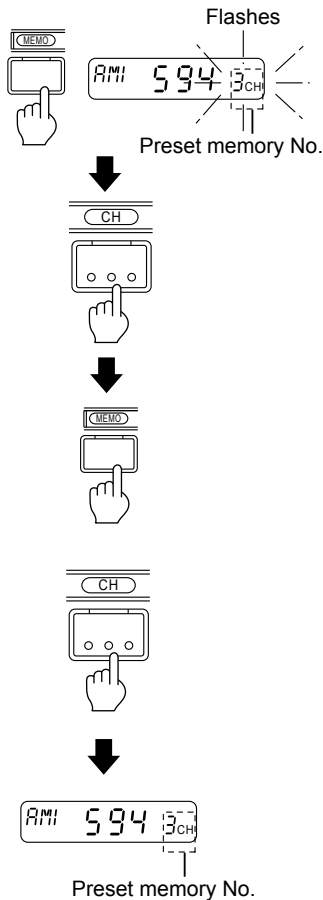


Press either "H" or "M"



NOTE

- The display will show "ST" when the radio is receiving a stereo broadcast.



Programming Stations to Preset Buttons

A maximum of 4 radio stations can be stored in the channels in each of the AM1, AM2, FM1 and FM2 bands.

1. While receiving a radio station, press the "MEMO" button to go to the storing-in-memory mode. The channel number will flash on the display.
2. Select the desired channel to which you want to program the station with the "CH" button. Press the "MEMO" button again to complete the presetting.

After presetting radio stations in the memory, press the "CH" button to receive any of them.

The display will show the frequency of the station now being received and the corresponding channel number.



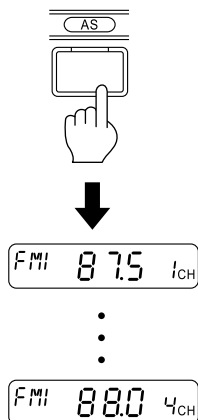
NOTE

- When the reception is poor for the preset radio stations, you may use the automatic storing function. The function allows the 4 stations with the best reception in the area where you are running to be automatically programmed to channels "1" to "4" with the lowest frequency station assigned to channel 1.



NOTE

- The radio stations in memory will be erased if the power supply is interrupted such as when a battery is being changed. You must then reprogram the stations.
- Use the automatic storing function if reception of the preset memory stations is poor.



Automatic Storing Function

The automatic storing function selects the 4 regional radio stations with the strongest signals and stores them in memory, arranging them in the order of ascending frequency.

1. Press the "AS" button for more than 2 seconds.

The radio starts tuning to stations in the currently selected band (AM1, AM2, FM1 or FM2).

2. When the radio completes storage into memory, it beeps. Frequency scan seek will end after one cycle.
3. For tuning, press the "CH" button and select any of the stations programmed to channels "1" to "4".



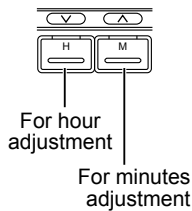
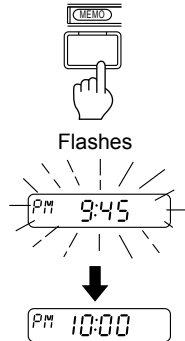
NOTE

- The preset stations in memory of the currently selected band will be erased if the automatic storing function is used.

Adjusting the Time

Press the "CLOCK" button for more than 2 seconds. The "time-of-day" indication on the display will flash, indicating that the time adjustment mode is active.

Time is shown in the 12 hour clock. Afternoon is identified by "PM".



Setting the Clock to Time Signal

Press the "MEMO" button to set your clock to time signal. The currently displayed time will be reset to the nearest hour. If the minutes are less than 30, the hour will remain unchanged. If the minutes are 30 or more, the hour will advance by one.

Adjusting the Time

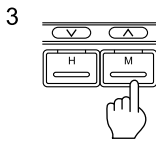
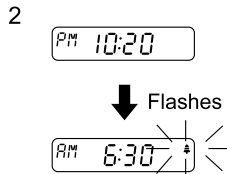
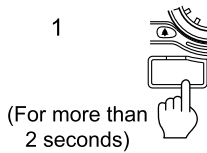
While in the time adjustment mode, press the tuning buttons (the ∨-marked button adjusts the hours; the ∧-marked button adjusts minutes) to change the time.



NOTE

- If the time adjustment operation is suspended for 15 seconds or more, the time adjustment mode will be cancelled. Restart the process from the beginning.
- The time display will flash when the power supply is disconnected and then reconnected due to replacing the battery for example. The time flashing will stop when the time is adjusted.

Setting the Alarm



The alarm will sound at the time you have set. To set the alarm, you must press and hold the alarm button for 2 seconds or more to make the time display and the "🔔" icon flash.

1. Press the alarm button for 2 seconds or more and check that the time display is flashing. Then, press the tuning buttons (the ∨-marked button adjusts hours; the ∧-marked button adjusts minutes) to change the time.
2. Change the display to the desired alarm time, then wait until the current time returns to the display.
3. Press the alarm button and check that the "🔔" icon is steadily on. To stop the alarm, press any button.

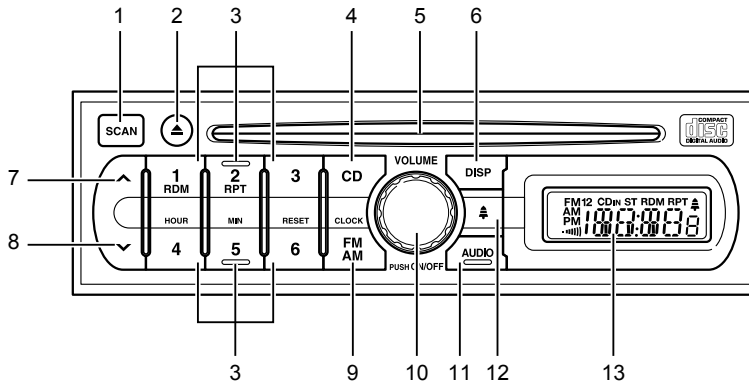


NOTE

- If the time adjustment operation is suspended for 15 seconds or more, the time adjustment mode will be cancelled. Restart the process from the beginning.
- To cancel the alarm, press the alarm button. Make sure the "🔔" icon is no longer displayed.
- If the vehicle is not to be used for an extended period, cancel the alarm.

CD Player (with AM/FM Radio) v

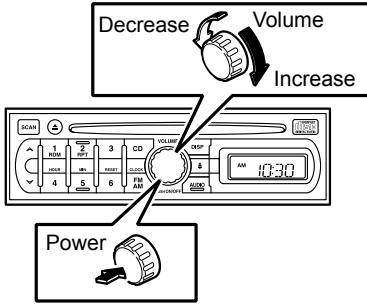
The CD player can be used when the starter switch is in the "ACC" or "ON" position.



No.	Name
1	Scan button
2	Eject button
3	Preset buttons
4	CD button
5	CD Slot
6	Display button
7	Tuning button

No.	Name
8	Tuning button
9	AM/FM button (Band selector/Clock adjust button)
10	Power switch/Volume control knob
11	Audio button
12	Alarm button
13	Display panel

Control Panel



Turning the Power On

Press the "Power switch" to turn the power on. Press it again to turn the power off.

Volume Adjustment

Turn the "Volume control knob" to adjust the volume.

Turn the knob to the right to increase the volume, and to the left to decrease the volume.



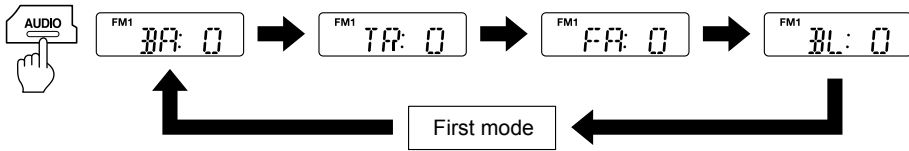
ADVICE

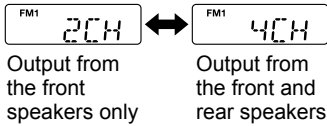
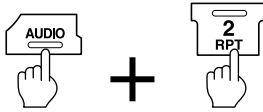
- Turning the power on or off with the volume set to maximum will damage the equipment and your hearing. Set the volume to a moderate level.

Adjusting the Tone/Balance

Each time you press the "AUDIO" button, the adjustment mode cycles through Bass Adjustment (BA), Treble Adjustment (TR), Front-rear Fading Adjustment (FA), Left-right Balance Adjustment (BL), and then returns to the first mode (cancellation of the adjustment mode).

Use the tuning button "▲ ▼" to adjust the desired setting. Front-rear Fading Adjustment (FA) does not work when you select the 2-channel speaker system.





Speaker Configuration Selection

Press the preset button "2/RPT" while pressing the "AUDIO" button. You will hear the "beep," and the speaker configuration will switch between 2-channel and 4-channel systems.

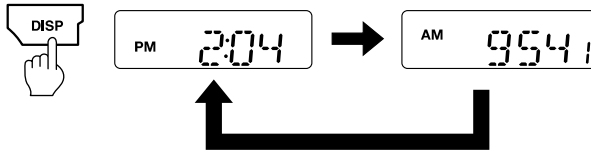


NOTE

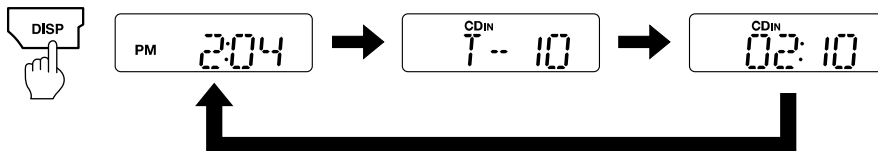
- The CD speaker configuration will change to the 4-channel system (default setting) when the battery is disconnected. If having selected the 2-channel speaker system, reset the configuration.

Display Selection

While you are listening to the radio, the display will change to show the "time", "frequency", and then "time" each time you press the "DISP" button.



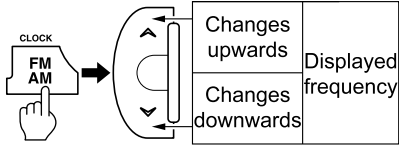
While you are listening to a CD, the display will change to show the "time", "CD track number", and then "playtime" each time you press the "DISP" button.



NOTE

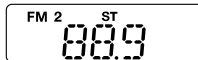
- The frequency, CD track number or playtime display returns to the time display after 5 seconds.

Listening to the Radio



Tuning

1. Press the "Power switch" or AM/FM button "AM/FM/CLOCK" to turn the power on.
2. Press the AM/FM button to select the band. Each time the AM/FM button is pressed, the band changes between, FM1, FM2 and AM.
3. Each time the tuning button "**▲ ▼**" is pressed (for less than 0.5 seconds), the frequency changes by 1 step (manual tuning).
Check the display to make adjustments.
Press and hold the tuning button "**▲ ▼**" (for 0.5 seconds or more) to start scan tuning (automatic tuning).



NOTE

- When the displayed frequency reaches the highest frequency, it will return to the lowest frequency. When the lowest frequency has been reached, it will return to the highest frequency.
- When the radio is tuned to a stereo broadcast, "ST" is indicated in the display.
- Program your preferred radio stations to the preset buttons in advance to conveniently use them during driving.

Reception frequency

AM	FM
531 - 1,629 kHz (9 kHz step)	87.5 - 108 MHz (0.1 MHz step)

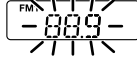
Scan Tuning (Automatic Tuning)

1. Press the AM/FM button "AM/FM/CLOCK" to select the band.
2. Pressing the "SCAN" button starts an automatic scan-seek tuning upwards through frequencies. If the radio tunes to a receivable station, it receives the station for 5 seconds before the radio starts another scan-seek tuning again. If you press the "SCAN" button during an automatic scan-seek tuning, the automatic tuning will be cancelled and the radio continues to receive the last tuned station.

SCAN button

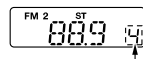
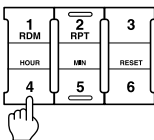
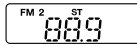


Blinks



NOTE

- If automatic tuning cannot be used due to a weak signal, tune to the desired station manually.



Preset memory No.

Preset Buttons

A maximum of 6 stations ("1" to "6") can be programmed to the preset buttons for each of the FM1, FM2, and AM bands.

1. Tune the radio to the station you want to store in memory.
2. Press and hold the desired preset button ("1" to "6") for 2 seconds or more. When you hear the "beep," the station is successfully stored in the memory.

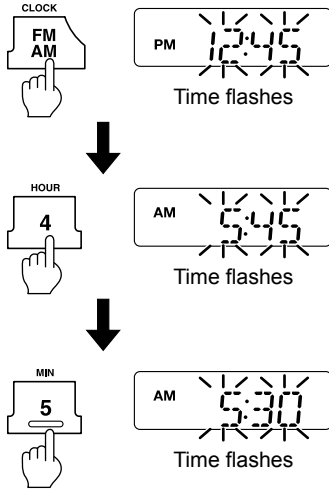
To listen to a preset station, press the appropriate preset button ("1" to "6") lightly for less than 2 seconds.



NOTE

- The radio stations in memory are erased when the power supply is interrupted to replace the battery or fuses.

Setting the Time



Adjusting the Time

Press and hold the AM/FM button "AM/FM/CLOCK" for 2 seconds or more to enter or exit the time adjustment mode.

When the time adjustment mode is switched on, you will hear the "beep", and the time display will flash.

Setting the Hour

Adjust the hour by pressing the preset button "4/HOUR" for less than 2 seconds.

Press and hold the preset button "4/HOUR" for 2 seconds or more to advance the hour continuously.

Setting the Minutes

Adjust the minutes by pressing the preset button "5/MIN" for less than 2 seconds.

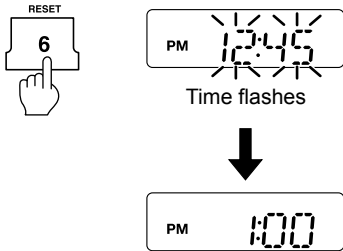
Press and hold the "5/MIN" button for 2 seconds or more to advance the minutes continuously.

After setting the minutes, press the AM/FM button "AM/FM/CLOCK" for less than 2 seconds to set the time (the display stops flashing). (Alternatively, if you do not press any buttons for 15 seconds, the display stops flashing and the time is set to the currently displayed time.)



NOTE

- If the time adjustment operation is suspended for 15 seconds or more, the time adjustment mode will be cancelled. Restart the process from the beginning.
- The time display will flash when the power supply is disconnected and then reconnected due to the replacement of the battery or fuses. The flashing stops when the time is reset.



Setting the Clock to Time Signal

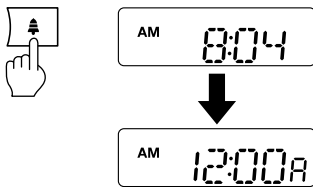
Press the preset button "6/RESET" while the time adjustment mode is active to set the time to the nearest hour.

If the minutes are less than 30, the hour will remain unchanged. If the minutes are 30 or more, the hour will advance by one.

Example: 12:00 – 12:29 → 12:00

12:30 – 12:59 → 1:00

Using the Alarm



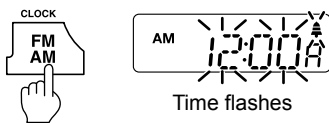
Setting the Alarm

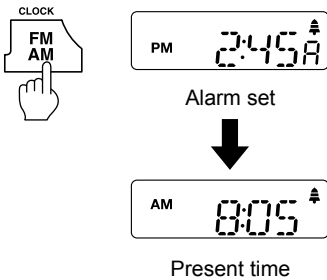
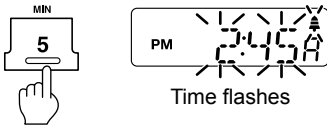
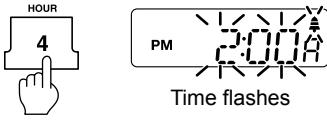
1. Press the alarm button "🔔" for less than 2 seconds to show the alarm time in the display ("A" is indicated in the display).



NOTE

- Each time you press the alarm button "🔔", the display will cycle to show the "frequency, CD track number, playtime, time of day", "alarm time", and "time of day" in this order.
 - If the alarm setting is ignored for 5 seconds, the display returns to the time of day.
2. Press and hold the AM/FM button "AM/FM/CLOCK" for 2 seconds or more until you hear the "beep," and the display will flash and switch to the time adjustment mode ("🔔" is shown in the display).



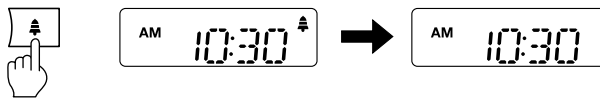


3. Adjust the hour by pressing the preset button "4/HOUR" for less than 2 seconds.
Press and hold the preset button "4/HOUR" for 2 seconds or more to advance the hour continuously.
4. Adjust the minutes by pressing the preset button "5/MIN" for less than 2 seconds.
Press and hold the preset button "5/MIN" for 2 seconds or more to advance the minutes continuously.
5. Press the AM/FM Button "AM/FM/CLOCK" for less than 2 seconds, the display returns to the time of day, and "⏰" is shown in the top right of the display to indicate that the alarm has been set.

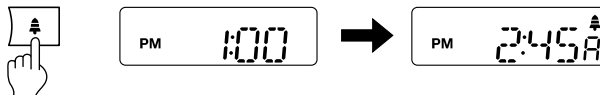
Switching the Alarm On/Off

Press and hold the "⏰" button for 2 seconds or more until you hear the "beep" to switch the alarm ON/OFF.

Turning the Power Off



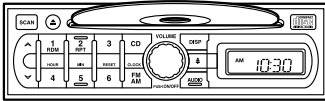
Turning the Power On



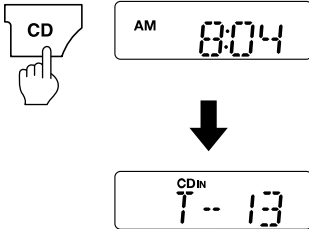
**NOTE**

- After setting the alarm, you can check the set time by pressing the alarm button "🔔" for less than 2 seconds.
- To cancel the alarm, press the alarm button "🔔" for 2 seconds or more. Make sure the "🔔" icon is no longer shown in the display.
- If the vehicle is not to be used for an extended period, cancel the alarm.

Using the CD Player

**Playing CDs**

Insert a CD into the CD slot with the label side (printed side) facing up. The power will switch on and playback will start automatically.

**Switching to CD playback while listening to the radio**

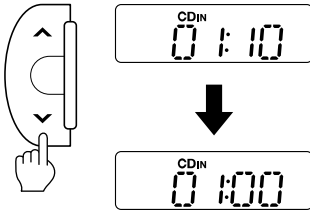
Press the "CD" button when a CD is inside the player, and playback will resume from the point at which playback was previously stopped.

**ADVICE**

- Check that there is no CD in the player before inserting a CD. Forcibly inserting a CD could damage the CD or cause the player to malfunction.

**NOTE**

- Gently push the CD into the player and it will automatically load.

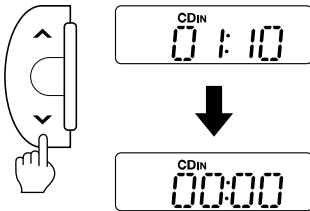


Fast Forwarding/Fast Reversing

Press and hold the tuning button "**▲▼**" during playback for 0.5 seconds or more to advance the track forwards or backwards quickly.

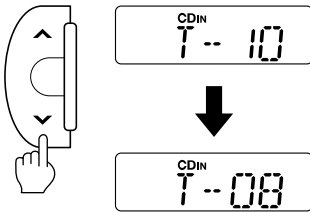
▲: Fast forward

▼: Fast reverse



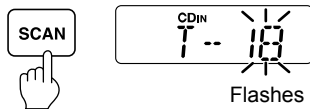
Replaying the Same Track

Press the tuning button "**▼**" for less than 0.5 seconds to start playback of the current track from the beginning.



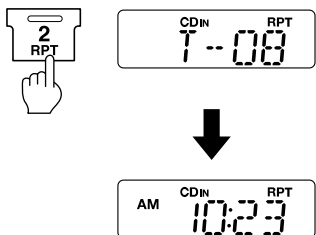
Track Selection

Press the tuning button for less than 0.5 seconds "**▲▼**" to select the desired track number.



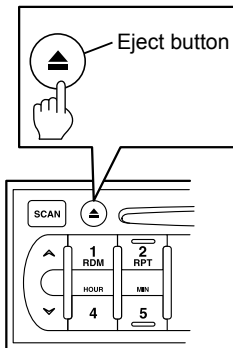
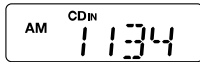
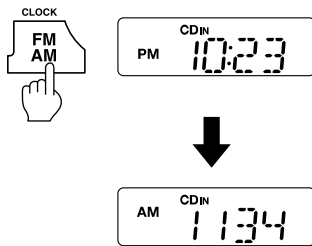
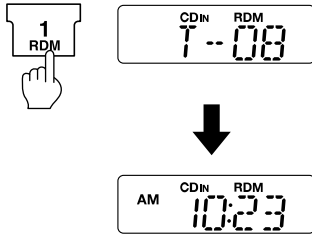
Track Search

Press the "SCAN" button during playback to play the first 10 seconds of each track, starting from the next track. Press the button again to cancel the track search.



Repeat Playback

Press the preset button "**2/RPT**" during playback to repeat the playback of the same track. Press the button again to cancel repeat playback.



Random Playback

Press the preset button "1/RDM" during playback to play the CD tracks in random order. Press the button again to cancel random playback.

Stopping CD Playback

Press the AM/FM button "AM/FM/CLOCK" during CD playback to stop CD playback and listen to the radio.

Ejecting the CD

Press the eject button "▲" to stop playback and eject the CD.



NOTE

- If the CD is ignored for 15 seconds after being ejected, it is automatically loaded back into the player to protect the CD. In this case, the CD is not played back.

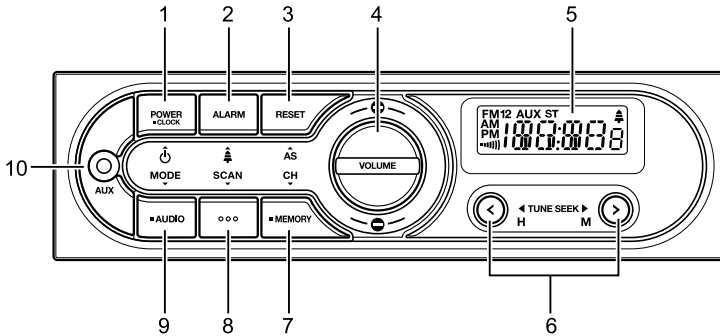
Err**If "Err" Appears in the Display**

If a problem occurs with the CD during playback, an error "Err" appears in the display.

Cause	Solution
CD was inserted upside down	Insert the CD with the label (printed) side facing upwards
CD is scratched, bent, or dirty	Replace with a different CD
A non-music CD is inserted	Replace with a music CD

AM/FM Radio (Type 2) V

The AM/FM radio can be used when the starter switch is in the "ACC" or "ON" position. Only the alarm can be used in the "LOCK" position.



No.	Name
1	Power button (POWER) Time adjustment button (CLOCK)
2	Alarm button (ALARM)
3	Reset/Auto-store button (RESET/AS)
4	Volume button (VOLUME)
5	Display

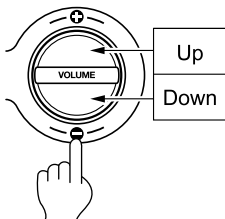
No.	Name
6	Tuning buttons
7	Memory/Channel button (MEMORY/ CH)
8	Scan button (SCAN)
9	Audio/Mode button (AUDIO/MODE)
10	Auxiliary input (AUX)

Control Panel



Turning the Power On

Press "POWER" to turn the power on.
Press it again to turn it off.



Volume Adjustment

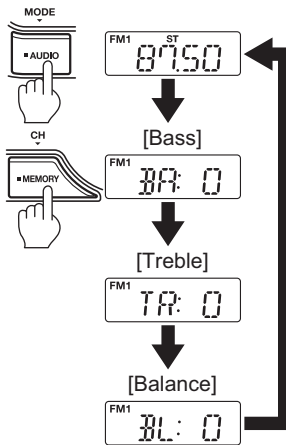
The volume will increase/decrease in 1-step increments each time the "+" or "-" buttons are pressed.

The volume can be adjusted by continually pressing either button for 1 second or more.

Volume settings range between 0 to 31.

**ADVICE**

- Turning the power on or off with the volume set to maximum will have a negative effect on the equipment and your hearing. Set the volume to a moderate level.

**Adjusting the Tone/Balance**

Press and hold the "AUDIO/MODE" button for 2 seconds or more until you hear the "beep" to enter the tone/balance adjustment mode. Each time you press the "MEMORY/CH" button, the adjustment mode cycles through Bass Adjustment (BA), Treble Adjustment (TR), Left-right Balance Adjustment (BL), and then returns to the first mode (cancellation of the tone/balance adjustment mode).

Each time you press the tuning button "<" for less than 0.5 seconds, the setting of the current adjustment mode is adjusted by 1 step. Press and hold the tuning button ">" for 0.5 seconds or more to adjust the setting continuously.

Bass (BA) and Treble (TR) can be adjusted within a range of -5 to +5. Balance (BL) can be adjusted within a range of Left (L) 5 to Right (R) 5.

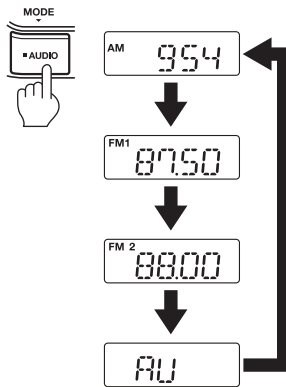
Radio Operation

Selecting a Station

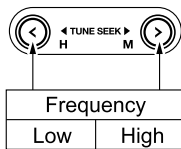
1. Press "POWER" to turn the radio on.



2. Press the "AUDIO/MODE" button for less than 2 seconds to select the band. Each time you press the button, the band cycles through AM, FM1, FM2 and AUX.



3. Manually select a radio station by pressing the tuning buttons (" \leftarrow " and " \rightarrow ") for less than 0.5 seconds. The frequency changes by 9 kHz (AM) or 0.05 MHz (FM) with each press of the buttons.

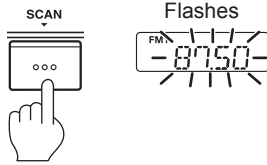


Check the adjustments on the display. Seek tuning (automatic station selection) can be performed by pressing the tuning buttons (" \leftarrow " and " \rightarrow ") for more than 0.5 seconds.



NOTE

- When the displayed frequency reaches the highest frequency (1,629 kHz for AM, 108.00 MHz for FM) with the upward tuning button, it will return to the lowest frequency (531 kHz for AM, 87.50 MHz for FM). When the lowest frequency has been reached with the downward tuning button, it will return to the highest frequency.
- The display will show "ST" when the radio is receiving a stereo broadcast.
- Program your preferred radio stations to the preset buttons in advance to conveniently use them during driving.



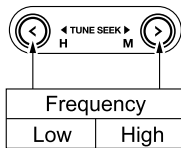
Scan Tuning (Automatic Tuning)

1. Press the "AUDIO/MODE" button to select the band.
2. Pressing the "SCAN" button starts an automatic scan-seek tuning upwards through frequencies. If the radio tunes to a receivable station, it receives the station for 5 seconds before the radio starts another scan-seek tuning again. If you press the "SCAN" button during automatic scan-seek tuning, the automatic tuning will be cancelled and the radio continues to receive the last tuned station.



NOTE

- If automatic tuning cannot be used due to a weak signal, tune to the desired station manually.



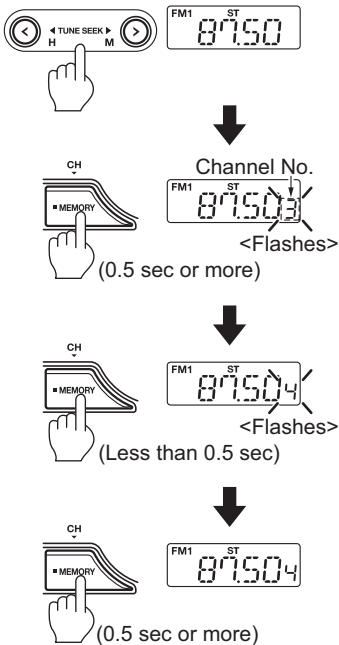
Seek-tuning

Press and hold the tuning buttons ("<" and ">") for more than 0.5 seconds to start the seek-tuning (a beep will sound). It will stop at any receivable station. If there is no receivable station, the radio will search from the highest frequency to the lowest frequency or vice versa.



NOTE

- Manually select a station if poor reception prevents use of the seek-tuning function.



Preset Memory

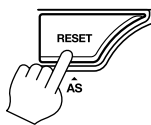
A maximum of 6 radio stations can be stored in the channels in each of the AM, FM1 and FM2 bands.

1. Select the radio station you wish to program.
2. Press and hold the "MEMORY/CH" button for 0.5 seconds or more until you hear the "beep" to enter the preset memory mode.
3. Each time you press the "MEMORY/CH" button for less than 0.5 seconds, the channel number cycles through "1" to "6". Select the channel number to be preset (stored in memory).
4. Press and hold the "MEMORY/CH" button for 0.5 seconds or more. When you hear the "beep", the radio station is successfully preset to the selected channel number.



NOTE

- When the reception is poor for the preset radio stations, you may use the automatic storing function. The function allows the 6 stations with the best reception in the area where you are to be automatically programmed to channels "1" to "6" with the lowest frequency station assigned to channel 1.
- The radio stations in the memory are erased when the power supply is interrupted such as when replacing the battery. Set the radio stations again.
- The automatic storing function is useful when reception of stored stations is poor.



Automatic Storing Function

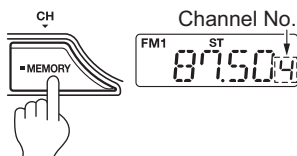
The automatic storing function selects the 6 regional radio stations with the strongest signals and stores them in memory, arranging them in the order of ascending frequency.

1. Continually press the automatic storing button "RESET/AS" for 2 seconds or more (a beep will sound). At this time, station selection will begin within the currently selected band (AM, FM1, or FM2).
2. The radio stations are automatically stored in the memory in order of ascending frequency in channels "1" to "6". When the radio completes storage into memory, it beeps. Frequency scan seek will end after one cycle.



NOTE

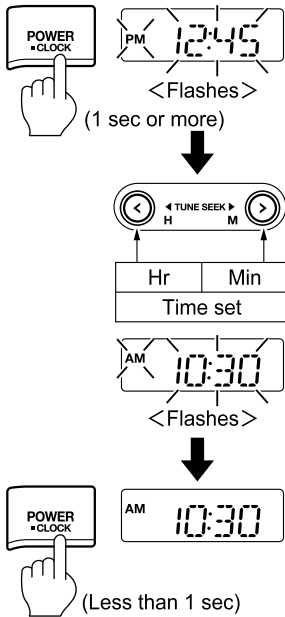
- Depending on the reception conditions, radio stations may not be stored in all of channels "1" to "6", but this is not abnormal.
- When the automatic storing function is used, the preset memory for the selected band will be erased.



Preset Tuning

This function tunes radio stations stored in the memory in advance using the preset memory or automatic storing functions. During radio reception, press the channel button "MEMORY/CH" for less than 0.5 seconds. Each time you press the button, the display cycles through the preset channels "1" to "6". Select the radio station to which you want to listen. The frequency and the channel number appear in the display.

Setting the Time



Adjusting the Time

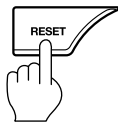
The time can be adjusted regardless of whether the radio power is "ON" or "OFF".

1. Press and hold the time adjustment button "CLOCK" for 1 second or more until you hear the "beep" to enter the time adjustment mode. (When the radio power is "OFF", you will not hear the "beep".)
2. Press the tuning button (the "<" button adjusts hours (H); the ">" button adjusts minutes (M)) for less than 0.5 seconds while the time adjustment mode is active to advance the setting by 1 step. Press and hold the tuning button for 0.5 seconds or more to advance the setting continuously.
3. After finishing the adjustment, press the time adjustment button "CLOCK" (for less than 1 second).



NOTE

- When the radio power supply is interrupted and then reconnected such as when replacing the battery, the time indication in the display will show AM1:00 until the clock is set.
- Even when "M" is adjusted from 59 to 00, the "H" indication will not advance.

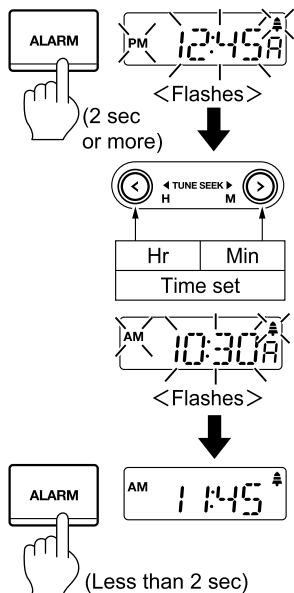


Setting the Clock to the Time Signal

Press the "RESET" button for less than 2 seconds while the time adjustment mode is active to reset the seconds and exit the time adjustment mode.

Press this button when setting the clock to the time signal.

Using the Alarm



Setting the Alarm

The alarm can be switched ON/OFF regardless of whether the radio power is "ON" or "OFF".

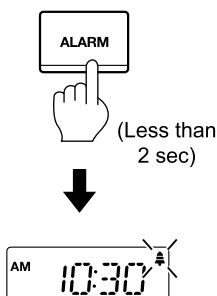
1. Press and hold the "ALARM" button for 2 seconds or more until you hear the "beep" to enter the alarm setting mode. (When the radio power is "OFF", you will not hear the "beep".) The time indication and the "🔔" icon flash in the display.
2. Press the tuning button (the "<" button adjusts hours (H); the ">" button adjusts minutes (M)) for less than 0.5 seconds to advance the setting in 1-step increments to the desired time. Press and hold the tuning button for 0.5 seconds or more to advance the setting continuously.
3. After finishing the adjustment, press the "ALARM" button for less than 2 seconds. The display returns to the time indication and the adjustment is complete.

Switching the Alarm ON/OFF

The alarm can be switched ON/OFF regardless of whether the radio power is "ON" or "OFF".

Press the "ALARM" button (for less than 2 seconds) to switch the alarm ON/OFF. When the alarm is "ON", the "🔔" icon appears in the display and the alarm sounds when the set time arrives.

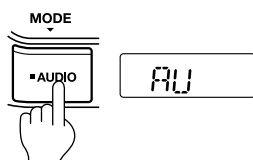
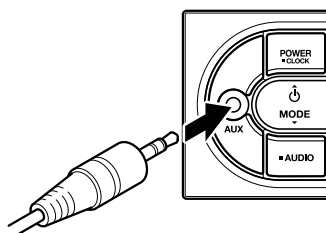
To stop the alarm, press any button.



NOTE

- To cancel the alarm, press the "ALARM" button. Make sure the "🔔" icon is no longer shown in the display.
- If the vehicle is not be used for an extended period, cancel the alarm.

Connecting Auxiliary Equipment



You can connect a portable audio player or other commercially available device to the auxiliary input (AUX) and listen to music.

1. Connect the portable audio player to the auxiliary input (AUX) using a commercially available 3.5 mm stereo mini plug cable.
2. Press the "AUDIO/MODE" button for less than 2 seconds to select the AUX mode. "AU" appears in the display.
3. Operate the connected portable audio player to play the music.



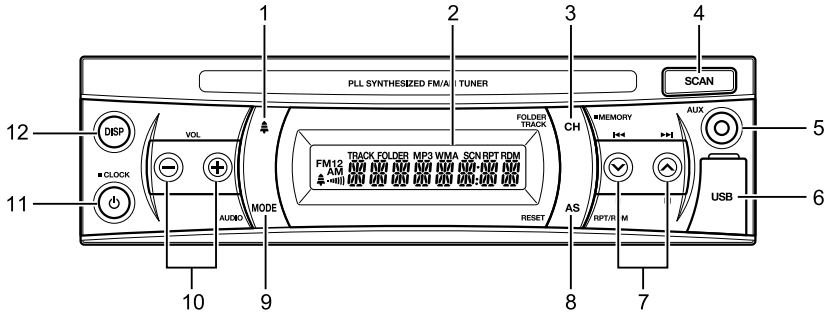
NOTE

- The radio cannot be controlled by way of portable audio players.

AM/FM Radio (with USB Player) V

The AM/FM radio (with USB player) can be used when the starter switch is in the "ACC" or "ON" position.

Only the alarm can be used in the "LOCK" position.



No.	Name
1	Alarm button
2	Display
3	Channel button (CH) Folder/Track change button (FOLDER/ TRACK) Memory button (MEMORY)
4	Scan button (SCAN)
5	Auxiliary input (AUX)
6	USB slot
7	Tuning buttons Search buttons

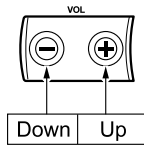
No.	Name
8	Auto-store button (AS) Reset button (RESET) Repeat/random button (RPT/RDM)
9	Mode button (MODE) Audio button (AUDIO)
10	Volume buttons (VOL)
11	Power button Time adjustment button (CLOCK)
12	Display button (DISP)

Control Panel



Turning the Power On

Press the power button to turn the power on (less than 1 sec). Press it again to turn it off.



Volume Adjustment

The volume will increase/decrease in 1-step increments each time the "+" or "-" buttons are pressed for less than 0.5 seconds.

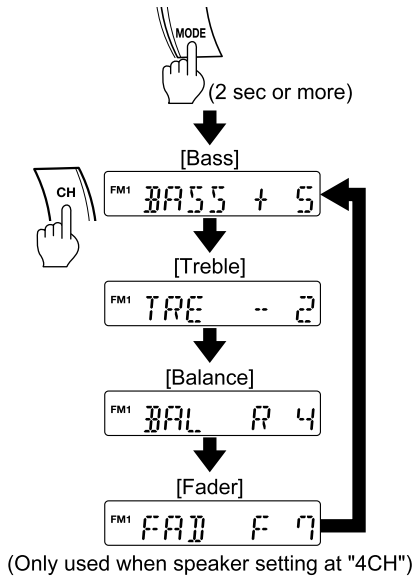
The volume can be adjusted by continually pressing either button for 0.5 seconds or more.

Volume settings range between 0 to 30.



ADVICE

- Turning the power on or off with the volume set to maximum will have a negative effect on the equipment and your hearing. Set the volume to a moderate level.



Adjusting the Tone/Balance

Press and hold the "MODE" button for 2 seconds or more to enter the tone/balance adjustment mode.

Each time you press the channel button "CH", the adjustment mode cycles through Bass Adjustment (BASS), Treble Adjustment (TRE), Left-Right Balance Adjustment (BAL), Front-Rear Fading Adjustment (FAD), and then back to Bass Adjustment (BASS) again.

Each time you press the tuning button " \wedge " for less than 0.5 seconds, the setting of the current adjustment mode is adjusted by 1 step. Press and hold the tuning button " \vee " for 0.5 seconds or more to adjust the setting continuously.

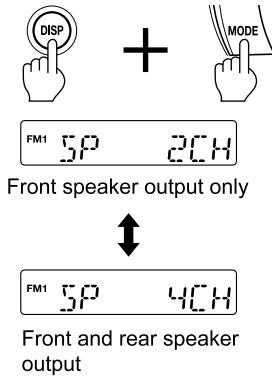
Bass (BASS) and Treble (TRE) can be adjusted within a range of -7 to +7. Left-Right Balance (BAL) can be adjusted within a range of Left (L) 8 to Right (R) 8. Front-Rear Fading (FAD) can be adjusted within a range of Front (F) 8 to Rear (R) 8.

Front-Rear Fading (FAD) is not displayed and cannot be adjusted when the 2-channel speaker system (2CH) is selected.



NOTE

- The display returns to the time display 5 seconds after operations have been completed.



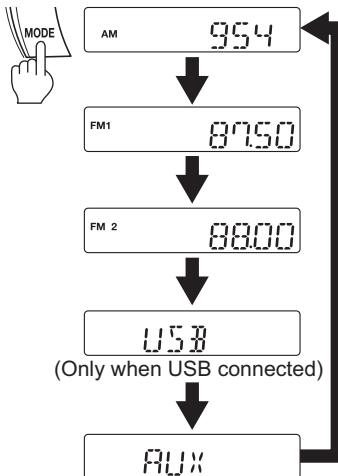
Speaker Configuration Selection

Press the "MODE" button while pressing the "DISP" button. You will hear a "beep" and the speaker configuration will switch between the 2-channel (2CH) and 4-channel (4CH) systems.



NOTE

- The speaker configuration will change to the 4-channel system (4CH, default setting) when the battery is disconnected, such as when replacing the battery. If the 2-channel system (2CH) is selected as the speaker configuration, change the setting again.



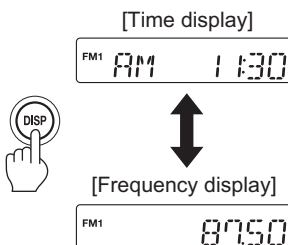
Mode Selection

Press the "MODE" button for less than 2 seconds to select the mode. Each time you press the button, the mode cycles through AM, FM1, FM2, USB (only when a USB memory device is connected) and AUX.



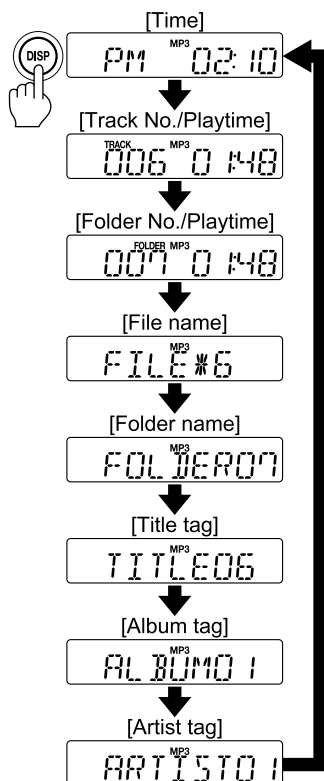
NOTE

- The display returns to the time display 5 seconds after operations have been completed.



Display Selection (Radio)

While listening to the radio, the display will change to show the "time" or "frequency" each time the "DISP" button is pressed for less than 2 seconds.



Display Selection (During MP3/WMA Playback)

While playing an MP3/WMA file from a USB memory device, the display will cycle through from the "Time" display on to the "Track No./Playtime" display, "Folder No./Playtime" display, "File name" display, "Folder name" display, "Title tag" display, "Album tag" display, and then "Artist tag" display before returning to the "Time display" again each time the "DISP" button is pressed.



NOTE

- If tags are attached to an MP3/WMA file, the track name, album name, and artist name can be displayed.
- In the case of MP3/WMA files without tags, "NO TAG" will be displayed when "Title tag", "Album tag" or "Artist tag" are selected.
- Letters, numbers and various symbols can be displayed. An asterisk (*) will be shown for lettering or symbols that cannot be displayed.
- The display returns to the time display 5 seconds after operations have been completed.

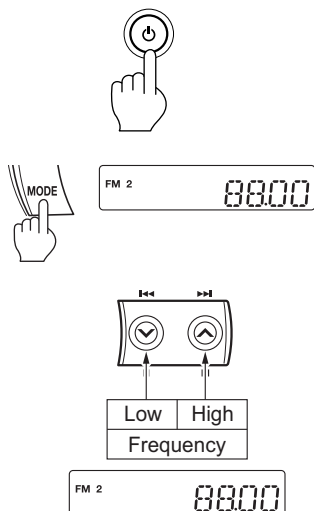
[What is a "Tag"?:]

- Tags are information attached to MP3/WMA files, including track name, album name, and artist name.

Listening to the Radio

Tuning

1. Press the power button to turn the power on.
2. Press the "MODE" button for less than 2 seconds to select the band (AM, FM1, FM2).
3. Manually select a radio station by pressing the tuning buttons ("▲" and "▼") for less than 0.5 seconds. The frequency changes by 9 kHz (AM) or 0.05 MHz (FM) with each press of the buttons.
Check the adjustments on the display. Seek tuning (automatic station selection) can be performed by pressing the tuning buttons ("▲" and "▼") for more than 0.5 seconds.



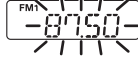
NOTE

- When the displayed frequency reaches the highest frequency (1,629 kHz for AM, 108.00 MHz for FM) with the upward tuning button, it will return to the lowest frequency (531 kHz for AM, 87.50 MHz for FM). When the lowest frequency has been reached with the downward tuning button, it will return to the highest frequency.
- Program your preferred radio stations to the preset buttons in advance to conveniently use them during driving.

SCAN button



Flashes



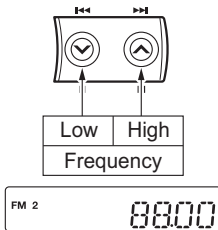
Scan Tuning (Automatic Tuning)

1. Press the "MODE" button to select the band.
2. Pressing the "SCAN" button starts an automatic scan-seek tuning upwards through frequencies. If the radio tunes to a receivable station, it receives the station for 5 seconds before the radio starts another scan-seek tuning again. If you press the "SCAN" button during automatic scan-seek tuning, the automatic tuning will be cancelled and the radio continues to receive the last tuned station.



NOTE

- If automatic tuning cannot be used due to a weak signal, tune to the desired station manually.



Seek-tuning

Press and hold the tuning buttons ("▲" and "▼") for more than 0.5 seconds to start the seek-tuning (a beep will sound). It will stop at any receivable station. If there is no receivable station, the radio will search from the highest frequency to the lowest frequency or vice versa.

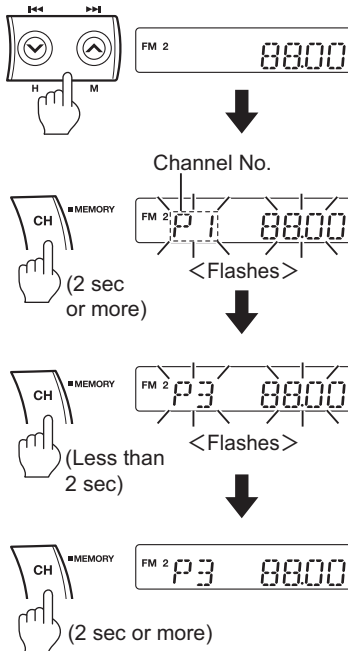


NOTE

- Manually select a station if poor reception prevents use of the seek-tuning function.

Preset Memory

A maximum of 6 radio stations "P1" to "P6" can be stored in the channels in each of the AM, FM1 and FM2 bands.



1. Select the radio station you wish to program.
2. Press and hold the "CH/MEMORY" button for 2 seconds or more until you hear the "beep" to enter the storing-in-memory mode.
3. Each time you press the "CH/MEMORY" button for less than 2 seconds, the channel number cycles through "1" to "6". Select the channel number to be preset (stored in memory).
4. Press and hold the "CH/MEMORY" button for 2 seconds or more. When you hear the "beep", the radio station is successfully preset to the selected channel number.

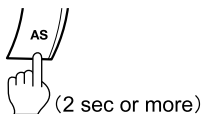


NOTE

- When the reception is poor for the preset radio stations, you may use the automatic storing function. The function allows the 6 stations with the best reception in the area where you are to be automatically programmed to channels "P1" to "P6" with the lowest frequency station assigned to channel 1.
- The radio stations in the memory are erased when the power supply is interrupted such as when replacing the battery. Set the radio stations again.
- The automatic storing function is useful when reception of stored stations is poor.

Automatic Storing Function

The automatic storing function selects the 6 regional radio stations with the strongest signals and stores them in memory, arranging them in the order of ascending frequency.

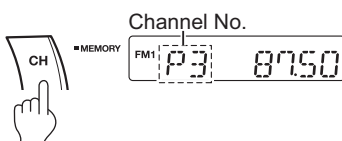


1. Continually press the automatic storing button "AS" for 2 seconds or more (a beep will sound). At this time, station selection will begin within the currently selected band (AM, FM1, or FM2).
2. The radio stations are automatically stored in the memory in order of ascending frequency in channels "P1" to "P6". When the radio completes storage into memory, it beeps. Frequency scan seek will end after one cycle.



NOTE

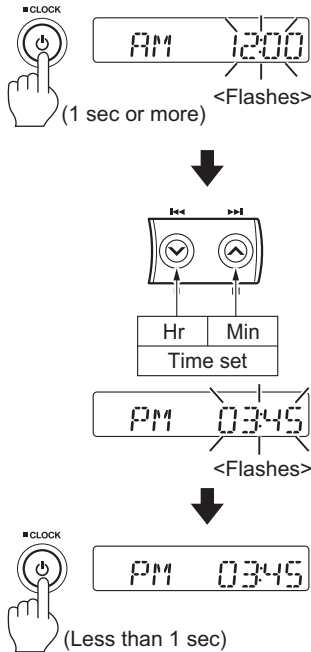
- Depending on the reception conditions, radio stations may not be stored in all of channels "P1" to "P6", but this is not abnormal.
- When the automatic storing function is used, the preset memory for the selected band will be erased.



Preset Tuning

This function tunes radio stations stored in the memory in advance using the preset memory or automatic storing functions. During radio reception, press the "CH/MEMORY" button for less than 2 seconds. Each time you press the button, the display cycles through the preset channels "P1" to "P6". Select the radio station to which you want to listen. The frequency and the channel number appear in the display.

Setting the Time



Adjusting the Time

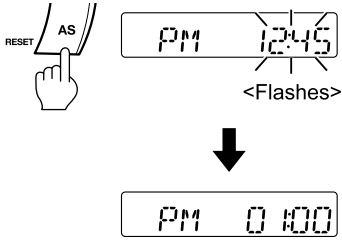
The time can be adjusted while the radio power is "ON".

1. Press and hold the time adjustment button "CLOCK" for 1 second or more until you hear the "beep" to enter the time adjustment mode.
2. Press the tuning button (the "▼" button adjusts hours; the "▲" button adjusts minutes) for less than 0.5 seconds while the time adjustment mode is active to advance the setting by 1 step. Press and hold the tuning button for 0.5 seconds or more to advance the setting continuously.
3. After finishing the adjustment, press the time adjustment button "CLOCK" for less than 1 second.



NOTE

- If the time adjustment operation is suspended for 5 seconds or more, the display will return to the time indication.
- When the radio power supply is interrupted and then reconnected such as when replacing the battery, the time indication in the display will show AM12:00 until the clock is set.
- Even when "M" is adjusted from 59 to 00, the "H" indication will not advance.



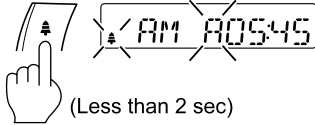
Setting the Clock to the Time Signal

Press the "AS/RESET" button while the time adjustment mode is active to set the time to the hour. Minutes less than 30 minutes are discarded, and minutes of 30 minutes or more are rounded up to the next hour.

Example: 12:00 – 12:29 → 12:00

12:30 – 12:59 → 1:00

Using the Alarm



Setting the Alarm

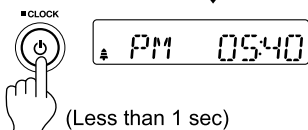
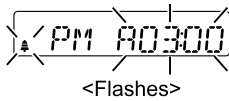
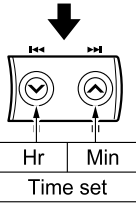
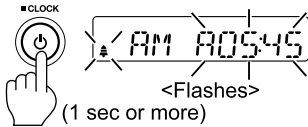
The alarm can be set regardless of whether the radio power is "ON" or "OFF".

1. Press the alarm button "🔔" for less than 2 seconds to show the alarm time in the display. (The "🔔" and "A" icons appear in the display.)

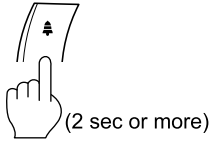


NOTE

- If the alarm button "🔔" is pressed for less than 2 seconds while the alarm time is displayed, the display will return to the time indication.
- If operations are suspended for 5 seconds or more after the alarm time is displayed, the display will return to the time indication.



2. Press and hold the time adjustment button "CLOCK" for 1 second or more until you hear the "beep" to enter the alarm setting mode. (When the radio power is "OFF", you will not hear the "beep".) The time indication and the "🔔" icon flash in the display.
3. Press the tuning button (the "▼" marked button adjusts hours; the "▲" button adjusts minutes) for less than 0.5 seconds to advance the setting in 1-step increments the time. Press and hold the tuning button for 0.5 seconds or more to advance the setting continuously.
4. After finishing the adjustment, press the time adjustment button "CLOCK" for less than 1 second. The display returns to the time indication and the adjustment is complete.



Switching the Alarm ON/OFF

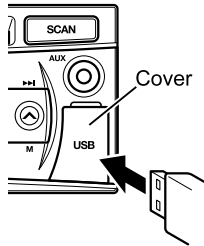
Press and hold the alarm button "🔔" for 2 seconds or more until you hear the "beep" to switch the alarm ON/OFF. (When the radio power is "OFF", you will not hear the "beep".) When the alarm is "ON", the "🔔" icon appears in the display.



NOTE

- After setting the alarm, you can check the set time by pressing the alarm button "🔔" for less than 2 seconds.
- To cancel the alarm, press the alarm button "🔔" for 2 seconds or more. Make sure the "🔔" icon is no longer shown in the display.
- If the vehicle is not be used for an extended period, cancel the alarm.

Listening to MP3/WMA

**Connecting USB Memory Devices**

Open the USB terminal cover and connect the USB memory device directly or via a USB cable.

After connecting the USB memory device, press the "MODE" button for less than 2 seconds to switch to USB mode. Playback starts from the first file recorded in the USB memory.

**CAUTION**

- Do not connect USB memory devices while driving. Stop the vehicle in a safe location and perform these operations. Failure to do so may disturb your driving and possibly result in a traffic accident.

**NOTE**

- When a USB memory device is connected, the radio first checks all the files stored in the USB memory, so it may take some time before playback starts.
- Insert the USB memory device firmly all the way. If it is not inserted completely, the radio may not recognize the USB memory device.

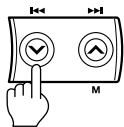
Disconnecting USB Memory Devices

Press the "MODE" button for less than 2 seconds to switch to a mode other than USB mode, and then disconnect the USB memory device. After disconnecting the USB memory device, reattach the USB cover firmly.

Mode Selection → Refer to page 5-63

**ADVICE**

- Do not disconnect the USB memory device while in USB mode. Doing so may corrupt the data in the USB memory.

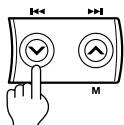


Fast-forwarding/Fast-reversing

Press and hold the tuning buttons ("▲" and "▼") during playback for 0.5 seconds or more. The track advances forwards or backwards quickly while the button is pressed and held.

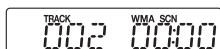
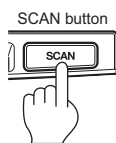
▲: Fast-forward

▼: Fast-reverse



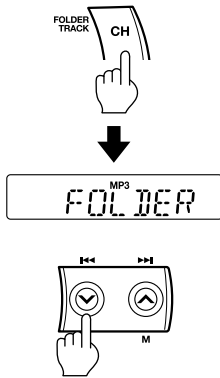
Track Selection

1. Press the "CH/FOLDER TRACK" button for less than 2 seconds to select the "TRACK".
2. To listen to the next track, press the tuning button "▲" during playback for less than 0.5 seconds. To listen to the previous track, press the tuning button "▼" during playback for less than 0.5 seconds and then press the button for less than 0.5 seconds again within 2 seconds. To return to the start of the current track, press the tuning button "▼" during playback for less than 0.5 seconds.



USB Track Search

Press the "SCAN" button during USB playback to play the first 10 seconds of each tracks, starting from the next track. Scanning will continue on to final song in the folder before returning again to the first song in the folder. Press the button again to cancel the track search.



Changing Folders

1. Press the "CH/FOLDER TRACK" button for less than 2 seconds to select the "FOLDER".
2. Press the tuning button " \blacktriangle " and " \blacktriangledown " for less than 0.5 seconds to display the folder name. To select the next folder, press the tuning button " \blacktriangle " for less than 0.5 seconds. To select the previous folder, press the tuning button " \blacktriangledown " for less than 0.5 seconds.

Regarding Playback Order

→ Refer to page 5-78

Repeat Playback

Press the repeat/random button "AS/RPT/RDM" for less than 2 seconds to select repeat playback. "RPT" appears in the display.

When repeat playback is selected, the current track is played back repeatedly.



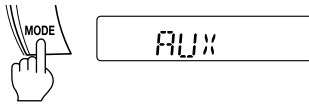
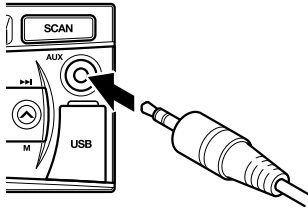
Random Playback

Press the repeat/random button "AS/RPT/RDM" for less than 2 seconds to select random playback. "RDM" appears in the display.

When random playback is selected, the tracks inside all folders in the USB memory are played in random order.



Connecting Auxiliary Equipment



You can connect a portable audio player or other commercially available device to the auxiliary input (AUX) and listen to music.

1. Connect the portable audio player to the auxiliary input (AUX) using a commercially available 3.5 mm stereo mini plug cable.
2. Press the "MODE" button for less than 2 seconds to select the AUX mode. "AUX" appears in the display.
3. Operate the connected portable audio player to play the music.

Regarding Error Messages

Display	Cause	Corrective action
	This message appears when a USB memory device containing data other than MP3/WMA files is inserted.	Replace with a USB memory device containing MP3/WMA files.
	This message appears when an attempt is made to play a copyright protected file.	Select a playable file.
	This message appears when a USB hub is connected.	Disconnect the USB hub.
	This message appears when a USB memory device containing data other than MP3/WMA files is inserted.	Replace with a USB memory device containing MP3/WMA files.
	This message appears when a USB memory abnormality occurs.	Replace with a different USB memory.
	This message appears when an empty USB memory is inserted.	Replace with a USB memory containing MP3/WMA files.

Regarding MP3 and WMA Files



NOTE

[What is "MP3"?)

- MP3 (MPEG Audio LAYER 3) is a standard format for sound compression technology. MP3 can compress a file to one-tenth of its original size.

[What is "WMA"?)

- WMA (Windows Media™ Audio) is a Microsoft sound compression format. It can compress sounds to a smaller size than the MP3.

Playable Sampling and Bit Rates

Standard		Sampling rate	Bit rate
MP3	MPEG-1	32, 44.1, 48 kHz	32-320 kbps/VBR
	MPEG-2	16, 22.05, 24 kHz	8-160 kbps/VBR
	MPEG-2.5	8, 11.025, 12 kHz	8-160 kbps/VBR
WMA		22.05 kHz	32 kbps
		32 kHz	32-64 kbps
		44.1 kHz	32, 48-192 kbps
		48 kHz	128-192 kbps

Supported Media

Supported playable media includes USB memory (mass storage class compliant) devices. Supported recorded formats are FAT12, FAT16 and FAT32.

Notes For When Creating Files

- Create files using a sampling rate and bit rate that enable playback.
- Folder names and file names should be 32 characters or less.
- Be sure to attach ".MP3", ".WMA", ".mp3" or ".wma" as appropriate for the file extension. Files with other extensions or without an extension cannot be played.

Regarding ID Tags and WMA Tags

If an MP3/WMA file has tags, the track title (song name), album title, and artist name can be displayed.



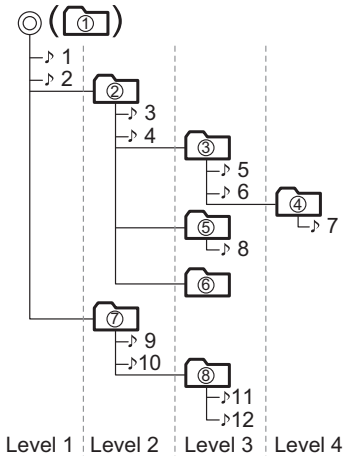
NOTE

- When "track title (song name)", "album title" or "artist name" display is selected for an MP3/WMA file without tags, "NO TAG" will be displayed.
- MP3 supports ID3-TAG: V2.3/2.2/1.1.
- Letters, numbers and various symbols can be displayed. An asterisk (*) will be shown for lettering or symbols that cannot be displayed.

[What is a "Tag"??]

- Tags are information attached to MP3/WMA files, including track name, album name, and artist name.

Example of file hierarchy



- ⊙ Root
- 📁 Folder
- ♪ MP3/WMA File

Regarding Playback Order

- In case of the hierarchy shown in the left figure, the files are normally played back in the order of 1→2→3→4→5→6→7→8→9→10→11→12.
- The root folder (the USB memory) is also counted as one folder.
- A folder that does not contain any MP3/WMA files, such as folder ⑥ in the left figure, is also counted as one folder. When an empty folder is selected, the radio searches for the folder that contains the nearest MP3/WMA file in the playback order and plays that file.
- Playback may not be performed correctly or characters may not be displayed correctly depending on the writing software and/or drive used.
- MP3/WMA file playback supports up to 8 levels of folders. In addition, a maximum total of up to 9,999 folders and files are supported.
- When the USB memory has many levels of files and folders, it may take some time for playback to start. For this reason, it is recommended to minimize the number of levels and folders when creating files.

Copyright Protected Music Files

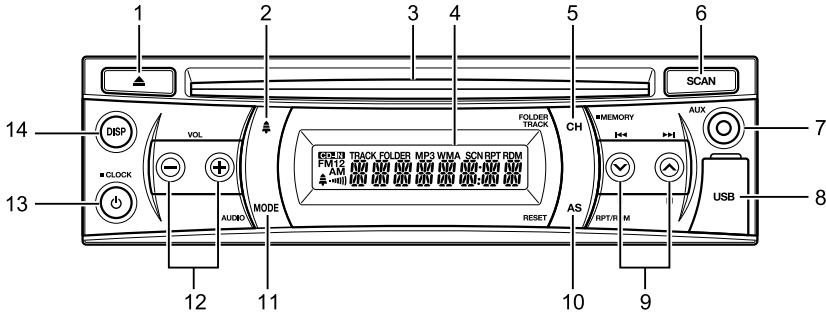
Copyright protected music files cannot be played back on this unit.

**NOTE**

- Copyright protection refers to rights that protect the intellectual property benefits of creators. The copyright contents are specified by copyright law. Infringement of copyright may result in liability for compensation of damages or criminal penalty as specified by copyright law.

CD/USB Player (with AM/FM Radio) V

The AM/FM radio can be used when the starter switch is in the "ACC" or "ON" position. Only the alarm can be used in the "LOCK" position.



No.	Name
1	Eject button
2	Alarm button
3	CD slot
4	Display
5	Channel button (CH) Folder/Track change button (FOLDER/TRACK) Memory button (MEMORY)
6	Scan button (SCAN)
7	Auxiliary input (AUX)
8	USB slot

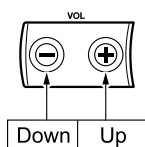
No.	Name
9	Tuning buttons Search buttons
10	Auto-store button (AS) Reset button (RESET) Repeat/random button (RPT/RDM)
11	Mode button (MODE) Audio button (AUDIO)
12	Volume buttons (VOL)
13	Power button Time adjustment button (CLOCK)
14	Display button (DISP)

Control Panel



Turning the Power On

Press the power button to turn the power on (less than 1 sec). Press it again to turn it off.



Volume Adjustment

The volume will increase/decrease in 1-step increments each time the "+" or "-" buttons are pressed for less than 0.5 seconds.

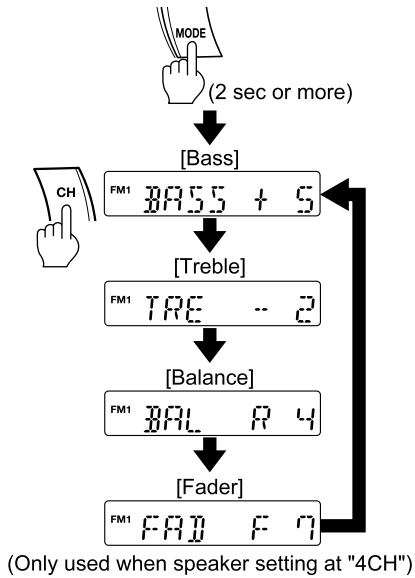
The volume can be adjusted by continually pressing either button for 0.5 seconds or more.

Volume settings range between 0 to 30.



ADVICE

- Turning the power on or off with the volume set to maximum will have a negative effect on the equipment and your hearing. Set the volume to a moderate level.



Adjusting the Tone/Balance

Press and hold the "MODE" button for 2 seconds or more to enter the tone/balance adjustment mode.

Each time you press the channel button "CH", the adjustment mode cycles through Bass Adjustment (BASS), Treble Adjustment (TRE), Left-Right Balance Adjustment (BAL), Front-Rear Fading Adjustment (FAD), and then back to Bass Adjustment (BASS) again.

Each time you press the tuning button " \wedge " for less than 0.5 seconds, the setting of the current adjustment mode is adjusted by 1 step. Press and hold the tuning button " \vee " for 0.5 seconds or more to adjust the setting continuously.

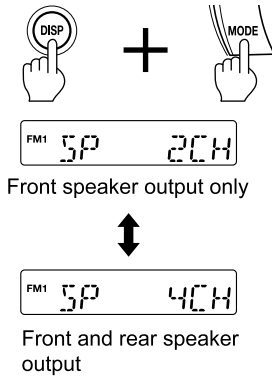
Bass (BASS) and Treble (TRE) can be adjusted within a range of -7 to +7. Left-Right Balance (BAL) can be adjusted within a range of Left (L) 8 to Right (R) 8. Front-Rear Fading (FAD) can be adjusted within a range of Front (F) 8 to Rear (R) 8.

Front-Rear Fading (FAD) is not displayed and cannot be adjusted when the 2-channel speaker system (2CH) is selected.



NOTE

- The display returns to the time display 5 seconds after operations have been completed.



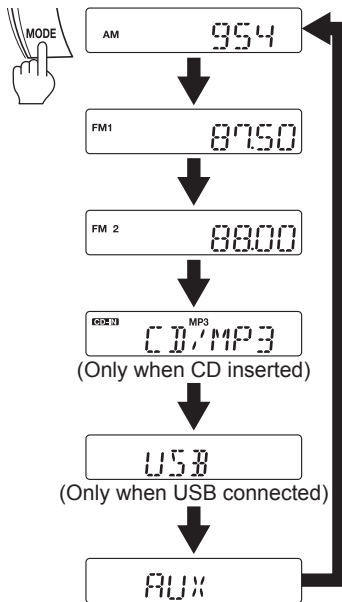
Speaker Configuration Selection

Press the "MODE" button while pressing the "DISP" button. You will hear a "beep" and the speaker configuration will switch between the 2-channel (2CH) and 4-channel (4CH) systems.



NOTE

- The speaker configuration will change to the 4-channel system (4CH, default setting) when the battery is disconnected, such as when replacing the battery. If the 2-channel system (2CH) is selected as the speaker configuration, change the setting again.



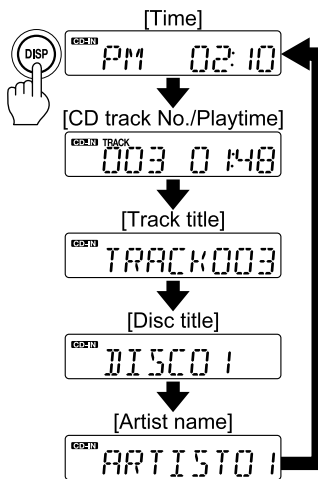
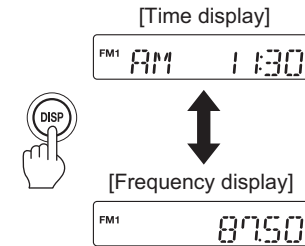
Mode Selection

Press the "MODE" button for less than 2 seconds to select the mode. Each time you press the button, the mode cycles through AM, FM1, FM2, CD/MP3/WMA (only when a CD is inserted), USB (only when a USB memory device is connected) and AUX.



NOTE

- The display returns to the time display 5 seconds after operations have been completed.



Display Selection (Radio)

While listening to the radio, the display will change to show the "time" or "frequency" each time the "DISP" button is pressed for less than 2 seconds.

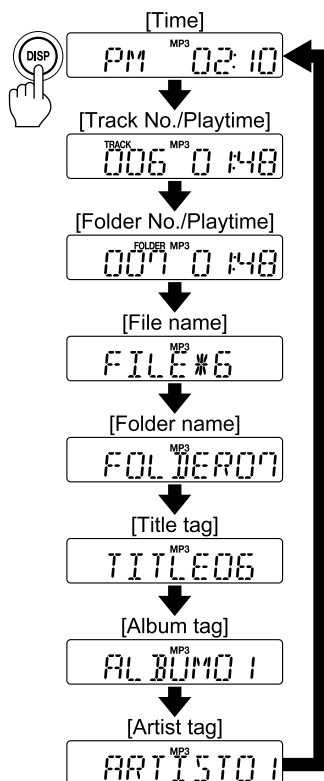
Display Selection (During CD Playback)

While playing a music CD, the display will cycle through from the "Time" display on to the "CD track No./Playtime" display, "Track title" display, "Disc title" display, and "Artist name" display, before returning to the "Time" display again each time the "DISP" button is pressed.



NOTE

- When information regarding the "Track title" (song name), "Disc title" or "Artist name" is not included on the CD, "NO TITLE" will be shown on the display.
- Letters, numbers and various symbols can be displayed. An asterisk (*) will be shown for lettering or symbols that cannot be displayed.
- The display returns to the time display 5 seconds after operations have been completed.



Display Selection (During MP3/WMA Playback)

While playing an MP3/WMA file from a CD or USB memory device, the display will cycle through from the "Time" display on to the "Track No./Playtime" display, "Folder No./Playtime" display, "File name" display, "Folder name" display, "Title tag" display, "Album tag" display, and then "Artist tag" display before returning to the "Time" display again each time the "DISP" button is pressed.



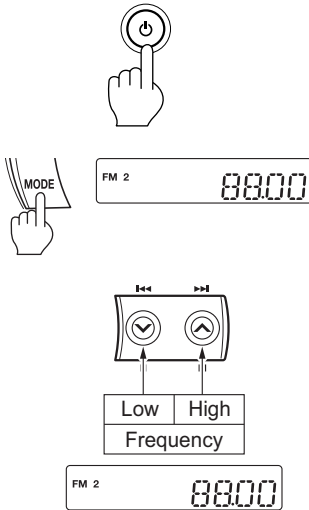
NOTE

- If tags are attached to an MP3/WMA file, the track name, album name, and artist name can be displayed.
- In the case of MP3/WMA files without tags, "NO TAG" will be displayed when "Title tag", "Album tag" or "Artist tag" are selected.
- Letters, numbers and various symbols can be displayed. An asterisk (*) will be shown for lettering or symbols that cannot be displayed.
- The display returns to the time display 5 seconds after operations have been completed.

[What is a "Tag"?:]

- Tags are information attached to MP3/WMA files, including track name, album name, and artist name.

Listening to the Radio



Tuning

1. Press the power button to turn the power on.
2. Press the "MODE" button for less than 2 seconds to select the band (AM, FM1, FM2).
3. Manually select a radio station by pressing the tuning buttons ("▲" and "▼") for less than 0.5 seconds. The frequency changes by 9 kHz (AM) or 0.05 MHz (FM) with each press of the buttons. Check the adjustments on the display. Seek tuning (automatic station selection) can be performed by pressing the tuning buttons ("▲" and "▼") for more than 0.5 seconds.

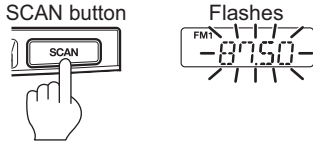


NOTE

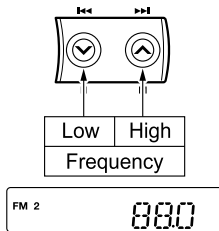
- When the displayed frequency reaches the highest frequency (1,629 kHz for AM, 108.00 MHz for FM) with the upward tuning button, it will return to the lowest frequency (531 kHz for AM, 87.50 MHz for FM). When the lowest frequency has been reached with the downward tuning button, it will return to the highest frequency.
- Program your preferred radio stations to the preset buttons in advance to conveniently use them during driving.

Scan Tuning (Automatic Tuning)

1. Press the "MODE" button to select the band.
2. Pressing the "SCAN" button starts an automatic scan-seek tuning upwards through frequencies. If the radio tunes to a receivable station, it receives the station for 5 seconds before the radio starts another scan-seek tuning again. If you press the "SCAN" button during automatic scan-seek tuning, the automatic tuning will be cancelled and the radio continues to receive the last tuned station.

**NOTE**

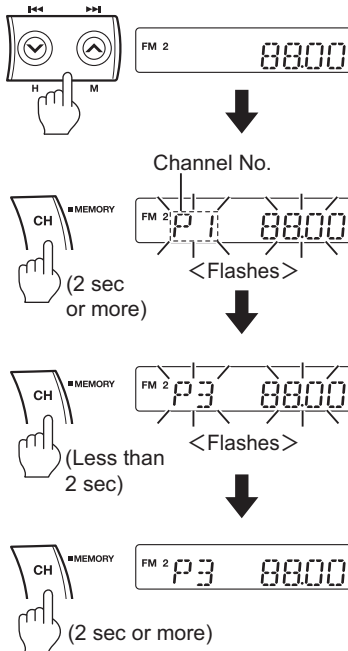
- If automatic tuning cannot be used due to a weak signal, tune to the desired station manually.

**Seek-tuning**

Press and hold the tuning buttons ("▲" and "▼") for more than 0.5 seconds to start the seek-tuning (a beep will sound). It will stop at any receivable station. If there is no receivable station, the radio will search from the highest frequency to the lowest frequency or vice versa.

**NOTE**

- Manually select a station if poor reception prevents use of the seek-tuning function.



Preset Memory

A maximum of 6 radio stations "P1" to "P6" can be stored in the channels in each of the AM, FM1 and FM2 bands.

1. Select the radio station you wish to program.
2. Press and hold the "CH/MEMORY" button for 2 seconds or more until you hear the "beep" to enter the storing-in-memory mode.
3. Each time you press the "CH/MEMORY" button for less than 2 seconds, the channel number cycles through "1" to "6". Select the channel number to be preset (stored in memory).
4. Press and hold the "CH/MEMORY" button for 2 seconds or more. When you hear the "beep", the radio station is successfully preset to the selected channel number.

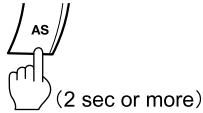


NOTE

- When the reception is poor for the preset radio stations, you may use the automatic storing function. The function allows the 6 stations with the best reception in the area where you are to be automatically programmed to channels "P1" to "P6" with the lowest frequency station assigned to channel 1.
- The radio stations in the memory are erased when the power supply is interrupted such as when replacing the battery. Set the radio stations again.
- The automatic storing function is useful when reception of stored stations is poor.

Automatic Storing Function

The automatic storing function selects the 6 regional radio stations with the strongest signals and stores them in memory, arranging them in the order of ascending frequency.

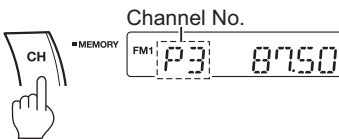


1. Continually press the automatic storing button "AS" for 2 seconds or more (a beep will sound). At this time, station selection will begin within the currently selected band (AM, FM1, or FM2).
2. The radio stations are automatically stored in the memory in order of ascending frequency in channels "P1" to "P6". When the radio completes storage into memory, it beeps. Frequency scan seek will end after one cycle.



NOTE

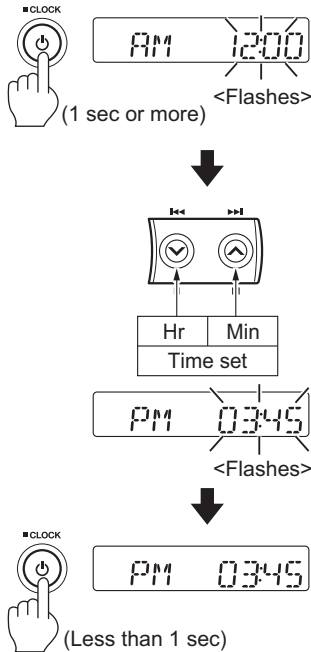
- Depending on the reception conditions, radio stations may not be stored in all of channels "P1" to "P6", but this is not abnormal.
- When the automatic storing function is used, the preset memory for the selected band will be erased.



Preset Tuning

This function tunes radio stations stored in the memory in advance using the preset memory or automatic storing functions. During radio reception, press the "CH/MEMORY" button for less than 0.5 seconds. Each time you press the button, the display cycles through the preset channels "P1" to "P6". Select the radio station to which you want to listen. The frequency and the channel number appear in the display.

Setting the Time



Adjusting the Time

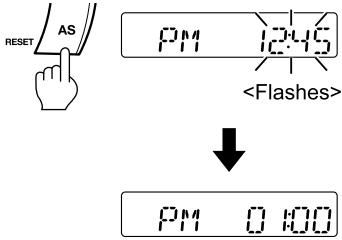
The time can be adjusted while the radio power is "ON".

1. Press and hold the time adjustment button "CLOCK" for 1 second or more until you hear the "beep" to enter the time adjustment mode.
2. Press the tuning button (the "▼" button adjusts hours; the "▲" button adjusts minutes) for less than 0.5 seconds while the time adjustment mode is active to advance the setting by 1 step. Press and hold the tuning button for 0.5 seconds or more to advance the setting continuously.
3. After finishing the adjustment, press the time adjustment button "CLOCK" for less than 1 second.



NOTE

- If the time adjustment operation is suspended for 5 seconds or more, the display will return to the time indication.
- When the radio power supply is interrupted and then reconnected such as when replacing the battery, the time indication in the display will show AM12:00 until the clock is set.
- Even when "M" is adjusted from 59 to 00, the "H" indication will not advance.

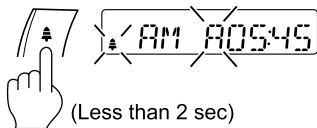
**Setting the Clock to the Time Signal**

Press the "AS/RESET" button while the time adjustment mode is active to set the time to the hour. Minutes less than 30 minutes are discarded, and minutes of 30 minutes or more are rounded up to the next hour.

Example: 12:00 – 12:29 → 12:00

12:30 – 12:59 → 1:00

Using the Alarm



Setting the Alarm

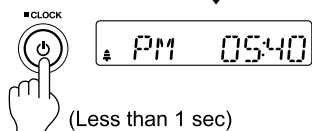
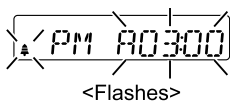
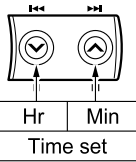
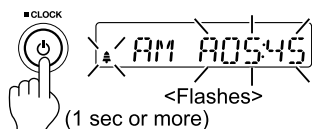
The alarm can be set regardless of whether the radio power is "ON" or "OFF".

1. Press the alarm button "🔔" for less than 2 seconds to show the alarm time in the display. (The "🔔" and "AM" icons appear in the display.)

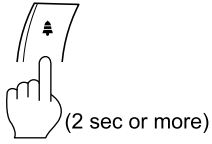


NOTE

- If the alarm button "🔔" is pressed for less than 2 seconds while the alarm time is displayed, the display will return to the time indication.
- If operations are suspended for 5 seconds or more after the alarm time is displayed, the display will return to the time indication.



2. Press and hold the time adjustment button "CLOCK" for 1 second or more until you hear the "beep" to enter the alarm setting mode. (When the radio power is "OFF", you will not hear the "beep".) The time indication and the "🔔" icon flash in the display.
3. Press the tuning button (the "▼" marked button adjusts hours; the "▲" button adjusts minutes) for less than 0.5 seconds to advance the setting in 1-step increments the time. Press and hold the tuning button for 0.5 seconds or more to advance the setting continuously.
4. After finishing the adjustment, press the time adjustment button "CLOCK" for less than 1 second. The display returns to the time indication and the adjustment is complete.

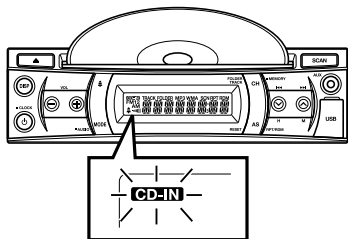
**Switching the Alarm ON/OFF**

Press and hold the alarm button "🔔" for 2 seconds or more until you hear the "beep" to switch the alarm ON/OFF. (When the radio power is "OFF", you will not hear the "beep".) When the alarm is "ON", the "🔔" icon appears in the display.

**NOTE**

- After setting the alarm, you can check the set time by pressing the alarm button "🔔" for less than 2 seconds.
- To cancel the alarm, press the alarm button "🔔" for 2 seconds or more. Make sure the "🔔" icon is no longer shown in the display.
- If the vehicle is not be used for an extended period, cancel the alarm.

Listening to CD/MP3/WMA

**Inserting a CD**

When a CD is inserted into the CD slot with the label side (printed side) facing up, "CD-IN" appears in the display. After "LOADING" is finished, playback starts automatically from the first song.

**ADVICE**

- Check that there is no CD in the player before inserting a CD. Forcibly inserting a CD could damage the CD or cause the player to malfunction.

**NOTE**

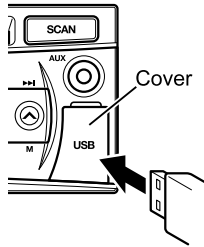
- Gently push the CD into the player and it will automatically load.

**Ejecting the CD**

Press the "▲" button to stop playback and eject the CD.

**NOTE**

- The CD may be warm to the touch when it is ejected. This is not a malfunction.
- If the CD is left in the eject position for 10 seconds it will automatically reload into the player to protect the CD. However, in this case it will not begin to play.



Connecting USB Memory Devices

Open the USB terminal cover and connect the USB memory device directly or via a USB cable.

After connecting the USB memory device, press the "MODE" button for less than 2 seconds to switch to USB mode. Playback starts from the first file recorded in the USB memory.



CAUTION

- Do not connect USB memory devices while driving. Stop the vehicle in a safe location and perform these operations. Failure to do so may disturb your driving and possibly result in a traffic accident.



NOTE

- When a USB memory device is connected, the radio first checks all the files stored in the USB memory, so it may take some time before playback starts.
- Insert the USB memory device firmly all the way. If it is not inserted completely, the radio may not recognize the USB memory device.

Disconnecting USB Memory Devices

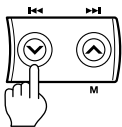
Press the "MODE" button for less than 2 seconds to switch to a mode other than USB mode, and then disconnect the USB memory device. After disconnecting the USB memory device, reattach the USB cover firmly.

Mode Selection → Refer to page 5-83



ADVICE

- Do not disconnect the USB memory device while in USB mode. Doing so may corrupt the data in the USB memory.

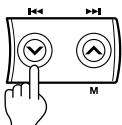


Fast-forwarding/Fast-reversing

Press and hold the tuning buttons "▲" and "▼" during playback for 0.5 seconds or more. The track advances forwards or backwards quickly while the button is pressed and held.

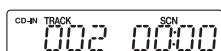
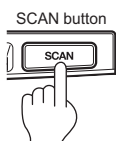
▲: Fast-forward

▼: Fast-reverse



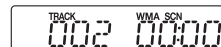
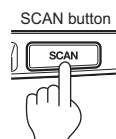
Track Selection

1. Press the "CH/FOLDER TRACK" button for less than 2 seconds to select the "TRACK".
2. To listen to the next track, press the tuning button "▲" during playback for less than 0.5 seconds. To listen to the previous track, press the tuning button "▼" during playback for less than 0.5 seconds and then press the button for less than 0.5 seconds again within 2 seconds. To return to the start of the current track, press the tuning button "▼" during playback for less than 0.5 seconds.



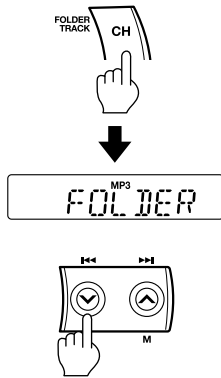
CD Track Search

Press the "SCAN" button during playback to play the first 10 seconds of each track, starting from the next track. Press the button again to cancel the track search.



USB Track Search

Press the "SCAN" button during USB playback to play the first 10 seconds of each tracks, starting from the next track. Scanning will continue on to final song in the folder before returning again to the first song in the folder. Press the button again to cancel the track search.



Changing Folders (MP3/WMA)

1. Press the "CH/FOLDER TRACK" button for less than 2 seconds to select the "FOLDER".
2. Press the tuning button " \blacktriangle " and " \blacktriangledown " for less than 0.5 seconds to display the folder name. To select the next folder, press the tuning button " \blacktriangle " for less than 0.5 seconds. To select the previous folder, press the tuning button " \blacktriangledown " for less than 0.5 seconds.

Regarding Playback Order

→ Refer to page 5-102

Repeat Playback

Press the repeat/random button "AS/RPT/RDM" for less than 2 seconds to select repeat playback. "RPT" appears in the display.

When repeat playback is selected, the current track is played back repeatedly.



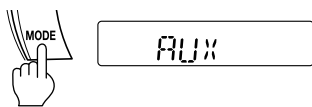
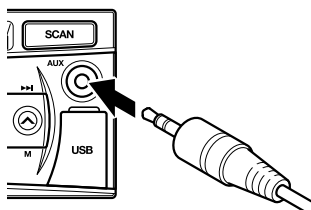
Random Playback

Press the repeat/random button "AS/RPT/RDM" for less than 2 seconds to select random playback. "RDM" appears in the display.

When random playback is selected, the tracks inside all folders in the CD or USB memory are played in random order.



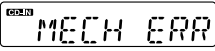
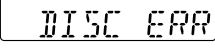
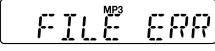
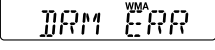
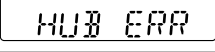
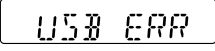
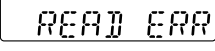
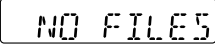
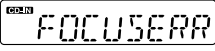
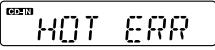
Connecting Auxiliary Equipment



You can connect a portable audio player or other commercially available device to the auxiliary input (AUX) and listen to music.

1. Connect the portable audio player to the auxiliary input (AUX) using a commercially available 3.5 mm stereo mini plug cable.
2. Press the "MODE" button for less than 2 seconds to select the AUX mode. "AUX" appears in the display.
3. Operate the connected portable audio player to play the music.

Regarding Error Messages

Display	Cause	Corrective action
	A CD drive abnormality	Eject the CD and insert it again. If the CD cannot be ejected or the error appears again, contact the nearest Isuzu Dealer.
	CD was inserted upside down	Insert the CD with the label side (printed side) facing up.
	CD is scratched, bent or dirty	Replace with a different CD.
	This message appears when a USB memory device containing data other than MP3/WMA files is inserted.	Replace with a USB memory device containing MP3/WMA files.
	This message appears when an attempt is made to play a copyright protected file.	Select a playable file.
	This message appears when a USB hub is connected.	Disconnect the USB hub.
	This message appears when a USB memory device containing data other than MP3/WMA files is inserted.	Replace with a USB memory device containing MP3/WMA files.
	This message appears when a USB memory abnormality occurs.	Replace with a different USB memory.
	This message appears when an empty USB memory is inserted.	Replace with a USB memory containing MP3/WMA files.
	CD cannot be read	Wipe any dirt from the CD and insert it again. If the error appears again, replace with a different CD and check whether the error appears. If the error appears, contact the nearest Isuzu Dealer.
	Unit is hot due to parking exposed to the sun, etc.	Wait a bit until the unit cools down and try the operation again. If the error still appears, contact the nearest Isuzu Dealer.

Regarding MP3 and WMA Files



NOTE

[What is "MP3"?]

- MP3 (MPEG Audio LAYER 3) is a standard format for sound compression technology. MP3 can compress a file to one-tenth of its original size.

[What is "WMA"?]

- WMA (Windows Media™ Audio) is a Microsoft sound compression format. It can compress sounds to a smaller size than the MP3.

Playable Sampling and Bit Rates

Standard		Sampling rate	Bit rate
MP3	MPEG-1	32, 44.1, 48 kHz	32-320 kbps/VBR
	MPEG-2	16, 22.05, 24 kHz	8-160 kbps/VBR
	MPEG-2.5	8, 11.025, 12 kHz	8-160 kbps/VBR
WMA		22.05 kHz	32 kbps
		32 kHz	32-64 kbps
		44.1 kHz	32, 48-192 kbps
		48 kHz	128-192 kbps

Supported Media

Supported playable media includes CD-R, CD-RW, and USB memory (mass storage class compliant) devices.

CD-R and CD-RW formatted in ISO9660 Level 1 and Level 2, as well as those in the Romeo and Joliet file systems are supported.

Supported USB memory formats are FAT12, FAT16 and FAT32.

Notes For When Creating Files

- Create files using a sampling rate and bit rate that enable playback.
- Folder names and file names should be 32 characters or less.
- Be sure to attach ".MP3", ".WMA", ".mp3" or ".wma" as appropriate for the file extension. Files with other extensions or without an extension cannot be played.

Regarding ID Tags and WMA Tags

If an MP3/WMA file has tags, the track title (song name), album title, and artist name can be displayed.

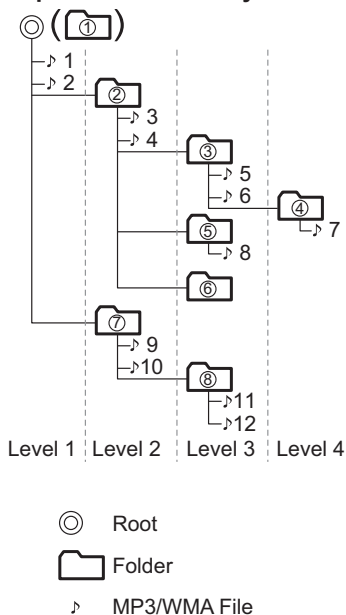
**NOTE**

- When "track title (song name)", "album title" or "artist name" display is selected for an MP3/WMA file without tags, "NO TAG" will be displayed.
- MP3 supports ID3-TAG: V2.3/2.2/1.1.
- Letters, numbers and various symbols can be displayed. An asterisk (*) will be shown for lettering or symbols that cannot be displayed.

[What is a "Tag"?)

- Tags are information attached to MP3/WMA files, including track name, album name, and artist name.

Example of file hierarchy



Regarding Playback Order

- In case of the hierarchy shown in the left figure, the files are normally played back in the order of 1→2→3→4→5→6→7→8→9→10→11→12.
- The root folder (the CD or USB memory) is also counted as one folder.
- A folder that does not contain any MP3/WMA files, such as folder ⑥ in the left figure, is also counted as one folder. When an empty folder is selected, the radio searches for the folder that contains the nearest MP3/WMA file in the playback order and plays that file.
- Playback may not be performed correctly or characters may not be displayed correctly depending on the writing software and/or drive used.
- MP3/WMA file playback supports up to 8 levels of folders. In addition, a maximum total of up to 512 folders and files (255 of each) is supported for CDs, while a maximum total of 9,999 folders and files is supported for USB memory devices.
- When the CD or USB memory device has many levels of files and folders, it may take some time for playback to start. For this reason, it is recommended to minimize the number of levels and folders when creating files.

Copyright Protected Music Files

Copyright protected music files cannot be played back on this unit.

**NOTE**

- Copyright protection refers to rights that protect the intellectual property benefits of creators. The copyright contents are specified by copyright law. Infringement of copyright may result in liability for compensation of damages or criminal penalty as specified by copyright law.

5-104

COMFORT AND CONVENIENCE

TIPS ON SAFE AND SMOOTH OPERATION

6

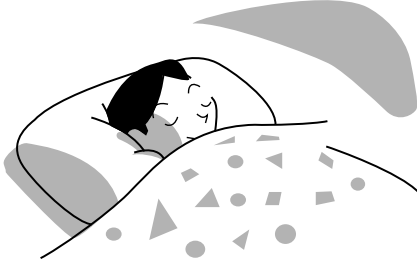
• Driving Safely and with Confidence	6-2
• On the Road	6-3
• Cautions for Parking	6-16
• Cautions for Driving in Hot Regions	6-17
• Cautions for Driving in Cold Regions	6-18
• Using Tire Chains	6-23

6-2

TIPS ON SAFE AND SMOOTH OPERATION

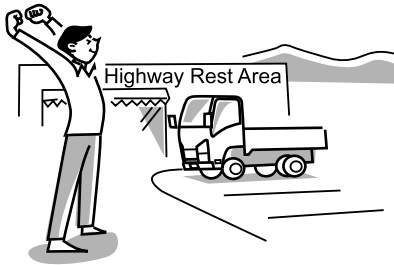
Driving Safely and with Confidence

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.

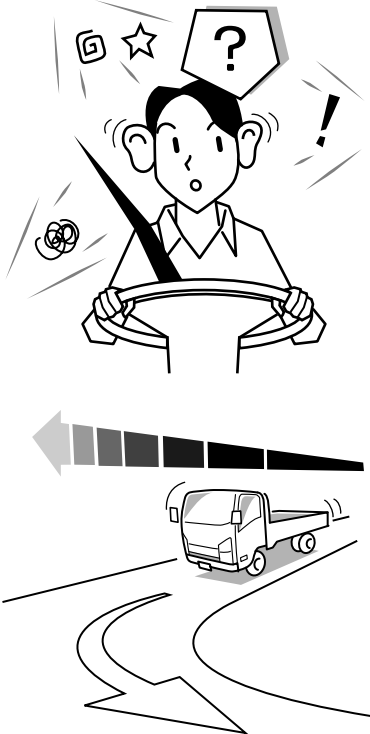
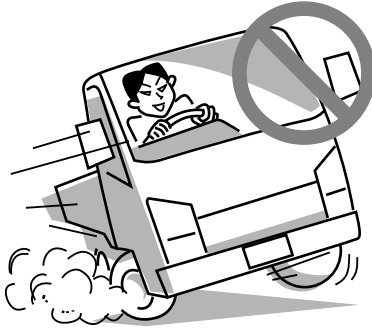
Take Breaks during Long Journeys



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

On the Road

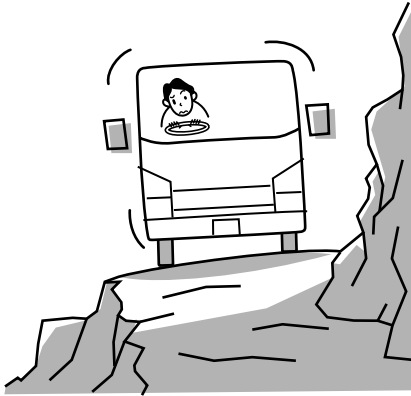
Cautions for Driving



- Concentrate on driving safely, obeying all legally designated speed limits, road signs and traffic signals.
- Do not place the starter switch to any position other than the "ON" position while driving. The power steering would stop working, making steering extremely difficult. Also, the brakes would not work well, putting you in extreme danger.
- 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.
- 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 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.

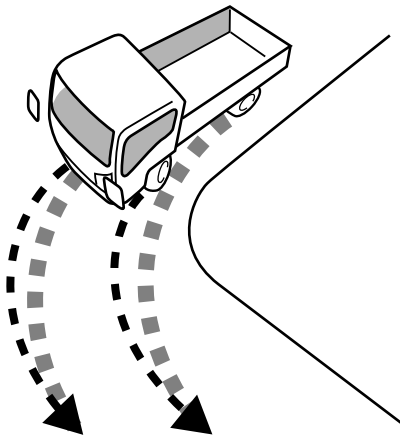
6-4

TIPS ON SAFE AND SMOOTH OPERATION



Narrow or Congested Roads

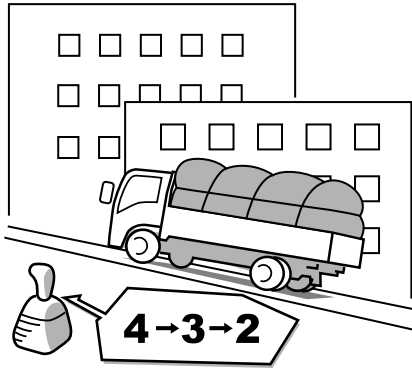
When passing or overtaking a vehicle on a narrow mountain road or on a narrow or congested urban road, pay careful attention to obstacles on either side and to the condition of the shoulder of the road.



When Turning, the Rear Wheels will Follow Tighter Curves than the Front Wheels

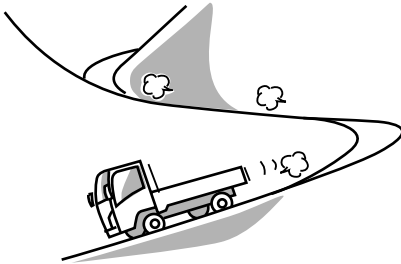
Use the mirrors to confirm safety.

Driving Uphill or Downhill



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, if your vehicle is equipped with an exhaust brake, use the exhaust brake to avoid going too fast.
- Do not let the engine overrun.
- When going down on a steep slope, avoid driving the vehicle backward as much as possible. Drive it forward slowly on the down slope.
- Compared with forward movement, the braking distance of backward movement is longer, and the steering response of that is worse.
- If you must drive the vehicle backward, drive it very carefully and gradually by moving and stopping repeatedly in order to stop it any time.



NOTE

[Overrunning]

- An engine overrun is an engine-speed increase that causes the tachometer needle to enter the red zone. It is dangerous because it can cause engine failure.

Brake Operation

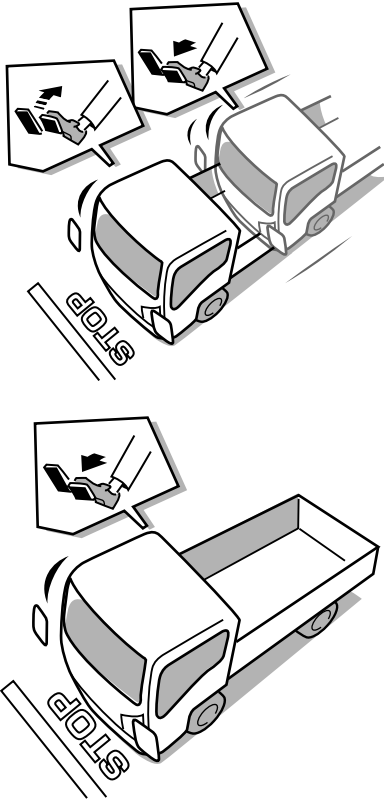
The brakes give strong braking force with only light pressure on the pedal. Do not press the brake pedal hard except in the event of an emergency.

Model with Hydraulic Brake System

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.

Model with Full-air Brake System

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.

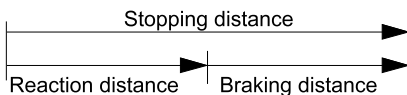


2. Press the brake pedal and keep it pressed until just before the point at which you want the vehicle to stop.
3. Ease off the brake pedal.

CAUTION

- Do not allow the brake pedal to fully return. If you allow the brake pedal to fully return, there will be a short delay before the brakes start to work the next time you press the pedal, meaning that the stopping distance may be increased.
- Unnecessary frequent depression and release of the brake pedal reduces the vehicle's air pressure, thereby detracting from brake effectiveness.

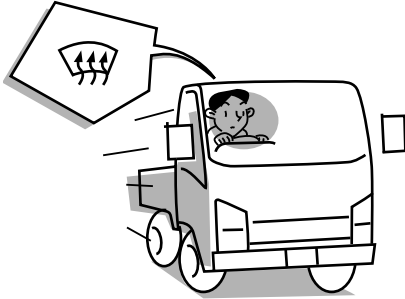
4. Immediately before the point where you want the vehicle to stop, gently press the brake pedal to bring the vehicle to a halt.



Stopping Distance

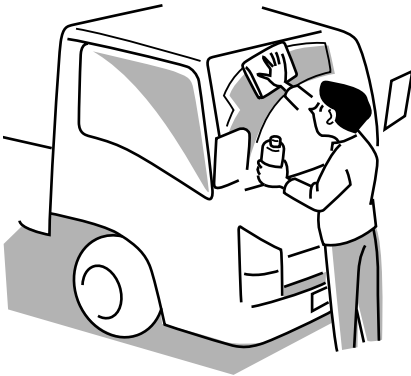
The vehicle's stopping distance consists of a reaction distance (from the point where the driver senses danger and presses the pedal to the point where the brakes start to work) and a braking distance (from the point where the brakes start to work to the point where the vehicle comes to a halt). When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

Maintaining a Clear Field of View



If the Windshield Fogs Up

Use the heater to blow hot air on the windshield or dehumidify the cabin using the air conditioner and place the vent knob in the "☼" or "❄️" position. Place the inside/outside air selector in the outside-air position. Also, use commercially available antifog spray.



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

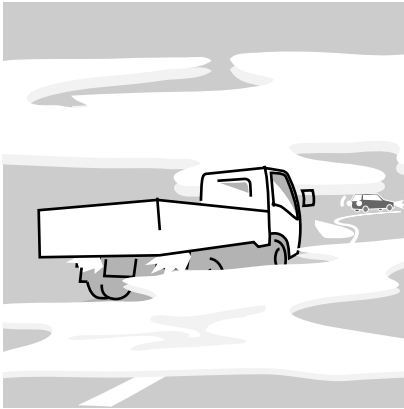
- Worn wiper blades cannot wipe the windshield clean and thus cannot maintain visibility. When the wiper blades become worn, replace them with new ones.

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.

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.

Highways

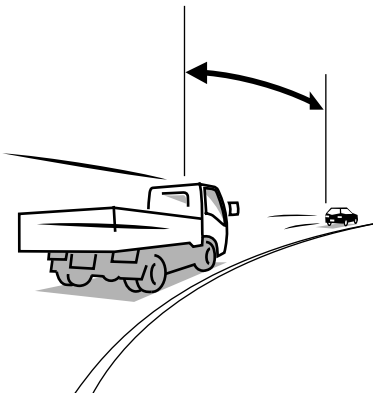
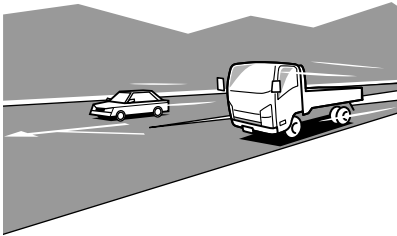
Tires	<ul style="list-style-type: none"> • Check that there is ample tread depth.
Engine	<ul style="list-style-type: none"> • Check that engine coolant is not leaking from the radiator and other parts of the cooling system. • Check that the engine coolant level is high enough. • Check that the fan belt is properly tensioned and free of damage. • Check that the engine oil level is correct.
Fuel tank	<ul style="list-style-type: none"> • Check that the fuel level is high enough.

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.

Daily Checks (Preoperational Checks)

→ Refer to page 7-16

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.





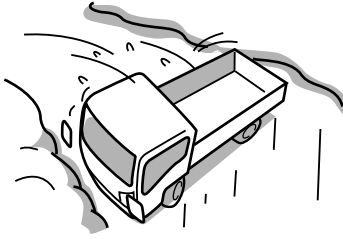
4. During high-speed driving, even a little turn of the steering wheel causes a big movement of the vehicle. Turn the steering wheel slowly.
5. Excessive use of the brake pedal is extremely dangerous because it rapidly wears the brake linings and causes brake fade. Make effective use of the engine brake and (if your vehicle is so equipped) 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 brake linings 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 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.
- Use lower gears to overcome the retardation effect of the engine. Apply the foot brakes lightly.

Using Tire Chains → Refer to page 6-23

Before Driving in Cold Regions**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.

**Starting the Engine**

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.

Fuel → Refer to page 6-20

Driving on Snowy or Frozen Roads (Fenders)**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.



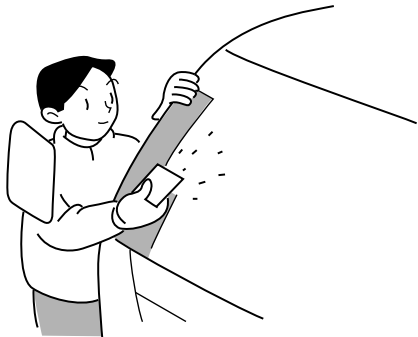
Check the Brakes from Time to Time



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.

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.

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.
- On anti-lock brake system (ABS) equipped model, the vehicle speed sensors are fitted on the wheels. When removing mud and other incrustation, take great care not to damage the components.
- Do not use a sharp implement to remove mud. Sharp edges could damage rubber parts.

Exterior Maintenance

→ Refer to page 7-164

Anti-lock Brake System (ABS)

→ Refer to page 4-55

Cautions for Parking

Parking in Cold Regions



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



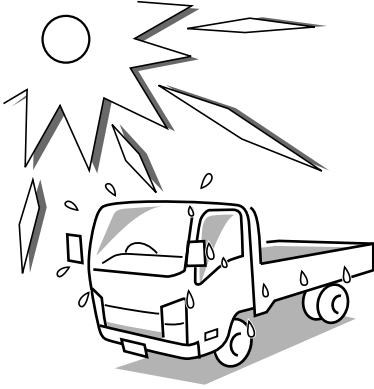
CAUTION

- 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 these conditions could cause exhaust gases to enter the cabin, resulting in carbon-monoxide poisoning. Take preventive action by, for example, clearing the snow around the vehicle.
- When there is a risk that the parking brake will freeze in a cold region: With wheel parking brake model, dry the brake linings and drums by lightly pressing the brake pedal five or six times while driving at a speed of 30 km/h (19 MPH) before bringing the vehicle to a halt; and apply the parking brake. With center parking brake model, apply chocks under the wheels after stopping the engine and park the vehicle without applying the parking brake.
- For parking in gear: Place the gearshift lever in the "1 (1st gear)" or "R (reverse)" position.



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.

Cautions for Driving 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:

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.



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.

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.

Cautions for Driving 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.

Engine Coolant → Refer to page 7-32

Windshield Washer Fluid

→ Refer to page 7-148

Handling the Battery

→ Refer to page 7-153

Engine Oil → Refer to page 7-22

Using Tire Chains → Refer to page 6-23

Winter Tires → Refer to page 6-21

**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.

Fuel → Refer to page 6-20

Protection of Engine against Overcooling

Overcooling of the engine not only accelerates wear of the vital engine parts but also deteriorates fuel economy.

Coolant



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

Replace damaged rubber hoses as the engine coolant becomes liable to leak even past minor cracks when the engine coolant solution is used.

Changing the Engine Coolant

→ Refer to page 7-37

Preparing Engine Coolant

→ Refer to page 7-33

Replacing the Engine Oil

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

Changing the Engine Oil and Oil Filter

→ Refer to page 7-26

Recommended Fluids, Lubricants and

Diesel Fuels → Refer to page 7-197

Engine Oil and Gear Oil Viscosity

Charts → Refer to page 7-200

Fuel

 **CAUTION**

- Be sure to use diesel fuel. For models conforming to Euro IV emission standards, be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower) or 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 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 the outbreak of 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 Euro IV 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.

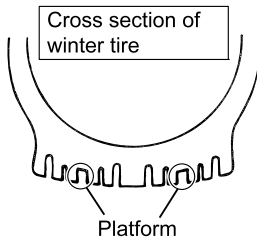
When Ice Prevents You from Putting the Key in the Door or Opening the Door



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 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.

Winter Tires



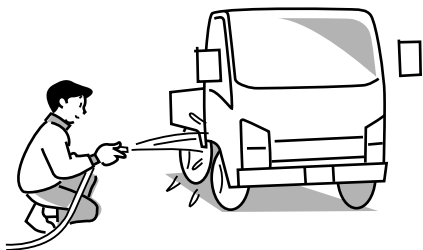
Use winter tires of the same sizes as the standard tires. Also, use wheels of the same size as those with the standard tires. A winter tire has reached its wear limit when the tread grooves have worn to half of the depth of the new tire. At this time, platforms indicating that the tire can no longer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



CAUTION

- 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 your vehicle is equipped with an exhaust brake, and 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.

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.

**ADVICE**

- 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.

Anti-lock Brake System (ABS)

→ Refer to page 4-55

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

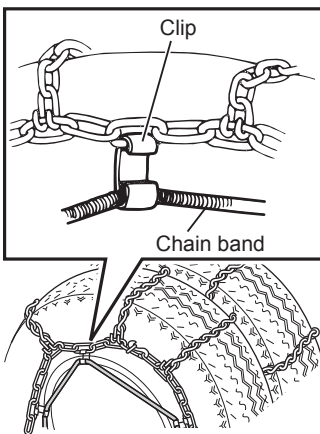
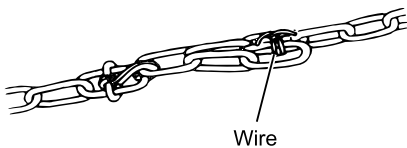
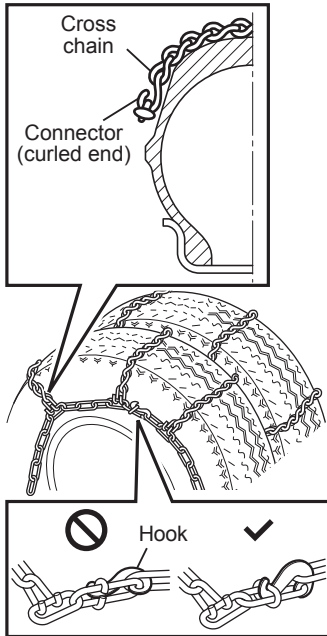
- Fit the tire chains securely without looseness. If the vehicle is driven with the loosened tire chains, they may interfere with other components or come off, leading to an unexpected accident.
- If an abnormal sound is heard, it may indicate a possibility that a tire chain was cut or came off partially. 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 or immediately after the vehicle is driven, so be careful not to touch them.
- Be careful not to hurt yourself on the edges of the vehicle while working with the tire chains.



ADVICE

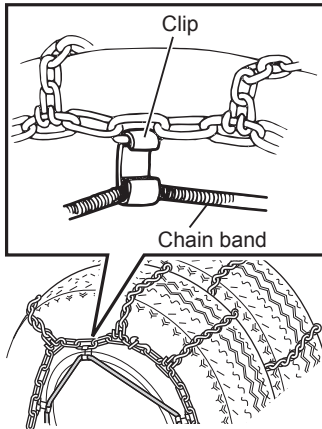
- Tire chains cannot be fitted on the front wheels. Make sure to fit the tire chains suitable for the tire size on the rear wheels.
- For triple chains, they may not be fitted depending on vehicle specifications, so please consult the nearest Isuzu Dealer for details.
- For dual tires, do not fit a single 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 (19 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.

6-26

TIPS ON SAFE AND SMOOTH OPERATION



SERVICE AND MAINTENANCE

7

BEFORE SERVICE AND MAINTENANCE

7-3

DAILY CHECKS

7-15

**ENGINE-RELATED SERVICE AND
MAINTENANCE**

7-19

**CHASSIS-RELATED SERVICE AND
MAINTENANCE**

7-79

OTHER SERVICE AND MAINTENANCE

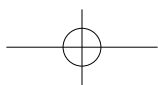
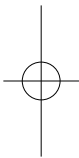
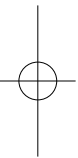
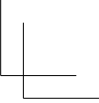
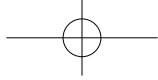
7-143

**INTERIOR AND EXTERIOR
MAINTENANCE**

7-163

MAINTENANCE DATA

7-171



BEFORE SERVICE AND MAINTENANCE

• Precautions for Checking and Adjustments	7-4
• Discarded Parts, Oils and Other Liquids	7-6
• Isuzu Genuine Oils and Grease	7-6
• Tools	7-7
• Inspection Hatches <input type="checkbox"/>	7-9
• Tilting the Cab <input type="checkbox"/>	7-11

Precautions for Checking and Adjustments



WARNING

- Make sure to turn off the engine and remove the key from the starter switch before performing any checks.
- Pull firmly on the parking brake lever and put the transmission in neutral. Make sure the gearshift lever is in "N".
- 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.
- 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.
- When performing work on the electrical system, begin by turning the starter switch to the "LOCK" position, wait at least 1 minute, and then disconnect the negative cable from the negative terminal on battery. If the negative cable is disconnected within 1 minute, the engine control module may malfunction.
- The engine, exhaust pipe and radiator will be hot immediately after the vehicle is driven. Be careful around these parts to prevent burns. Perform all checks when the engine is cold.
- Do not perform work near an open flame or other heat sources.
- 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.



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.

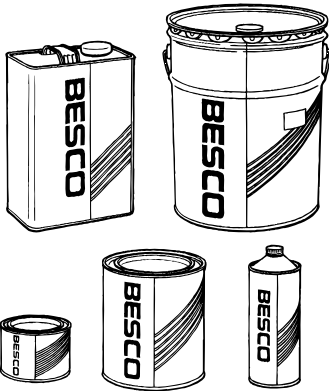
**ADVICE**

- Use only appropriate tools.
- Oils, brake fluid, battery fluid and engine coolant have lubrication, cooling and rust prevention functions. If these liquids deteriorate through loss or contamination, it will cause a decline in the performance of the parts and such problems as seizure or malfunctioning. Replenish or change these liquids when performing the checks (daily and periodic checks) as required by the relevant regulations or in accordance with the Maintenance Schedule (when either the specified driving distance or period of time, whichever comes first, has expired).
- Confirm that all systems and components are normal after performing the work.
- 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.

Discarded Parts, Oils and Other Liquids

- 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.

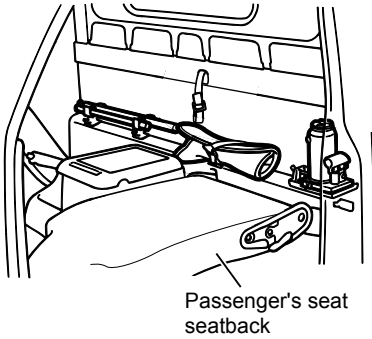
Isuzu Motors guarantees the quality and performance of the Isuzu genuine oils and grease. We recommend the use of Isuzu genuine oils and grease for maintenance and service of your vehicle.



CAUTION

- Flames or other heat sources near spilled oil can cause a fire. Make sure to clean up all oil spills.

Tools



The tools are stored behind the driver's and passenger's seats. Tilt the seatbacks forward to take out the tools.

**ADVICE**

- If your vehicle has a back panel tray, the back panel tray must be removed before you can take out or store the tools.

Driver's Seat → Refer to page 3-15

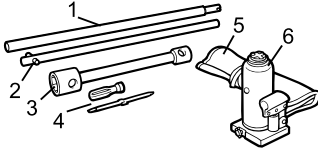
Passenger Seat/Center Seat V

→ Refer to page 3-16

Tools Carried in Your Vehicle

Model with dual tires (type 1)

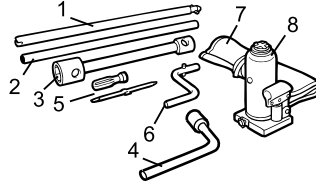
① Illustration of the spare tire hanger top shape as shown.



No.	Tool name
1	Jack bar/Spare tire removal bar
2	Spare tire removal handle
3	Wheel nut wrench
4	Screwdriver (with switchable Phillips and flat heads)
5	Tool bag
6	Jack

Model with dual tires (type 2)

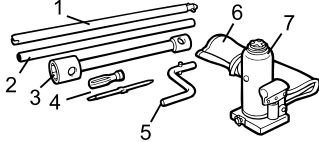
② Illustration of the spare tire hanger top shape as shown.



No.	Tool name
1	Jack bar/Spare-wheel removal bar
2	Wheel nut wrench handle
3	Wheel nut wrench (for rear wheels)
4	Wheel nut wrench (for front wheels)
5	Screwdriver (with switchable Phillips and flat heads)
6	Crank handle for spare tire removal
7	Tool bag
8	Jack

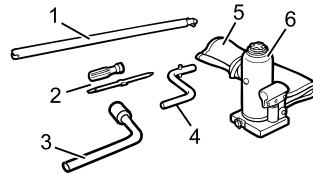
Model with dual tires (type 3)

③ Illustration of the spare tire hanger top shape as shown.



No.	Tool name
1	Jack bar/Spare tire removal bar
2	Wheel nut wrench handle
3	Wheel nut wrench
4	Screwdriver (with switchable Phillips and flat heads)
5	Crank handle for spare tire removal
6	Tool bag
7	Jack

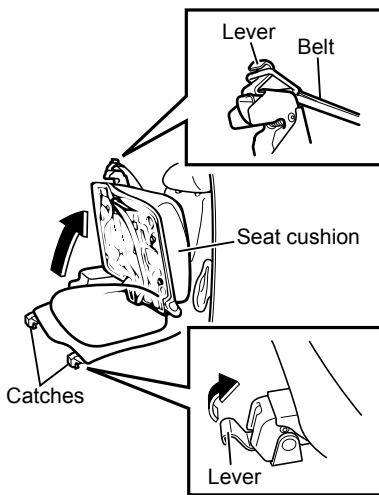
Model with single tires



No.	Tool name
1	Jack bar/Spare tire removal bar
2	Screwdriver (with switchable Phillips and flat heads)
3	Wheel nut wrench
4	Crank handle for spare tire removal
5	Tool bag
6	Jack

**ADVICE**

- Be sure to carry all of the provided tools in the vehicle.

Inspection Hatches V**Engine Maintenance Lid****Opening**

1. Lift the catch levers located at the front of the passenger's seat cushion to release the lock.
2. Lift up the seat cushion and attach the belt extending from behind the seatback to the left catch lever to hold the cushion in the raised position.

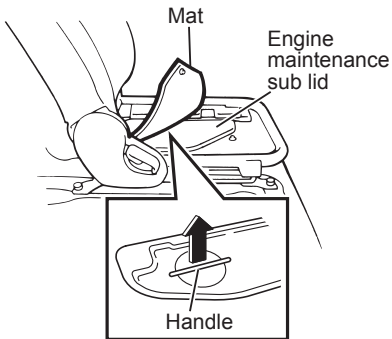
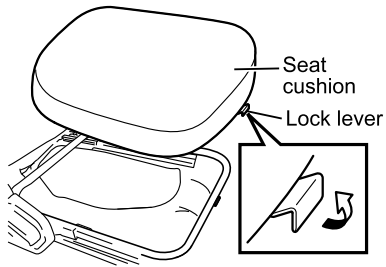
Closing

1. Detach the belt from the catch lever and lower the seat cushion to a point approximately 30 cm (12 in) above its original position. Allow the seat cushion to drop into place, and then secure it using the catch levers.
2. Gently push and pull the seat cushion to make sure that it has been securely locked in place.

**CAUTION**

- Take care to avoid jamming fingers, hands or any other part of your body when returning the seat cushion to its original position. In addition, confirm that the seat cushion is firmly locked. A seat with an improperly locked cushion will be unstable during driving, possibly causing an accident.


Engine Maintenance Sub Lid

**Opening**

1. Unlock the driver's seat cushion by lifting the lock lever (red) while pulling toward you. Then remove the cushion.
2. Lift up the mat, and then remove the engine maintenance sub lid by pulling the handle.

Closing

1. Reinstall the engine maintenance sub lid and place the mat over it.
2. Place the seat cushion with its rear end first and press it down.

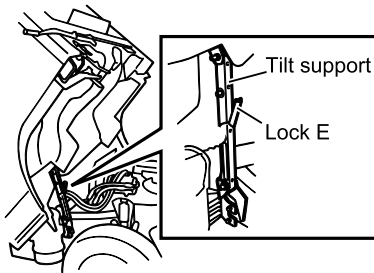
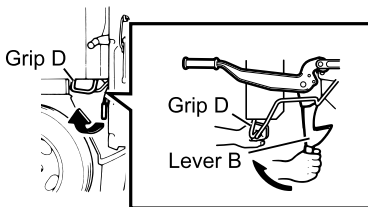
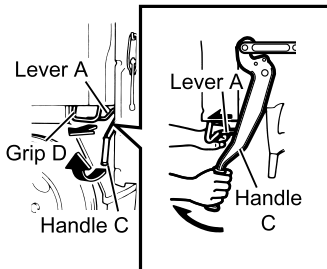
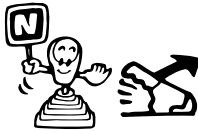
Tilting the Cab  **WARNING**

- Do not touch the lock (E) on the cab support while the cab is tilted. If you touch it, the lock will release. Refer to Step 4 of the following "Tilting Up the Cab" section and be sure to follow the instructions given.

 **CAUTION**

- Tilt the cab only on a level surface.
- Apply the parking brake firmly and make sure that the gearshift lever is in the "N" position.
- 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.)
- When tilting the cab, close the left and right doors securely. You should avoid opening or closing the doors when the cab is tilting.
- Confirm that people are not near the vehicle or inside the cab when tilting the cab.
- Confirm that the lock lever for the tilt support is fully engaged in the lock position after the cab is tilted.
- The silencer, exhaust pipe will be very hot immediately after driving. Use all due caution to avoid accidentally touching these when doing a cab tilt operation.
- Do not tilt the cab when objects are placed on or in the instrument panel, seats, cup holders or floor surface.
- Tilt the cab only with the engine turned off.
- Make sure everything has been removed from the roof rack.
- Remove any ice or snow accumulating on the top of the bumper before tilting the cab. Failure to do so could damage the bumper, lights or other vehicle components.
- 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 closed after closing it.

Tilting Up the Cab



1. Apply the parking brake firmly and make sure that the gearshift lever is in the "N" position. Close all doors fully.

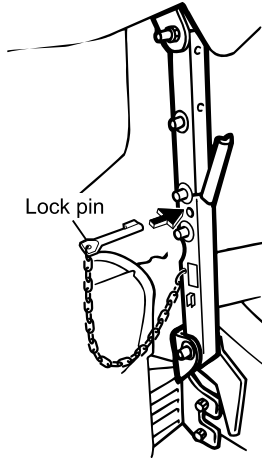
2. Holding the grip (D) in your left hand, pull the lever (A) toward you using your finger, and then raise the handle (C) using your right hand.

3. Holding the grip (D) in your left hand, pull the lever (B) toward you using your right hand to raise the cab.

4. When you have raised the cab, support the cab with the grip (D) using your left hand and confirm that the tilt support's lock (E) has been securely engaged.

 **WARNING**

- If the lock (E) has not been fully engaged, there is a danger that the cab may accidentally fall.



5. If a lock pin is equipped, insert it correctly.

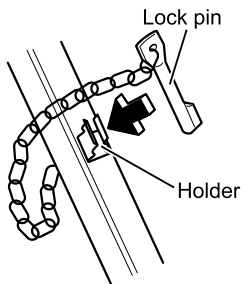
Lowering the Cab

WARNING

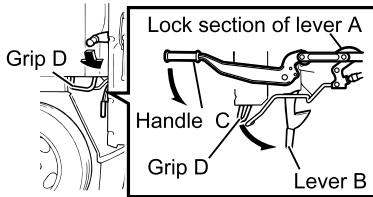
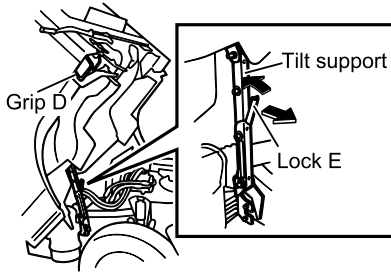
- After lowering the cab, make sure the cab is securely locked.

CAUTION

- Note that when a load is present inside or outside the cab, it will lower faster.



1. If a lock pin is equipped, remove it and place it in the holder.



2. Holding the grip (D) in your left hand to support the cab, release the lock (E) using your right hand and pull the tilt support towards the rear of the vehicle to fold it down.

3. Holding the grip (D), drop the cab with enough force to ensure that the lever (B) engages, and then confirm that this lever has engaged securely.

4. Lower the handle (C) until the lever (A) is fully locked.

**NOTE**

- Confirm that the lock section of lever (A) has securely engaged.

DAILY CHECKS

-
- **Daily Checks (Preoperational Checks)** 7-16
-
- **Checking Components that Showed Abnormalities during Previous Operation** 7-18
-

Daily Checks (Preoperational Checks)

Check your vehicle for the items listed below before starting the day's operation to ensure safe, trouble-free operation. Also, make note of the distance the vehicle has covered and the conditions under which the vehicle has been operated to be able to determine the inspection intervals most appropriate for your specific vehicle and adequately service it according to inspection results.

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.

Daily Check (Preoperational Check) Items

[1. Checking components that showed abnormalities during the previous operation]

Check item	Reference page
Checking components that showed abnormalities during previous operation	7-18

[2. Checks performed with the engine inspection hatch opened or cab tilted]

Check item	Reference page
Fan belt looseness and damage	7-49
Engine oil level	7-22
Engine coolant level	7-32
Power steering fluid level	7-137

[3. Checks performed in the driver's seat]

Check item	Reference page
Brake fluid level (Brake fluid doubles as clutch fluid.) <input type="checkbox"/> HB	7-80 (7-124)
Brake pedal free play	7-90
Exhaust sound from brake valve <input type="checkbox"/> FAB	7-91
Increase in air pressure <input type="checkbox"/> FAB	7-88
Clutch pedal free play	7-128
Operation of meters, gauges and warning/indicator lights	4-10, 4-17
Engine startability, abnormal noise and color of exhaust gases	7-20
Parking brake lever stroke	7-90
Windshield washer fluid spray condition and windshield wiper effectiveness	7-148, 7-149
Windshield washer fluid level	7-148
Steering wheel play and mounting condition	3-17, 7-136
Operation of horn and turn signal lights	4-38, 4-45
Fuel level	4-16
Operation of door locks	3-3

[4. Checks performed during a walk around the vehicle]

Check item	Reference page
Illumination, flashing, contamination and damage of lights	7-152
Battery fluid level	7-158
Condensation in air tank (draining water) <input type="checkbox"/> FAB	7-100
Leaf spring damage	—
Leakage of oil, engine coolant, fuel, brake fluid, power steering fluid and HBB oil (if equipped).	—
Water collecting in the fuel filter (bottom)	7-75

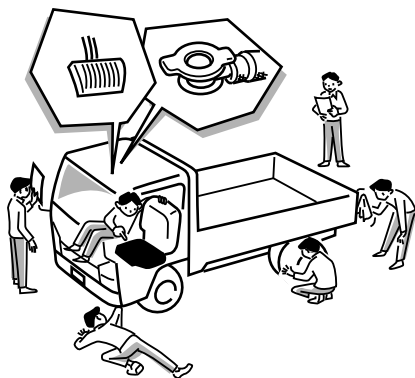
[5. Checking wheels and tires]

Check item	Reference page
Air pressure	7-88
Cracks and other damage	7-106
Abnormal wear	7-107
Tread depth	7-107
Disc wheel mounting condition	7-108

[6. Checks performed while driving the vehicle]

Check item	Reference page
Brake effectiveness	7-92
Driving condition at low speeds and during acceleration	7-21
Clutch system function	7-124

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.

**ENGINE-RELATED SERVICE AND
MAINTENANCE**

• Engine Conditions	7-20
• Engine Oil	7-22
• Engine Coolant	7-32
• Handling the Radiator and Intercooler	7-47
• Fan Belt	7-49
• Air Cleaner	7-56
• Fuel Filter	7-60

Engine Conditions

Checking the Engine for Startability and Abnormal Noises

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.

Starting the Engine

→ Refer to page 4-4

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.

Starting the Engine

→ Refer to page 4-4

3. Check that the engine is running at a speed within the standard idle speed range.

Idling Control Knob

→ Refer to page 4-36

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.

Engine Oil

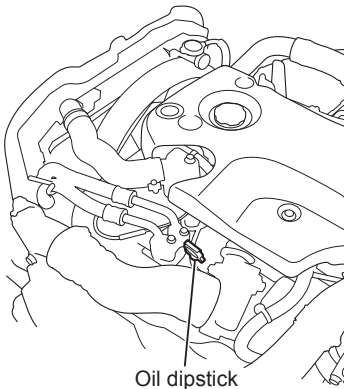
Engine oil is an important factor determining engine performance and longevity. Be sure to use only the specified oil and oil filters. The engine oil level must be checked and the oil should be changed regularly according to the Maintenance Schedule.

Checking the Engine Oil Level

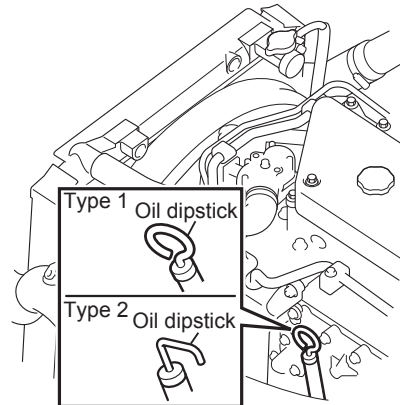
Park the vehicle on a level surface, and check the engine oil level before starting the engine or when at least 30 minutes has passed after turning it off. To check the oil level, remove the oil dipstick, wipe off the end with a clean cloth, reinsert it and then gently remove it.

If the surface is between the "MAX" and "MIN" marks, the oil is at the correct level. Also check to see if there are any oil leaks.

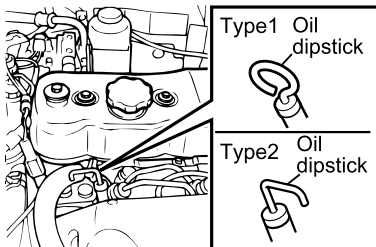
4JJ1 engine model



4HK1 engine model

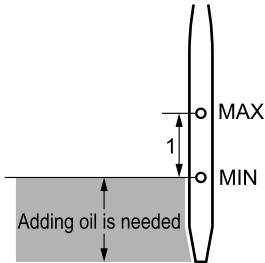


4JB1-TC/4JH1 engine models



4HG1-T engine model





Checking the Engine Oil Level

1. Remove the oil dipstick and wipe off any oil on the oil dipstick.
2. Reinsert the oil dipstick fully and then gently remove it. If the oil surface is between the "MAX" and "MIN" marks (range 1), the oil is at the correct level.
3. If the oil surface is close to the "MIN" mark, add oil.
4. Install the oil dipstick into position after checking the oil level.



ADVICE

- Adding too much oil could result in faulty engine operation. Be sure to check the oil level using the oil dipstick.



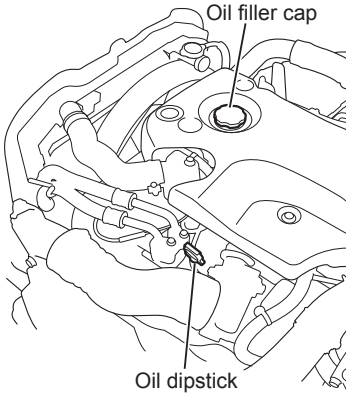
NOTE

- 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.
- Wait for at least 30 minutes after stopping the engine when measuring the oil level after the engine has been operated.

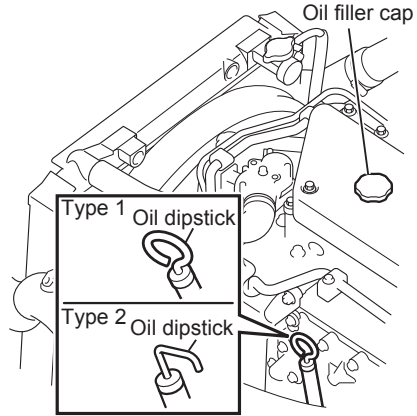
Adding the Engine Oil

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.

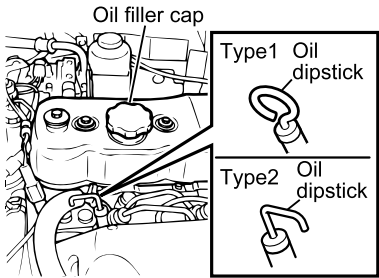
4JJ1 engine model



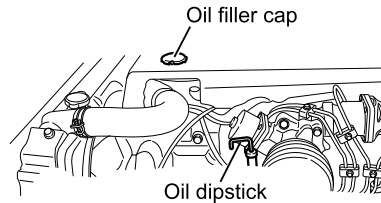
4HK1 engine model



4JB1-TC/4JH1 engine models



4HG1-T engine model



**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**

- 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.
- 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 "MAX" mark on the oil dipstick could result in faulty engine operation. Be sure to check the oil level by using the oil dipstick.

Changing the Engine Oil and Oil Filter

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.



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.

Quantity of engine oil to be changed

Engine model	Oil quantity [Reference value]	
	When changing oil only	When changing oil and filter
4JJ1	9.0 liters (2.38 US gal./1.98 Imp gal.)	10.0 liters (2.64 US gal./2.20 Imp gal.)
4HK1	9.5 liters (2.51 US gal./2.09 Imp gal.)	11.5 liters (3.04 US gal./2.53 Imp gal.)
4JB1-TC	6.4 liters (1.69 US gal./1.41 Imp gal.)	7.0 liters (1.85 US gal./1.54 Imp gal.)
4JH1	6.0 liters (1.59 US gal./1.32 Imp gal.)	6.6 liters (1.74 US gal./1.45 Imp gal.)
4HG1-T	7.8 liters (2.06 US gal./1.72 Imp gal.)	9.3 liters (2.46 US gal./2.05 Imp gal.)

Maintenance Schedule

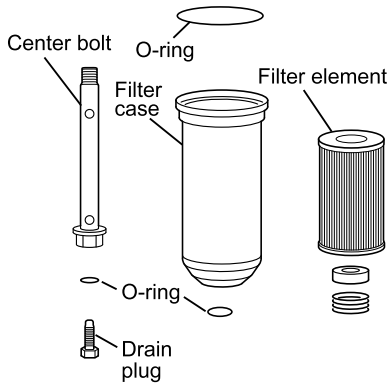
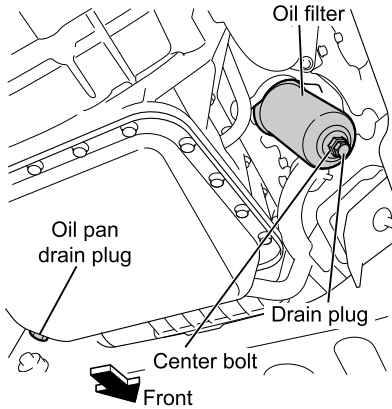
→ Refer to page 7-173

Recommended Fluids, Lubricants and Diesel Fuels

→ Refer to page 7-197

Changing the Oil (4JJ1 Engine Model)

1. Clean around the oil filler cap so that foreign matter does not enter. Remove the oil filler cap.
2. Place a container for receiving the oil beneath the oil pan and the oil filter. Remove the oil pan drain plug and the oil filter drain plug to discharge the oil into the container.



ADVICE

- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

3. Loosen the center bolt by turning it counterclockwise using a socket wrench to remove the filter case. Next, remove the filter element.
4. To ensure that the new oil filter makes good contact, wipe the filter mounting surface clean using a workshop rag.
5. Replace the three O-rings and filter element with new parts. Tighten the center bolt using the socket wrench.

Oil filter center bolt tightening torque

44 N·m (4.5 kgf·m/33 lb·ft)



ADVICE

- When installing the oil filter, be careful not to let the O-rings catch other parts. This may cause oil leakage.

6. Reinstall and tighten the oil pan drain plug and oil filter drain plug.

Drain plug tightening torque	
Oil pan	83 N·m (8.5 kgf·m/61 lb·ft)
Oil filter	25 N·m (2.5 kgf·m/18 lb·ft)

**ADVICE**

- The dirt on the plug must be wiped off before reinstalling it.

7. Remove the oil dipstick and carefully fill the specified oil into the oil filler.
 8. Install the oil dipstick and the oil filler cap. Start the engine 5 minutes after refilling it with the new oil and let it idle. While the engine is idling, check to see if any oil leaks around the oil filter or drain plug.

**ADVICE**

- Avoid revving up the engine, as it could damage the engine.

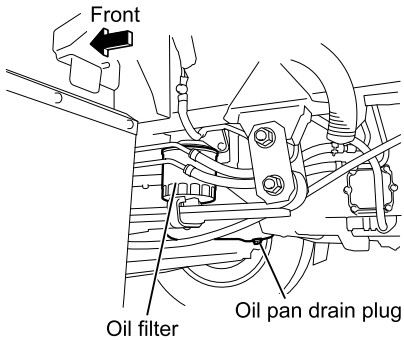
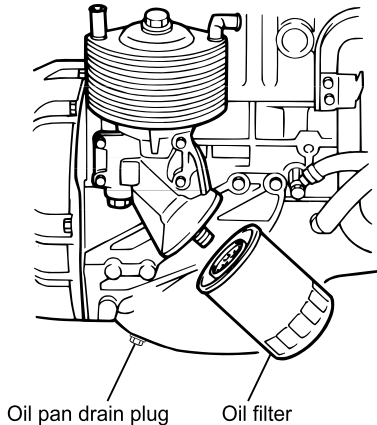
9. Shut off the engine. Then, after waiting at least 30 minutes, check the oil level using the oil dipstick.

**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 be the cause of a fire. Also, do not forget your tools.

**ADVICE**

- Avoid revving up the engine, as it could damage the engine.
- Do not fill the engine with oil above the "MAX" mark on the oil dipstick. Overfilling could damage the engine.

4HK1/4HG1-T engine models**4JB1-TC/4JH1 engine models****Changing the Oil (4HK1/4JB1-TC/
4JH1/4HG1-T Engine Models)**

1. Clean around the oil filler cap so that foreign matter does not enter. Remove the oil filler cap.
2. Place a container for receiving the oil beneath the oil pan and the oil filter.
3. Remove the oil pan drain plug to discharge the oil into the container.

**ADVICE**

- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

4. Use the special oil filter wrench to remove the oil filter.
5. Lightly coat the gasket of the new oil filter with clean engine oil.
6. Install the new oil filter. After the filter gasket comes into contact with the filter head surface, use the special oil filter wrench to tighten it by 1 1/4 (one and a quarter) turn for the 4HK1/4HG1-T engine models or 1 1/8 (one and one-eighth) turns for the 4JB1-TC/4JH1 engine models.

**ADVICE**

- When installing the oil filter, make sure the gasket is not caught in the screw threads. This could cause oil leaks.

7. Make sure that the oil pan drain plug is securely tightened.

Oil pan drain plug tightening torque	
4HK1/4HG1-T engine models	83 N·m (8.5 kgf·m/ 61 lb·ft)
4JB1-TC/4JH1 engine models	84 N·m (8.6 kgf·m/ 62 lb·ft)

**ADVICE**

- The dirt on the plug must be wiped off before reinstalling it.

8. Remove the oil dipstick and carefully fill the specified oil into the oil filler.
9. Install the oil dipstick and the oil filler cap. Start the engine 5 minutes after refilling it with the new oil and let it idle. While the engine is idling, check to see if any oil leaks around the oil filter or drain plug.

**ADVICE**

- Avoid revving up the engine, as it could damage the engine.

10. Shut off the engine. Then, after waiting at least 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.
- Do not fill the engine with oil above the "MAX" mark on the oil dipstick. Overfilling could damage the engine.



Engine Coolant

The engine coolant must be changed according to the Maintenance Schedule.

Maintenance Schedule

→ Refer to page 7-173

Recommended Fluids, Lubricants and

Diesel Fuels → Refer to page 7-197

WARNING

- Check, replenish or change the engine coolant only after the engine has sufficiently cooled down.
- Do not loosen or remove the cap of the radiator or reserve 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 radiator cap or reserve 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 or clogging of the radiator or heater core.

NOTE

- Engine coolant is fluid which is made by mixing coolant and water at a ratio of 50/50.

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 at the ratio of 50/50.

For other than Isuzu genuine coolant (Arteco/BASF/Total, etc.), it is recommended to use directly "50/50 Pre-diluted" product which is already diluted to 50% concentration.

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-197



ADVICE

- Isuzu does not guarantee the use of the engine or vehicle at the outside temperature of -30°C (-22°F) or below.
- However, 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.

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.

Engine model	Engine coolant quantity [Reference value]
4JJ1	** liters (** US gal./** Imp gal.)
4JB1-TC	10.0 liters (2.64 US gal./2.20 Imp gal.)
4JH1	** liters (** US gal./** Imp gal.)
4HK1	** liters (** US gal./** Imp gal.)
4HG1-T	13.6 liters (3.59 US gal./2.99 Imp gal.)

**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.

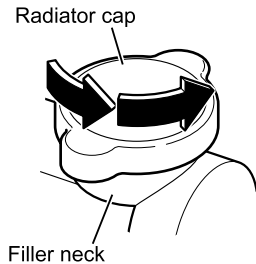
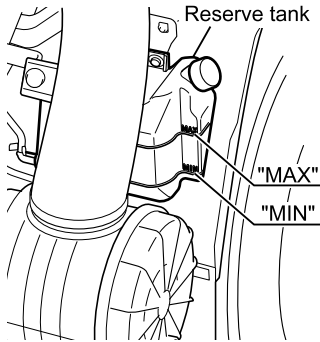
**CAUTION**

- 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 or radiator corrosion, causing engine coolant leaks and other problems.

**ADVICE**

- 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 30% 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



The reserve tank is located behind the front-right wheel. When the engine has cooled down, make sure that the fluid level in the reserve tank is no lower than the "MIN" line.

In addition, carefully remove the radiator cap and check that the engine coolant is full to the filler neck. Check the engine coolant level only when it is cold.



CAUTION

- The radiator cap is a double-action type that must be opened and closed in two turning motions. When removing the cap, take care not to damage the cap or filler.
 - Turn the cap slowly to the left until it reaches a stop. Do not press down while turning the cap.
 - Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left.

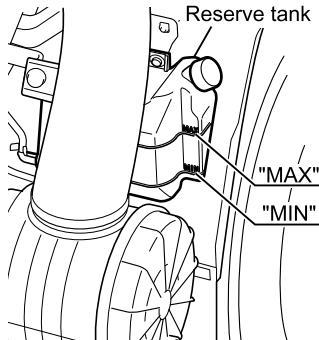
Also, check to make sure there are no leaks from the radiator or radiator hose. Check for fluid or stains on the ground showing leaks where the vehicle is parked. Contact your Isuzu Dealer when you discover leaks.



CAUTION

- Using the vehicle when there are leaks can lead to engine seizure.

Adding the Engine Coolant



When the engine coolant level in the reserve tank is below the "MIN" line, open the tank cap and fill to near the "MAX" line with engine coolant. Tighten the cap securely after the engine coolant has been replenished.

 **WARNING**

- Check, replenish or change the engine coolant only after the engine has sufficiently cooled down.

**ADVICE**

- Do not overfill the reserve tank.
- Check the reserve tank to determine engine coolant level. In situations, however, where the level in the reserve tank rises or falls suddenly, open the radiator cap and 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

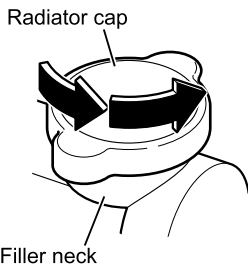
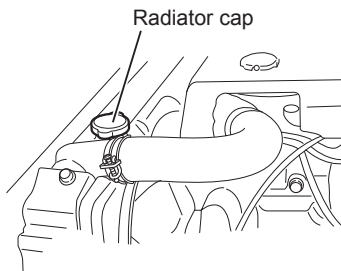


ADVICE

- Drained engine coolant must be disposed of in a method conforming to the regulatory requirements in your country.

Engine Coolant Level

Engine model	Engine coolant quantity [Reference value]
4JJ1	** liters (** US gal./** Imp gal.)
4JB1-TC	10.0 liters (2.64 US gal./2.20 Imp gal.)
4JH1	** liters (** US gal./** Imp gal.)
4HK1	** liters (** US gal./** Imp gal.)
4HG1-T	13.6 liters (3.59 US gal./2.99 Imp gal.)



Draining the Cooling System

When changing the engine coolant, also clean the radiator cap, radiator, intercooler and engine coolant passages.

Handling the Radiator and Intercooler

→ Refer to page 7-47

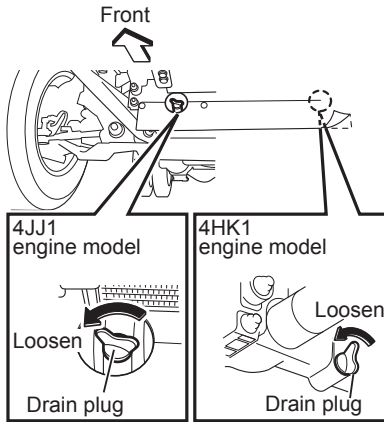
1. Confirm that the engine has fully cooled down before starting work.
2. Remove the radiator cap.



CAUTION

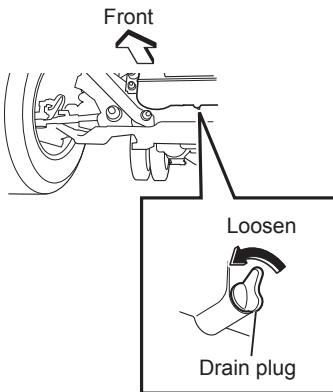
- The radiator cap is a double-action type that must be opened and closed in two turning motions. When removing the cap, take care not to damage the cap or filler.
 - Turn the cap slowly to the left until it reaches a stop. Do not press down while turning the cap.
 - Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left.

4JJ1/4HK1 engine models

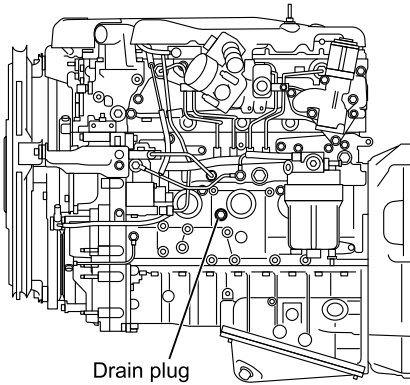


3. Open the drain plugs on the radiator and the engine to let the engine coolant run out. Drain the engine coolant from the reserve tank as well.

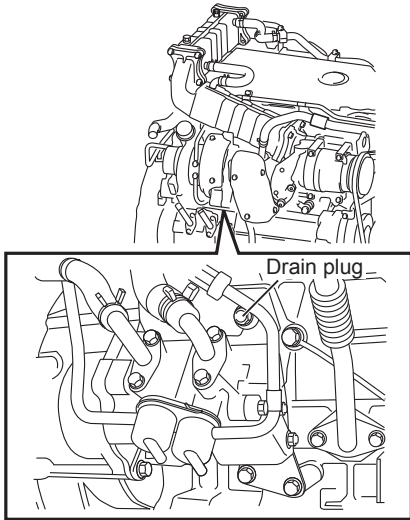
4JB1-TC/4HG1-T/4JH1 engine models



4JJ1/4JB1-TC/4JH1 engine models



4HK1/4HG1-T engine models



4. Tighten the drain plugs on the radiator and the engine.

For 4JJ1/4JB1-TC/4JH1 engine models, apply sealant (LOCTITE® 262 or equivalent) to the screw threads of the engine drain plug before installing it.

For 4HK1/4HG1-T engine models, replace the gasket of the engine drain plug with a new one before installing it.

Engine	Engine drain plug tightening torque
4JJ1/ 4JB1-TC/ 4JH1	21.6 N·m (2.2 kgf·m/16 lb·ft)
4HK1/ 4HG1-T	22.1 N·m (2.3 kgf·m/17 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

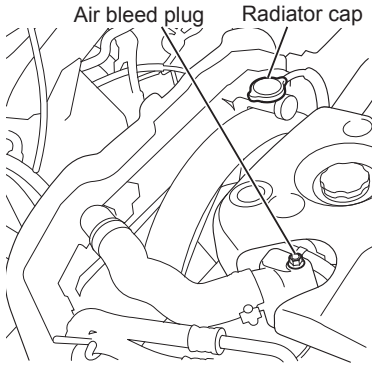
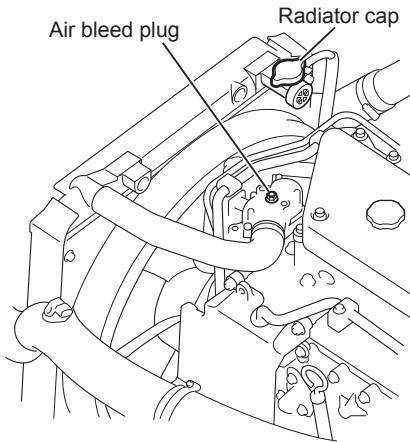
Cooling efficiency is compromised when there is dirt or dust plugging air passages in the radiator core and intercooler core. It also could cause corrosion of the core. Periodically wash the core with water.

Handling the Radiator and Intercooler

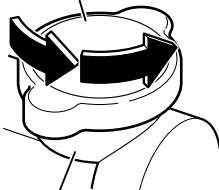
→ Refer to page 7-47

**ADVICE**

- When cleaning the radiator core and intercooler core, do not crush or damage the fins.

4JJ1 engine model**4HK1 engine model**

Radiator cap



Filler neck

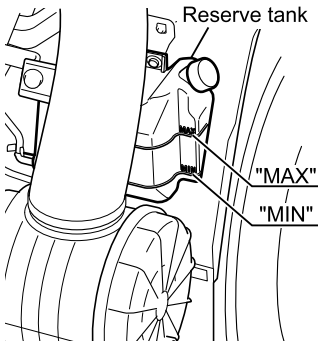
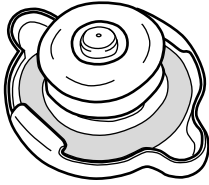
Cleaning the Engine Coolant Passages

1. Remove the air bleed plug from the water outlet (if equipped). Refill the radiator with tap water up to the top of the opening. After refilling, tighten the air bleed plug.

Engine	Water outlet air bleed plug tightening torque
4JJ1	15.3 - 28.4 N·m (1.6 - 2.9 kgf·m/12 - 21 lb·ft)
4HK1	14 - 24 N·m (1.4 - 2.4 kgf·m/122 lb·in - 17 lb·ft)

**CAUTION**

- The radiator cap is a double-action type that must be opened and closed in two turning motions. When removing the cap, take care not to damage the cap or filler.
 - Turn the cap slowly to the left until it reaches a stop. Do not press down while turning the cap.
 - Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left.



2. Check and clean the radiator cap. Replace the cap if there is anything abnormal with it.
3. Securely fasten the radiator cap.
4. Engine coolant may leak from even minor cracks. Replace damaged rubber hoses.
5. Refill the reserve tank with tap water to the "MAX" line.
6. Close the cap of the reserve tank.
7. Start the engine and let it idle for 20 minutes. Stop the engine, wait until it cools down, and then drain out the water.

Draining the Cooling System

→ Refer to page 7-37

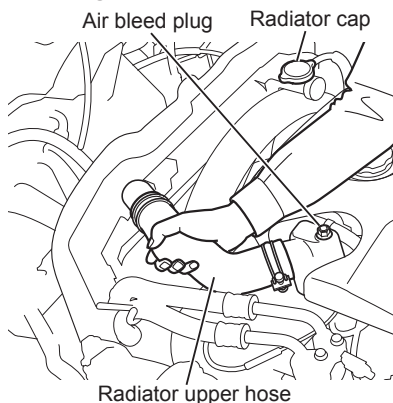
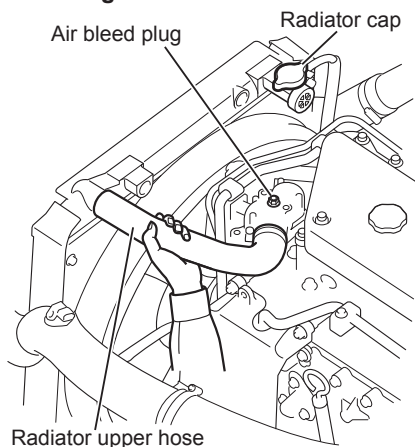
Filling the Cooling System



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.

4JJ1 engine model**4HK1 engine model**

2. Tighten the drain plugs on the radiator and the engine.

For 4JJ1/4JB1-TC/4JH1 engine models, apply sealant (LOCTITE® 262 or equivalent) to the screw threads of the engine drain plug before installing it.

For 4HK1/4HG1-T engine models, replace the gasket of the engine drain plug with a new one before installing it.

Engine	Engine drain plug tightening torque
4JJ1/ 4JB1-TC/ 4JH1	21.6 N·m (2.2 kgf·m/16 lb·ft)
4HK1/ 4HG1-T	22.1 N·m (2.3 kgf·m/17 lb·ft)

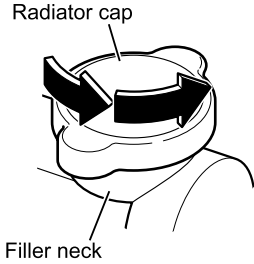
3. Remove the air bleed plug from the water outlet (if equipped) and pour engine coolant in the specified concentration. After filling with engine coolant, replace the gasket of air bleed plug with a new one and tighten the air bleed plug.

Engine	Water outlet air bleed plug tightening torque
4JJ1	15.3 - 28.4 N·m (1.6 - 2.9 kgf·m/12 - 21 lb·ft)
4HK1	14 - 24 N·m (1.4 - 2.4 kgf·m/122 lb·in - 17 lb·ft)

4. Squeeze the radiator upper hose two or three times.

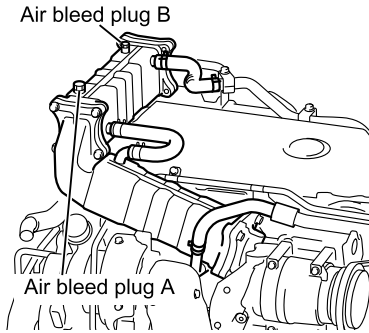
If this action results in air being discharged from the hose and the level of engine coolant goes down, add engine coolant up to the top of the radiator filler opening from the radiator cap section.

Repeat until the level of the engine coolant no longer decreases.

**CAUTION**

- The radiator cap is a double-action type that must be opened and closed in two turning motions. When removing the cap, take care not to damage the cap or filler.
 - Turn the cap slowly to the left until it reaches a stop. Do not press down while turning the cap.
 - Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left.
- Refill with engine coolant slowly to avoid air being mixed in.

EGR cooler



5. If the vehicle is not equipped with an air bleed plug and exhaust gas recirculation (EGR) cooler, close the radiator cap.

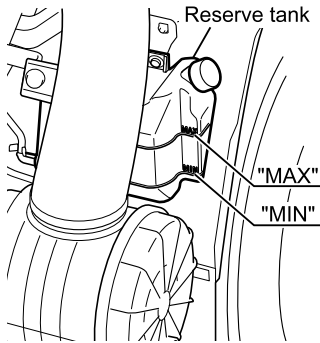
For 4HK1 engines with an EGR cooler, close the radiator cap before performing the following operation. In the case that there is an air bleed plug on the water outlet, replace the gasket with a new one and tighten the air bleed plug.

Remove both air bleed plugs (A and B) from the EGR cooler above the cylinder head and refill with engine coolant from the air bleed plug hole. Air bleed plug (B) is used for bleeding air.

After filling with engine coolant, replace the gasket of air bleed plug with a new one and tighten the air bleed plug.

Engine	Water outlet air bleed plug tightening torque
4JJ1	15.3 - 28.4 N·m (1.6 - 2.9 kgf·m/ 12 - 21 lb·ft)
4HK1	14 - 24 N·m (1.4 - 2.4 kgf·m/ 122 lb·in - 17 lb·ft)

EGR cooler air bleed plugs tightening torque	
Air bleed plug A	34.2 - 48.2 N·m (3.5 - 4.9 kgf·m/ 25 - 35 lb·ft)
Air bleed plug B	20.6 - 31.4 N·m (2.1 - 3.2 kgf·m/ 15 - 23 lb·ft)



6. Fill the reserve tank with engine coolant to the "MAX" line. Close the cap of the reserve tank.
7. Start the engine, let it idle for 5 minutes or more and then stop the engine.
8. After checking that the engine has sufficiently cooled down, remove the radiator cap. If the engine coolant level has decreased, replenish with engine coolant up to the radiator filler opening. If the engine coolant level has abnormally decreased, check for leaks from the radiator, the engine coolant passages, or the reserve tank hose.
9. After firmly closing the radiator cap, idle the engine until the needle of the coolant temperature gauge reaches the center and the thermostat opens. Maintain the engine speed approximately 2,000 r/min to warm up the engine.

After the needle of the coolant temperature gauge reaches the center, increase the engine speed to approximately 2,000 r/min, and maintain this speed for 5 minutes. If the vehicle is equipped with an air conditioner, turn the A/C switch off to facilitate warming.

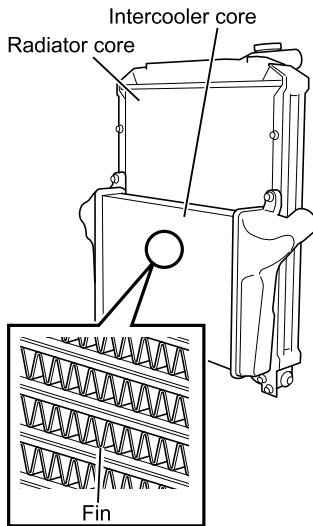
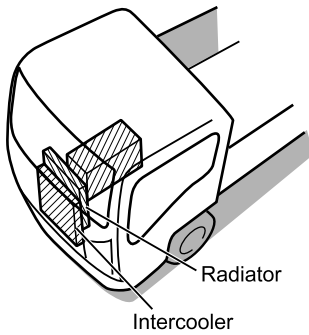
If the vehicle is equipped with a heater, turn off the fan to facilitate warming.

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 to the maximum setting and make sure that hot air comes out.

10. Let the engine idle for 5 minutes and then stop the engine.
11. After checking that the engine has sufficiently cooled down, remove the radiator cap and check the engine coolant level. If the engine coolant level has decreased, replenish with engine coolant up to the radiator filler opening from the radiator cap section. If the engine coolant level has abnormally decreased, check for engine coolant leaks.
12. Repeat steps 9 through 11 until the engine coolant level in the radiator filler opening stops declining.
13. Firmly close the radiator cap.
14. Replenish the engine coolant in the reserve tank up to the "MAX" line, and then close the reserve tank cap.
15. Check the engine coolant level of the reserve tank the next morning. If the engine coolant level has decreased, refill with engine coolant to the "MAX" line.

Handling the Radiator and Intercooler



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. This can also cause corrosion of these cores. Replace the engine coolant at every 24 months. When replacing, wash the radiator core and intercooler core with tap water.

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.

CAUTION (Continued)

CAUTION (Continued)

- 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.

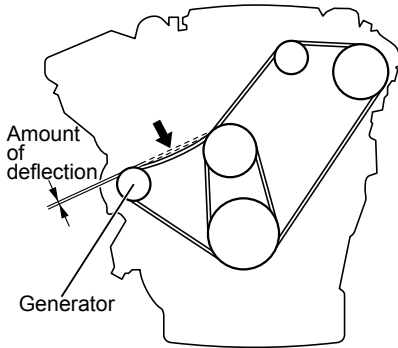
Fan Belt

**CAUTION**

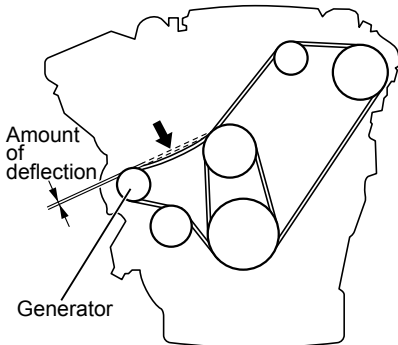
- A V-ribbed belt is used for the fan belt of the 4JJ1 engine and the 4HK1 engine. This type of belt requires the tension to be adjusted more accurately than is required with the conventional V belt. Inappropriate tension could cause the belt to make noise or break. When the fan belt is damaged, electricity is not properly generated or becomes a cause of engine overheating. You must check the tension of the fan belt carefully.
- Use Isuzu genuine parts when changing the fan belt.
[Follow this to properly adjust belt tension]
- Adjust the belt using the following method after installing either a new or used belt.
 - Inspect the belt before starting the engine or 30 minutes after turning off the engine to cool down.
 - Align the belt and pulley grooves and adjust the belt tension using the indicated method.
 - Start the engine, and let it idle for about 1 minute to equalize the tension of the belt at all spans between the pulleys.
 - Stop the engine, and then check the belt tension. If the tension is inappropriate, readjust it to the specified standard value.
 - Use the new belt tension specification only after replacing the belt with a new one.

Inspection

4JJ1 engine model
Engine with 50A generator



4JJ1 engine model
Engine with 90A generator



4JJ1 Engine Model

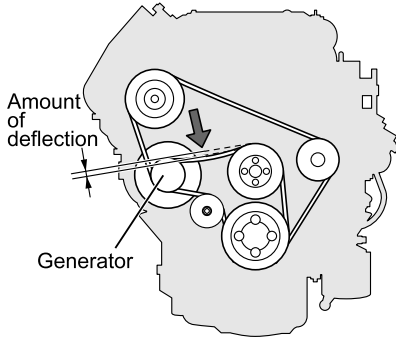
Press the center of the span between pulleys (see the figure) of the belt with a force of **98 N (10.0 kgf/22 lb)** and check the amount of deflection. The amount of deflection must fall within the standard value range indicated below. Otherwise, adjust the tension.

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.

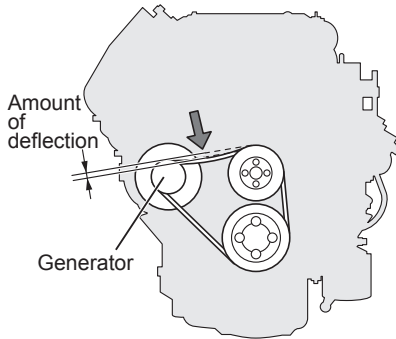
Also check the fan belt for cracks or other damage. If there are cracks or damage or if the inspected value is not within the standard value range, replace the belt.

	Standard value [amount of deflection]	Standard value [vibration frequency]
New belt	4 - 6 mm (0.16 - 0.24 in)	212 - 236 Hz
When reused	6 - 8 mm (0.24 - 0.31 in)	181 - 195 Hz

4HK1 engine model



4HG1-T engine model



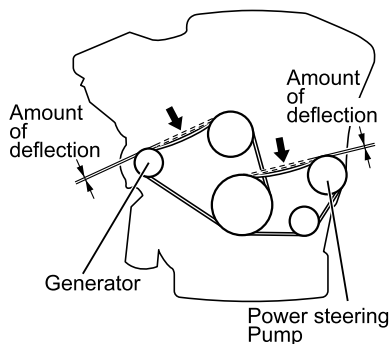
4HK1/4HG1-T Engine Models

Press the center of the span between pulleys (see the figure) of the belt with a force of **98 N (10.0 kgf/22 lb)** and check the amount of deflection. The amount of deflection must fall within the standard value range indicated below. Otherwise, adjust the tension.

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.

Also check the fan belt for cracks or other damage. If there are cracks or damage or if the inspected value is not within the standard value range, replace the belt.

Engine and generator		Standard value [amount of deflection]	Standard value [vibration frequency]
4HK1 with 50A generator	New belt	*** - *** mm (** - ** in)	*** - *** Hz
	When reused	*** - *** mm (** - ** in)	*** - *** Hz
4HK1 with 60A/80A/90A generator	New belt	6 - 7 mm (0.24 - 0.28 in)	179 - 199 Hz
	When reused	8 - 9 mm (0.31 - 0.35 in)	152 - 164 Hz
4HG1-T	New belt	7 - 9 mm (0.28 - 0.35 in)	140 - 170 Hz
	When reused	9 - 10 mm (0.35 - 0.39 in)	121 - 139 Hz



4JB1-TC/4JH1 Engine Models

Press the center of the span between pulleys (see the figure) of the belt with a force of **98 N (10.0 kgf/22 lb)** and check the amount of deflection. The amount of deflection must fall within the standard value range indicated below. Otherwise, adjust the tension.

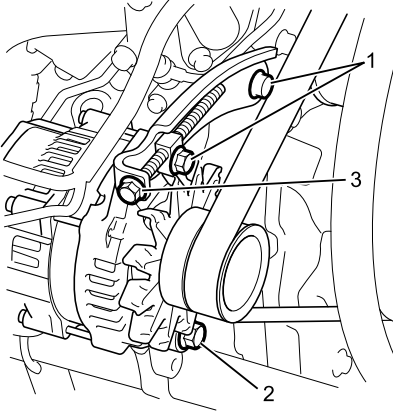
When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 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.

Also check the fan belt for cracks or other damage. If there are cracks or damage or if the inspected value is not within the standard value range, replace the belt.

Belt type		Standard value [amount of deflection]	Standard value [vibration frequency]
Generator	New belt	7 - 9 mm (0.28 - 0.35 in)	133 - 157 Hz
	When reused	9 - 11 mm (0.35 - 0.43 in)	112 - 126 Hz
Power steering pump	New belt	8 - 12 mm (0.31 - 0.47 in)	135 - 165 Hz
	When reused	11 - 13 mm (0.43 - 0.51 in)	117 - 135 Hz

Adjustment and Replacement

4JJ1 engine model



4JJ1/4HG1-T Engine Models

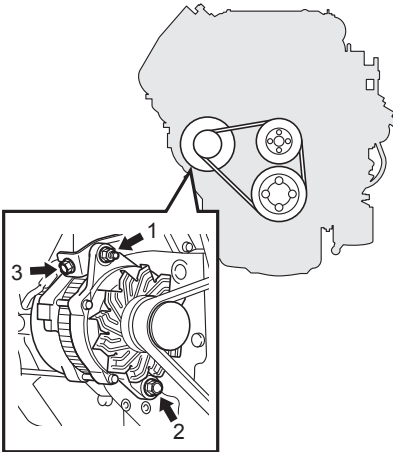
Adjustment

1. Loosen the generator's upper and lower nuts and bolts (1, 2).
2. Turn the adjusting bolt (3) until the belt tension falls within the standard value range.

For the NMR71 model, replace the belt when the distance between the edge of the slider and adjusting bolt seat of the generator is 35 mm (1.38 in) or less.

3. After adjustment, firmly tighten all the loosened nuts and bolts.

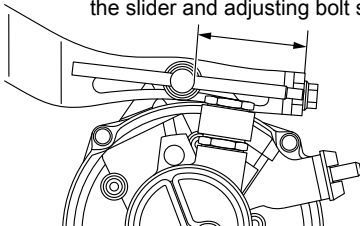
4HG1-T engine model

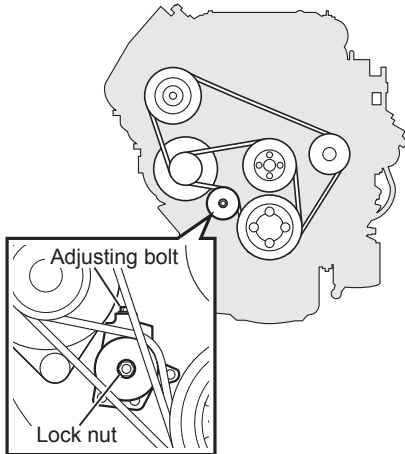


Changing the Belt

1. Loosen the generator's upper and lower nuts and bolts (1, 2), and then detach the belt from the pulleys.
2. Take out the belt through the opening in the fan.
3. Insert the new belt through the opening in the fan and install the belt while aligning its grooves with those in the generator pulley and crankshaft pulley.
4. Turn the adjusting bolt (3) until the belt tension falls within the standard value range.
5. After adjustment, firmly tighten all the loosened nuts and bolts.

Distance between the edge of the slider and adjusting bolt seat

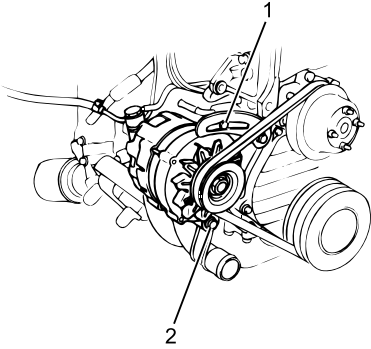


4HK1 engine model**4HK1 Engine Model****Adjustment**

1. Loosen the tensioner's lock nut.
2. Adjust the belt tension with the adjusting bolt.
3. When the tension has been adjusted, securely fasten the tensioner's lock nut.

Changing the Belt

1. Loosen the tensioner's lock nut.
2. Loosen the adjusting bolt and remove the belt from the pulleys.
3. Take out the belt through the opening in the fan.
4. Insert the new belt through the opening in the fan, and install the belt while aligning its grooves with those in the pulleys.
5. Turn the adjusting bolt until the belt tension is within the standard value range.
6. When the tension has been adjusted, securely fasten the tensioner's lock nut.



4JB1-TC/4JH1 Engine Model

Adjustment

1. Loosen the generator's upper and lower nuts and bolts (1, 2).
2. Adjust the belt tension to the standard value.
After adjustment, firmly tighten all the loosened nuts and bolts.

Changing the Belt

1. Loosen the generator's upper and lower nuts and bolts (1, 2), and then detach the belt from the pulleys.
2. Take out the belt through the opening in the fan.
3. Insert the new belt through the opening in the fan and install the belt while aligning its grooves with those in the generator pulley and crankshaft pulley.
4. Adjust the belt tension to the standard value.
After adjustment, firmly tighten all the loosened nuts and bolts.

Air Cleaner

Use of clogged air cleaner element not only causes a deterioration in the engine output but also increased fuel consumption and dark exhaust smoke. The air cleaner element should be serviced in the following manner.

Change the air cleaner element in accordance with the Maintenance Schedule.



ADVICE

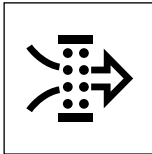
- Be sure to use an Isuzu genuine air cleaner element.

Maintenance Schedule

→ Refer to page 7-173

Checking the Air Cleaner

Air cleaner indicator light



Remove the air cleaner element and check to see if it is blocked by dirt.

If the air cleaner indicator light comes on, check the air cleaner element regardless of whether or not it is due for inspection.

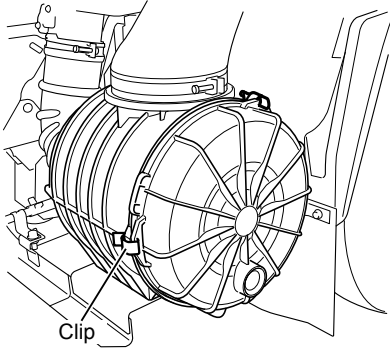
Air Cleaner Indicator Light

→ Refer to page 4-25

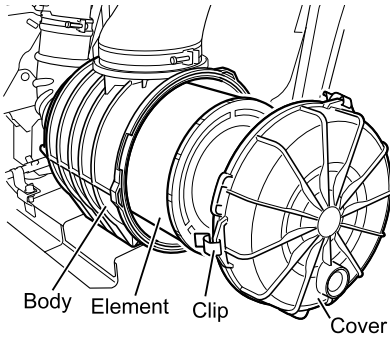
Maintenance Schedule

→ Refer to page 7-173

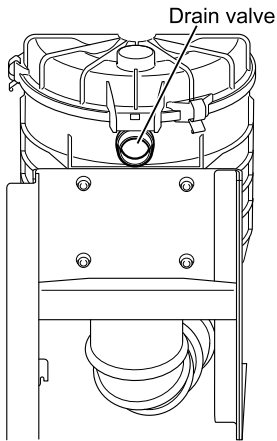
Changing the Air Cleaner Element



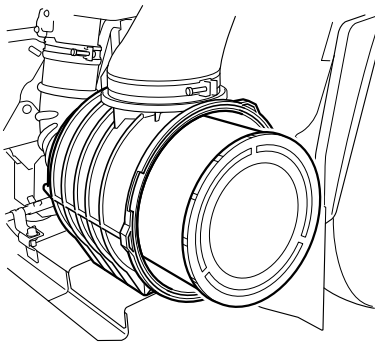
1. Unfasten the 3 clips and remove the air cleaner cover.



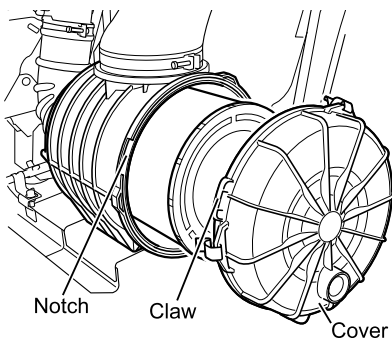
2. Remove the air cleaner element by pulling it out toward you.



3. Remove the dirt that has accumulated on the air cleaner cover and the air cleaner body.
4. Clean the drain valve at the bottom of the air cleaner.



5. Push the element back into position in the air cleaner body.



6. Install the air cleaner cover.
Line up the notch on the left side of the body with the claw on the cover. Secure the cover in position by fastening the 3 clips.

Cleaning the Air Cleaner Element

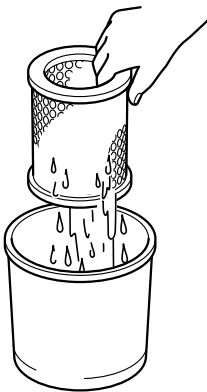


Choose one of the following cleaning methods depending on how the element has become dirty.

1. When dry dust has adhered to the element
 - a. Blow compressed air at a pressure of up to **690 kPa** (7.0 kgf/cm^2 /**100 psi**) against the inside of the element while turning it to remove the dust.
 - b. Check to see if the element has been damaged or become thin in places.

**ADVICE**

- Do not apply compressed air to the outer face of the element as it causes the dust to lodge in the inner face.



2. When the element has become blackened by oily smoke or soot
 - a. Soak the element in a mixture of water and neutral detergent for about 30 minutes.
 - b. Remove the element from the detergent solution and rinse well using tap water.
 - c. After cleaning, allow the element to dry naturally in a well-ventilated place.

**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 element.

Fuel Filter

Change the fuel filter (both the chassis-side and engine-side fuel filters for vehicles with a pre-fuel filter) in accordance with the Maintenance Schedule.

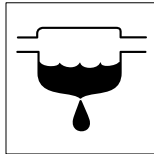
Drain the water when the water separator (fuel filter) warning light comes on.

(For vehicles with a pre fuel-filter, drain the water from the chassis-side and engine-side fuel filters.)

Maintenance Schedule

→ Refer to page 7-173

Water Separator (Fuel Filter) Warning Light



When a certain amount of water has collected in the water separator (the engine-side fuel filter), the water separator (fuel filter) warning light comes on. When this happens, drain the water and make sure that the warning light has gone out. (For vehicles with a pre-fuel filter, drain the water from the chassis-side and engine-side fuel filters and make sure that the warning light has gone out.)



CAUTION

- Water remaining that is not discharged from the water separator could freeze and damage the vehicle.
- If the warning light comes on 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.

Draining Water from the Fuel Filter

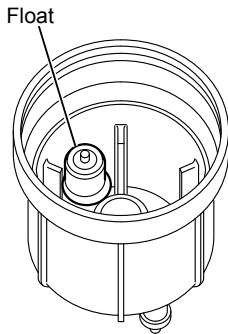
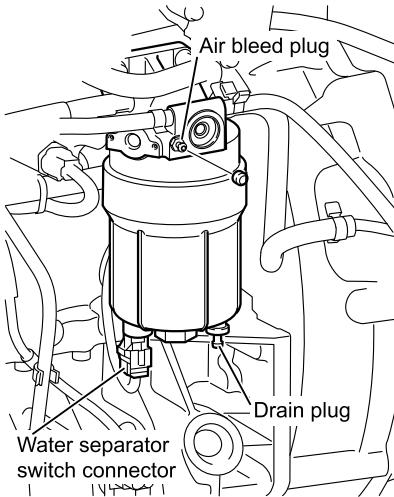
→ Refer to page 7-75

Changing the Fuel Filter

4JJ1/4HK1 Engine Models

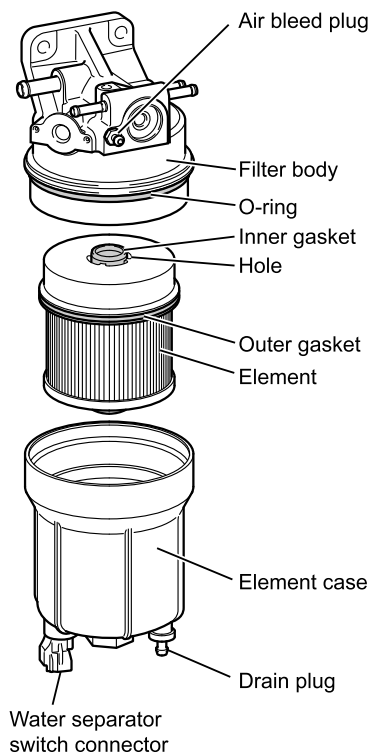
Engine-side Fuel Filter

1. Loosen the drain plug at the bottom of the filter element case. Remove the rubber cap of the air bleed plug and then loosen the plug. This will allow the fuel in the filter element case to drain through the drain plug. Tighten the air bleed plug.
2. Disconnect the water separator switch connector.
3. Use a tool (like a 29 mm (1.14 in) socket wrench) to turn the hexagonal part at the bottom of the element case counterclockwise and remove the element case.



ADVICE

- Check the float at the bottom of the interior of the filter element case for free and smooth movement.
- Connect the water separator switch connector, turn the filter element case upside down, and confirm that the water separator (fuel filter) warning light comes on.
- Clean any foreign matter or dirt at the bottom inside the filter element case.



4. Pull out the filter element downward and remove the O-ring. Use a clean cloth to wipe off any foreign matter that has accumulated on the inside surface of the filter body.

**ADVICE**

- Do not use compressed air to remove foreign matter. Use a clean cloth instead. Air blowing may bring foreign matter into the fuel passage, which could cause the engine to malfunction.
5. Attach the new O-ring to the filter body, making sure that it is not damaged by the screw threads.
 6. After lightly coating the inner and outer gaskets of the new filter element with diesel fuel, insert the element until it touches the filter body.

**ADVICE**

- Do not allow foreign matter to get into the 4 holes next to the inner gasket.
7. After lightly coating the inner surface of the element case or the O-ring with diesel fuel, turn the element case clockwise until it touches the filter body. If the element case end fails to touch the filter body, the filter element has not been inserted fully. Reinsert the element while turning it.

**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.

**ADVICE**

- Be sure to use an Isuzu genuine fuel filter element.
- Replace the gaskets when replacing the filter element.
- Dispose of the replaced filter element in a method conforming to the regulatory requirements in your country.

8. Install the element case.

Element case tightening torque

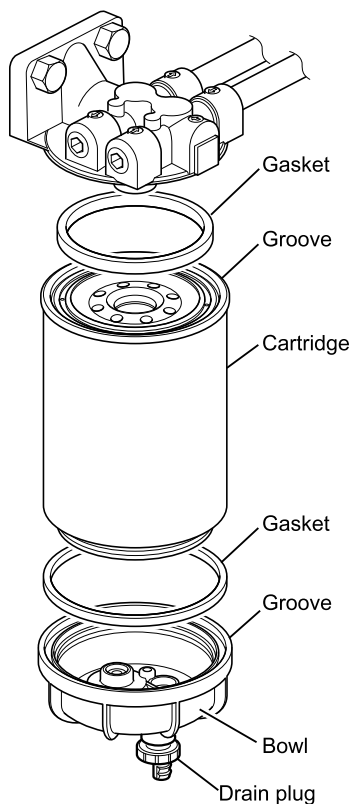
51 - 61 N·m (5.2 - 6.2 kgf·m/38 - 45 lb·ft)

9. Tighten the drain plug and connect the water separator switch connector.
10. Bleed air from the fuel system. To bleed air from the fuel system, refer to and follow the instructions in "Engine-side Fuel Filter", followed by "After You Have Bled Air from the Fuel System".

Bleeding the Fuel System (4JJ1 Engine Model with Chassis-side Fuel Filter (Type 1)) → Refer to page 8-17

**WARNING**

- After changing the fuel filter element, operate the engine to check that there are no leaks around the filter. Fuel leaks could cause a fire.



4JJ1 Engine Model

Chassis-side Fuel Filter (Type 1)

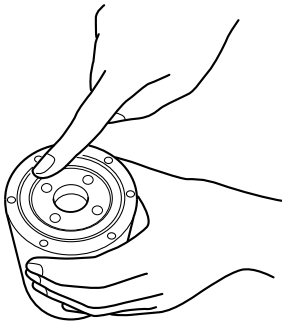
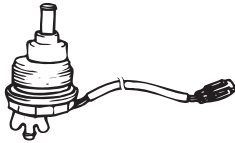
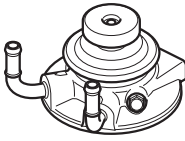
1. Loosen the drain plug at the bottom of the bowl to drain the fuel inside the filter. (Self-bleeding type)
2. Turn the filter element cartridge counterclockwise to loosen and remove it from the filter head.
3. Turn the bowl counterclockwise to loosen and remove it from the cartridge.
4. Fit a new gasket into the groove of the bowl, lightly coat it with clean diesel fuel and tighten the bowl until the gasket is firmly seated in position.
5. Fill a new cartridge with diesel fuel to make air bleeding easier.
6. Fit a new gasket into the groove on the top of the cartridge, lightly coat it with clean diesel fuel and screw the cartridge into the filter head until the gasket is firmly seated in position. Be careful not to spill any diesel fuel from inside during this process.
7. Use a filter wrench and tighten the cartridge and bowl by 1/2 to 2/3 turns. (Reference tightening torque for both cartridge and bowl: 10 N·m (1.0 kgf·m/87 lb·in))
8. Tighten the drain plug and bleed air from the fuel system. To bleed air from the fuel system, refer to and follow the instructions in "Chassis-side Priming Pump", followed by "After You Have Bled Air from the Fuel System".

Bleeding the Fuel System (4JJ1 Engine Model with Chassis-side Fuel Filter (Type 1)) → Refer to page 8-17



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.



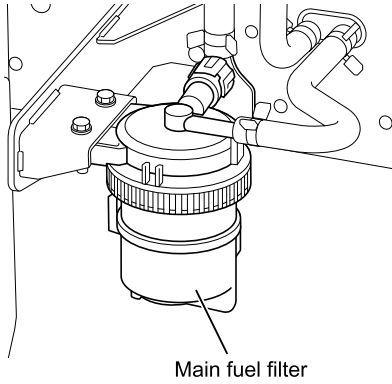
4JJ1 Engine Model Chassis-side Fuel Filter (Type 2), 4HK1/4JB1-TC Engine Model Chassis-side Fuel Filter

1. Remove the cartridge using the special filter wrench.
2. Remove the sediment sensor.
3. Install the sediment sensor on the new cartridge.
4. Clean the cartridge mounting surface of the filter body to ensure tight seating of the cartridge.
5. Lightly coat the O-ring of the cartridge with engine oil.
6. To facilitate bleeding of the fuel system, fill the new cartridge with diesel fuel.

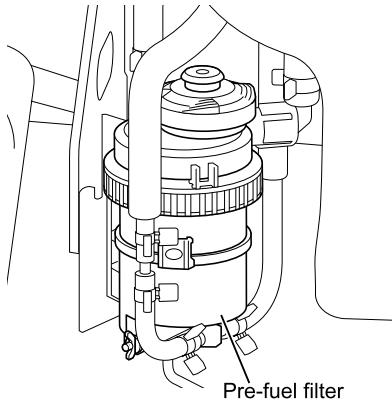
7. Install the cartridge by tightening it until the O-ring touches the sealing surface. Do this work extremely carefully not to spill the diesel fuel from the cartridge.
8. Using the special filter wrench, tighten the cartridge an additional $\frac{1}{3}$ to $\frac{2}{3}$ of a turn.

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.

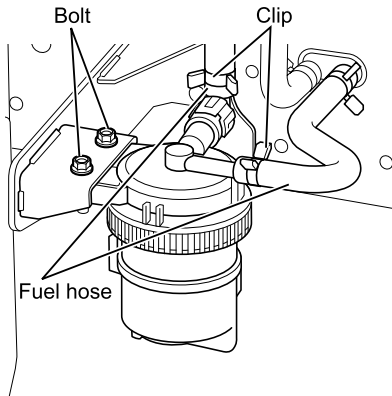
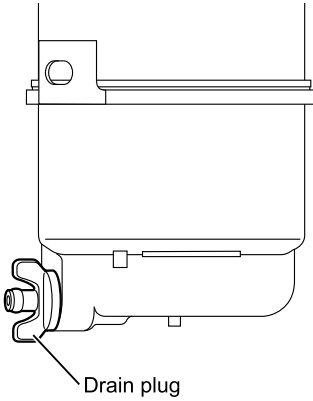
Main fuel filter**4JH1 Engine Model**

This type is equipped with 2 filters, a main fuel filter and a pre-fuel filter. Replace both filters at the same time. Depending on the model, the positions and directions of the fuel filters are different.

Pre-fuel filter

Main Fuel Filter

1. Connect one end of a plastic hose to the drain plug at the bottom of the element case and place the other end of the hose inside a container to receive the drained fuel.
2. Loosen the drain plug to drain fuel. After draining, tighten the drain plug.

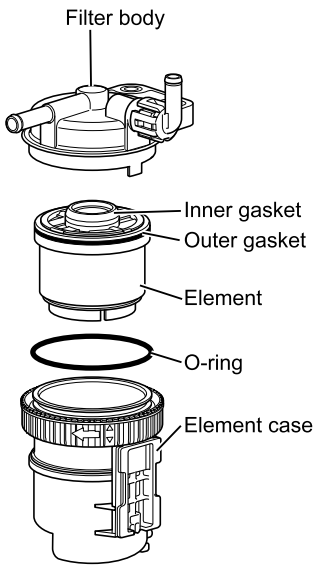
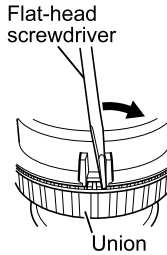


3. Pinch the clip of the fuel hose connected to the filter body and remove the fuel hose.

CAUTION

- Prevent foreign matter from getting into the fuel hose. The engine may be damaged if foreign matter intrudes.

4. Loosen the installation bolt and remove the main fuel filter assembly.



5. Insert a flat-head screwdriver into the groove on the filter body and turn the union to lightly loosen. After that, turn the union by hand and loosen halfway.

6. Further loosen the half loosened union and remove the element case. Then remove the element.

7. Remove the O-ring from the element case.

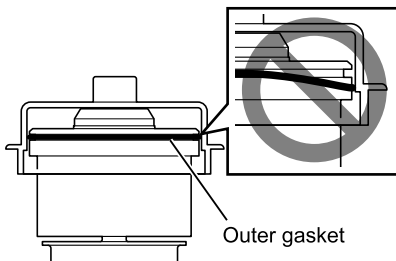
8. Use a clean cloth to wipe off any foreign matter that has accumulated on the inside surface of the filter body. In addition, clean any foreign matter or dirt inside the element case.

**CAUTION**

- Do not use compressed air to remove foreign matter. Using compressed air could cause an intrusion of foreign matter into the fuel passage. (The engine may be damaged if foreign matter intrudes.) Use a clean cloth to remove any dirt.

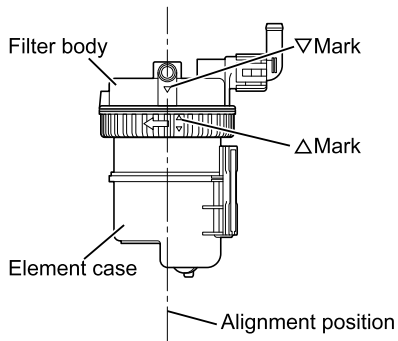
9. Install a new O-ring to the element case and lightly coat the O-ring with diesel fuel.

10. Lightly coat the inner gasket and outer gasket of the new element with diesel fuel. Insert the element into the filter body.



**CAUTION**

- After inserting the element into the filter body, check that the outer gasket is securely engaged in the element groove. Incomplete installation may cause an intrusion of foreign matter into the fuel passage resulting in engine damage.



11. Install the element case to the filter body while holding the element with your hand.
After aligning the filter body and element case to the alignment position shown in the illustration, align the claws on the filter body with the element case notches and tighten the union halfway, while holding the filter body and element case.
12. Tighten the union until the Δ mark on the union comes to the right of the ∇ mark on the filter body.
13. Install the main fuel filter assembly with a bolt and nut.

Tightening torque

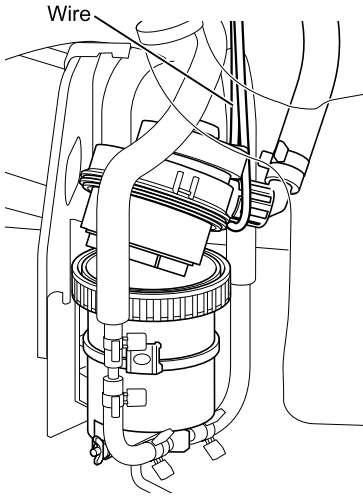
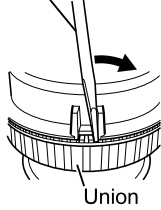
13.7 - 23.5 N·m
(1.4 - 2.4 kgf·m/**10.1 - 17.3 lb·ft**)

14. Connect the fuel hose to the filter body.

**WARNING**

- Check that there is no breakage of the fuel hose such as cracking. Have your vehicle inspected at the nearest Isuzu dealer as soon as possible if there is any fuel hose breakage such as cracking.

Flat-head
screwdriver



Pre-fuel Filter

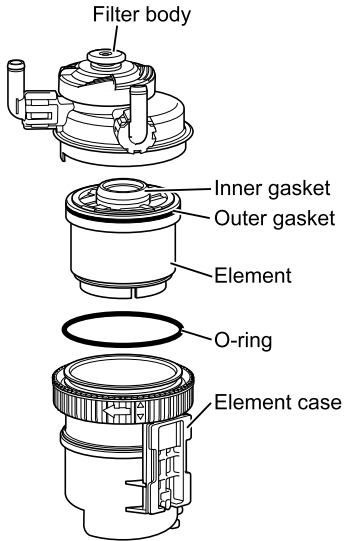
1. Insert a flat-head screwdriver into the groove on the filter body and turn the union to lightly loosen.

2. Turn the union by hand and pull out the filter body.
At this time, check the alignment position of the filter body and element case.



NOTE

- When pulling out the filter body, fuel will flow out of the filter body. Using a wire, etc., fasten at a high position so that fuel does not flow out.

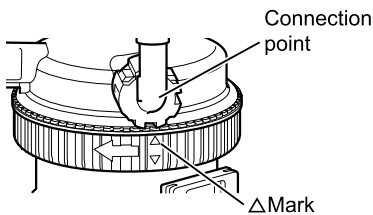
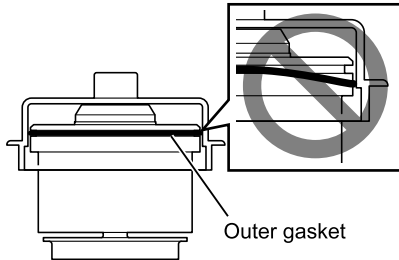


3. Remove the element from the filter body.
4. Connect one end of a plastic hose to the drain plug at the bottom of the element case and place the other end of the hose inside a container to receive the drained fuel.
5. Loosen the drain plug to drain fuel. After draining, tighten the drain plug.
6. Remove the O-ring from the element case.
7. Use a clean cloth to wipe off any foreign matter that has accumulated on the inside surface of the filter body. In addition, clean any foreign matter or dirt inside the element case. At this time, check that the float at the bottom of the element case interior moves freely and smoothly.

**CAUTION**

- Do not use compressed air to remove foreign matter. Using compressed air could cause an intrusion of foreign matter into the fuel passage. (The engine may be damaged if foreign matter intrudes.) Use a clean cloth to remove any dirt.

8. Install a new O-ring to the element case and lightly coat the O-ring with diesel fuel.



9. Lightly coat the inner gasket and outer gasket of the new element with diesel fuel.

Insert the element into the filter body.

⚠ CAUTION

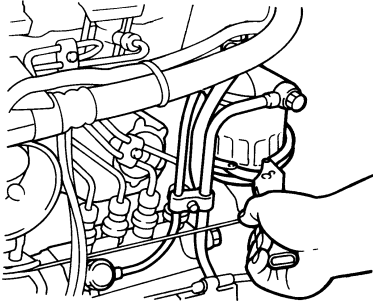
- After inserting the element into the filter body, check that the outer gasket is securely engaged in the element groove. Incomplete installation may cause an intrusion of foreign matter into the fuel passage resulting in engine damage.

10. While supporting the element inserted into the filter body with your hand, install the filter body to the element case. After aligning the alignment positions of the filter body and element case, align the claws on the filter body with the element case notches and tighten the union until the \triangle mark on the union comes to the right of the connection point of the hose, while holding the filter body.

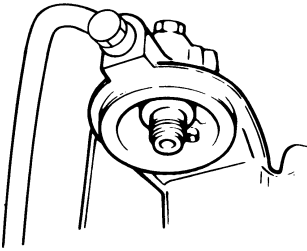
11. Bleed air from the fuel system.
12. Start the engine and check that there is no fuel leakage from the fuel filter.

⚠ WARNING

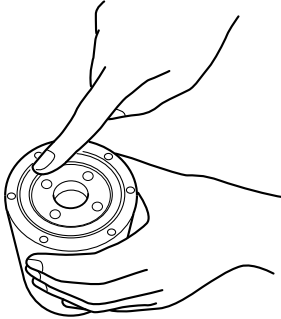
- Check that there is no breakage of the fuel hose such as cracking. Have your vehicle inspected at the nearest Isuzu dealer as soon as possible if there is any fuel hose breakage such as cracking.

4HG1-T Engine Model**Engine-side Fuel Filter**

1. Loosen the fuel filter by turning it counterclockwise with a filter wrench.



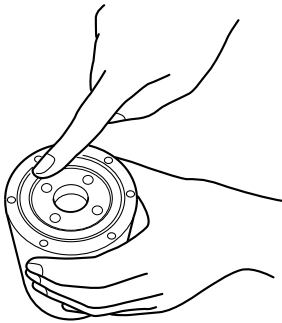
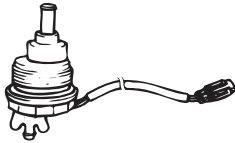
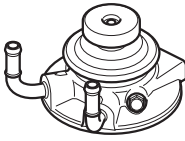
2. With a rag wipe clean the fitting face on the upper cover, so that the new fuel filter can be seated properly.



3. Lightly oil the O-ring. Install and screw in the filter assembly clockwise carefully to prevent fuel spillage. Turn it until the O-ring is fitted against the sealing face of the filter cover. Further turn the filter assembly $\frac{1}{3}$ to $\frac{2}{3}$ of a turn with a filter wrench.

⚠ 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.



Chassis-side Fuel Filter

1. Remove the cartridge using the special filter wrench.
2. Remove the sediment sensor.
3. Install the sediment sensor on the new cartridge.
4. Clean the cartridge mounting surface of the filter body to ensure tight seating of the cartridge.
5. Lightly coat the O-ring of the cartridge with engine oil.
6. To facilitate bleeding of the fuel system, fill the new cartridge with diesel fuel.

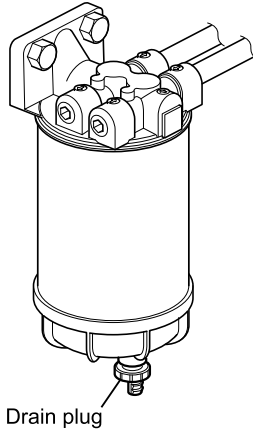
7. Install the cartridge by tightening it until the O-ring touches the sealing surface. Do this work extremely carefully not to spill the diesel fuel from the cartridge.
8. Using the special filter wrench, tighten the cartridge an additional $\frac{1}{3}$ to $\frac{2}{3}$ of a turn.

WARNING

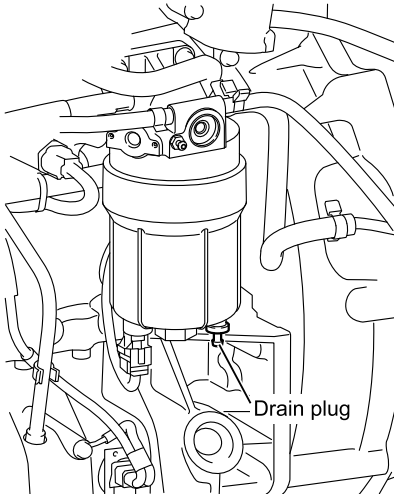
- After changing the fuel filter, operate the engine to check that there are no leaks around the filter. Fuel leaks could cause a fire.

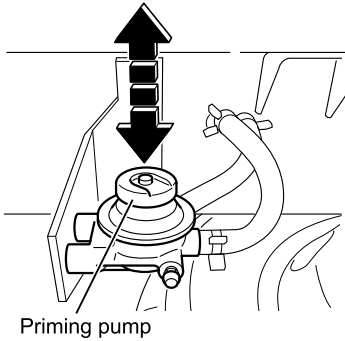
Draining Water from the Fuel Filter**4JJ1 Engine Model****Chassis-side Fuel Filter (Type 1)**

1. Connect one end of a plastic hose to the drain plug at the bottom of the chassis-side pre-fuel filter (primary filter) and place the other end of the hose inside a container to receive the drained fluid.
2. Loosen the drain plug; water will be discharged through the plug. Tighten the drain plug when water stops flowing out of it.
3. If the water separator (fuel filter) warning light comes on, drain water from the engine-side fuel filter as well.

**4JJ1/4HK1 Engine Models****Engine-side Fuel Filter**

1. Connect one end of a plastic hose to the drain plug at the bottom of the engine-side fuel filter and place the other end of the hose inside a container to receive the drained fluid.

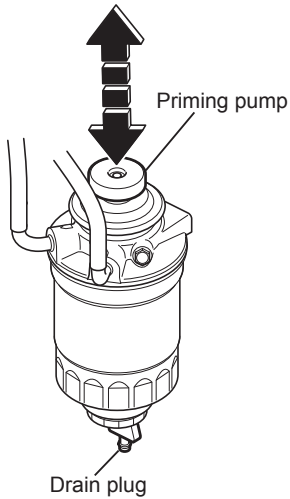




2. Loosen the drain plug and move the priming pump up and down by hand between 10 and 20 times.
3. Fully tighten the drain plug and move the priming pump several times.
4. Test run the engine and check that there are no fuel leaks from the drain plugs of the chassis-side fuel filter and engine-side fuel filter. Also check that the water separator (fuel filter) warning light stays off.

**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 does not 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.
- If the water separator (fuel filter) requires frequent draining, have the fuel tank drained at your Isuzu Dealer. It would be better not to use the water separator (fuel filter), since it may possibly exert a bad effect on the fuel system.



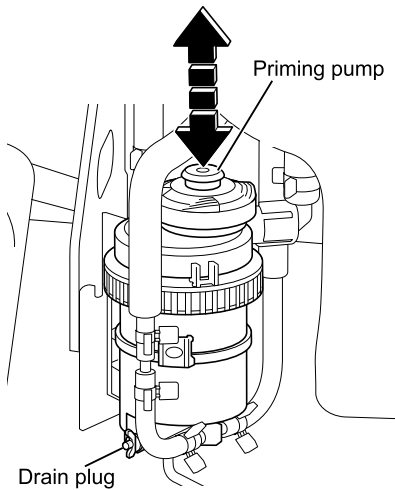
4JJ1 Engine Model Chassis-side Fuel Filter (Type 2), 4HK1/4JB1-TC/4HG1-T Engine Model Chassis-side Fuel Filter

1. Connect one end of a plastic hose to the drain plug at the bottom of the fuel filter and place the other end of the hose inside a container to receive the drained fluid.
2. Loosen the drain plug at the bottom of the fuel filter, and then move the priming pump up and down by hand 10 to 20 times.
3. Tighten the drain plug securely, and then operate the priming pump once again several times.
4. Confirm that no fuel leaks from the drain plug and also that the warning light goes out after the engine starts.



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 does not 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.



4JH1 Engine Model

1. Connect one end of a plastic hose to the drain plug at the bottom of the fuel filter and place the other end of the hose inside a container to receive the drained fluid.
2. Loosen the drain plug at the bottom of the fuel filter, and then move the priming pump up and down by hand 10 to 20 times.
3. Tighten the drain plug securely, and then operate the priming pump once again several times.
4. Confirm that no fuel leaks from the drain plug and also that the warning light goes out after the engine starts.



CAUTION

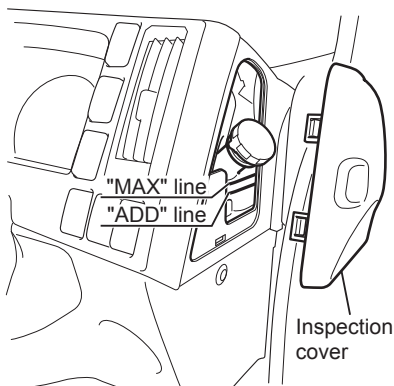
- Clean off any fuel that has adhered to the vehicle body.
- Starting the engine immediately after draining the water from the fuel filter requires a little more time than usual. If the engine does not start in 10 seconds, wait for a while and try again.
- Fuel will be mixed in the drained water. Dispose of it in a method conforming to the regulatory requirements in your country.
- If the water separator requires frequent draining, have the fuel tank drained at your nearest Isuzu dealer.

**CHASSIS-RELATED SERVICE AND
MAINTENANCE**

• Brakes	7-80
• Parking Brake	7-93
• Brake Hoses and Pipes HB	7-96
• Drum Brakes	7-97
• Air Tanks FAB	7-100
• Air Dryer FAB	7-100
• Wheels and Tires	7-101
• Tire Rotation	7-110
• Changing Tires	7-112
• Spare Tire	7-122
• Clutch	7-124
• Transmission Oil	7-129
• Rear Axle Differential Gear Oil	7-133
• Steering Wheel	7-136
• Power Steering Fluid	7-137
• Hub Bearing Grease	7-140
• Greasing Chassis Components	7-141

Brakes

Brake Fluid (Hydraulic Brake Model)



Checking the Brake Fluid Level

Remove the inspection cover on the driver side of the instrument panel by turning it with your fingers. Check that the fluid level in the reserve tank is between the "MAX" and "ADD" lines.

If the fluid surface cannot easily be seen, rock the vehicle gently.

Adding Brake Fluid

If the level of brake fluid has dropped below the "ADD" line, remove the cap and add fluid. Take care to avoid filling beyond the "MAX" line.

Tighten the cap securely after the fluid has been added.



CAUTION

- When adding fluid to the tank, take care to prevent dirt and water from entering it. Any dirt or water in the system could cause the vehicle to lose braking functions.
- Inspect and change brake fluid according to the Maintenance Schedule.
- Use non-petroleum base brake fluid when adding brake fluid.
- Be careful not to spill brake fluid onto painted surfaces or to let it come in contact with skin. If fluid is spilled onto a painted surface or come in contact with skin, wash away the fluid with water and immediately wipe the area clean.
- Brake fluid readily absorbs moisture. Therefore, it is necessary to close the container tightly for storage.
- Never mix the specified brake fluid with fluids of another brand.
- If the brake fluid level decreases rapidly, there may be a problem in the brake system or shoe linings may have worn out. Have your vehicle inspected by the nearest Isuzu Dealer immediately.

Bleeding the Brake Hydraulic System

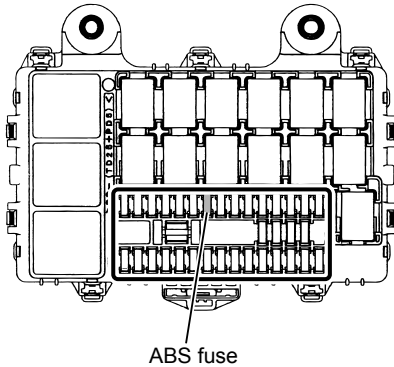
If air is present in the brake hydraulic system, it adversely affects brake operations. Bleed the system if the brakes are used when the quantity of the brake fluid in the tank is extremely low or the brake piping is removed during maintenance operation. Do not perform bleeding by yourself; it should be done with the help of another person. If the brake system is equipped with a load sensing proportioning valve (LSPV), bleed air from the LSPV in addition to the front and rear brakes.

WARNING

- Before bleeding the brake system, be sure to park the vehicle on flat, level ground and apply chocks to the wheels.
- Since the brake fluid readily absorbs moisture, ensure that moisture does not enter the fluid while checking, adding or storing it. If moisture enters the fluid, the boiling point of the fluid decreases and this causes "vapor lock", a highly dangerous problem that affects brakes' functionality.
- Do not allow engine oil, gear oil and any other oils to mix with the brake fluid. Brake fluid contaminated with such oils degrades the brakes' functionality and damages the brake system components, possibly causing a very dangerous situation.

CAUTION

- Brake fluid melts paintwork and vehicle component materials such as plastic, vinyl and rubber. It is also highly corrosive on metals. If it is spilled, wipe it off the affected surface immediately and thoroughly wash the surface with water.
- When bleeding the brake hydraulic system (including the master and wheel cylinders) of a model with hydraulic brake booster (HBB), always start with bleeding of the hydro-booster system. Next, bleed the brake hydraulic system with the engine running. It is not possible to remove all the air while the engine is stopped.



1. Fully apply the parking brake.

CAUTION

- In a model with an anti-lock brake system (ABS), remove the ABS fuse (10A) from the fuse box before starting an air-bleeding operation. Failure to observe this precaution will result in incomplete bleeding of air, and the ABS components may be damaged as a result. Once air bleeding has been completed, install the ABS fuse (10A) in its original position.

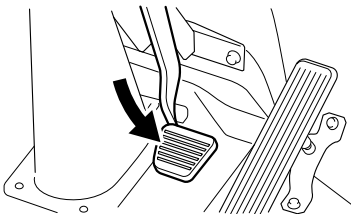
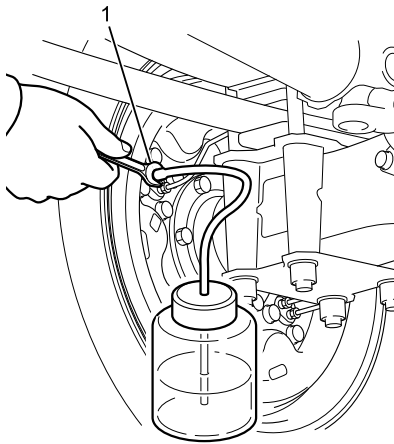
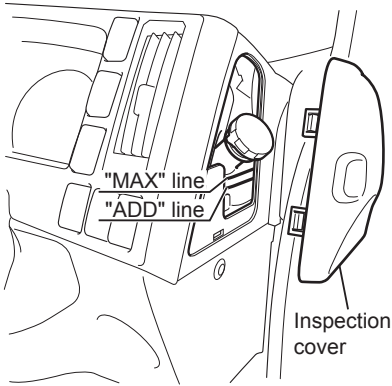
The Location of Fuses and Relays

→ Refer to page 8-48

2. Start the engine and allow it to idle.

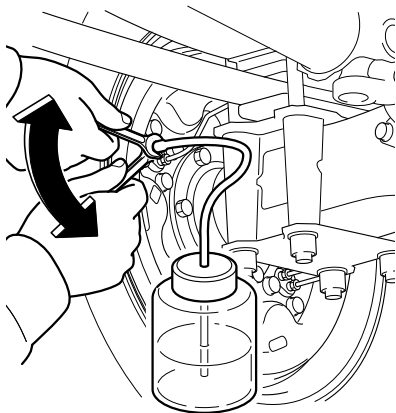
CAUTION

- If the engine is not running during air bleeding, the brake booster may be damaged.

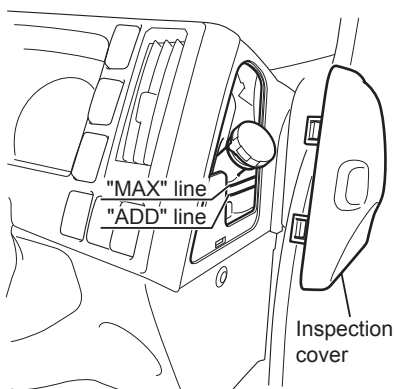


3. Remove the cap from the brake fluid tank, and then add brake fluid to the "MAX" line on the tank. Maintain this level throughout bleeding by adding brake fluid as necessary.
4. Bleed the brake hydraulic system part by part in the following sequence:
Right-hand drive:
Left rear wheel → Right rear wheel →
Left front wheel → Right front wheel
Left-hand drive:
Right rear wheel → Left rear wheel
→ LSPV (model with LSPV only) →
Right front wheel → Left front wheel
5. Detach the rubber cap from the bleeder screw (1). Wipe the bleeder screw clean. Attach one end of a vinyl tube to the bleeder screw and put the other end in a clear container. Fill the container with the brake fluid to about one-third (1/3) of its capacity.

6. Press the brake pedal a few times and keep it pressed.



7. Loosen the bleeder screw to let the brake fluid containing air bubbles flow into the container and then tighten the bleeder screw immediately.



8. Release the brake pedal slowly. Repeat Steps 6 and 7 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 brake fluid tank is not below the "ADD" line.
- If the engine is not running during air bleeding, the brake booster may be adversely affected.

Brake system warning light

9. After you finish the bleeding for each wheel, press the brake pedal to check that the brake system warning light does not come on.

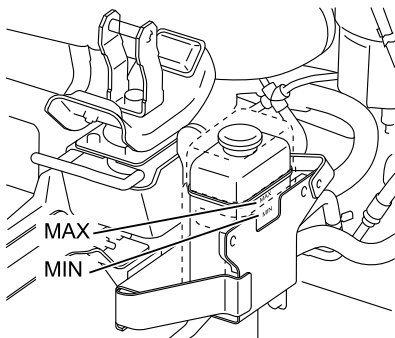
Hydro-Booster Fluid (Hydraulic Brake Model) V**⚠ WARNING**

- The HBB system has been designed to use Besco ATF-III as the hydro-booster fluid (Dexron®III fluids from different suppliers can also be used). If any other fluid is used with this system, rubber components may be damaged, oil may leak and the system may malfunction. It is important to remember that the fluid used in the hydro-booster is completely different in characteristics from the brake fluid used in the master and wheel cylinders.
- Keep brake fluid for the master and wheel cylinders away from hydro-booster components. Likewise, keep hydro-booster fluid away from the master and wheel cylinder components.
- If hydro-booster fluid and brake fluid from the master cylinder are mistakenly mixed together and used, rubber components will deteriorate as a result of insufficient lubrication. Any resultant oil leakage or system malfunction can in turn lead to dragging brakes or other major brake problems. As such, mixing of these two fluids can ultimately lead to vehicle fire or other serious accidents.
- When the pump operates while the engine is running, the fluid in the hydro-booster will become hot. During normal braking, the temperature in piping and within the hydro-booster can rise above 100°C (212°F). For this reason, special care will be required when working with hydro-booster components. If the hydro-booster is to be removed from the vehicle, shut off the engine and then allow at least 30 minutes for it to cool down before beginning this operation.
- Even when the engine is stopped, the hydro-booster's accumulator will remain in a highly-pressurized condition for a significant period of time. Before removing the hydro-booster or piping from the vehicle, stop the engine and depress the brake pedal at least 10 times in order to lower the accumulator pressure to atmospheric pressure. This is of particular importance when removing components such as the accumulator or pressure switch from the hydro-booster. If these operations are attempted while the accumulator is still at a high pressure, hydro-booster fluid may spray out.

⚠ CAUTION

- When bleeding the brake hydraulic system (including the master and wheel cylinders) of a model with HBB, always start with bleeding of the hydro-booster system. Next, bleed the brake hydraulic system with the engine running. It is not possible to remove all the air while the engine is stopped. When bleeding both the hydro-booster and the brake hydraulic systems, start with the hydro-booster system using Step 1 through Step 9 below.

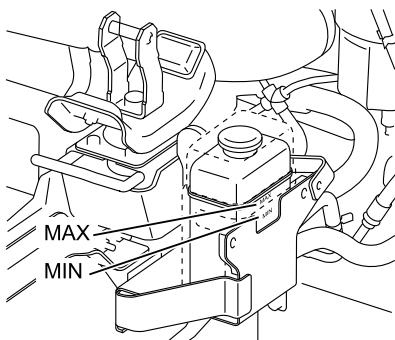
Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-197



Checking the Hydro-booster Fluid Level

Check the hydro-booster fluid level and change the fluid according to the Maintenance Schedule.

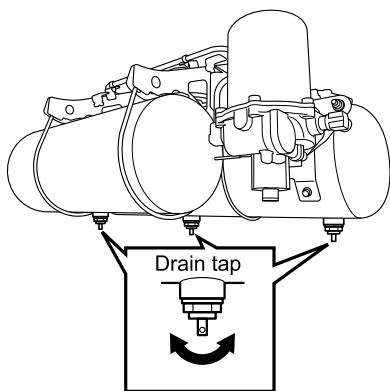
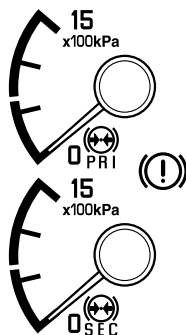
The hydro-booster fluid level is correct if it is between the "MAX" and "MIN" lines. If the level is too low, add fluid up to the "MAX" line. Be sure to use Besco ATF-III when adding fluid.



Changing the Fluid and Bleeding the Hydro-booster System

1. Add hydro-booster fluid until the level in the hydro-booster fluid tank is between the "MIN" and "MAX" lines.
2. Start the engine and allow it to idle for approximately 5 seconds.
3. Stop the engine and check the fluid level in the tank.
4. If the fluid level in the hydro-booster fluid tank is below the "MIN" line, add fluid until it rises to between the "MIN" and "MAX" lines.
5. Repeat Step 2 through Step 4 until the fluid level has stabilized and no bubbles remain in the fluid. When bubbles are seen, wait until they have gone before repeating the above process.
6. With the engine running, slowly press the brake pedal about 5 times.
7. Stop the engine and check the fluid level in the tank. If the level is below the "MIN" line, add hydro-booster fluid until it rises to between the "MIN" and "MAX" lines.
8. With the engine stopped, press the brake pedal at least 10 times.

9. Repeat Step 6 through Step 8 until the fluid level has stabilized and no bubbles remain in the fluid. When bubbles are seen, wait until they have gone before repeating the above process.
10. After completing Step 9, start the engine and bleed air from the brake hydraulic system (including the master and wheel cylinders) with the engine running.
11. With the engine running, slowly and firmly press the brake pedal approximately 30 times (at intervals of between 1 and 3 seconds) until the booster reaches the full-load range. Once the full-load condition has been reached, do not keep the pedal pressed for any more than 1 second.
12. Stop the engine, and then press the brake pedal at least 10 times in succession.
13. Check the condition of the hydro-booster fluid in the tank. The air-bleeding process can be ended when the fluid level has stabilized and bubbles are no longer present. When bubbles are seen, wait until they have gone and then perform Step 11 and Step 12 above again.

Air Pressure FAB

Air pressure warning light



Checking Air Pressure

1. Check the air pressure gauges to see that the primary and secondary air systems are charged with air to proper pressures.

Optimum air pressure

*** - *** kPa
(*** kgf/cm²/*** psi)

2. Next, check the rate at which the air pressure rises. After confirming that the parking brake lever is fully pulled, operate the drain taps (by pushing or pulling) at the bottom of the air tank to let all the air in the air tank be discharged.

3. Start and run the engine at idle. The brake air systems are in order if the time taken for the air pressure warning light to go out matches the time indicated in the following table for your particular vehicle.

Time taken before air pressure warning light goes out

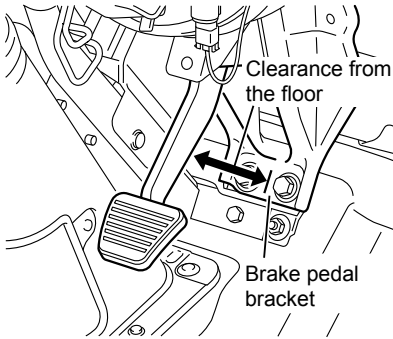
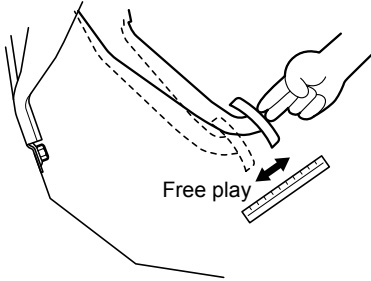
Time (minutes)
**

The time taken before the air pressure warning light goes 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.

 **WARNING**

- Do not operate the vehicle while any of the pressure gauge needles are in the red zone or the air pressure warning light is on. Brakes are then not fully functional, and it is dangerous to operate the vehicle.

Brake Pedal



Stroke and Free Play HB

Shut off the engine and depress the brake pedal about 10 times strongly, then check the brake pedal for free play by lightly pushing it by hand until you feel resistance. Next, start the engine, and wait at least 1 minute. Then depress the brake pedal and measure the clearance of the pedal from the floor (that is, the distance between the brake pedal bracket and the brake pedal arm).

Free play (measured at the tip of pedal)

Models without HBB	5 - 10 mm (0.20 - 0.39 in)
Model with HBB	24 - 29 mm (0.94 - 1.14 in)

Model without HBB	Clearance between the brake pedal and the brake pedal bracket with a pressure of 490 N (50 kgf/110 lb) applied to the brake pedal
GVM: below 6,500 kg (14,333 lb)	45 mm (1.77 in) or more
GVM: 6,500 kg (14,333 lb) or more	35 mm (1.38 in) or more

Model with HBB	Clearance between the brake pedal and the brake pedal bracket with a pressure of 294 N (30 kgf/66 lb) applied to the brake pedal
—	45 mm (1.77 in) or more

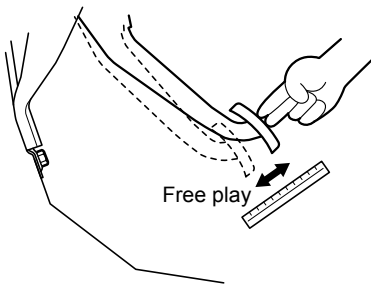


ADVICE

- If, after continued pressing of the brake pedal, the clearance slowly decreases or the pedal action feels spongy, air may be trapped in the brake hydraulic circuit. Have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.

**NOTE**

- To check the clearance of the pedal from the floor, start the engine, depress the accelerator pedal a few times, and use the first pressing of the brake pedal to measure the clearance. The clearance cannot be correctly measured after pressing the pedal two or more times in succession.
- Before checking the free play of the brake pedal, stop the engine and press the pedal 4 or 5 times in succession.

**Free Play** FAB

Press the brake pedal with two fingers to check that the pedal free play is proper and the pedal moves smoothly without abnormal interference.

Free play (measured at the tip of pedal)

** mm (** in)

**Brake Valve Operation** FAB

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.

Brake Performance

Run the vehicle slowly on a dry road and apply the brakes. Check that the brakes fully work and the vehicle does not pull on one side.

**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.

**ADVICE**

- If your vehicle's brakes squeak during normal driving or braking, the cause may be the following.
 - Adherence of sand, grit or mudIf sand, grit or mud adheres to the brakes, a screeching sound may be emitted upon contact with rotating components. If this happens, wash the vehicle to remove all such adhering matter. If cleaning alone does not eliminate the squeaking sound, have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.

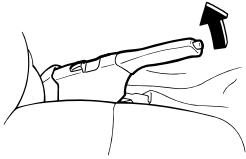
Parking Brake



NOTE

- Your vehicle has either of two types of parking brake.
 - Center parking brake (hydraulic brake model)
When you pull the parking brake lever, the center parking brake works on the propeller shaft to lock the rear axle.
 - Wheel parking brake (full-air brake model)
When you pull the parking brake lever, the wheel parking brake activates the rear wheel brakes to lock them.

Checking the Parking Brake Lever Stroke



Model with Center Parking Brake

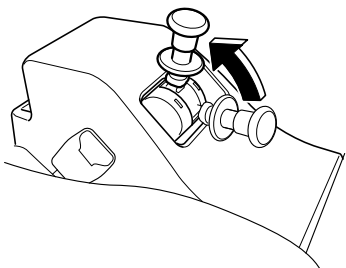
HB

Pull the parking brake lever slowly from the fully released position while counting the clicks produced as the lever engages ratchet plate notches to check that it can be raised the proper amount and the lever is held firmly. If the number of notches is not within the standard value range below, adjust it to the standard value. Also, on a dry sloping road, check that the parking brake can hold the vehicle stationary.

Lever stroke*

6 to 8 notches

*Number of notches before parking brake is set when lever is pulled slowly from released position with pull force of about 147 N (15 kgf/33 lb).



Model with Wheel Parking Brake

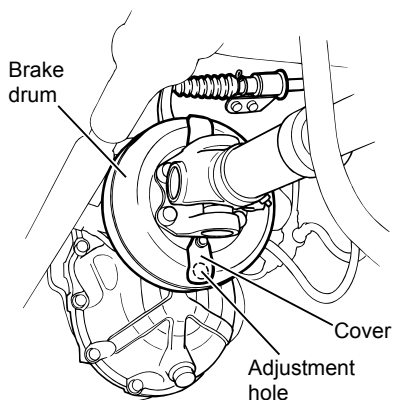
FAB

Pull the parking brake lever from the fully released position to the lever 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.

Adjustments

Model with Center Parking Brake

HB

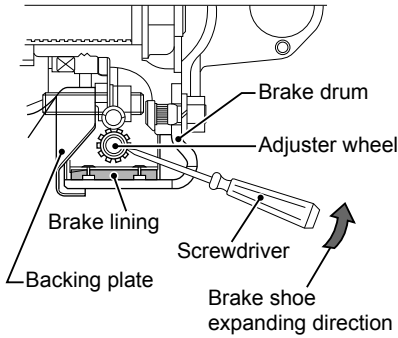


1. Park the vehicle on a level and flat ground surface, prevent the vehicle from moving by applying chocks to the front and back of the front wheels, and release the parking brake completely.
2. Loosen the parking brake lever cable adjusting nut inside the cab.
3. Confirm that the transmission is in the neutral position and then raise the vehicle with a jack until the rear wheels come clear of the ground.
4. Support the raised vehicle with jack stands.

Handling the Jack → Refer to page 7-144

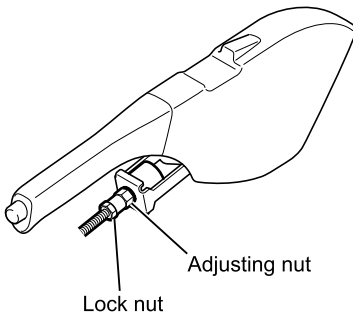
WARNING

- Before going under the raised vehicle, make sure that the vehicle is securely supported with jack stands.



5. Turn the parking brake drum to place the adjustment hole straight down. Remove the adjustment hole cover and turn the drum as necessary to align the hole with the position of the adjuster wheel.
6. Insert a screwdriver through the adjustment hole and turn the adjuster upward (MSB transmission model) or downward (MYY transmission model) all the way until it cannot be turned any further.
7. From this point, turn the adjuster wheel back by the number of teeth indicated below. After the adjustment, reinstall the adjustment hole cover.

Vehicle model	Number of teeth by which the adjuster wheel should be turned back	Parking brake drum-to-lining clearance
MYY transmission	30 teeth	0.75 mm (0.030 in)
MSB transmission	30 teeth	0.78 mm (0.031 in)



8. Loosen the lock nut.
9. Turn the adjusting nut until the parking brake lever stroke is adjusted to a number of notches within the standard value range below. After the adjustment, securely tighten the lock nut.

Lever stroke
6 to 8 notches

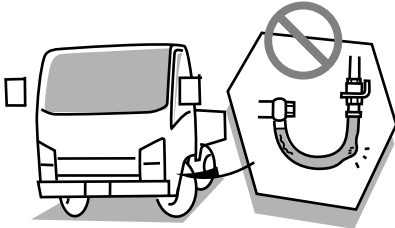


NOTE

- Wheel parking brake requires no adjustments.

Brake Hoses and Pipes HB

Inspection



With the steering wheel turned fully to the left, check the left front brake hose and pipe visually and by touch, making sure that they are free of scratches, cracks and bulging. Also make sure that the hose and pipe do not interfere with any chassis part or wheel, and that their joints are not leaking and free of any type of damage. Check the right front brake hose and pipe in the same way. The rear left and right brake hoses and pipes should also be checked.

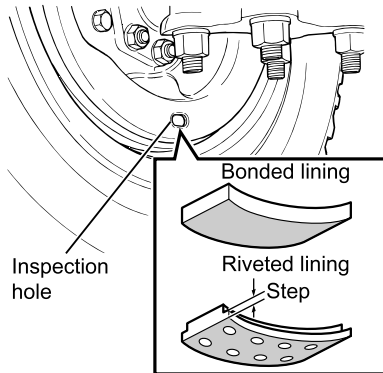
Drum Brakes

If the brake shoe linings wear out beyond their usable limit, not only will the brake performance be impaired, but brake components could also fail.

WARNING

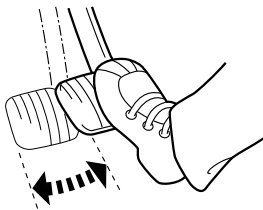
- Do not drive with brake shoe linings worn out beyond the limit. Excessively worn brake shoe linings may cause breakdown of brake components and poor braking performance. This is very dangerous.

Checking Brake Shoe Linings for Wear



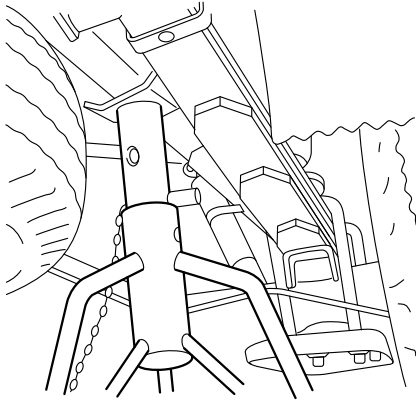
1. For hydraulic brake models, remove the rubber plug from the inspection hole in the backing plate.
2. Check that brake shoe lining of sufficient thickness is remaining. Also check the side surfaces of the lining for cracks, flaking or other damage.
3. The wear limit for bonded brake shoe linings is when the thickness is reduced to 1 mm (0.04 in) and the wear limit for riveted linings is when the step is worn away. The lining must be replaced if it is worn beyond the wear limit or there are cracks or flaking on the side surfaces. Have the replacement carried out by the nearest Isuzu Dealer.

Adjustment of Drum-to-Lining Gap



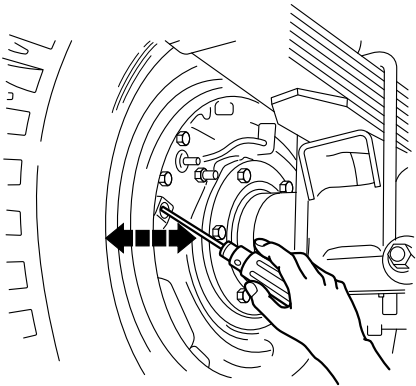
Hydraulic Brake Model (with Automatic Adjuster)

1. Press down the brake pedal as far as it goes.
2. Repeating Step 1 above until there is no change in pedal stroke will automatically adjust the drum-to-lining gap to a certain extent. After this, repeated braking while driving will automatically adjust the gap.



Hydraulic Brake Model (without Automatic Adjuster)

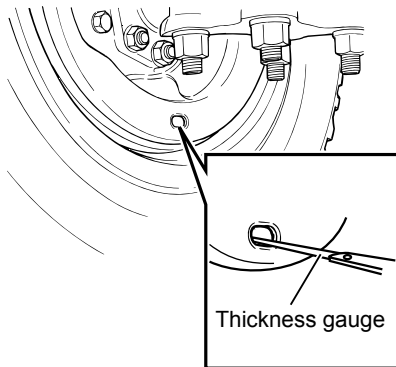
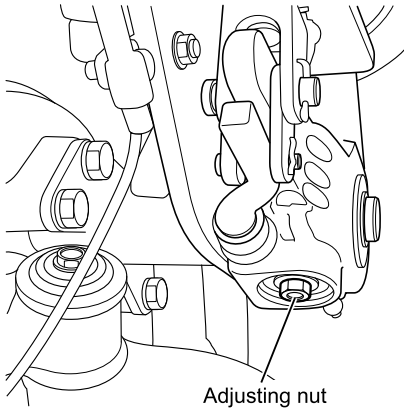
1. Apply the parking brake firmly and chock the wheels.
2. Raise the vehicle until the wheel is completely clear of the ground.
3. Support the raised vehicle with jack stands.



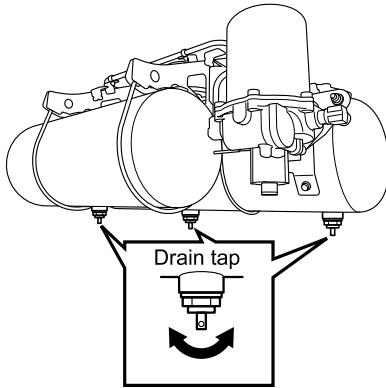
4. Remove the rubber plug from the adjustment hole in the backing plate.
5. Insert a screwdriver into the adjustment hole and turn in the direction indicated by the arrow on the backing plate until the adjuster wheel can no longer be turned.
6. From this point, turn the adjuster wheel back by 5 or 6 teeth. After adjustment, install the adjustment hole's rubber plug in place.

Full-air Brake Model

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 front wheels, and release the parking brake completely.
2. Turn the adjusting nut clockwise until the lining touches the drum, and then turn the adjusting nut 1/2 turn counterclockwise.



3. Insert a thickness gauge through the inspection hole in between the brake drum and brake shoe lining to confirm whether or not there is a gap. When there is no gap, turn the adjusting nut 1/4 turn counterclockwise and confirm again whether or not there is a gap. If after doing so, there is still no gap, contact the nearest Isuzu Dealer.

Air Tanks FAB

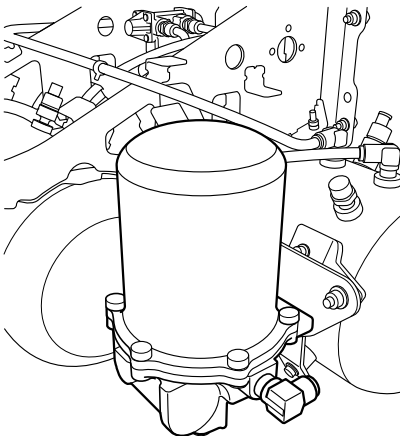
Air tanks may contain water. You must drain them by operating the drain taps (by pushing or pulling) at the bottom of the air tank to discharge water.

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.

 **WARNING**

- 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.

Air Dryer FAB

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.

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.

Wheels and Tires

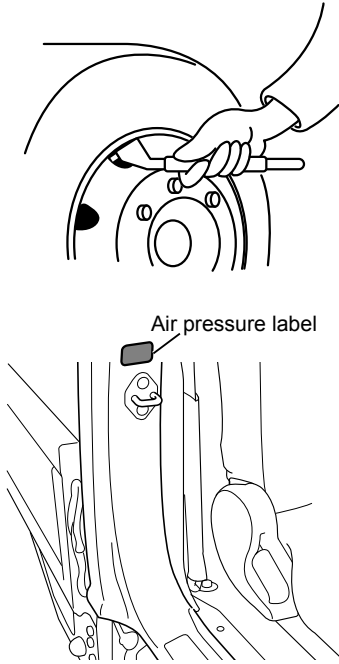
The wheels have a major influence upon the safety and comfort of driving. Should any wheel fall off the vehicle, it not only causes the vehicle to break down on the road and block other traffic, but it may also lead to a serious accident. We strongly recommend that you check the wheels and tires daily and maintain them in satisfactory condition.



WARNING

- Do not drive the vehicle unless the tires are properly inflated and in safe condition.
- 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



Air Pressure

Too low or too high a tire air pressure not only affects the ride or causes damage to the cargo but also causes abnormal heat buildup, premature wear, a tire puncture, or may even cause the tire to burst.

- 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%.)
- As the tire air pressure varies depending on the vehicle model and tire size, refer to the air pressure label on the driver's door opening frame if the air pressure label is attached or the tire air pressure tables on the following pages if the air pressure label is not attached.
- Also check the air pressure of the spare tire using a tire air pressure gauge at the intervals specified by the Maintenance Schedule.

Tire Size and Tire Air Pressure

Vehicle model	Tire size		Tire air pressure kPa (kgf/cm ² /psi)	
	Front	Rear	Front	Rear
NLR55E	7.50-15-10PR	7.50-15-10PR	575 (5.75/83)	575 (5.75/83)
	225/75R16	225/75R16	600 (6.00/87)	600 (6.00/87)
NLR55H	7.50R15-10PR	7.50R15-10PR	575 (5.75/83)	575 (5.75/83)
	7.50-15-14PR	7.50-15-14PR	700 (7.00/102)	700 (7.00/102)
	225/75R16	225/75R16	600 (6.00/87)	600 (6.00/87)
NMR85H	7.00R15-8PR	7.00R15-8PR	450 (4.50/65)	450 (4.50/65)
	7.00R15-10PR	7.00R15-10PR	525 (5.25/76)	525 (5.25/76)
	7.00R16-10PR	7.00R16-10PR	525 (5.25/76)	525 (5.25/76)
	195/85R16	195/85R16	600 (6.00/87)	600 (6.00/87)
	205/85R16	205/85R16	600 (6.00/87)	600 (6.00/87)
NPR85K	7.50R16-10PR	7.50R16-10PR	575 (5.75/83)	575 (5.75/83)
	7.50R16-12PR	7.50R16-12PR	650 (6.50/94)	650 (6.50/94)
	7.50R16-14PR	7.50R16-14PR	700 (7.00/102)	700 (7.00/102)
	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
	215/85R16	215/85R16	600 (6.00/87)	600 (6.00/87)
NLR77E	6.50R-15-10	155R13-8PR	*** (****)	*** (****)
QLR77F	7.00R15-8PR	7.00R15-8PR	*** (****)	*** (****)
	195/85R/16	195/85R/16	*** (****)	*** (****)
QMR77H	7.00R15-8PR	7.00R15-8PR	*** (****)	*** (****)
	195/85R/16	195/85R/16	*** (****)	*** (****)
NQR75L	7.50R16-14PR	7.50R16-14PR	700 (7.00/102)	700 (7.00/102)
	8.25R16-14PR	8.25R16-14PR	675 (6.75/98)	675 (6.75/98)
	225/90R17.5	225/90R17.5	700 (7.00/102)	700 (7.00/102)
NQR75M	7.50R16-14PR	7.50R16-14PR	700 (7.00/102)	700 (7.00/102)
	8.25R16-14PR	8.25R16-14PR	625 (6.25/91)	625 (6.25/91)
	225/90R17.5	225/90R17.5	*** (****)	*** (****)
NLR71E	7.50R15-10PR	7.50R15-10PR	575 (5.75/83)	575 (5.75/83)
	7.50-15-12PR	7.50-15-12PR	650 (6.50/94)	650 (6.50/94)
	225/75R16	225/75R16	600 (6.00/87)	600 (6.00/87)
NLR71H	7.50R15-10PR	7.50R15-10PR	575 (5.75/83)	575 (5.75/83)
	7.50-15-14PR	7.50-15-14PR	700 (7.00/102)	700 (7.00/102)
	225/75R16	225/75R16	600 (6.00/87)	600 (6.00/87)

7-104

SERVICE AND MAINTENANCE

Vehicle model	Tire size		Tire air pressure kPa (kgf/cm ² /psi)	
	Front	Rear	Front	Rear
NMR71H	7.50R-16-14PR	7.50R-16-14PR	700 (7.00/102)	700 (7.00/102)
	7.50-16-14PR	7.50-16-14PR	700 (7.00/102)	700 (7.00/102)
NQR90L	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
	225/75R17.5	225/75R17.5	*** (*****)	*** (*****)
NQR90M	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
	225/75R17.5	225/75R17.5	*** (*****)	*** (*****)

**WARNING**

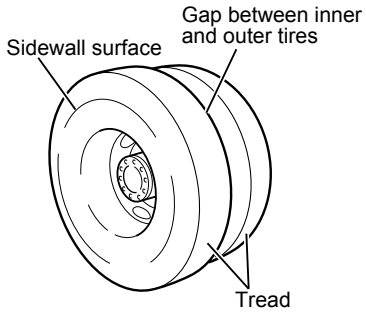
- Insufficiently inflated or worn-out tires are highly dangerous as they easily skid and can even burst. Should they burst, the tires may burn and this could cause a fire in the vehicle.
- If you drive on under-inflated or flat tires, the wheel bolts will be placed under excessive stress. Under such conditions, the bolts may break and the wheel may detach from the vehicle, possibly causing an accident.

**CAUTION**

- 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**

- There should not be a difference in air pressure between the inside and outside tires on a dual-tire wheel.
- It is not easy to visually identify an under-inflated dual-wheel tire or low aspect ratio tire (aspect ratio at 70% or 75%). Always use a tire air pressure gauge to check the air pressure of any tire.
- If your vehicle is equipped with aluminum wheels, use an extension attached to the inner tire valve together with a standard tire air pressure gauge or use a special air pressure gauge when checking the air pressure of a dual-wheel's inner tire. This facilitates checking.



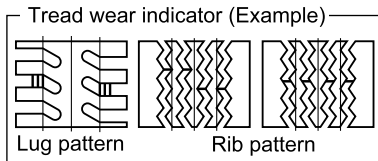
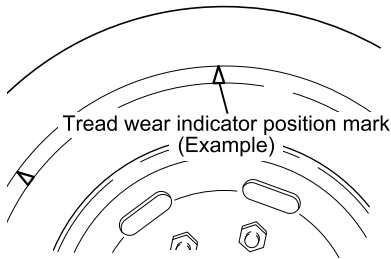
Cracks and Other Damage

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.



Tread Depth and Abnormal Wear

Using worn-out tires is dangerous because they might have an increased chance of getting punctured or bursting while driving. 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. Also, check the tires for uneven or otherwise abnormal wear.



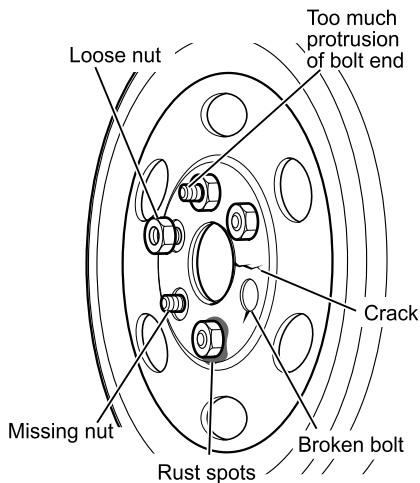
CAUTION

- Tires with excessively shallow tread grooves will increase the chance of skidding and, when driving at high speeds, hydroplaning.



NOTE

- 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.



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 for proper length of protrusion 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

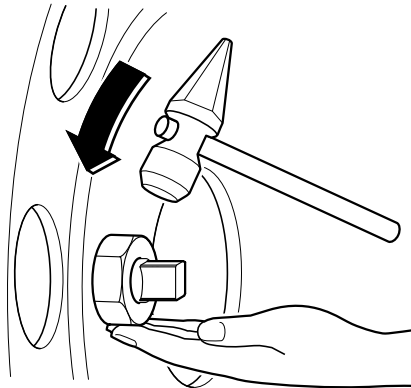
Place your fingers on the bottom of each wheel nut and tap the top flat portion of the nut with an inspection hammer or small hammer in the tightening direction.

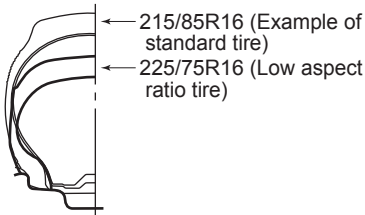
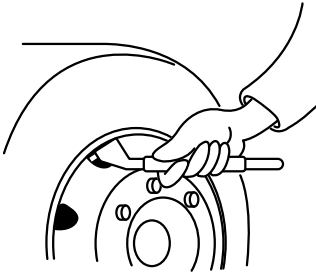
There may be some defect in a nut or its bolt if the vibration you feel by the fingers is different from the other nuts or if the sound it produces is not clear.



CAUTION

- If you detect any abnormal condition with a wheel nut and bolt during this inspection, it is likely that the nut is loose or the bolt is broken.





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 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.

Use of Low Aspect Ratio Tires

Low aspect ratio tires for truck applications (aspect ratio at 70% or 75%) have an air volume 20% to 30% smaller than that of standard tires. When air begins to leak, therefore, low aspect ratio tires adversely affect vehicle operation much faster than standard tires. Check air pressure of low aspect ratio tires more often than standard tires using a tire air pressure gauge.

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.

Tire Rotation



CAUTION

- 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.

Tires at different locations wear differently. For uniform tire wear and longer tire life, you should rotate the tires on your vehicle regularly.

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.

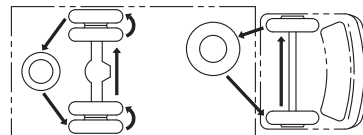
If there is a difference in diameter between the inner and outer tires of a dual-tire wheel, install the smaller diameter tire inside.

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.

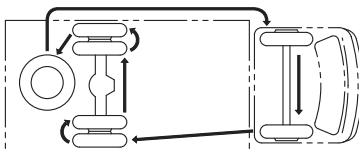
[Single-wheel model]



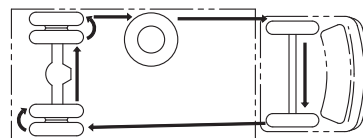
[Standard flat-low bed model]



[Model with spare tire stored at rear]



[Model with spare tire stored at side]



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.

Permissible diameter difference	
Radial tire	Within 6 mm (0.24 in)
Bias tire	Within 8 mm (0.31 in)

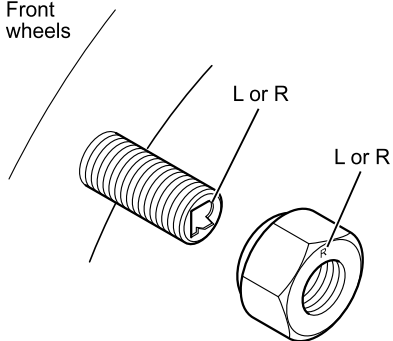
**ADVICE**

- 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.

Retightening Wheel Nuts

→ Refer to page 7-120

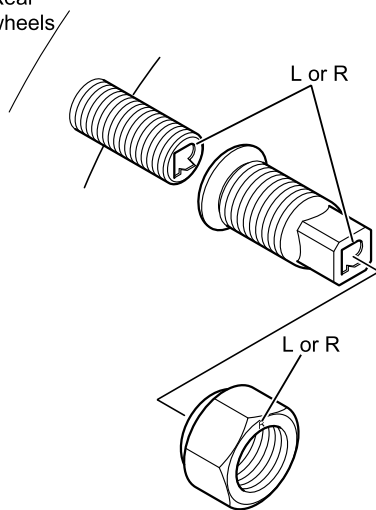
Changing Tires

Front
wheels

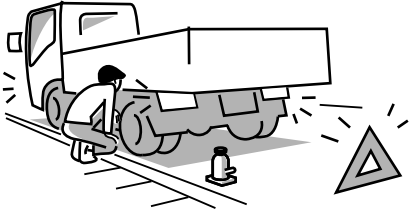
Change a tire on a level and solid surface after checking safety in the surrounding area.

Handling the Jack → Refer to page 7-144

Every bolt or nut for right-hand wheels is marked "R" or "R", and each bolt or nut for left-hand wheels is marked "L" or "L".

Rear
wheels

Preparation



When you park the vehicle to change tires, choose a place listed below.

- Your vehicle does not hinder other traffic.
- The surface is level, flat and solid.
- You can change a tire safely.

When changing tires on a road, use the hazard warning flasher and triangle reflectors to alert other traffic to the presence of your vehicle.

Fully pull the parking brake lever. Chock both the front and back sides of the wheel diagonally opposite to the one to be changed with chocks (or stones, wood blocks, etc.). (Example: When changing the right rear wheel, chock the left front wheel.) Have the passengers get out of the vehicle.



CAUTION

- 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.

Removing a Wheel

WARNING

- Always apply the parking brake fully and correctly chock the wheels before raising 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 would move, creating a very dangerous situation.
- Never open doors or start the engine while jacking up the wheel. 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.

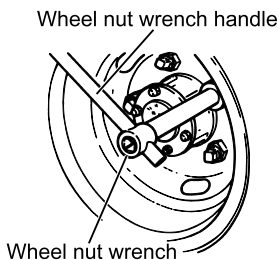
CAUTION

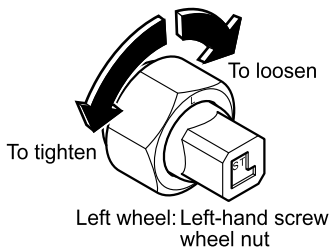
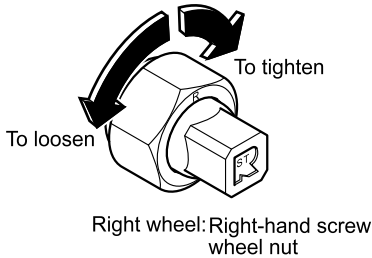
- The wheel is heavy. Carefully handle it to avoid getting hurt when removing and installing the wheel.
- Do not touch the exhaust pipe just after stopping the vehicle; it is very hot.

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 not quite clear of the ground.
4. Using the wheel nut wrench, loosen the wheel nuts just enough so that the wheel remains stable in position. Do not remove the wheel nuts yet.

CAUTION

- Do not loosen the wheel nuts too much. The wheel bolts would be damaged.





5. Jack up the vehicle so that the tire is clear of the ground completely.
6. Remove all the wheel nuts that have been loosened, and then remove the wheel.
Remove the wheel being careful to not damage the threads of the wheel bolts.
7. When removing either of the dual rear wheels, first remove the wheel nuts from the outer wheel and remove that wheel. Then, lower the vehicle and loosen the inner wheel nuts.
8. Raise the vehicle again, and then remove the inner wheel.
9. Check the following parts: the disc wheel for deformation and damage such as cracks; the hub for excessive wear of the disc wheel fitting surface; and the wheel bolts and nuts for damage to the threads. If anything abnormal is found in the above parts, check other parts as well, and replace any defective part with a new one.

Front Wheel Jacking Points

→ Refer to page 7-146

Rear Wheel Jacking Points

→ Refer to page 7-146

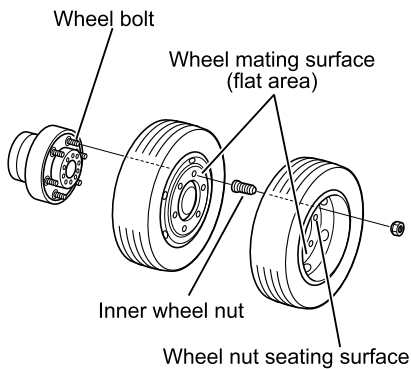
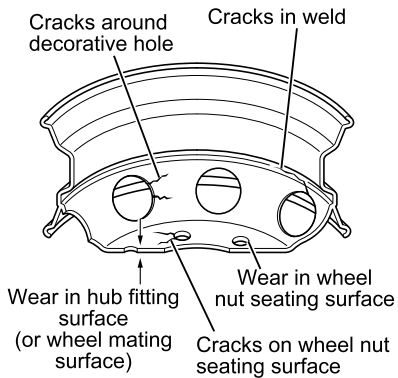
Installing a Wheel

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 (tapered surfaces) and hub fitting surface of the disc wheel. Thick paint films would cause loosened or broken wheel bolts.

**CAUTION**

- Change wheels only when the tire is 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.



1. Check the disc wheel for the following:

- Cracks or other damage around the bolt holes and decorative holes
- Cracks or other damage or wear on the wheel nut seating 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
- Bolt elongation or excessive rust
- Crushed, thinned or seized threads

**CAUTION**

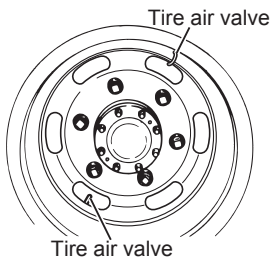
- Remove rust and dirt from a wheel bolt and nut, lightly lubricate the threads with engine oil, gear oil or power steering fluid and turn the nut on the bolt. If the nut does not turn smoothly, the threads are defective.
- If the threads are defective, replace both wheel bolt and wheel nut as a set.
- If any wheel bolt is broken, change all the wheel bolts and wheel nuts on the wheel.

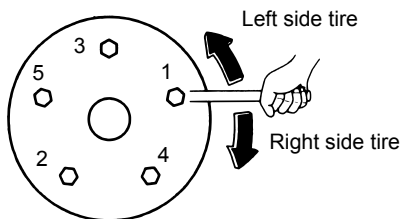
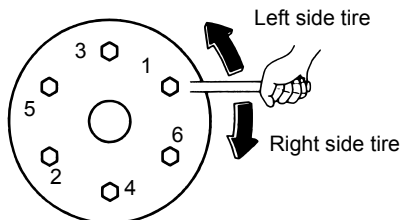
3. Remove rust, dust and mud from the fitting surface, hub fitting surface or wheel-to-wheel mating surfaces, and wheel nut seating surfaces (tapered surfaces) of the disc wheel, and from the threads of the wheel bolts and nuts.

**CAUTION**

- Clean the disc wheel to remove dirt and rust from its fitting surfaces, hub fitting surface or wheel-to-wheel mating surface. Also clean the tapered portion of each nut. If you fasten the wheel nuts without removing dirt and rust, the wheel nuts would later loosen and the wheel might be detached from the vehicle while driving. This could be very dangerous.

4. Install the wheel while aligning the bolt holes in the disc wheel with the wheel bolts.
When installing the rear wheel, place the outer wheel so that its tire air valve will be 180 degrees apart from that of the inner wheel to enable inflating both inner and outer tires.



Wheel nut tightening sequence**Wheel with 5 nuts****Wheel with 6 nuts**

5. Screw in each wheel nut by hand until it touches the nut seating surface on the disc wheel, and then finger tighten all wheel nuts until the wheel is held in position without any looseness. Face the tapered end of wheel nuts inward.
6. Turn the bleeder screw of the jack counterclockwise to lower the vehicle slowly.
7. Tighten the wheel nuts in a diagonal sequence and in two or three passes. When installing a rear wheel, tighten the nuts of the inner wheel first and then the nuts of the outer wheel.

**CAUTION**

- Some impact wrenches available in the market produce torques 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.
- 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.

8. Finally, tighten all wheel nuts using a torque wrench to the specified torque. You must tighten the nuts of the rear inner wheel before tightening the nuts of the rear outer wheel even when you change only the rear outer wheel.

Model or specification		Front wheel nuts		Rear wheel nuts	
		Tightening torque	Quantity	Tightening torque	Quantity
Single tire		140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6	140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6
Dual tire	Flat-low model	140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6	300 - 400 N·m (30 - 40 kgf·m/ 217 - 289 lb·ft)	6
		450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5		
	Other than flat-low model	450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5 or 6	450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5 or 6



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. Upon driving 50 to 100 km (31 to 62 miles) after a tire change, retighten the wheel nuts to the specified torque according to the instructions in the "Retightening Wheel Nuts" section in this chapter.

Retightening Wheel Nuts

→ Refer to page 7-120

Retightening Wheel Nuts

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.

Model or specification		Front wheel nuts		Rear wheel nuts	
		Tightening torque	Quantity	Tightening torque	Quantity
Single tire		140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6	140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6
Dual tire	Flat-low model	140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6	300 - 400 N·m (30 - 40 kgf·m/ 217 - 289 lb·ft)	6
		450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5		
	Other than flat-low model	450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5 or 6	450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5 or 6

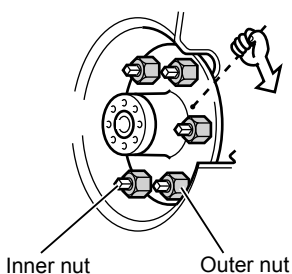
Single Tire

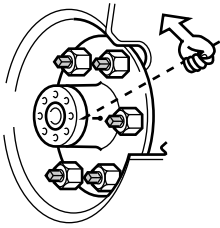
Turn the wheel nuts in the tightening direction to the specified torque.

Dual Tire

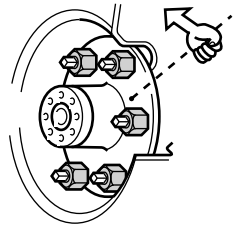
1. Of the nuts on the wheel bolts, loosen the outer wheel nuts.

Retightening of nuts on left rear dual-tire wheel





2. Tighten the inner wheel nuts of the same wheel to the specified torque.



3. Next, tighten the outer wheel nuts to the specified torque.

⚠ 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

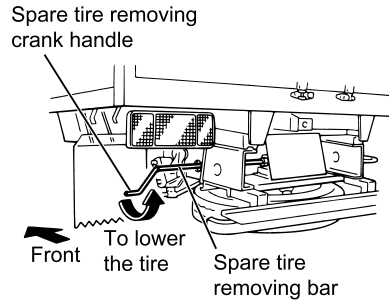
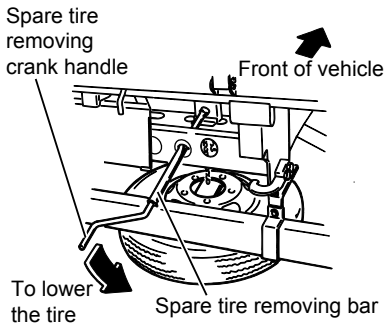
- Fully engage the wheel wrench on a wheel nut in order to tighten the nut to the specified torque. However, do not use a pipe as a handle extension or your foot to apply force on the wrench. This would tighten the nut more than required and might damage components.
- Both under-tightening and over-tightening of 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

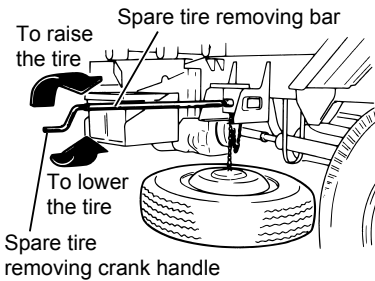
Removal

Assemble the spare tire removing bar and crank handle together, insert the bar into the hole in the spare tire carrier, and turn the crank handle counterclockwise to remove the spare tire.

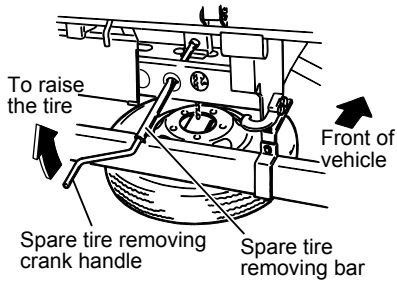
Spare tire stored at rear of frame



Spare tire stored at side of frame



Storage



Store the spare tire with the convex side of the disc wheel facing upward as shown in the figure. Insert the plate at the tip of the chain into the disc wheel center hole and adjust its position for secure engagement with the spare tire before winding the chain up.



CAUTION

- 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.



ADVICE

- Turn the spare tire removing bar clockwise to fully wind up the chain, apply at least **196 N (20 kgf/44 lb)** of force to the crank handle by hand, and make sure that the spare tire is firmly secured in place.
- After storing the spare tire, check that it is not loose by strongly pushing the tire with your foot. If the tire is loose, fasten it again after checking that there are no defects in the carrier such as a bent bracket or hanger plate. If you cannot retighten the tire in the carrier, do not drive the vehicle but contact the nearest Isuzu Dealer.

Air Pressure

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.

Maintenance Schedule

→ Refer to page 7-173

Clutch



CAUTION

- Overloading can cause damage to the clutch, such as slipping or rapid wear of the clutch.

For hydraulic brake models, the tank of the clutch fluid is common to the tank of the brake fluid.

Clutch Fluid



CAUTION

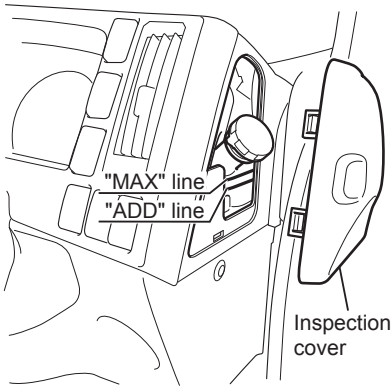
- When refilling the tank with clutch fluid, be careful not to let dust or water enter the tank. Dust or water can impair clutch operation.
- Be careful not to spill clutch fluid on a painted surface or let it come in contact with your skin. Should the fluid be spilled on a painted surface or come in contact with your skin, wash away the fluid with water and immediately wipe the area clean.
- Use only the specified clutch fluid and change it according to the Maintenance Schedule.
- Clutch fluid readily absorbs moisture. Close the cap of the container tightly when storing it.
- Do not use clutch fluid mixed with that of any other brand.
- If clutch fluid decreases too rapidly, there may be a problem in the clutch system or the brake system, or shoe linings may have worn out. Have your vehicle inspected by the nearest Isuzu Dealer immediately.

Maintenance Schedule

→ Refer to page 7-173

Recommended Fluids, Lubricants and

Diesel Fuels → Refer to page 7-197



Checking the Clutch Fluid Level

Remove the inspection cover on the driver side of the instrument panel by turning it with your fingers.

Confirm that the fluid level in the reserve tank is between the "MAX" and "ADD" lines.

If the fluid surface cannot easily be seen, rock the vehicle gently.

Adding Clutch Fluid

If the level of clutch fluid has dropped below the "ADD" line, remove the clutch fluid tank cap and add fluid. Add the specified clutch fluid up to the "MAX" line.



CAUTION

- Before refilling the tank, clean the area around the cap and fill clutch fluid from a clean container. Foreign objects getting in the tank will lead to a clutch system failure.
- Clutch fluid melts paintwork and vehicle component materials such as plastic, vinyl and rubber. It is also highly corrosive on metals. If it is spilled, immediately wipe the area clean or wash away the fluid with water.
- Do not mix clutch fluid with fluids of a non-specified brand. Due to chemical reactions, any mixture of differently branded fluids will cause failure of the clutch system.

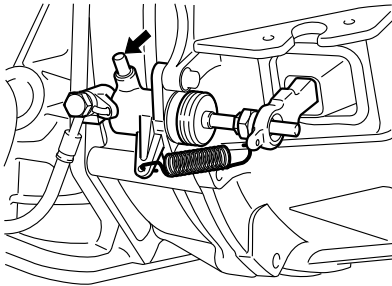
Changing Clutch Fluid

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.

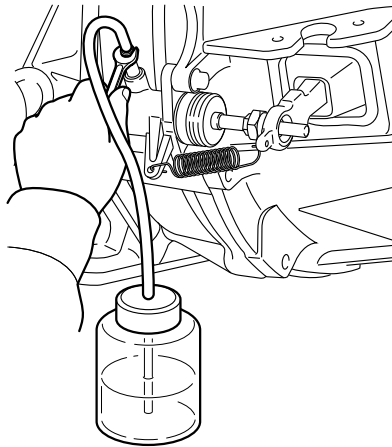
Bleeding the Clutch Hydraulic System

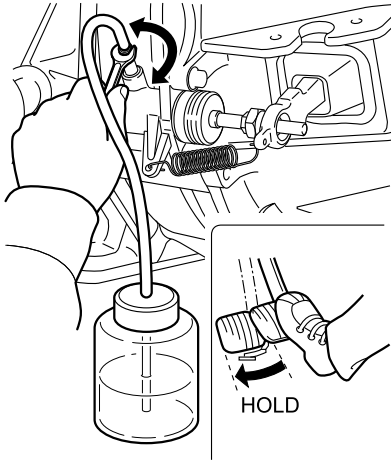
If air is present in the clutch hydraulic system, the clutch may disengage incompletely. Bleed the system if the clutch is used when the quantity of the clutch fluid in the tank is extremely low or the clutch piping is disconnected during a maintenance operation. Do not perform bleeding by yourself; 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.
3. Detach the rubber cap from the bleeder screw on the clutch slave cylinder. Wipe the bleeder screw clean.



4. Attach one end of a vinyl tube 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.





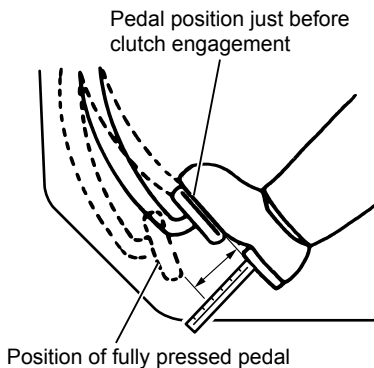
5. Press the clutch pedal several times and then keep it pressed.
6. Loosen the bleeder screw to let the clutch fluid containing air bubbles flow into the container and then tighten the bleeder screw immediately.
7. Release the clutch pedal slowly. Repeat Steps 5 and 6 until the fluid from the tube no 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 "ADD" line.

Clutch Pedal

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 Pedal

1. 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.

Clutch pedal free play
15 - 25 mm (0.59 - 0.98 in)

2. Make sure that the parking brake lever is pulled completely. Start and run the engine at idle and then press the clutch pedal fully.
3. Move the gearshift lever to the 1st position and then release the pedal slowly. The clutch pedal is normal if the distance from the fully pressed position to the position just before the clutch engages is 20 mm (0.79 in) or more.

Check also that the clutch engages smoothly without any slip when the vehicle starts to move slowly.



ADVICE

- Release the clutch pedal carefully to prevent the vehicle from starting too suddenly.

Transmission Oil

Change the transmission oil according to the Maintenance Schedule.

Maintenance Schedule

→ Refer to page 7-173



ADVICE

- Use the oil quantities indicated below only as guidelines when changing the transmission oil. After changing the oil, make sure the oil is at the required level.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

Quantity of transmission oil to be changed

Transmission model		Oil quantity [Reference value]
MSB5M/5S	5 speeds	2.7 liters (0.71 US gal./ 0.59 Imp gal.)
MYY5T	5 speeds	2.8 liters (0.74 US gal./ 0.62 Imp gal.)
MYY6S	6 speeds	3.5 liters (0.92 US gal./ 0.77 Imp gal.)

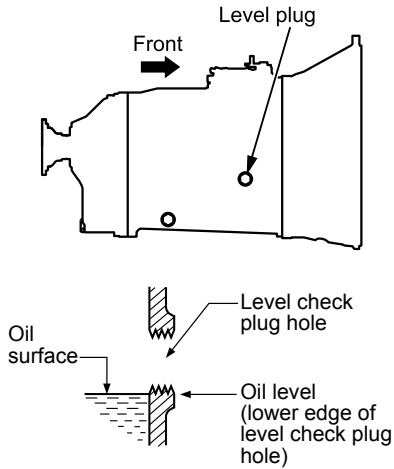


NOTE

- The transmission model is indicated by option code on the ID plate.

Option Codes → Refer to page 1-4

Checking the Oil Level



1. Remove the oil level plug.
2. Check whether the oil level is up to the lower edge of the oil level plug hole. The correct oil level range is between 0 and 10 mm (0 and 0.39 in) below the bottom of the 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.
Also check to see if there are any transmission oil leaks.

Oil level plug tightening torque

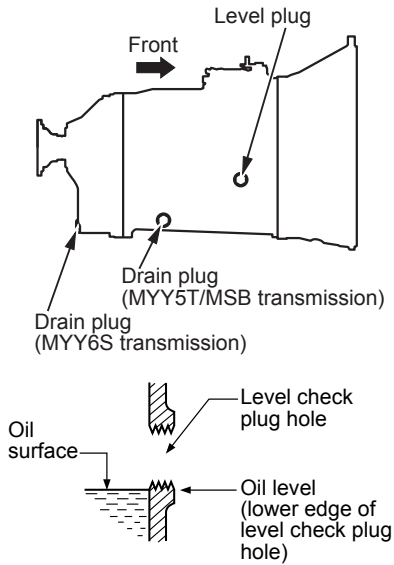
MYY transmission model	39 N·m (4.0 kgf·m/29 lb·ft)
MSB transmission model	49 N·m (5.0 kgf·m/36 lb·ft)



ADVICE

- Any dirt on the plug should be wiped off before installing it.

Changing the Oil



1. Place a container under the drain plug(s) to receive oil.
2. Remove both oil level plug and drain plug(s) to discharge the oil into the container.
3. After installing the drain plug(s) by tightening it to the specified torque, refill the transmission with new oil through the oil level plug hole up to the lower edge of the hole.

Drain plug tightening torque

MYY transmission model	39 N·m (4.0 kgf·m/29 lb·ft)
MSB transmission model	49 N·m (5.0 kgf·m/36 lb·ft)



ADVICE

- The dirt on the plug should be wiped off before installing it.

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 by tightening it to the specified torque. Check to see if there are any transmission oil leaks.

Oil level plug tightening torque	
MYY transmission model	39 N·m (4.0 kgf·m/ 29 lb·ft)
MSB transmission model	49 N·m (5.0 kgf·m/ 36 lb·ft)

**ADVICE**

- Any dirt on the plug should be wiped off before installing it.

**ADVICE**

- Because the case of the MYY transmission is made of aluminum, be extremely careful not to tighten the oil level plug and drain plug to an excessively large torque when installing them. Otherwise, the threads might be damaged.

Rear Axle Differential Gear Oil

The rear axle differential gear oil level must be checked for its level and it must be changed according to the Maintenance Schedule.



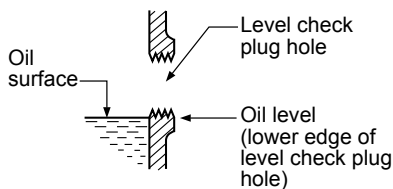
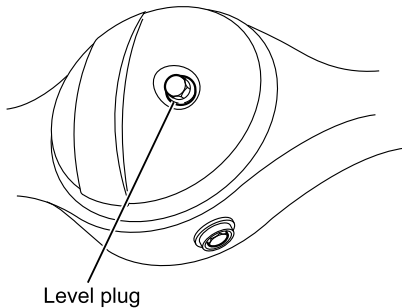
ADVICE

- Use the oil quantities indicated later in this section only as guidelines when changing the rear axle differential gear oil.
- 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.

Maintenance Schedule

→ Refer to page 7-173

Checking the Oil Level



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.

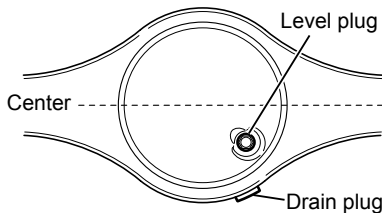
Oil level plug tightening torque

Other than φ343 mm final drive	84.0 N·m (8.6 kgf·m/62 lb·ft)
φ343 mm final drive	68.5 N·m (7.0 kgf·m/51 lb·ft)

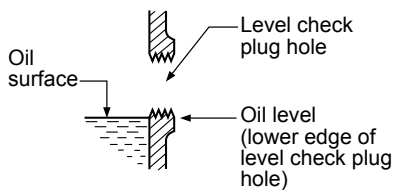
**ADVICE**

- Any dirt on the plug should be wiped off before installing it.

Changing the Oil



The level plug is located approximately 50 - 72 mm (1.97 - 2.83 in) under the center of the axle.



1. Place a container under the drain plug to receive oil.
2. Remove the plugs indicated in the figure to discharge the oil into the container.
3. After installing the drain plug by tightening it to the specified torque, refill the rear axle differential with new oil through the oil level plug hole up to the lower edge of the hole.

Drain plug tightening torque

84.0 N·m (8.6 kgf·m/62 lb·ft)

**ADVICE**

- Any dirt on the plug should be wiped off before installing it.

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 by tightening it to the specified torque.

Oil level plug tightening torque

Other than φ343 mm final drive	84.0 N·m (8.6 kgf·m/62 lb·ft)
φ343 mm final drive	68.5 N·m (7.0 kgf·m/51 lb·ft)

Quantity of rear axle differential gear oil to be changed

Specifications	Oil quantity [Reference value]
φ244 mm final drive	2.7 liters (0.71 US gal./ 0.59 Imp gal.)
φ292 mm final drive	3.0 liters (0.79 US gal./ 0.66 Imp gal.)
φ320 mm final drive (except straight frame models)	3.4 liters (0.90 US gal./ 0.75 Imp gal.)
φ320 mm final drive (straight frame models)	4.3 liters (1.14 US gal./ 0.95 Imp gal.)
φ343 mm final drive	5.5 liters (1.45 US gal./ 1.21 Imp gal.)

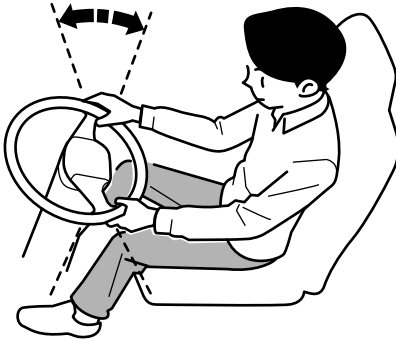
**ADVICE**

- Use only the Isuzu recommended differential gear oil.

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-197

Steering Wheel

Checking the Steering Wheel



While the engine is idling, place the steering wheel in the straight forward position, then gently turn it to the left and right by hand, and check the play in the steering wheel as the peripheral distance to the point where the tires start moving.

Standard value
(at the periphery of the steering wheel)

10 - 50 mm (0.39 - 1.97 in)



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 there is any looseness.

Also, drive the vehicle and check for abnormal shaking of the steering wheel, steering pull, sluggish steering, or inability to return to the straight forward position.

**CAUTION**

- If the steering parts have excess play or looseness or if any abnormal condition is noted, have the steering system checked at the nearest Isuzu Dealer immediately.

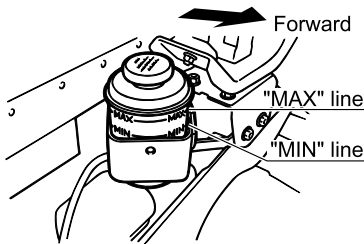
Power Steering Fluid

The power steering fluid level must be checked and it must be changed according to the Maintenance Schedule.

Maintenance Schedule

→ Refer to page 7-173

Checking the Power Steering Fluid Level



The fluid level is correct if it is between the "MAX" and "MIN" lines on the reserve tank. If the level is lower than the "MIN" line, add fluid up to the "MAX" line.

The reserve tank is located at the rear of the engine compartment on the right. When you have finished checking the fluid level, securely install the cap and cover.

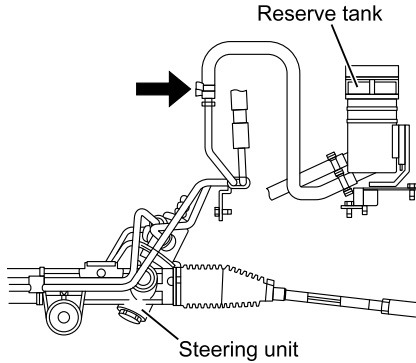


CAUTION

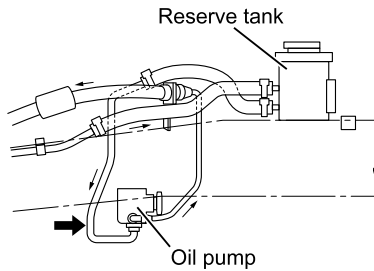
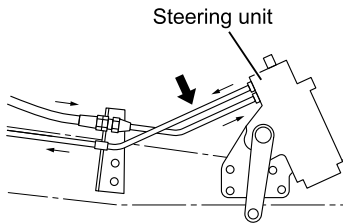
- Before adding fluid, clean the area around the cap and pour fluid from a clean jug or filler. Foreign matter getting in the tank will cause power steering system failure.
- Do not mix the recommended power steering fluid with fluids of other brands. Due to chemical reactions, any mixture of differently branded fluids will cause failure of the system.

Changing the Power Steering Fluid

Rack and pinion

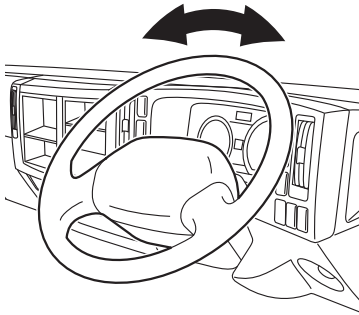
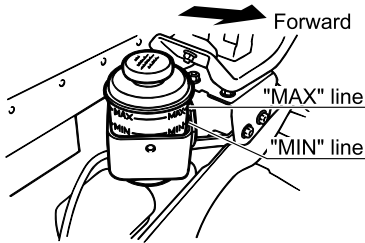


Recirculating balls



Draining

1. Apply the parking brake firmly and chock the rear wheels.
2. Firmly apply the head of the jack to the jacking point.
3. Raise the vehicle until the front wheels are completely clear of the ground.
4. Disconnect the oil pipe between the steering unit and reserve tank as well as the oil hose between the oil pump and reserve tank, and discharge the power steering fluid.
5. When the power steering fluid has been completely discharged, turn the steering wheel fully to the left and right several times to remove fluid left in the piping.



Refilling

1. Securely connect the oil pipe and oil hose, and then refill the reserve tank with the specified power steering fluid.
2. When the reservoir 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 any abnormal sounds, the system has been properly bled.



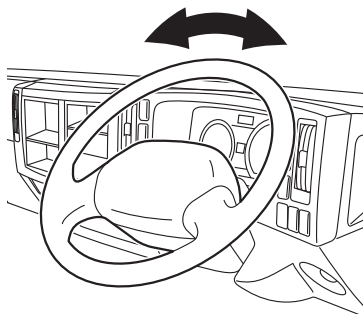
CAUTION

- While refilling the system, keep the reserve tank full of the fluid by making additions as necessary to prevent air from getting into the hydraulic system.

Bleeding

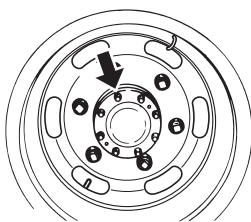
If you hear any abnormal sounds when you turn the steering wheel, air has gotten trapped in the hydraulic system. Follow the steps below to bleed the system.

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 any abnormal sounds, the system has been properly bled. If you still hear any abnormal sounds, this means there is air remaining in the power steering system. To remove 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 between 60 to 80°C (140 to 176°F), stop the engine and wait for about 5 minutes (allowing air to be collected from high temperature fluid).
6. Check the level of the fluid in the reservoir 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 sounds when you turn the steering wheel.

Hub Bearing Grease



As disassembly and reassembly will be required in order to replace front and rear bearing grease, have these operations performed by your Isuzu Dealer.

Greasing Chassis Components

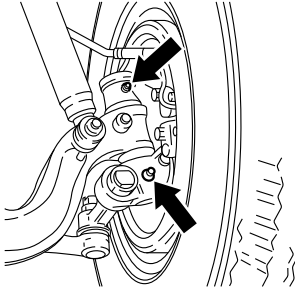
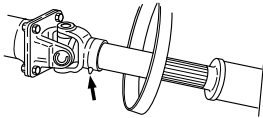
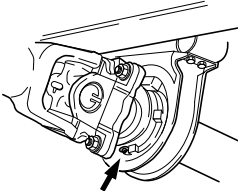

The type (characteristics) of the grease specified for use with a chassis component differs from that of the grease specified for use with another component. Be sure to use only the specified grease for each component and perform greasing according to the Maintenance Schedule.

Maintenance Schedule

→ Refer to page 7-173

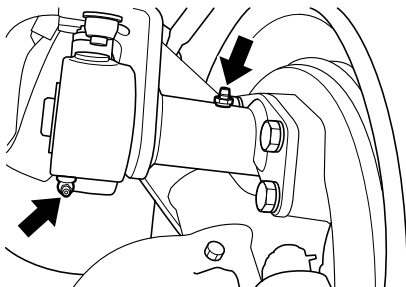
Recommended Fluids, Lubricants and Diesel Fuels

→ Refer to page 7-197

<p>King pins (left and right)</p>  <p>2 points each Rigid axle suspension</p>	<p>Propeller shaft splines</p> 
<p>Propeller shaft center bearing</p> 	
<p>Propeller shaft universal joint</p>  <p>Single-piece propeller shaft: 2 points; Two-piece propeller shaft: 3 points</p>	

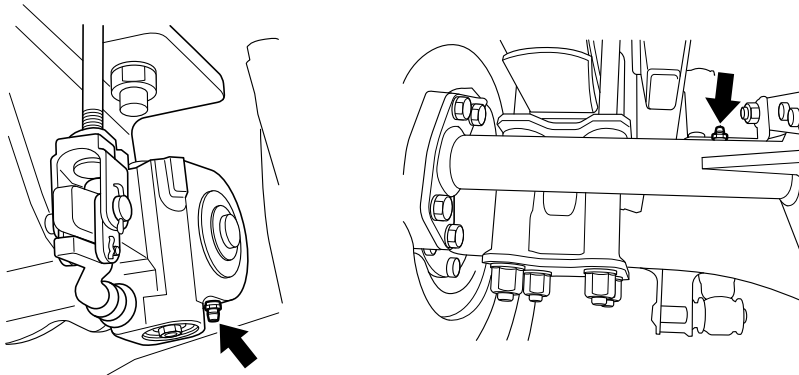
**ADVICE**

- Each of propeller shaft universal joint must be greased heavily until grease oozes at the 4 needle bearing oil seal locations. After greasing, wipe off excess grease.

Front wheel brakes (left and right)

2 points each

FAB Camshaft and auto slack adjuster

Rear wheel brakes (left and right)

2 points each

FAB Camshaft and auto slack adjuster

OTHER SERVICE AND MAINTENANCE

• Handling the Jack	7-144
• Windshield Washer Fluid	7-148
• Windshield Wiper Blades	7-149
• Headlights and Turn Signal Lights	7-152
• Handling the Battery	7-153
• Air Conditioning Filters <input type="checkbox"/>	7-160
• Refrigerant <input type="checkbox"/>	7-162

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.
- 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.
- The jack supplied with your vehicle is specifically for that vehicle. Do not use it on another vehicle and never use another vehicle's jack.
- Turn the bleeder screw slowly. Turning it quickly will cause the vehicle to drop and the jack may slip off.

Operating the Jack



Raising the Vehicle

1. Place the jack immediately below the jacking point and ensure that it is upright.
The jack must be placed on a flat, solid surface.

Front Wheel Jacking Points

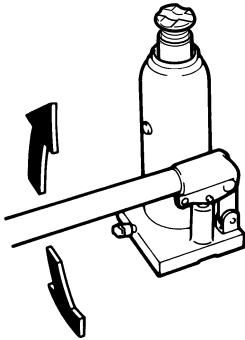
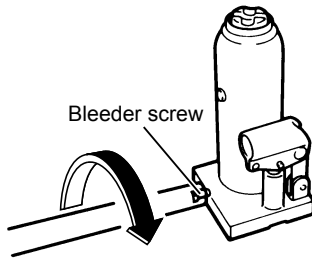
→ Refer to page 7-146

Rear Wheel Jacking Points

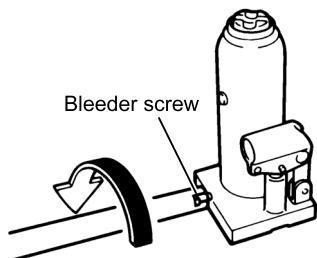
→ Refer to page 7-146

Jacking When a Front Tire Is Flat

→ Refer to page 7-147



2. Turn the head of the jack to extend it to the height of the jacking point. Turn it counterclockwise to extend.
3. 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.
4. Move the jack handle gently up and down to extend it slightly.
5. Confirm that the jack is in good contact with the jacking point, and then continue to raise the vehicle.



Lowering the Vehicle

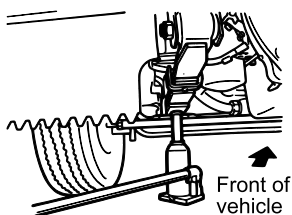
1. Line up the jack handle end notch with the bleeder screw.
2. Slowly turn the bleeder screw counterclockwise to lower the vehicle.



ADVICE

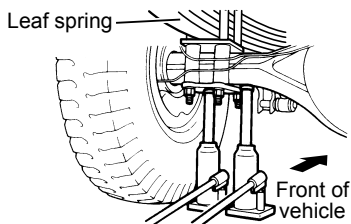
- Do not turn the bleeder screw counterclockwise more than two turns. Doing so may result in leakage of liquid from inside the jack.
3. When the vehicle has been fully lowered, turn the bleeder screw as far as it will go in the clockwise direction.
 4. Turn the jack head fully clockwise.

Front Wheel Jacking Points



Apply the jack to the leaf spring.

Rear Wheel Jacking Points

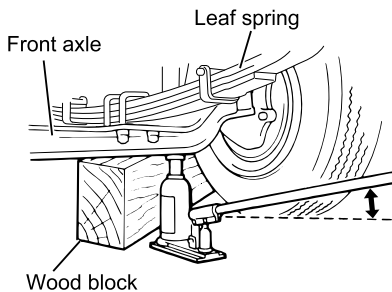
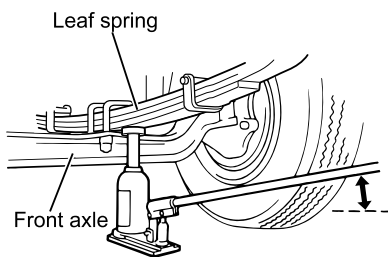


Apply the jack to the bottom of the leaf spring or axle case.

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.

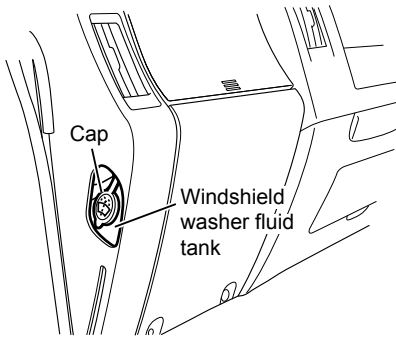
Front Wheel Jacking Points

→ Refer to page 7-146

Windshield Washer Fluid

Windshield Wiper/Washer

Check the level of fluid in the windshield washer tank. In addition, spray windshield washer fluid and operate the windshield wipers to check for any areas not properly wiped. At this time, also check the windshield washer's spraying condition.



Refilling Windshield Washer Fluid

1. The windshield washer fluid tank is located under the instrument panel on the passenger side.
2. Open the cap and fill the tank with windshield washer fluid to the opening.



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.

Windshield Wiper Blades

Daily Checks

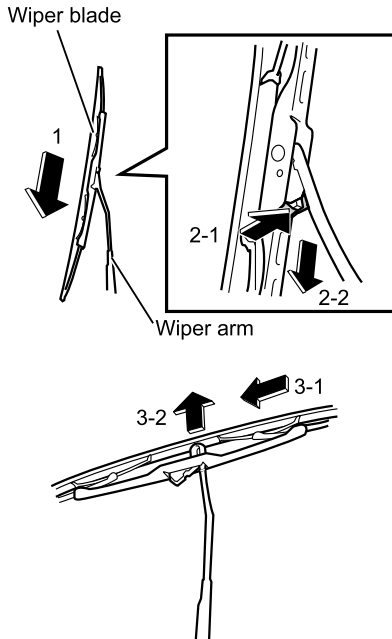
Spray windshield washer fluid and then operate the windshield wipers to check for any poorly wiped areas. In addition, confirm that each of the "☒" (intermittent), "LO", and "HI" functions operate normally.



CAUTION

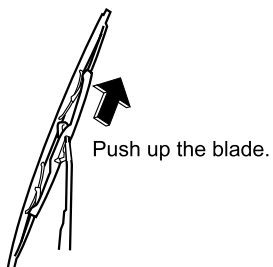
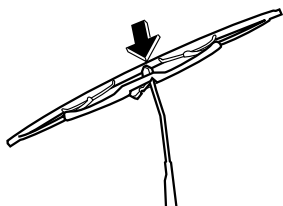
- Clear ice or packed snow from the wiper blades before using the wipers.

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.
2. Then, with the blade and arm oriented in the same direction, push up the blade until it locks into place on the arm.



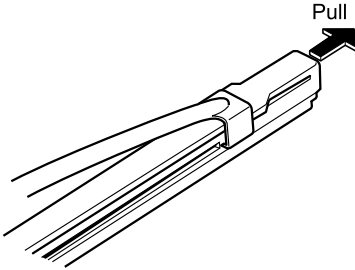
ADVICE

- 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.

Replacement of Wiper Rubber Insert

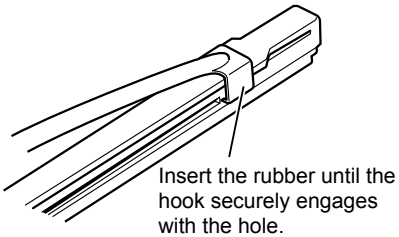
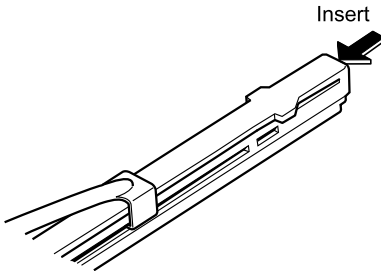
Removal

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.

Headlights and Turn Signal Lights

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.

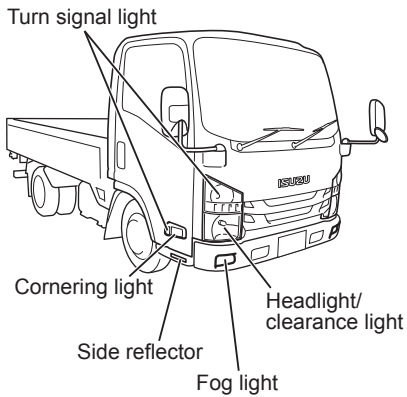
In addition, depress the brake pedal to confirm whether the stop lights come on, and shift the transmission to "R" position to confirm whether the back up lights come on.

Also examine the lights for discoloration, damage, and looseness.

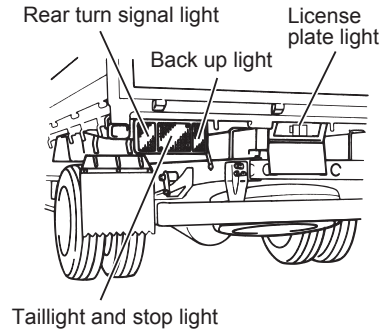
When the Bulb Does not Come On

→ Refer to page 8-32

Front



Rear



Handling the Battery



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 come in contact with 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 an open flame 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

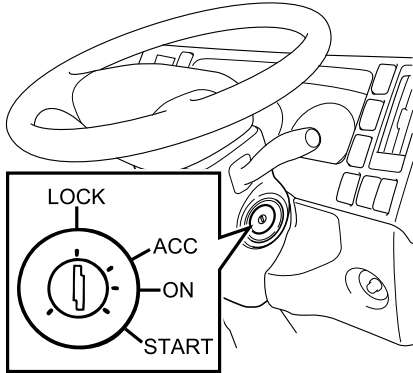
- Always stop the engine whenever the battery is to be inspected.
- Dilute sulfuric acid is used as the battery fluid. Special care must be taken to ensure that this fluid does not come into contact with skin, clothing, or metal surfaces.
- When disconnecting cables, turn the starter switch to the "LOCK" position, wait at least 1 minute, and then disconnect the cables starting with the negative cable from the terminals. If the negative cable is disconnected within 1 minute, 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.

Battery Handling Precautions

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.



When Performing Inspection or Maintenance

Before starting inspection and maintenance of the battery or other parts of the electrical system, turn the starter switch to the "LOCK" position, wait at least 1 minute, and then disconnect the negative cable from the negative terminal. If the negative cable is disconnected within 1 minute, the engine control module may malfunction.

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 1 minute, and then disconnect the cables starting with the negative cable from the terminals. 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.

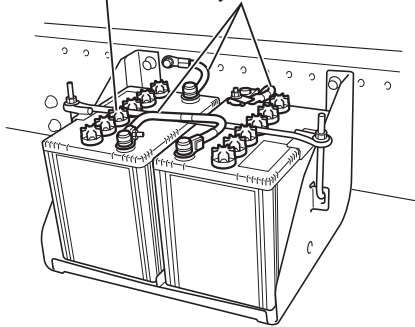


CAUTION

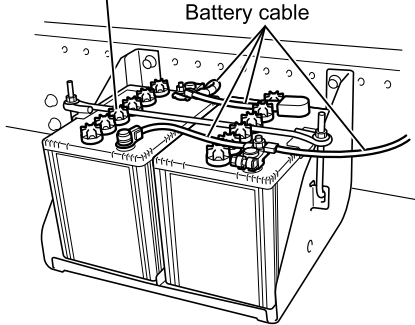
- If the negative cable is disconnected from the negative terminal on the battery within 1 minute after turning the starter switch to the "LOCK" position, the engine control module may malfunction.

Models with 24 V battery

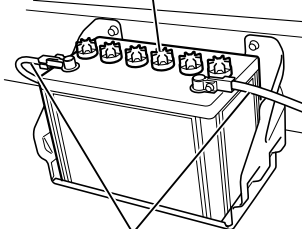
Battery cap Battery cable

**Models with two 12 V batteries**

Battery cap Battery cable

**Models with one 12 V battery**

Battery cap



Battery cable

Charging the Battery

1. 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.
2. Whenever a charger is being connected to or disconnected from a battery, ensure that it is turned off.
3. Battery cables must always be disconnected when performing quick charging.
Failure to observe this precaution can result in generator burnout.

**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.

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 terminal and then connect the negative terminal.



CAUTION

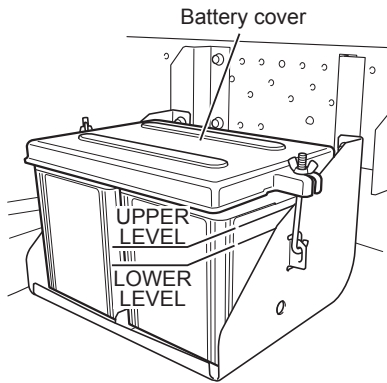
- Take care to avoid mixing up the positive and negative terminals when connecting battery cables. Incorrect connection to these terminals can result in flow of excessive current and burnout of the generator or vehicle wiring.

Using the Battery as a Direct Power Source

The battery should not be used as a direct source of 12-volt power.

If your battery must be used as a direct power source, please consult with your Isuzu Dealer.

Checking the Battery Fluid Level



The battery is located almost exactly at the center of the outside chassis member.

Daily Check

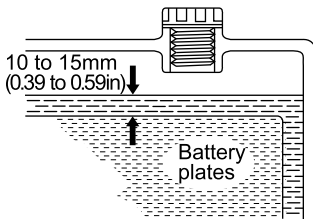
Remove the battery cover and confirm whether the level of fluid inside the battery case is within the specified range.

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.

Filling Battery Fluid

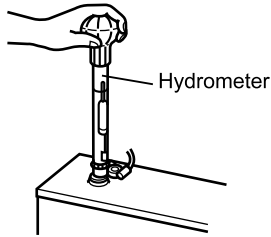
If the quantity of battery fluid inside the battery is insufficient, remove the cover and cap, and then add distilled water until the surface is close to the "UPPER LEVEL" line or in a range between 10 and 15 mm (0.39 to 0.59 inches) from the top of the battery plates. When you have finished adding the distilled water, securely install the cap and battery cover.



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.

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

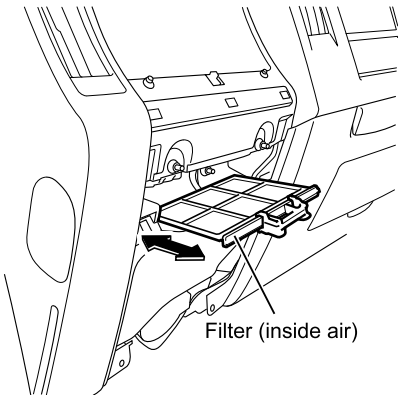
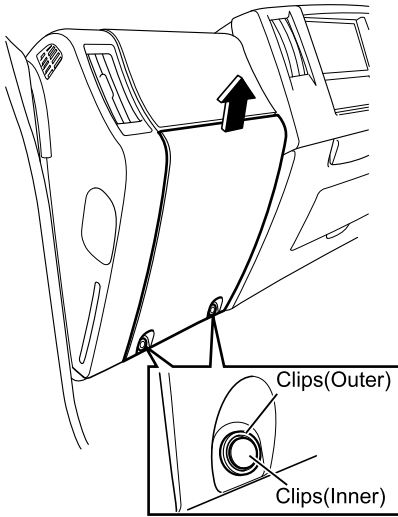
Checking the Battery Terminals



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.
3. When you have finished cleaning the terminals, apply a thin layer of grease and securely connect the battery cables, taking care to ensure that they are tight.
See "When the Battery Goes Flat" regarding steps to be taken should the battery be completely discharged.

When the Battery Goes Flat

→ Refer to page 8-12

Air Conditioning Filters V**Removing the Inside Air Filter (Only Models with an Inside Air Filter)**

1. Remove the 2 clips securing the cover. Remove the clips in the order of the inner clip followed by the outer clip.
2. Remove the cover by pushing it upwards.

3. Remove the filter. Use a vacuum cleaner or the like to clean dust and dirt from its surface.

**ADVICE**

- Avoid interference with electric harnesses when removing the filter.
- In order to avoid filter damage, hard brushes should not be used for filter cleaning.

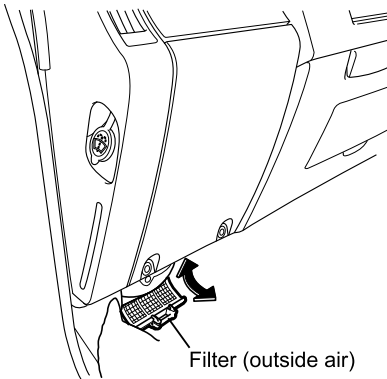
Installing the Inside Air Filter

1. Install the filter in the reverse order to removal.



CAUTION

- Ensure that the filter is returned securely to its original position. Failure to observe this precaution can lead to rattling during travel, or should the filter become loose, to very dangerous situations.
- 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 Outside Air Filter

1. Remove the filter from under the instrument panel on the passenger side. While pressing in the filter lock, on both sides, pull out the filter.
2. Use a vacuum cleaner or the like to clean dust and dirt from its surface.



ADVICE

- In order to avoid filter damage, hard brushes should not be used for filter cleaning.

Installing the Outside Air Filter

1. 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, or should the filter become loose, to very dangerous situations.
- 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, water, snow, and the like entering the system.

Refrigerant v

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.

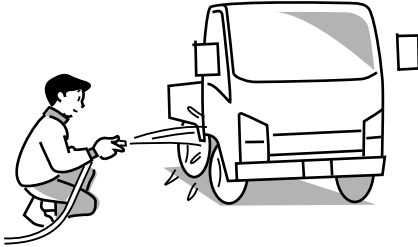
**ADVICE**

- 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 HFC134a (R134a) 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.

INTERIOR AND EXTERIOR MAINTENANCE

• Exterior Maintenance	7-164
• Interior Maintenance	7-167

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.
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.

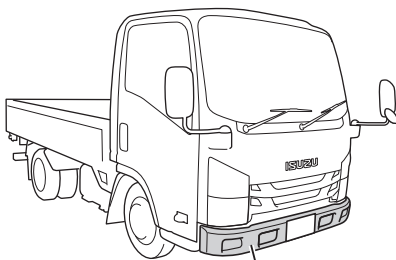


CAUTION

- 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.

**ADVICE**

- If an automatic car or truck-wash 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.
- Do not direct a large amount of water at the air inlet openings.
- Do not apply water to the engine compartment or at electrical components. Failure to observe this precaution can lead to a poorly starting and operating engine and problems in the electrical system.
- Ensure that mirrors and the antenna are retracted before washing the vehicle.
- If an automatic car or truck-wash must be used, avoid a high-temperature, high-pressure type machine. Failure to observe this precaution can lead to heat deformation and breakage of plastic components, or to water leaks into the cab.
- When using an automatic car or truck-wash, ensure that a distance of at least 0.4 m (15.75 inches) is maintained between the nozzle and the vehicle, and when washing door windows, that the spray is perpendicular to the surface of the glass.
- 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. Always read the detergent manufacturer's instructions carefully before use.
- Airborne dirt that adheres to plastic front bumpers as a result of rain, for example, can be difficult to remove. In such a case, use a commercially-available cleaner to clean away the dirt, and then apply a wax for use with plastic components.



Front bumper

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.



Windshield Care

If not fully cleaned by the windshield wipers, the windshield should be cleaned using Isuzu genuine glass cleaner.

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 cab, 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 or other electrical components located underneath the floor carpet.
- Petroleum ether, gasoline and other organic solvents should not be used to clean seat belts.
In addition, seat belt webbing should be neither bleached nor redyed. Failure to observe these precautions can lead to the performance or strength of the seat belts being impaired. In the case of a collision, therefore, 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.

**CAUTION**

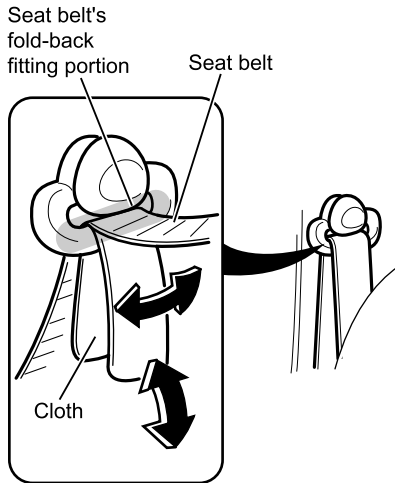
- The interior of the vehicle must never be cleaned using acidic or alkaline solvents, or petroleum ether, gasoline, and other organic solvents. Failure to observe this precaution can result in discoloration and staining. It should be noted that certain types of cleaning products contain these compounds. Be sure to read cleaning product labels carefully.
- 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.

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 redyed, or when cleaned using gasoline, paint thinners 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.



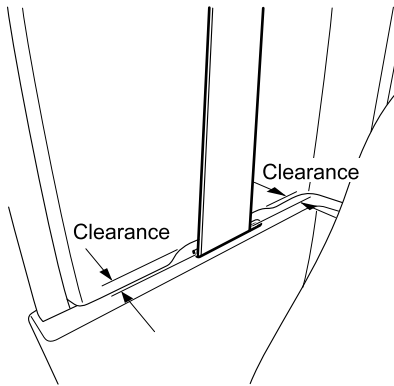
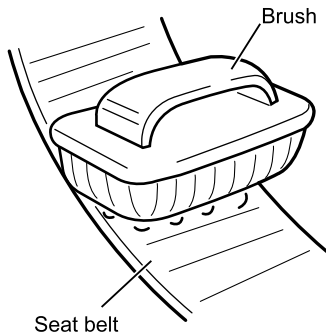
Cleaning a Seat Belt's Fold-back Fitting Portion

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.



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.



Cleaning a Belt Webbing

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.



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 door 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.

Fabric Seat Covering and Carpet Care

Remove dirt and dust using a home-use electric vacuum cleaner.

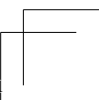
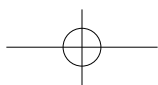
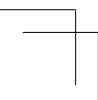
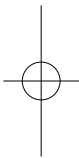
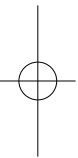
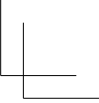
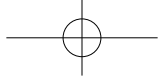
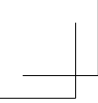
Do not remove the carpet. Use standard household cleaning products and methods to remove stains from food, drink and the like.

Be sure to use neutral detergents or cleaning products indicated as higher alcohol based detergents.

MAINTENANCE DATA

• Inspection and Maintenance

7-173



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, 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.

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

Maintenance schedule for severe-condition operations

→ Refer to page 7-196

Maintenance Schedule: NMR85/NPR85 Models (No. 1)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
* Engine oil		-	-	-	R	-	-	R	-	-
* Engine oil filter		-	-	-	R	-	-	R	-	-
Fuel filter element		-	-	-	-	-	-	-	-	R
Pre-fuel filter		-	-	-	-	-	-	-	-	R
* Air cleaner element		-	-	I	-	I	-	I	-	R
Idle speed and acceleration		-	-	-	-	I	-	-	-	I
Valve clearance		-	-	-	-	-	-	-	-	A
Looseness in or damage to fuel tank cap and fuel line		-	-	-	-	-	-	-	-	I
Drive belt tension and damage		I	-	I	-	I	-	I	-	I
Engine coolant										
* Damage to or looseness of the exhaust pipe, exhaust brake, silencer, or their fittings		-	-	-	-	-	-	I	-	-
Cooling system		-	-	-	-	-	-	I	-	-
Damage to air intake ducts and hoses		-	-	-	-	-	-	I	-	-
Engine operating conditions		-	-	-	I	-	-	I	-	-
Clutch fluid		-	-	-	I	-	-	I	-	-
Clutch pedal stroke and free play		-	I	I	I	I	I	I	I	I
* Transmission oil		-	-	-	I	-	-	I	-	-
Gear control mechanism looseness		-	-	-	-	-	-	-	-	-
Gear control cable		-	-	-	-	-	-	A	-	-
* Propeller shaft, universal joints and sliding sleeves		-	-	-	L	-	-	L	-	-
Loose propeller shaft joints		-	-	-	I	-	-	I	-	-
Propeller shaft spline wear		-	-	-	-	-	-	I	-	-
Looseness in propeller shaft bearings and related components		-	-	-	-	-	-	I	-	-
Propeller shaft center bearing		-	-	-	L	-	-	L	-	-
* Differential gear oil		-	-	-	I	-	-	I	-	-
* King pin		-	-	-	L	-	-	L	-	-
Oil leaks from power steering system		-	-	-	I	-	-	I	-	-
Power steering fluid		-	-	-	-	-	-	-	-	-
* Looseness in or damage to steering system mounting		-	-	-	I	-	-	I	-	-
Looseness in connection between knuckle and front axle		-	-	-	I	-	-	I	-	-
Looseness in or damage to steering mechanism		-	-	-	I	-	-	I	-	-

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

SERVICE AND MAINTENANCE

7-175

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
R	-	-	R	-	-	R	-	-	R	-	-	R	or every 12 months
R	-	-	R	-	-	R	-	-	R	-	-	R	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	-	-	-	-	A	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	I	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
Every 12 months: I													
Every 24 months: R (when Isuzu recommended coolant is used)													
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 18 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 24 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 12 months
I	-	-	I	-	-	I	-	-	I	-	-	I	or every 9 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 27 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every 3 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 24 months
-	-	-	I	-	-	-	-	-	-	-	-	-	or every 36 months
-	-	-	A	-	-	-	-	-	A	-	-	-	or every 18 months
-	-	-	L	-	-	-	-	-	L	-	-	-	or every 12 months
I	-	-	I	-	-	I	-	-	I	-	-	I	or every 6 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 24 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 24 months
-	-	-	L	-	-	-	-	-	L	-	-	-	or every 12 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 24 months
L	-	-	L	-	-	L	-	-	L	-	-	L	or every 12 months
I	-	-	I	-	-	I	-	-	I	-	-	I	or every 6 months
R	-	-	-	-	-	-	-	-	R	-	-	-	or every 24 months
I	-	-	I	-	-	I	-	-	I	-	-	I	or every 6 months
I	-	-	I	-	-	I	-	-	I	-	-	I	or every 6 months
I	-	-	I	-	-	I	-	-	I	-	-	I	or every 6 months

Maintenance Schedule: NMR85/NPR85 Models (No. 2)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
Steering wheel free play		-	I	I	I	I	I	I	I	I
Steering mechanism functionality		-	I	I	I	I	I	I	I	I
Wheel alignment		-	-	-	-	-	-	-	-	I
Power steering hose		-	-	-	-	-	-	-	-	-
Brake fluid		-	-	-	I	-	-	I	-	-
Brake system oil leaks		-	-	-	I	-	-	I	-	-
* Brake shoe lining and drum wear		-	-	-	I	-	-	I	-	-
Brake pedal stroke and free play		-	-	-	I	-	-	I	-	-
Looseness in or damage to brake pipe and brake hose connections		-	-	-	I	-	-	I	-	-
Parking brake cable		-	-	-	I	-	-	I	-	-
Parking brake functionality		-	-	-	I	-	-	I	-	-
Parking brake lever stroke		-	-	-	I	-	-	I	-	-
Parking brake shoe lining wear		-	-	-	-	-	-	-	-	-
Wear of or damage to parking brake drum		-	-	-	-	-	-	-	-	-
Damage to parking brake ratchet mechanism		-	-	-	-	-	-	-	-	-
Leaf spring damage		-	-	-	I	-	-	I	-	-
Looseness in or damage to suspension mounting		-	-	-	I	-	-	I	-	-
Shock absorber oil leaks		-	-	-	I	-	-	I	-	-
Shock absorber mounting looseness		-	-	-	I	-	-	I	-	-
Wheel nuts and wheel bolts		T	-	-	T	-	-	T	-	-
Disc wheel damage		-	-	-	I	-	-	I	-	-
Wheel hub bearing grease		-	-	-	-	-	-	-	-	R
Tire air pressure and damage		-	-	I	-	I	-	I	-	I
Battery fluid specific gravity		-	-	-	I	-	-	I	-	-
Inspection of lights, horn, windshield wiper and washer		-	-	-	I	-	-	I	-	-
Inspection of nuts and bolts on chassis and body		-	-	-	-	-	-	-	-	-

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

SERVICE AND MAINTENANCE

7-177

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
													or every 3 months
													or every 3 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 48 months
R	-	-		-	-		-	-	R	-	-		or every 27 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
-	-	-		-	-	-	-	-	-	-	-	-	or every 36 months
-	-	-		-	-	-	-	-	-	-	-	-	or every 36 months
-	-	-		-	-	-	-	-	-	-	-	-	or every 36 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
T	-	-	T	-	-	T	-	-	T	-	-	T	or every 12 months
	-	-		-	-		-	-		-	-		or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
	-	-		-	-		-	-		-	-		or every 9 months
	-	-		-	-		-	-		-	-		or every 9 months
-	-	-		-	-	-	-	-	-	-	-	-	or every 36 months

Maintenance Schedule: NQR75/NQR90 Models (No. 1)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace

T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
* Engine oil		-	-	-	-	R	-	-	-	R
* Engine oil filter		-	-	-	-	R	-	-	-	R
Fuel filter element		-	-	-	-	R	-	-	-	R
Pre-fuel filter		-	-	-	-	R	-	-	-	R
* Air cleaner element		-	-	I	-	I	-	I	-	R
Idle speed and acceleration		-	-	-	-	I	-	-	-	I
Valve clearance		-	-	-	-	-	-	-	-	A
FAB Air compressor, governor and unloader valve functions		-	-	-	-	-	-	-	-	-
Looseness in or damage to fuel tank cap and fuel line		-	-	-	-	-	-	-	-	I
Drive belt tension and damage		I	-	I	-	I	-	I	-	I
Engine coolant										
* Damage to or looseness of the exhaust pipe, exhaust brake, silencer, or their fittings		-	-	-	-	I	-	-	-	I
Cooling system		-	-	-	-	I	-	-	-	I
Damage to air intake ducts and hoses		-	-	-	-	-	-	I	-	-
Engine operating conditions		-	-	I	-	I	-	I	-	I
Clutch fluid		-	-	I	-	I	-	I	-	R
Clutch pedal stroke and free play		-	I	I	I	I	I	I	I	I
* Transmission oil		-	-	-	I	-	-	I	-	-
Gear control mechanism looseness		-	-	-	-	-	-	-	-	I
Gear control cable		-	-	-	-	A	-	-	-	A
* Propeller shaft, universal joints and sliding sleeves		-	-	-	-	L	-	-	-	L
Loose propeller shaft joints		-	-	I	-	I	-	I	-	I
Propeller shaft spline wear		-	-	-	-	-	-	-	-	I
Looseness in propeller shaft bearings and related components		-	-	-	-	-	-	-	-	I
Propeller shaft center bearing		-	-	-	-	L	-	-	-	L

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	-	-	-	-	A	-	-	-	-	-	or every 12 months
-	I	-	-	-	-	-	-	-	-	-	I	-	or every 15 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
Every 12 months: I Every 24 months: R (when Isuzu recommended coolant is used)													
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 24 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every 3 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	A	-	-	-	A	-	-	-	A	-	or every 12 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months

Maintenance Schedule: NQR75/NQR90 Models (No. 2)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
* Differential gear oil		-	-	I	-	I	-	I	-	R
* King pin		-	-	L	-	L	-	L	-	L
Oil leaks from power steering system		-	-	I	-	I	-	I	-	I
Power steering fluid		-	-	-	-	-	-	-	-	R
* Looseness in or damage to steering system mounting		-	-	I	-	I	-	I	-	I
Looseness in connection between knuckle and front axle		-	-	I	-	I	-	I	-	I
Looseness in or damage to steering mechanism		-	-	I	-	I	-	I	-	I
Steering wheel free play		-	I	I	I	I	I	I	I	I
Steering mechanism functionality		-	I	I	I	I	I	I	I	I
Wheel alignment		-	-	-	-	-	-	-	-	I
Power steering hose		-	-	-	-	-	-	-	-	-
<input type="checkbox"/> HB Brake fluid		-	-	I	-	I	-	I	-	R
<input type="checkbox"/> V Hydraulic brake booster (HBB) fluid		-	-	I	-	I	-	I	-	R
<input type="checkbox"/> HB Brake system oil leaks		-	-	I	-	I	-	I	-	I
<input type="checkbox"/> FAB Leaks from, damage to, or loose connection of brake pipe and nylon tube		-	-	I	-	I	-	I	-	I
<input type="checkbox"/> FAB Brake air hose		-	-	I	-	I	-	I	-	R
<input type="checkbox"/> FAB Air tanks										
<input type="checkbox"/> FAB Brake chamber rod stroke		-	I	I	-	I	-	I	-	I
<input type="checkbox"/> FAB Function of brake chamber		-	-	-	-	-	-	-	-	-
<input type="checkbox"/> FAB Functions of brake and relay valves		-	-	-	-	-	-	-	-	-
<input type="checkbox"/> FAB Air dryer										
<input type="checkbox"/> FAB <input type="checkbox"/> V ABS modulator										
* Brake shoe lining and drum wear		-	-	-	-	I	-	-	-	I
Brake pedal stroke and free play		I	I	I	I	I	I	I	I	I
Looseness in or damage to brake pipe and brake hose connections		-	-	I	-	I	-	I	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
-		-		-		-	R	-		-		-	or every 24 months
-	L	-	L	-	L	-	L	-	L	-	L	-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
													or every 3 months
													or every 3 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 48 months
-		-		-		-	R	-		-		-	or every 24 months
-		-		-		-	R	-		-		-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 3 months
-		-		-		-	R	-		-		-	or every 3 months: I or every 24 months: R
Drain water every 20,000 km (12,000 miles) or every 6 months.													
-		-		-		-		-		-		-	or every 3 months
-		-	-	-	-	-	-	-	-	-	-		or every 12 months
-		-	-	-	-	-	-	-	-	-	-		or every 12 months
Change the desiccant, filter and rubber parts of air dryer at 100,000 km (62,000 miles) or every 12 months.													
Every 24 months: R													
-	-	-		-	-	-		-	-	-		-	or every 12 months
													or every 3 months
-		-		-		-		-		-		-	or every 6 months

Maintenance Schedule: NQR75/NQR90 Models (No. 3)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
FAB Rubber parts of brake valve, relay valve, parking brake valve, quick release valve, double check valve, multi-protection valve										
FAB Rubber parts of brake chamber										
HB Parking brake cable		-	-	I	-	I	-	I	-	I
Parking brake functionality		-	-	I	-	I	-	I	-	I
HB Parking brake lever stroke		-	-	I	-	I	-	I	-	I
HB Parking brake shoe lining wear		-	-	-	-	-	-	-	-	I
HB Wear of or damage to parking brake drum		-	-	-	-	-	-	-	-	I
HB Damage to parking brake ratchet mechanism		-	-	-	-	-	-	-	-	I
FAB Function of parking brake control valve system (wheel parking brake)		-	I	I	-	I	-	I	-	I
FAB Function of brake chamber (wheel parking brake)		-	-	-	-	-	-	-	-	-
FAB Brake chamber rod stroke (wheel parking brake)		-	I	I	-	I	-	I	-	I
FAB Emergency spring of spring brake chamber										
FAB Front wheel brake cam shaft and auto slack adjuster										
FAB Rear wheel brake cam shaft and auto slack adjuster										
FAB Slack adjuster										
Leaf spring damage		-	-	I	-	I	-	I	-	I
Looseness in or damage to suspension mounting		-	-	I	-	I	-	I	-	I
Shock absorber oil leaks		-	-	I	-	I	-	I	-	I
Shock absorber mounting looseness		-	-	I	-	I	-	I	-	I
Wheel nuts and wheel bolts		T	-	-	-	T	-	-	-	T
Disc wheel damage		-	-	-	-	I	-	-	-	I
Wheel hub bearing grease		-	-	-	-	-	-	-	-	R
Tire air pressure and damage		-	-	I	-	I	-	I	-	I
Battery fluid specific gravity		-	-	I	-	I	-	I	-	I
Inspection of lights, horn, windshield wiper, and washer		-	-	I	-	I	-	I	-	I
Inspection of nuts and bolts on chassis and body		I	-	-	-	-	-	-	-	I

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
Every 24 months: R													
Every 24 months: R													
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 3 months
-		-	-	-	-	-	-	-	-	-		-	or every 12 months
-		-		-		-		-		-		-	or every 3 months
Every 24 months: I													
Every time the brake lining is replaced: L													
Every time the brake lining is replaced: L													
Every 500,000 km (310,000 miles): R													
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	T	-	-	-	T	-	-	-	T	-	or every 12 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months

Maintenance Schedule: NLR55 Model (No. 1)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
* Engine oil		-	R	R	R	R	R	R	R	R
* Engine oil filter		-	-	R	-	R	-	R	-	R
Fuel filter		-	-	-	-	R	-	-	-	R
* Air cleaner element		-	-	I	-	I	-	I	-	R
Idle speed and acceleration		-	-	-	-	I	-	-	-	I
Valve clearance		-	-	-	-	-	-	-	-	A
Looseness in or damage to fuel tank cap and fuel line		-	-	-	-	-	-	-	-	I
Drive belt tension and damage		I	-	I	-	I	-	I	-	I
Engine coolant										
* Damage to or looseness of the exhaust pipe, exhaust brake, silencer, or their fittings		-	-	-	-	I	-	-	-	I
Cooling system		-	-	-	-	I	-	-	-	I
Damage to air intake ducts and hoses		-	-	-	-	-	-	I	-	-
Engine operating conditions		-	-	I	-	I	-	I	-	I
Clutch fluid		-	-	I	-	I	-	I	-	R
Clutch pedal stroke and free play		-	I	I	I	I	I	I	I	I
* Transmission oil		-	-	-	I	-	-	I	-	-
Gear control mechanism looseness		-	-	-	-	-	-	-	-	I
Gear control cable		-	-	-	-	A	-	-	-	A
* Propeller shaft, universal joints and sliding sleeves		-	-	-	-	L	-	-	-	L
Loose propeller shaft joints		-	-	I	-	I	-	I	-	I
Propeller shaft spline wear		-	-	-	-	-	-	-	-	I
Looseness in propeller shaft bearings and related components		-	-	-	-	-	-	-	-	I
Propeller shaft center bearing		-	-	-	-	L	-	-	-	L
* Differential gear oil		-	-	I	-	I	-	I	-	R
* King pin		-	-	L	-	L	-	L	-	L
Oil leaks from power steering system		-	-	I	-	I	-	I	-	I
Power steering fluid		-	-	-	-	-	-	-	-	R
* Looseness in or damage to steering system mounting		-	-	I	-	I	-	I	-	I
Looseness in connection between knuckle and front axle		-	-	I	-	I	-	I	-	I
Looseness in or damage to steering mechanism		-	-	I	-	I	-	I	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	or every 3 months
R	R	R	R	R	R	R	R	R	R	R	R	R	or every 3 months
-	R	-	R	-	R	-	R	-	R	-	R	-	or every 6 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	-	-	-	-	A	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	I	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
Every 12 months: I													
Every 24 months: R (when Isuzu recommended coolant is used)													
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 24 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every 3 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	A	-	-	-	A	-	-	-	A	-	or every 12 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	-	I	-	-	-	-	or every 24 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	L	-	L	-	L	-	L	-	L	-	L	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months

Maintenance Schedule: NLR55 Model (No. 2)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
Steering wheel free play		-	I	I	I	I	I	I	I	I
Steering mechanism functionality		-	I	I	I	I	I	I	I	I
Wheel alignment		-	-	-	-	-	-	-	-	I
Power steering hose		-	-	-	-	-	-	-	-	-
Brake fluid		-	-	I	-	I	-	I	-	R
Brake system oil leaks		-	-	I	-	I	-	I	-	I
* Brake shoe lining and drum wear		-	-	-	-	I	-	-	-	I
Brake pedal stroke and free play		I	I	I	I	I	I	I	I	I
Looseness in or damage to brake pipe and brake hose connections		-	-	I	-	I	-	I	-	I
Parking brake cable		-	-	I	-	I	-	I	-	I
Parking brake functionality		-	-	I	-	I	-	I	-	I
Parking brake lever stroke		-	-	I	-	I	-	I	-	I
Parking brake shoe lining wear		-	-	-	-	-	-	-	-	I
Wear of or damage to parking brake drum		-	-	-	-	-	-	-	-	I
Damage to parking brake ratchet mechanism		-	-	-	-	-	-	-	-	I
Leaf spring damage		-	-	I	-	I	-	I	-	I
Looseness in or damage to suspension mounting		-	-	I	-	I	-	I	-	I
Shock absorber oil leaks		-	-	I	-	I	-	I	-	I
Shock absorber mounting looseness		-	-	I	-	I	-	I	-	I
Wheel nuts and wheel bolts		T	-	-	-	T	-	-	-	T
Disc wheel damage		-	-	-	-	I	-	-	-	I
Wheel hub bearing grease		-	-	-	-	-	-	-	-	R
Tire air pressure and damage		-	-	I	-	I	-	I	-	I
Battery fluid specific gravity		-	-	I	-	I	-	I	-	I
Inspection of lights, horn, windshield wiper and washer		-	-	I	-	I	-	I	-	I
Inspection of nuts and bolts on chassis and body		I	-	-	-	-	-	-	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
													or every 3 months
													or every 3 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 48 months
-		-		-		-	R	-		-		-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
													or every 3 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	T	-	-	-	T	-	-	-	T	-	or every 12 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months

Maintenance Schedule: NLR77/QLR77/QMR77 Models (No. 1)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace

T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
* Engine oil		-	-	R	-	R	-	R	-	R
* Engine oil filter		-	-	R	-	R	-	R	-	R
Fuel filter		-	-	-	-	R	-	-	-	R
* Air cleaner element		-	-	I	-	I	-	I	-	R
Idle speed and acceleration		-	-	-	-	I	-	-	-	I
Valve clearance		-	-	-	-	-	-	-	-	A
Looseness in or damage to fuel tank cap and fuel line		-	-	-	-	-	-	-	-	I
Drive belt tension and damage										
Engine coolant										
* Damage to or looseness of the exhaust pipe, exhaust brake, silencer, or their fittings		-	-	-	-	I	-	-	-	I
Exhaust pressure pipe										
Cooling system		-	-	-	-	I	-	-	-	I
Damage to air intake ducts and hoses		-	-	-	-	-	-	I	-	-
Engine operating conditions		-	-	I	-	I	-	I	-	I
Clutch fluid		-	-	I	-	I	-	I	-	R
Clutch pedal stroke and free play		-	I	I	I	I	I	I	I	I
* Transmission oil		-	-	-	I	-	-	I	-	-
Gear control mechanism looseness		-	-	-	-	-	-	-	-	I
Gear control cable		-	-	-	-	A	-	-	-	A
* Propeller shaft, universal joints and sliding sleeves		-	-	-	-	L	-	-	-	L
Loose propeller shaft joints		-	-	I	-	I	-	I	-	I
Propeller shaft spline wear		-	-	-	-	-	-	-	-	I
Looseness in propeller shaft bearings and related components		-	-	-	-	-	-	-	-	I
Propeller shaft center bearing		-	-	-	-	L	-	-	-	L
* Differential gear oil		-	-	I	-	I	-	I	-	R
* King pin		-	-	L	-	L	-	L	-	L
Oil leaks from power steering system		-	-	I	-	I	-	I	-	I
Power steering fluid		-	-	-	-	-	-	-	-	R
* Looseness in or damage to steering system mounting		-	-	I	-	I	-	I	-	I
Looseness in connection between knuckle and front axle		-	-	I	-	I	-	I	-	I
Looseness in or damage to steering mechanism		-	-	I	-	I	-	I	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
-	R	-	R	-	R	-	R	-	R	-	R	-	or every 6 months
-	R	-	R	-	R	-	R	-	R	-	R	-	or every 6 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	-	-	-	-	A	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	I	-	or every 24 months
Every 7,500 km (4,500 miles): I													
Every 12 months: I													
Every 24 months: R (when Isuzu recommended coolant is used)													
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
Every 12 months: I													
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 24 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every 3 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	A	-	-	-	A	-	-	-	A	-	or every 12 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	L	-	L	-	L	-	L	-	L	-	L	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months

Maintenance Schedule: NLR77/QLR77/QMR77 Models (No. 2)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
Steering wheel free play		-	I	I	I	I	I	I	I	I
Steering mechanism functionality		-	I	I	I	I	I	I	I	I
Wheel alignment		-	-	-	-	-	-	-	-	I
Power steering hose		-	-	-	-	-	-	-	-	-
Brake fluid		-	-	I	-	I	-	I	-	R
Brake system oil leaks		-	-	I	-	I	-	I	-	I
* Brake shoe lining and drum wear		-	-	-	-	I	-	-	-	I
Brake pedal stroke and free play		I	I	I	I	I	I	I	I	I
Looseness in or damage to brake pipe and brake hose connections		-	-	I	-	I	-	I	-	I
Parking brake cable		-	-	I	-	I	-	I	-	I
Parking brake functionality		-	-	I	-	I	-	I	-	I
Parking brake lever stroke		-	-	I	-	I	-	I	-	I
Parking brake shoe lining wear		-	-	-	-	-	-	-	-	I
Wear of or damage to parking brake drum		-	-	-	-	-	-	-	-	I
Damage to parking brake ratchet mechanism		-	-	-	-	-	-	-	-	I
Leaf spring damage		-	-	I	-	I	-	I	-	I
Looseness in or damage to suspension mounting		-	-	I	-	I	-	I	-	I
Shock absorber oil leaks		-	-	I	-	I	-	I	-	I
Shock absorber mounting looseness		-	-	I	-	I	-	I	-	I
Wheel nuts and wheel bolts		T	-	-	-	T	-	-	-	T
Disc wheel damage		-	-	-	-	I	-	-	-	I
Wheel hub bearing grease		-	-	-	-	-	-	-	-	R
Tire air pressure and damage		-	-	I	-	I	-	I	-	I
Battery fluid specific gravity		-	-	I	-	I	-	I	-	I
Inspection of lights, horn, windshield wiper and washer		-	-	I	-	I	-	I	-	I
Inspection of nuts and bolts on chassis and body		I	-	-	-	-	-	-	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

SERVICE AND MAINTENANCE

7-191

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	or every 3 months
													or every 3 months
													or every 3 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 48 months
-		-		-		-	R	-		-		-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
													or every 3 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	T	-	-	-	T	-	-	-	T	-	or every 12 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months

Maintenance Schedule: NLR71/NMR71 Models (No. 1)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
* Engine oil		-	-	R	-	R	-	R	-	R
* Engine oil filter		-	-	R	-	R	-	R	-	R
Fuel filter		-	-	-	-	R	-	-	-	R
Pre fuel filter		-	-	-	-	R	-	-	-	R
* Air cleaner element		-	-	I	-	I	-	I	-	R
Idle speed and acceleration		-	-	-	-	I	-	-	-	I
Valve clearance		-	-	-	-	-	-	-	-	A
Looseness in or damage to fuel tank cap and fuel line		-	-	-	-	-	-	-	-	I
Drive belt tension and damage		I	-	I	-	I	-	I	-	I
Engine coolant										
* Damage to or looseness of the exhaust pipe, exhaust brake, silencer, or their fittings		-	-	-	-	I	-	-	-	I
Cooling system		-	-	-	-	I	-	-	-	I
Damage to air intake ducts and hoses		-	-	-	-	-	-	I	-	-
Engine operating conditions		-	-	I	-	I	-	I	-	I
Clutch fluid		-	-	I	-	I	-	I	-	R
Clutch pedal stroke and free play		-	I	I	I	I	I	I	I	I
* Transmission oil		-	-	-	I	-	-	I	-	-
Gear control mechanism looseness		-	-	-	-	-	-	-	-	I
Gear control cable		-	-	-	-	A	-	-	-	A
* Propeller shaft, universal joints and sliding sleeves		-	-	-	-	L	-	-	-	L
Loose propeller shaft joints		-	-	I	-	I	-	I	-	I
Propeller shaft spline wear		-	-	-	-	-	-	-	-	I
Looseness in propeller shaft bearings and related components		-	-	-	-	-	-	-	-	I
Propeller shaft center bearing		-	-	-	-	L	-	-	-	L
* Differential gear oil		-	-	I	-	I	-	I	-	R
* King pin		-	-	L	-	L	-	L	-	L
Oil leaks from power steering system		-	-	I	-	I	-	I	-	I
Power steering fluid		-	-	-	-	-	-	-	-	R
* Looseness in or damage to steering system mounting		-	-	I	-	I	-	I	-	I
Looseness in connection between knuckle and front axle		-	-	I	-	I	-	I	-	I
Looseness in or damage to steering mechanism		-	-	I	-	I	-	I	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
-	R	-	R	-	R	-	R	-	R	-	R	-	or every 6 months
-	R	-	R	-	R	-	R	-	R	-	R	-	or every 6 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	-	-	-	-	A	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
Every 12 months: I													
Every 24 months: R (when Isuzu recommended coolant is used)													
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 24 months
-	-	-	I	-	-	-	-	-	I	-	-	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every 3 months
R	-	-	I	-	-	I	-	-	R	-	-	I	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	A	-	-	-	A	-	-	-	A	-	or every 12 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 24 months
-	-	-	L	-	-	-	L	-	-	-	L	-	or every 12 months
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 24 months
-	L	-	L	-	L	-	L	-	L	-	L	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 6 months

Maintenance Schedule: NLR71/NMR71 Models (No. 2)

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace
T: Tighten to the specified torque L: Lubricate

Service interval	x1,000 km	1	5	10	15	20	25	30	35	40
	x1,000 miles	0.6	3	6	9	12	15	18	21	24
Steering wheel free play		-	I	I	I	I	I	I	I	I
Steering mechanism functionality		-	I	I	I	I	I	I	I	I
Wheel alignment		-	-	-	-	-	-	-	-	I
Power steering hose		-	-	-	-	-	-	-	-	-
Brake fluid		-	-	I	-	I	-	I	-	R
Brake system oil leaks		-	-	I	-	I	-	I	-	I
* Brake shoe lining and drum wear		-	-	-	-	I	-	-	-	I
Brake pedal stroke and free play		I	I	I	I	I	I	I	I	I
Looseness in or damage to brake pipe and brake hose connections		-	-	I	-	I	-	I	-	I
Parking brake cable		-	-	I	-	I	-	I	-	I
Parking brake functionality		-	-	I	-	I	-	I	-	I
Parking brake lever stroke		-	-	I	-	I	-	I	-	I
Parking brake shoe lining wear		-	-	-	-	-	-	-	-	I
Wear of or damage to parking brake drum		-	-	-	-	-	-	-	-	I
Damage to parking brake ratchet mechanism		-	-	-	-	-	-	-	-	I
Leaf spring damage		-	-	I	-	I	-	I	-	I
Looseness in or damage to suspension mounting		-	-	I	-	I	-	I	-	I
Shock absorber oil leaks		-	-	I	-	I	-	I	-	I
Shock absorber mounting looseness		-	-	I	-	I	-	I	-	I
Wheel nuts and wheel bolts		T	-	-	-	T	-	-	-	T
Disc wheel damage		-	-	-	-	I	-	-	-	I
Wheel hub bearing grease		-	-	-	-	-	-	-	-	R
Tire air pressure and damage		-	-	I	-	I	-	I	-	I
Battery fluid specific gravity		-	-	I	-	I	-	I	-	I
Inspection of lights, horn, windshield wiper, and washer		-	-	I	-	I	-	I	-	I
Inspection of nuts and bolts on chassis and body		I	-	-	-	-	-	-	-	I

*: Your vehicle needs to be maintained more often if it is driven in severe conditions.

SERVICE AND MAINTENANCE

7-195

45	50	55	60	65	70	75	80	85	90	95	100	105	Odometer reading or months, whichever comes first
27	31	34	37	40	43	46	49	52	55	59	62	65	
													or every 3 months
													or every 3 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 48 months
-		-		-		-	R	-		-		-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
													or every 3 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	T	-	-	-	T	-	-	-	T	-	or every 12 months
-	-	-		-	-	-		-	-	-		-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 24 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-		-		-		-		-		-		-	or every 6 months
-	-	-	-	-	-	-		-	-	-	-	-	or every 24 months

Maintenance schedule for severe-condition operations

Driving condition

A: Operations involving frequent starts and stops

B: Driving on rough roads, mountain roads or uphill roads C: Driving in dusty areas

D: Driving on snow-covered or seashore roads

Item	Distance covered	Condition			
Engine oil (NMR85/NPR85 models)	Replace every 7,500 km (4,500 miles)			C	A+D
Engine oil filter (NMR85/NPR85 models)	Replace every 7,500 km (4,500 miles)			C	A+D
Engine oil (NQR75/NQR90 models)	Replace every 10,000 km (6,000 miles)			C	A+D
Engine oil filter (NQR75/NQR90 models)	Replace every 10,000 km (6,000 miles)			C	A+D
Engine oil (NLR55 model)	Replace every 2,500 km (1,500 miles)			C	A+D
Engine oil filter (NLR55 model)	Replace every 5,000 km (3,000 miles)			C	A+D
Engine oil (NLR77/QLR77/QMR77 models)	Replace every 5,000 km (3,000 miles)			C	A+D
Engine oil filter (NLR77/QLR77/QMR77 models)	Replace every 5,000 km (3,000 miles)			C	A+D
Engine oil (NLR71/NMR71 models)	Replace every 5,000 km (3,000 miles)			C	A+D
Engine oil filter (NLR71/NMR71 models)	Replace every 5,000 km (3,000 miles)			C	A+D
Air cleaner element	Inspect every 5,000 km (3,000 miles) Replace every 20,000 km (12,000 miles)			C	
Damage to or looseness of the exhaust pipe, exhaust brake, silencer, or their fittings	Inspect every 10,000 km (6,000 miles)	A	B		D
Transmission oil	Replace every 20,000 km (12,000 miles)		B		
Propeller shaft universal joints and sliding sleeves	Grease every 10,000 km (6,000 miles)		B		
Differential gear oil	Replace every 20,000 km (12,000 miles)		B		
King pin	Grease every 5,000 km (3,000 miles)		B	C	D
Looseness in or damage to steering system mounting (NMR85/NPR85 models)	Inspect every 7,500 km (4,500 miles)		B		
Looseness in or damage to steering system mounting (except NMR85/NPR85 models)	Inspect every 5,000 km (3,000 miles)		B		
Brake shoe lining and drum wear	Inspect every 10,000 km (6,000 miles)	A	B	C	

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.

LUBRICATION	MAKE	BRAND	GRADE		
			API	ACEA	JASO
Diesel engine crankcase	ISUZU	BESCO DURAMAX (10W-30)	CH-4	—	DH-1
	ISUZU	BESCO MULTI Z CH-4 (10W-30)	CH-4	—	DH-1
	Castrol	Tecton J-Max (15W-40)	CH-4	E3	DH-1
	Chevron/Texaco/Caltex	Delo 400 Multigrade (15W-40)	CI-4	E7	DH-1
	Chevron/Texaco/Caltex	Delo Gold Multigrade (15W-40)	CH-4	E3	—
	Elf	Performance Victory (15W-40)	CI-4	E7	—
	ExxonMobil	Delvac MX (15W-40)	CI-4	E7	—
	Shell	Rimula R4X (15W-40)	CI-4	E7	DH-1
	Total	Rubia Works 1000 (15W-40)	CI-4	E7	DH-1
	Total	Rubia TIR 7400 (15W-40)	CI-4	E7	—
Manual transmission	ISUZU	BESCO TRANSAXLE (5W-30)	—	—	—
	Chevron/Texaco/Caltex	Delo 400 Multigrade (15W-40)	CI-4	E7	DH-1
	Elf	Performance Victory (15W-40)	CI-4	E7	—
	ExxonMobil	Delvac MX (15W-40)	CI-4	E7	—
	Shell	Rimula R4X (15W-40)	CI-4	E7	DH-1
	Total	Rubia TIR 7400 (15W-40)	CI-4	E7	—
Differential	ISUZU	BESCO GEAR SH (80W-90), (90), (140)	GL-5	—	—
	Castrol	Syntrax Universal (80W-90)	GL-5/MT-1	—	—
	Chevron/Texaco/Caltex	Thuban GL-5 EP (80W-90), (85W-140)	GL-5/MT-1	—	—
	Elf	Gearelf 5 (80W-90), (85W-140)	GL-5	—	—
	ExxonMobil	Mobil Delvac 1 Gear Oil (75W-90)	GL-5/MT-1	—	—
	ExxonMobil	Mobilube S (80W-90)	GL-5/MT-1	—	—
	Shell	Spirax S2 A IZ (80W-90)	GL-5	—	—
	Shell	Spirax S3 AX (80W-90)	GL-5	—	—
	Total	Transmission XPM (80W-90)	GL-5/MT-1	—	—
	Total	Transmission TM (80W-90), (85W-140)	GL-5	—	—
Power steering Hydro brake booster	ISUZU	BESCO ATF III (Dexron® III)	—	—	—
	BP	Autran DXIII (Dexron® III)	—	—	—
	Castrol	ATF Heavy Duty (Dexron® III)	—	—	—
	Chevron/Texaco/Caltex	Havoline ATF-J (Dexron® III)	—	—	—
	ExxonMobil	Mobil Multipurpose ATF (Dexron® III)	—	—	—
	Shell	Spirax S3 ATF MD3 (Dexron® III)	—	—	—
	Total	Fluidmatic III G (Dexron® III)	—	—	—
Total	Fluide G3 (Dexron® III)	—	—	—	
Center bearing Kingpins (Multi purpose grease)	ISUZU	BESCO L2 GREASE (No.2), L3 GREASE (No.3)	—	—	—
	Chevron/Texaco/Caltex	Starplex EP (No.2)	—	—	—
	ExxonMobil	Mobilgrease XHP 222 (No.2), 223 (No.3)	—	—	—
	Shell	Gadus S3 V220C 2 (No.2)	—	—	—
	Total	Multis Complex EP2 (No.2), EP3 (No.3)	—	—	—

LUBRICATION	MAKE	BRAND	GRADE		
			API	ACEA	JASO
Propeller shaft sliding yoke Universal joint Brake camshaft (Multi purpose grease containing molybdenum disulfide)	ISUZU	BESCO ONE LUBER Mo GREASE (No.2)	—	—	—
	Chevron/Texaco/Caltex	Molytex Grease EP2 (No.2)	—	—	—
	Shell	Gadus S2 V220AD 2 (No.2)	—	—	—
	Total	Multis Complex HV2 Moly (No.2)	—	—	—
Brake auto slack adjuster	Dow Corning	Molykote G-4700 GREASE	—	—	—

COOLANT	MAKE	BRAND*
Engine cooling system	ISUZU	BESCO LLC SUPER TYPE E, AS
	Arteco	Havoline XLC
	BASF	Glysantin G34
	Total	Glacelf Auto Supra
	Total	Coolelf Auto Supra 37

*: Use Isuzu recommended coolant, or GENERAL MOTORS ENGINEERING STANDARDS GM6277M (Ethylene glycol based non-silicate and non-borate coolant) or equivalent.



ADVICE

- Use a mixture of tap water and engine coolant at a ratio of 50/50.

Preparing Engine Coolant

→ Refer to page 7-33

FLUID	MAKE	BRAND	GRADE **
Clutch and brake fluid reservoir	ISUZU AC Delco	BESCO BRAKE FLUID SUPER Supreme 11	DOT 3 DOT 3

** : This material meets GENERAL MOTORS ENGINEERING STANDARDS GM4653M, FMVSS 116 or SAE J1703 requirements.

DIESEL FUEL / APPLICABLE STANDARD

Japanese Industrial Standards (JIS)	Based on K2204 : 1997 Diesel Fuel
Deutsche Industrie Normen (DIN)	Based on EN590 : 1997
American Society for Testing and Materials (ASTM)	Based on D975-04C No.1-D S500 or No.2-D S500 (below 500 ppm)
British Standards (BS)	Based on EN590 : 1997

DIESEL FUEL / APPLICABLE STANDARD (Sulfur content below 50 ppm)

Japanese Industrial Standards (JIS)	Based on K2204 : 2007 Diesel Fuel
Deutsche Industrie Normen (DIN)	Based on EN590 : 2004
American Society for Testing and Materials (ASTM)	Based on D975-04c No.1-D S15 or No.2-D S15 (below 15 ppm)
British Standards (BS)	Based on EN590 : 2004

**CAUTION**

- Be sure to use diesel fuel. For models conforming to Euro IV emission standards, be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower) or 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 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))

Models for Indonesia

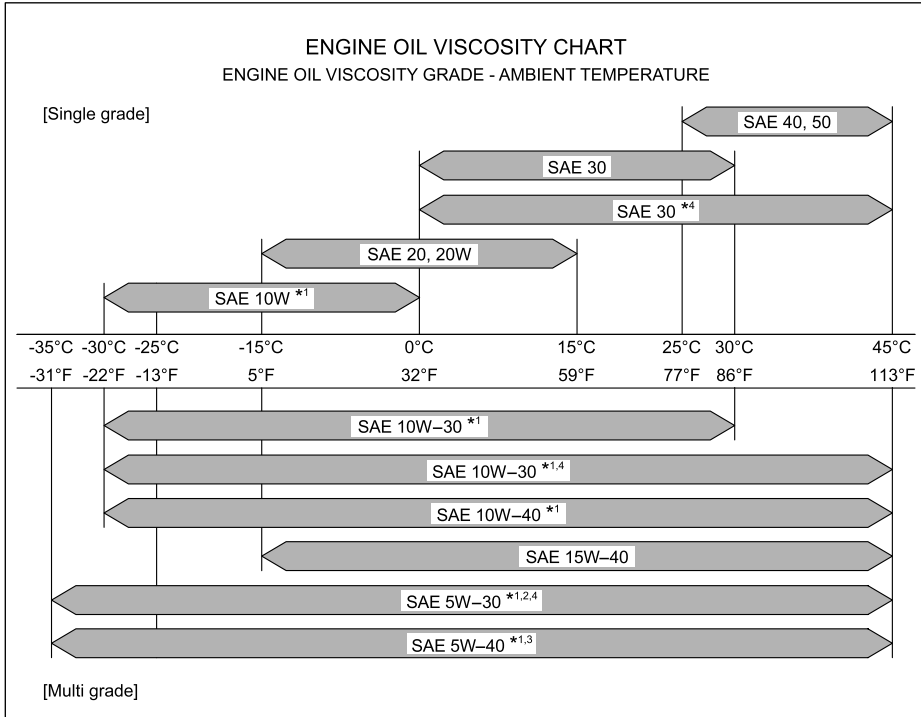
- You can use standard type diesel fuels that meet EN590. A standard type diesel fuel means the fuel that contains biodiesel fuel (FAME) which meets EN14214.
- Using diesel fuels that do not meet EN590, or using fuels that contain FAME which does not meet EN14214 may, in the worst case, cause a serious 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 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**

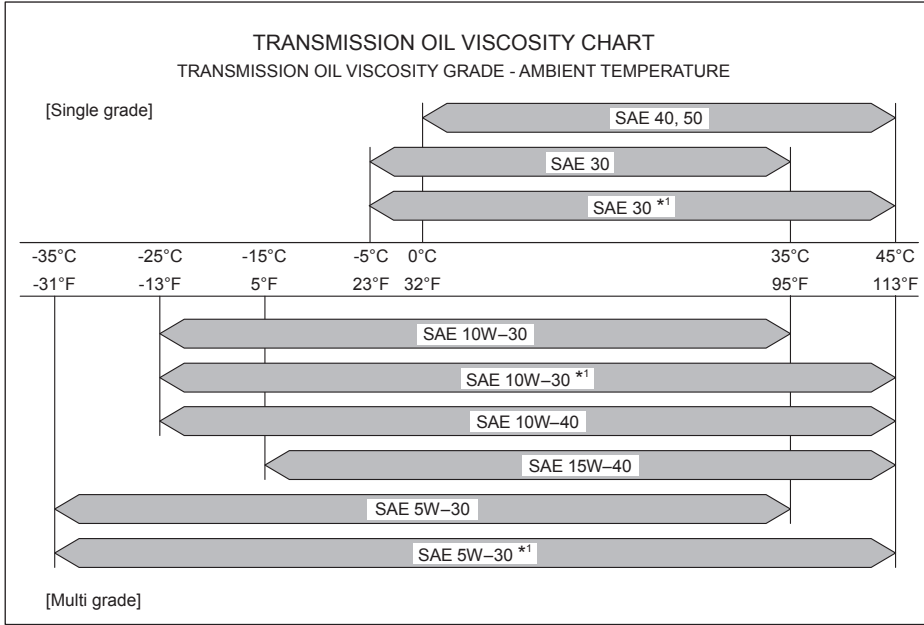
- When changing from 0% FAME diesel to the fuel that contains FAME which meets EN590, there may be a negative impact on performance when pulling away and driving in general.

Engine Oil and Gear Oil Viscosity Charts

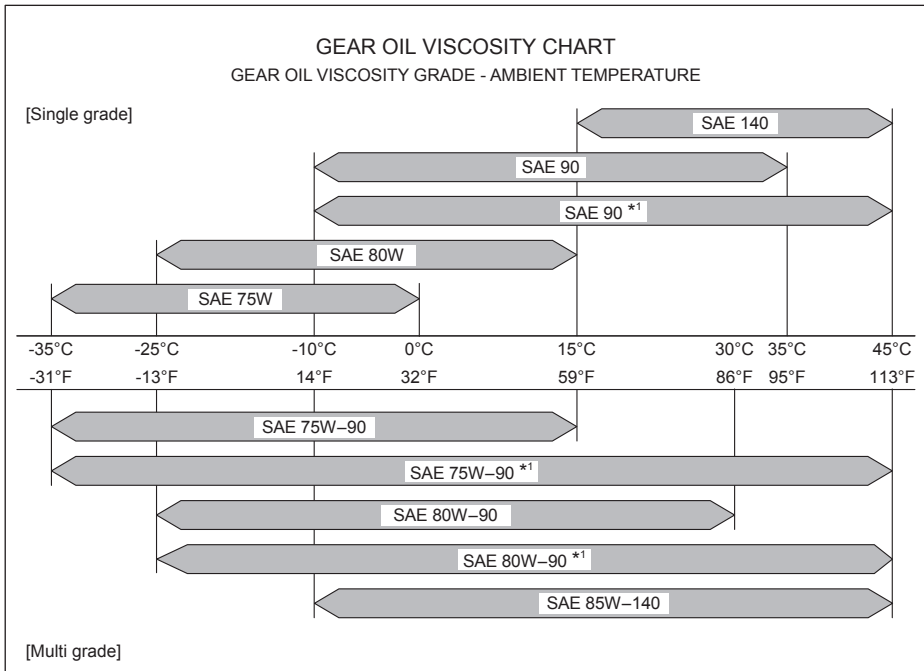
Select appropriate engine and gear oils in accordance with the tables below. It is also important to select the viscosity appropriate for the temperature at which your vehicle operates. Use the following tables for making correct selections.



- *1: At ambient temperatures below -25°C (-13°F), this can only be used when starting aids (oil pan heater, block heater, etc.) are used.
- *2: In the case of 5W-30 oil for commercial vehicles (CV), only Isuzu genuine oil can be used.
- *3: 5W-40 oil is specified as the recommended oil only for cold regions (Russia, China, etc.).
- *4: Use is possible at ambient temperatures up to 45°C (113°F) only in the case of Isuzu genuine oil.



*1: Use is possible at ambient temperatures up to 45°C (113°F) only in the case of Isuzu genuine oil.

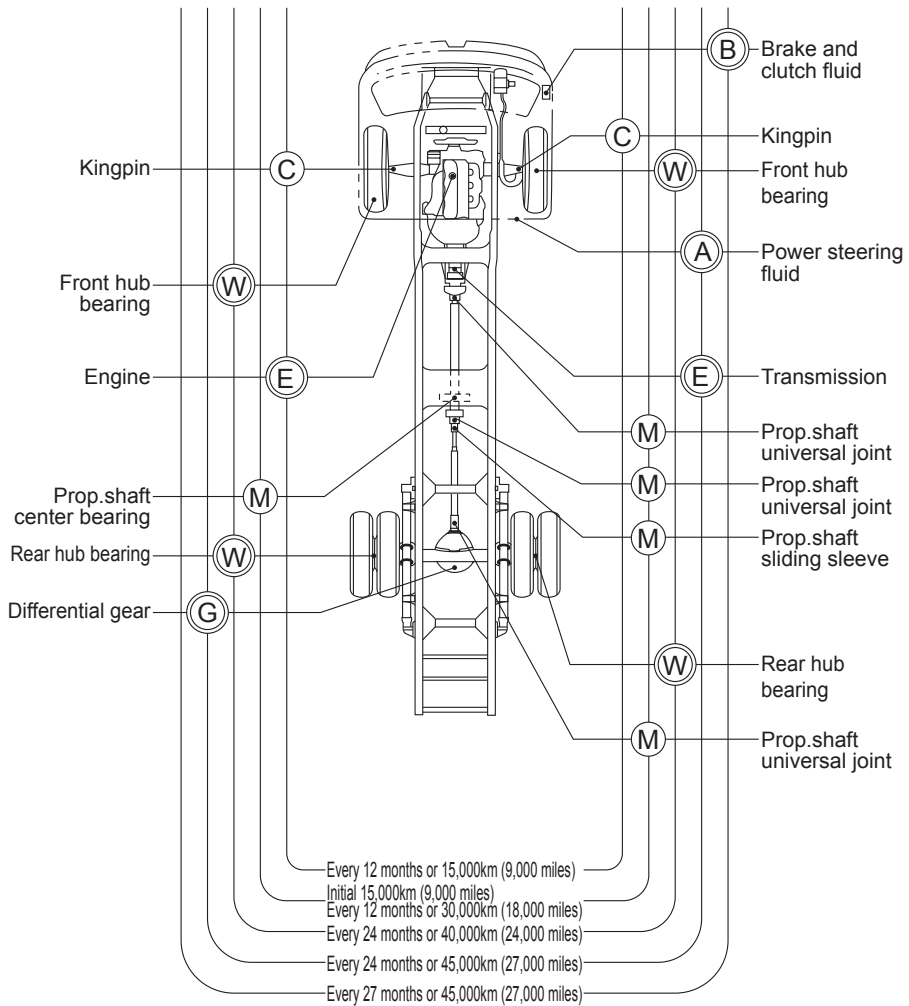


*1: Use is possible at ambient temperatures up to 45°C (113°F) only in the case of Isuzu genuine oil.

Lubrication Chart

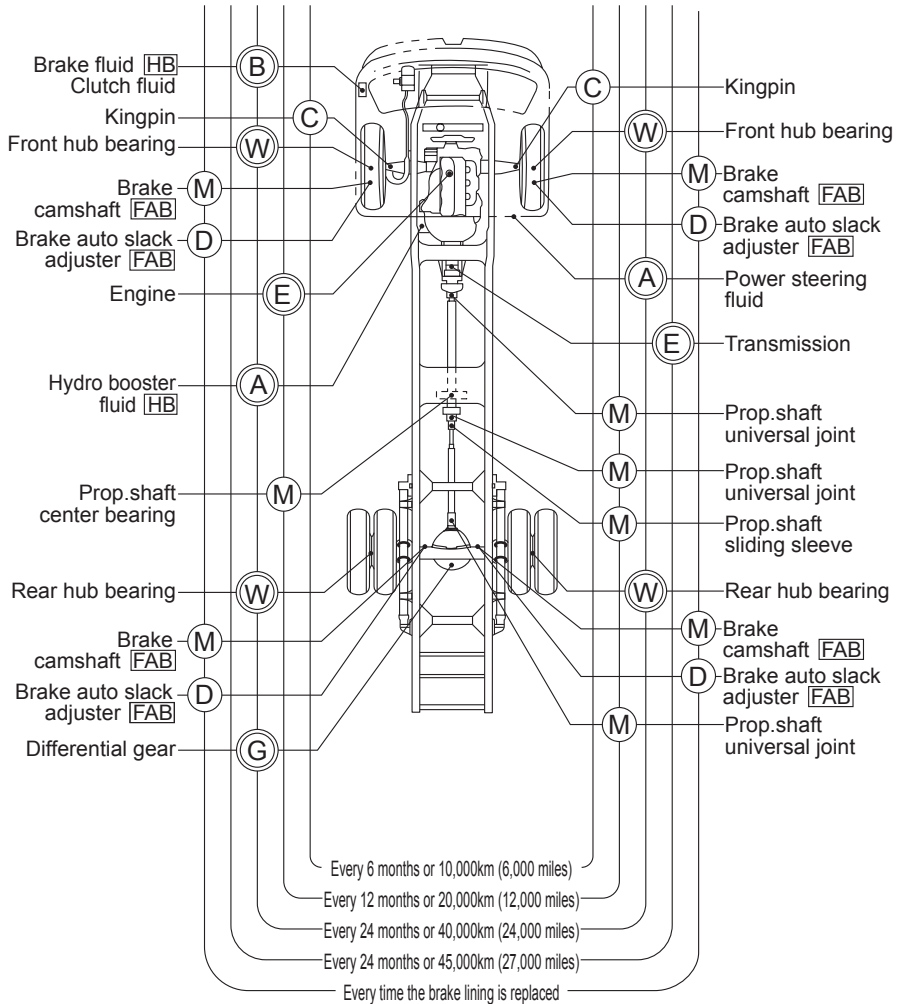
NMR85/NPR85 Models

- ⊙ : Change
- : Check and Replenish or Lubricate
- E : Engine oil
- G : Gear oil
- W : Wheel bearing grease
- C : Multipurpose type grease
- M : MoS₂ contained type grease
- B : Brake fluid
- A : Automatic transmission fluid



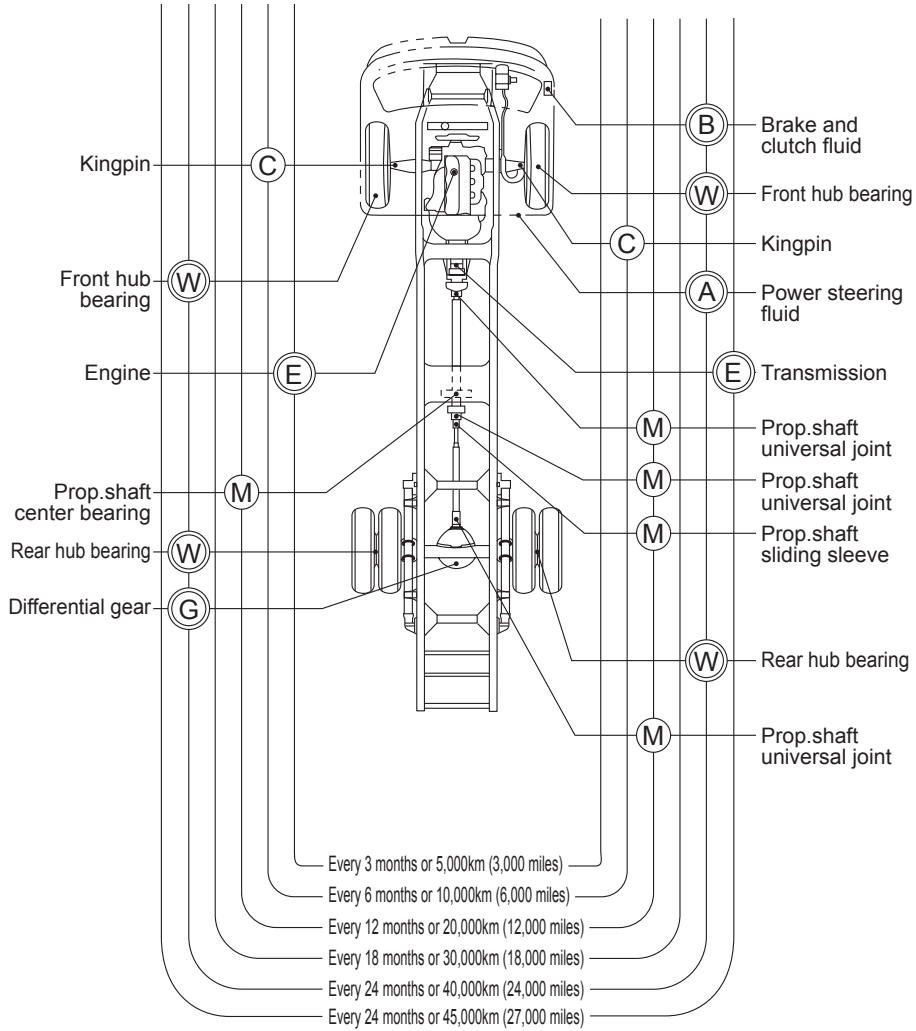
NQR75/NQR90 Models

- ⊙ : Change
- : Check and Replenish or Lubricate
- E : Engine oil
- G : Gear oil
- W : Wheel bearing grease
- C : Multipurpose type grease
- M : MoS₂ contained type grease
- B : Brake fluid
- A : Automatic transmission fluid
- D : Molykote G-4700 grease



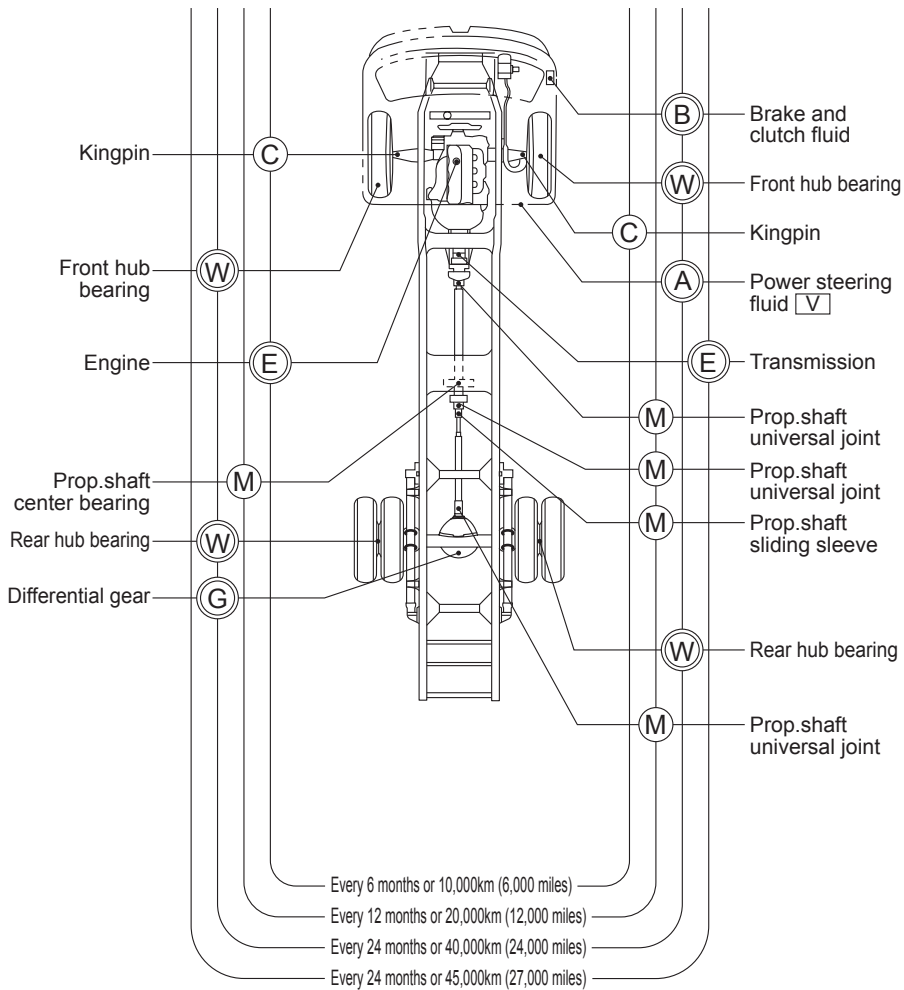
NLR55 Model

- ⊙ : Change
- : Check and Replenish or Lubricate
- E : Engine oil
- G : Gear oil
- W : Wheel bearing grease
- C : Multipurpose type grease
- M : MoS₂ contained type grease
- B : Brake fluid
- A : Automatic transmission fluid



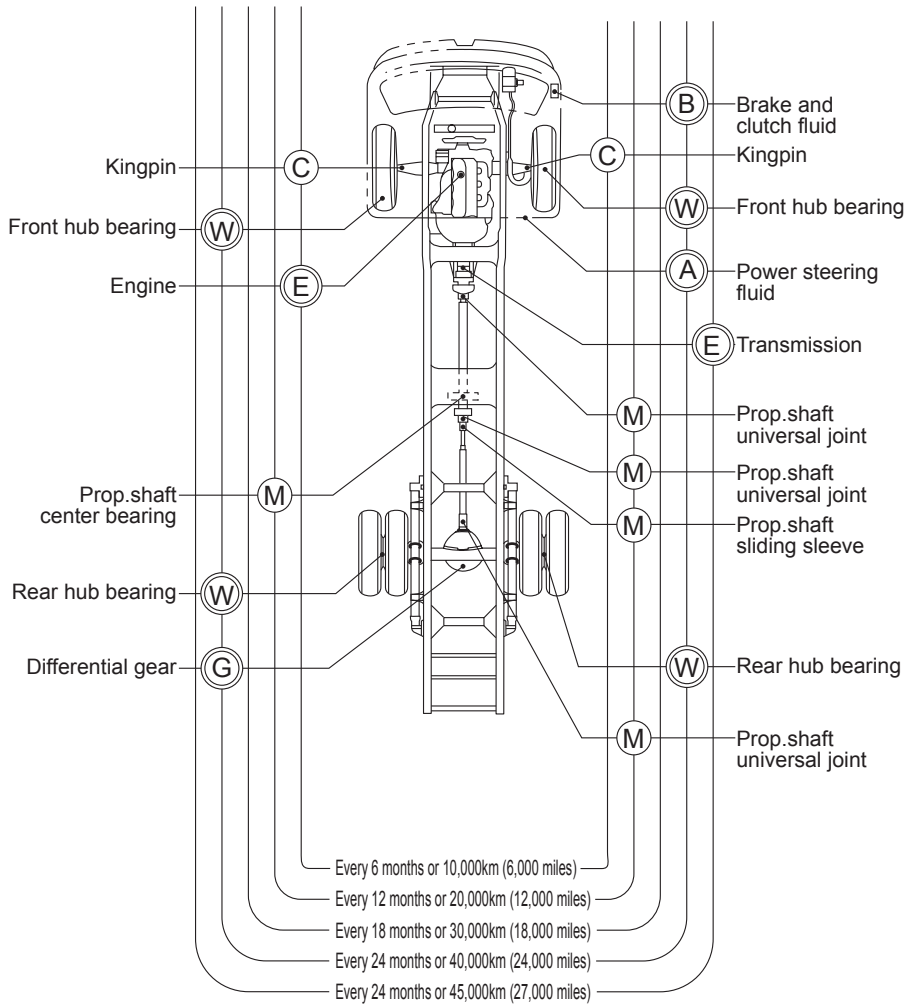
NLR77/QLR77/QMR77 Models

- ⊙ : Change
- : Check and Replenish or Lubricate
- E : Engine oil
- G : Gear oil
- W : Wheel bearing grease
- C : Multipurpose type grease
- M : MoS₂ contained type grease
- B : Brake fluid
- A : Automatic transmission fluid



NLR71/NMR71 Models

- ⊙ : Change
- : Check and Replenish or Lubricate
- E : Engine oil
- G : Gear oil
- W : Wheel bearing grease
- C : Multipurpose type grease
- M : MoS₂ contained type grease
- B : Brake fluid
- A : Automatic transmission fluid



IN CASE OF EMERGENCY

8

• Troubleshooting	8-2
• When the Vehicle Breaks Down during Driving	8-7
• When the Tire Goes Flat	8-8
• When the Engine Stops While Driving	8-9
• When the Engine Stalls and Cannot be Restarted	8-10
• When the Brakes Do not Work	8-11
• When the Battery Goes Flat	8-12
• When the Fuel Runs Out	8-16
• When the Warning Light Comes On	8-21
• When the Engine Overheats	8-27
• When the Meter Shows an Abnormality	8-29
• When the Wheel Parking Brake Cannot be Released <small>FAB</small>	8-30
• When the Bulb Does not Come On	8-32
• Replacing the Fuses and Relays	8-48
• When Slow-blow Fuses Blow Out	8-65
• When Your Vehicle is Involved in an Accident	8-67
• When Driving on Bad Roads	8-67
• When Towing	8-68

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	8-12
		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	6-19
		Starter or electrical system is faulty	⊙	—
	Starter turns over	No fuel	Make sure there are no fuel leaks, and then add fuel	—
		Air in the fuel system	Bleed fuel system	8-17 8-19 8-20
		Fuel filter is clogged	Replace filter	7-61
		Fuel is frozen	Warm fuel pipe with hot water or wait until it gets warmer	—
		Fuel system is faulty	⊙	—
		Preheating system is faulty	⊙	—
Engine starts, but immediately stops	Idling speed too low	Adjust the idling speed	4-36	
	Fuel filter is clogged	Replace filter	7-61	
	Air cleaner is clogged	Clean or replace element	7-57 7-59	
	Fuel system is faulty	⊙	—	
Unsteady engine speed	There is water or air in the fuel system	Drain water from fuel filter or bleed fuel system	7-75 8-17 8-19 8-20	
	Fuel system is faulty	⊙	—	

8-4

IN CASE OF EMERGENCY

Symptom	Cause	Corrective action	Reference page
White or black exhaust smoke	Engine not sufficiently warmed up	Allow engine to warm up sufficiently	4-36
	Excessive engine oil	Correct oil level	7-22
	Engine control system faulty	⊙	—
	Supply pump faulty	⊙	—
	Air cleaner clogged	Clean or replace element	7-57 7-59
	Fuel system is faulty	⊙	—
	Continuous idling for a long period (more than two 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	—
	Exhaust system clogged	⊙	—
Engine is overheating	No engine coolant	Add engine coolant	7-36
	Front of radiator is clogged with dirt	Wash clean with tap water	7-47
	Radiator cap not sufficiently tightened	Make sure it is firmly tightened	—
	Fan belt loose	Adjust the tension or replace the belt	7-53
	Engine coolant dirty	Clean the radiator interior or change engine coolant	7-37
	Fan clutch is faulty	⊙	—
	Radiator cap dirty or faulty	Clean or replace	7-40
Oil pressure is low	Improper engine oil viscosity	Change to oil with proper viscosity	6-19
	Engine oil level too low	Add engine oil	7-24
	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	⊙	—

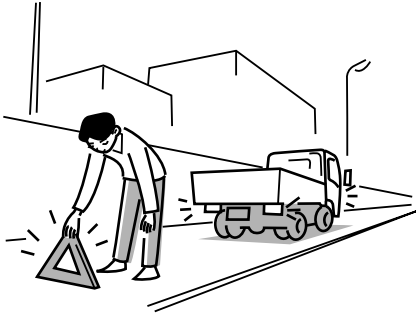
Symptom	Cause	Corrective action	Reference page
Not enough engine power	Parking brake not fully released	Make sure it is fully released	—
	Brake dragging	⊙	—
	Clutch slipping	Adjust clutch free play	7-128
	Air cleaner is clogged	Clean or replace element	7-57 7-59
	Fuel filter is clogged	Replace filter	7-61
	Engine control system faulty	⊙	—
	Fuel system faulty	⊙	—
	Engine faulty	⊙	—
Brakes not effective	Drum-to-lining gap too large	⊙	—
	Air in brake fluid (Hydraulic brake models)	⊙	—
	Low air pressure (Full-air brake models)	Raise engine speed to supply air	—
	Brake system failure	⊙	—
Uneven braking	Unbalanced air pressure in tires	Adjust to proper air pressure	7-102
	Tire unevenly worn	Replace tire	7-112
	Unbalanced drum-to-lining gap of the wheels	⊙	—
	Poor wheel alignment	⊙	—
Exhaust brake not working	The electrical system is faulty	⊙	—
Steering wheel hard to turn	Loaded too far forward	Load properly	—
	Power steering fluid level too low	Add fluid	7-137
	Insufficient air in front tires	Adjust to proper inflation pressure	7-102
Excessive play in the steering wheel	Wheel bolts and nuts loose	Tighten to the specified torque	7-120
	Unbalanced inflation pressure in the tires	Adjust to proper inflation pressure	7-102
	Unbalanced tires	⊙	—
	Excessive steering wheel play	⊙	—

8-6

IN CASE OF EMERGENCY

Symptom		Cause	Corrective action	Reference page
Poor steering wheel return		Poor lubrication in the steering mechanisms	Lubricate the mechanism	—
		Poor wheel alignment	⊙	—
Clutch disengages poorly		Insufficient clutch fluid	Add fluid	7-124
		Excessive clutch pedal free play	Adjust to proper level	7-128
Loud or abnormal noises	From the transmission	Insufficient transmission oil	Add oil	7-129
		Transmission inner components faulty	⊙	—
	From differential	Insufficient differential gear oil	Add oil	7-133
		Differential inner components faulty	⊙	—
	From the suspension	Spring pins, shackles, or stoppers worn	⊙	—
	From the propeller shaft	Poor lubrication in each component	Lubricate them	7-141
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 Tire Goes Flat

When the tire gets 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.

**WARNING**

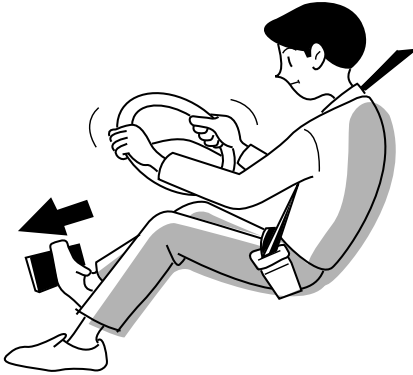
- If you continue to drive on a flat tire, undue force will be applied to the wheel bolts, possibly causing the bolts to break and the wheel to come off.

Spare Tire → Refer to page 7-122

Handling the Jack → Refer to page 7-144

Changing Tires → Refer to page 7-112

When the Engine Stops While Driving



For hydraulic brake models, as the brake booster will no longer operate, brake effectiveness will be reduced. 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 cannot be started, promptly have the vehicle inspected and repaired by the nearest Isuzu Dealer.

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.

When the Fuel Runs Out

→ Refer to page 8-16



WARNING

- For hydraulic brake models, 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.
 - As the brake booster will no longer be functional, brake effectiveness will be greatly reduced. Be sure to apply more pressure than usual to the brake pedal.
- For full-air brake models, the brake air pressure will not rise, so immediately stop the vehicle at a safe place.

When the Engine Stalls and Cannot be Restarted

Place the gearshift lever in the "N" position and push the vehicle to a safe place.

**CAUTION**

- In case of emergency, 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.

When the Brakes Do not Work



If the brakes become ineffective unexpectedly, reduce speed by quickly shifting down from third to second to 1st gear using the gearshift lever. 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.

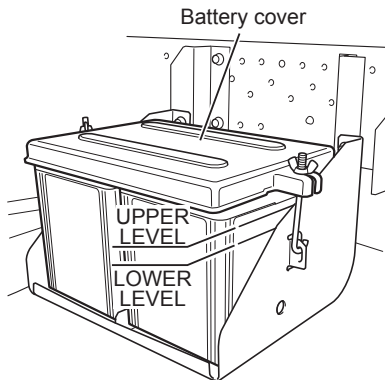
When the Battery Goes Flat

Use a jumper cable (sold separately) and the batteries of another vehicle to start the engine in this sequence.



CAUTION

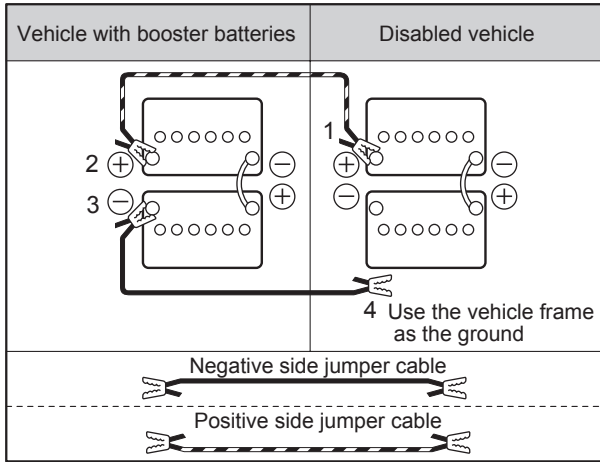
- For safety and the protection of the vehicle, do not push-start the vehicle.
- Make sure that the booster batteries in the vehicle providing the charge have the same voltage as the disabled vehicle.
- Under no circumstances should the battery's positive and negative terminals be put in contact with 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.



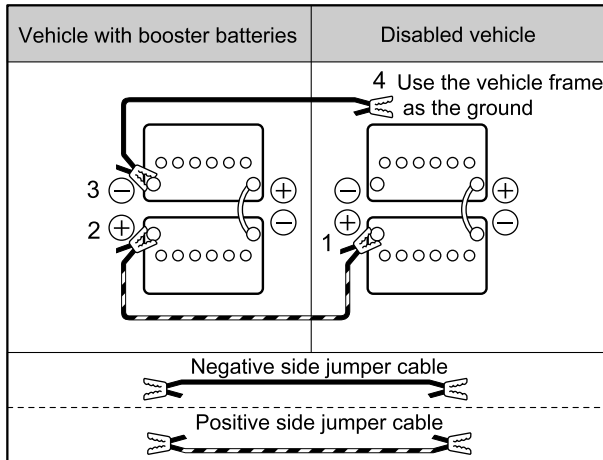
1. Check the battery fluid level in the disabled vehicle.
2. Use a vehicle that has a charged battery with the same voltage.

- Remove the battery cover and connect the jumper cables in the numbered sequence in the drawing. (The following drawing is an example of a connection between vehicles installed with the same type of battery.)

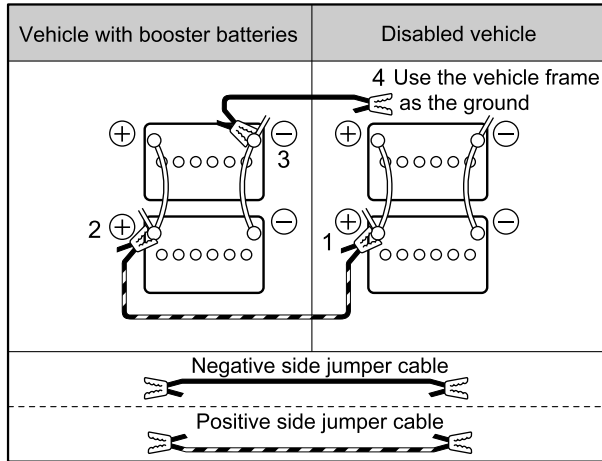
Models with 24 V battery (75D23R/80D26R types)



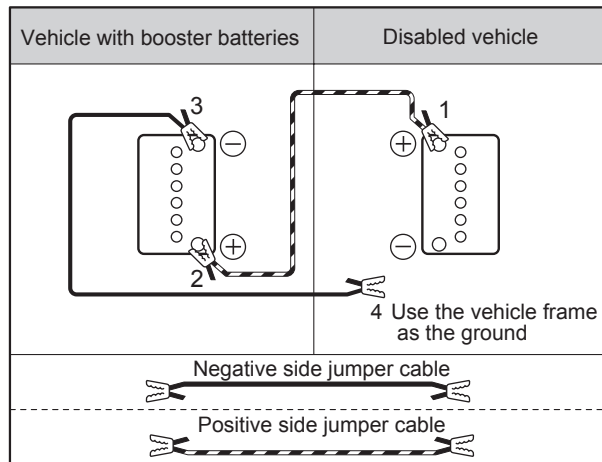
Models with 24 V battery (65D23L/75D23L/80D26L/115E41L types)



Models with two 12 V batteries (80D26L type)



Models with one 12 V battery (95D31R type)



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" line 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 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.
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".

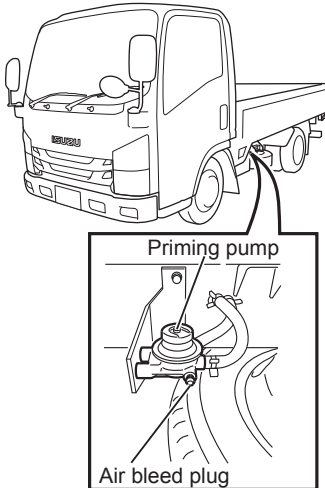
Bleeding the Fuel System (4JJ1 Engine Model with Chassis-side Fuel Filter (Type 1))

If the fuel is exhausted, perform the steps required to bleed air from the fuel system in the order "Chassis-side Priming Pump", "Engine-side Fuel Filter", "After You Have Bled Air from the Fuel System".



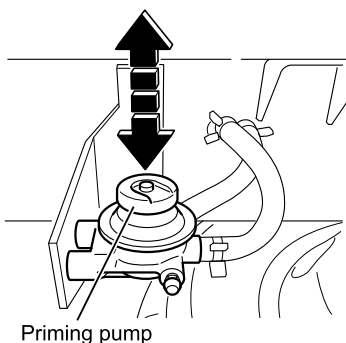
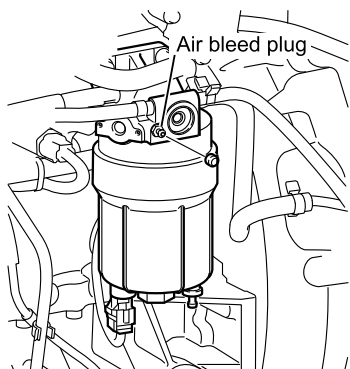
ADVICE

- Insufficient air bleeding can result in faulty engine operation. Be sure, therefore, to always carry out the procedure described in "After You Have Bled Air from the Fuel System".



Chassis-side Priming Pump

1. Place a container beneath the air bleed plug of the chassis-side priming pump to receive the fuel, and remove the rubber cap from the air bleed plug. Connect a plastic hose to the air bleed plug to prevent the fuel from spilling. Fully loosen the air bleed plug.
2. Operate the priming pump up and down more than 20 times until the fuel from the air bleed plug no longer contains air bubbles.
3. Fully retighten the air bleed plug and wipe off any fuel that may have adhered to the plug or surrounding area.



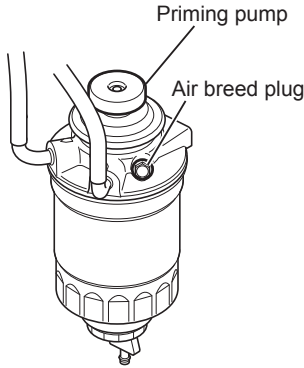
Engine-side Fuel Filter

1. Place a container beneath the air bleed plug of the engine-side fuel filter to receive the fuel, and remove the rubber cap from the air bleed plug. Connect a plastic hose to the air bleed plug to prevent the fuel from spilling. Fully loosen the air bleed plug.
2. Operate the priming pump on the chassis side up and down more than 20 times until the fuel from the air bleed of the engine-side fuel filter no longer contains air bubbles.
3. Fully retighten the air bleed plug and wipe off any fuel that may have adhered to the plug or surrounding area.

After You Have Bled Air from the Fuel System

1. Operate the priming pump up and down more than 10 times to feed air in the fuel system to the fuel supply pump.
2. Without depressing the accelerator pedal, turn the starter switch and start the engine.
3. After the engine has started, allow it to idle for 5 seconds.
4. Fully depress the accelerator pedal and increase the engine r/min to the maximum speed, then keep it for 10 seconds. (Repeat this operation several times.)

Bleeding the Fuel System (4JJ1 Engine Model with Chassis-side Fuel Filter (Type 2)) (4HK1/4JB1-TC/4HG1-T Engine Models)



Before Starting the Engine

1. Place a container beneath the air bleed plug to receive fuel, and then fully loosen the plug.
2. Operate the priming pump up and down about 20 times until the fuel from the air bleed plug no longer contains air bubbles.
3. Fully retighten the plug and wipe off any fuel that may have adhered to the plug or surrounding area.
4. Operate the priming pump up and down about 10 times to feed air in the fuel system to the fuel supply pump.
5. Turn the starter switch to start the engine.

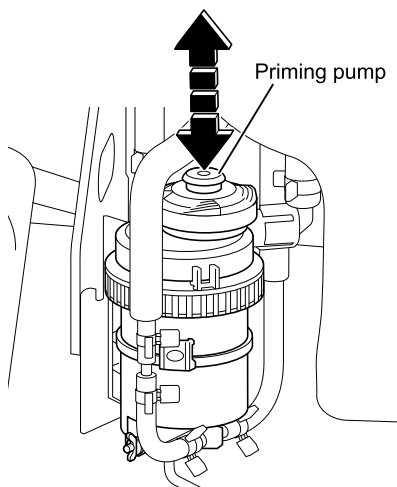
After Starting the Engine

1. Without depressing the accelerator pedal, turn the starter switch and start the engine.
2. After the engine has started, allow it to idle for about 5 seconds.
3. Fully depress the accelerator pedal and increase the engine r/min to the maximum speed.
(Repeat this operation several times.)



ADVICE

- Insufficient air bleeding can result in faulty engine operation. Be sure, therefore, to always carry out the procedure described in "After Starting the Engine".

Bleeding the Fuel System (4JH1 Engine Model)**Before Starting the Engine**

1. Operate the priming pump up and down to perform air bleeding. Repeatedly operate the priming pump up and down until its operational force becomes strong.
2. Turn the starter switch to start the engine. Without depressing the accelerator pedal, turn the starter switch and start the engine.

Starting the Engine

→ Refer to page 4-4

3. If the engine could not be started, try again from step 1.

After Starting the Engine

1. After starting the engine, remain in idle for 1 minute. If the engine stalls when in idle, perform step 3 and then start the engine again.
2. Fully depress the accelerator pedal to increase the engine speed. When the engine speed reaches its maximum, immediately release the accelerator pedal and return to idle. Repeat this operation three times.

**ADVICE**

- Insufficient air bleeding can result in faulty engine operation. Be sure, therefore, to always carry out the procedure described in "After Starting the Engine".

When the Warning Light Comes On**Brake Booster Warning Light HB**

**BRAKE
BOOSTER**

The warning buzzer will sound whenever the brake booster's vacuum becomes insufficient either with the starter switch in the "ON" position or during driving, whenever the hydraulic brake booster (HBB) system becomes faulty, or whenever a problem occurs with the exhaust brake while it is being used, if your vehicle is equipped with an exhaust brake. The brake booster warning light will also come on.

**CAUTION**

- If your vehicle is equipped with an exhaust brake, and the warning buzzer should sound during usage of the exhaust brake, immediately park the vehicle in a safe place and take the following action:
 - With the engine still running, turn off the exhaust brake switch. A problem in the exhaust brake system will be confirmed if the buzzer stops sounding several seconds later. Have your vehicle inspected by the nearest Isuzu Dealer.
 - If the warning buzzer continues to sound, the problem will be in the brake booster for the foot (main) brake. Have your vehicle inspected by the nearest Isuzu Dealer immediately.

Brake System Warning Light HB

The brake system warning light comes on while the engine is running (after startup) in the following situations:

- Drop in the level of brake fluid (due to brake lining wear or fluid leakage, etc.)
- Abnormality in the charging system (such as a generator malfunction or either loosening or splitting of the fan belt, etc.)
- On an anti-lock brake system (ABS) model, abnormality in the ABS (the ABS warning light will also come on.)

ABS Warning Light V

→ Refer to page 4-22

**CAUTION**

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

Air Pressure Warning Light FAB

When this warning light comes on, there is insufficient air pressure in the air tank and the brakes will not work properly. A warning buzzer will sound at this time.

Immediately stop the vehicle in a safe place, perform checks and take corrective action. The warning buzzer will stop when the parking brake lever is pulled.

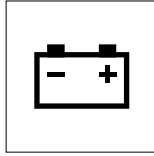
Check and Corrective Action

- Run the engine at idle and raise the air pressure until the warning light goes out.
- When the warning light does not go out or when it takes longer than the specified time for the light to go out after an air pressure of **0 kPa** (0 kgf/cm²/**0 psi**) is reached (refer to page 7-88), repair is required.
Contact the nearest Isuzu Dealer.

 **WARNING**

- Do not drive the vehicle when the warning light is on. Brakes are not fully functional, so the vehicle is in a dangerous condition to operate.

Generator Warning Light



When this warning light comes on, the charging system may have failed. Immediately stop the vehicle in a safe place, perform checks and take corrective action.

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.

Fan Belt → Refer to page 7-49



CAUTION

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



NOTE

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

Engine Oil Pressure Warning Light



When this warning light comes on, the oil pressure is too low.

Immediately stop the vehicle in a safe place, stop the engine, perform checks and then take corrective action.

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.

Engine Oil → Refer to page 7-22

Changing the Engine Oil and Oil Filter

→ Refer to page 7-26



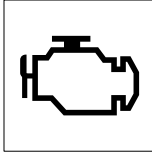
CAUTION

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



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 Engine Warning Light 

If this warning light comes on while the engine is running, there may be a problem with the engine electronic control system. Since checking and repairing the control system is required, immediately contact the nearest Isuzu Dealer.

ABS Warning Light 

ABS Warning Light

→ Refer to page 4-22

ASR Indicator Light 

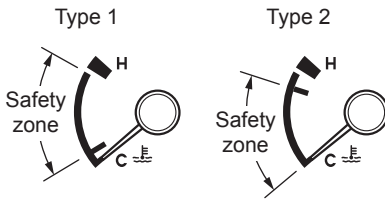
ASR Indicator Light

→ Refer to page 4-31

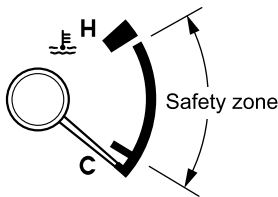
When the Engine Overheats

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. The engine overheat warning light will come on (if equipped) and the warning buzzer will sound. Either steam or boiling water will squirt out of the radiator. Take the following corrective actions immediately.

Hydraulic brake model



Full-air brake model



Engine overheat warning light



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.



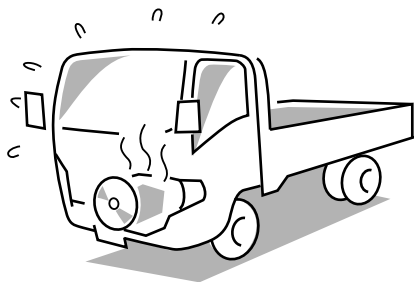
ADVICE

- Do not stop the engine immediately. Otherwise, the engine may seize.
3. When the needle of the engine coolant temperature gauge returns to the middle of the safety zone, stop the engine.



WARNING

- Even when the engine has been stopped, the engine coolant in the radiator remains under pressure. Immediately removing the radiator cap could cause steam or hot water to blow out, and you could be scalded as a result. The engine coolant in the reserve tank may also be hot. Immediately removing the cap could cause hot water to blow out, and possibly scald you.
- When removing the radiator cap and reserve tank cap, use a thick cloth to cover the cap and turn it little by little.

**ADVICE**

- When the cooling fan for the radiator is not turning, turn off the engine immediately.
4. Check the engine coolant level in the reserve tank and radiator 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.

**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.

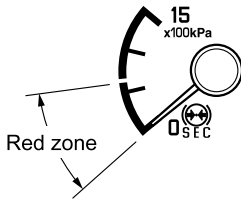
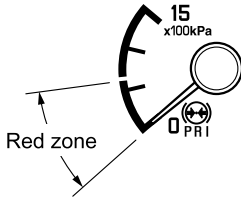
Engine Coolant → Refer to page 7-32

Fan Belt → Refer to page 7-49

**Handling the Radiator
and Intercooler** → Refer to page 7-47

When the Meter Shows an Abnormality

Air Pressure Gauge FAB



When the needle on this gauge moves into the red zone, a warning light will come on at the same time.

Air Pressure Gauge FAB

→ Refer to page 4-14

Air pressure warning light

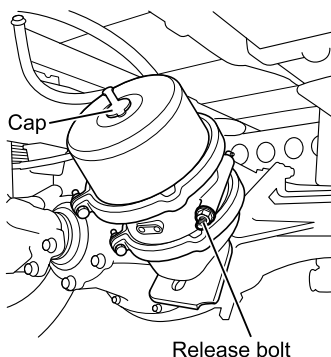


When the Wheel Parking Brake Cannot be Released FAB



CAUTION

- When the spring brake is released manually to move the vehicle with a wheel parking brake, the parking brake 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.

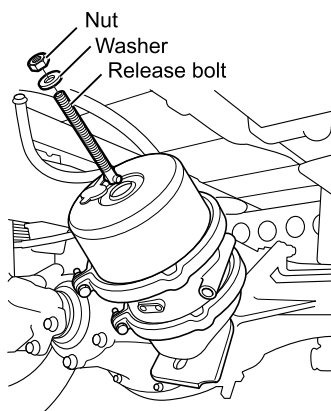


1. Firmly chock the wheels.
2. Loosen the nut and then remove the release bolt.

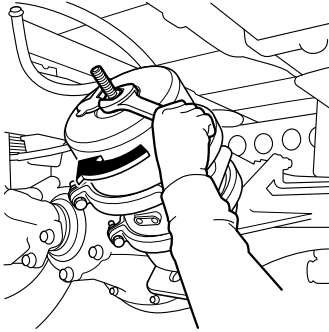


WARNING

- Do not remove any bolts other than the release bolt. Since a powerful spring is inside, removing other bolts may lead to a serious accident.



3. 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.



4. 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. 110 mm (4.33 in)

5. To remove the release bolt, perform the same sequence of operations in reverse.

When the Bulb Does not Come On

1. Check each bulb for blowout.
2. 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.
3. If the bulb has not blown out, the fault may be in the wiring. Contact the nearest Isuzu Dealer.

Bulb Wattage

Position	Lights	Bulb wattage	
		24V battery models	12V battery models
Front	Halogen headlight High beam/low beam (models for Indonesia)	75/70W	60/55W
	Halogen headlight High beam/low beam (Models for Vietnam)	***	***
	Fog light <input type="checkbox"/> (models for Indonesia)	70W	55W
	Fog light <input type="checkbox"/> (models for Vietnam)	***	***
	Turn signal light (front)	21W (Amber)	21W (Amber)
	Clearance light (models for Indonesia)	5W	5W
	Clearance light (models for Vietnam)	***	***
	Cornering light <input type="checkbox"/>	21W	—
	Turn signal light (side)	21W (Amber)	21W (Amber)
Rear	Taillight and stop light	5/21W	5/21W
	Turn signal light	21W	21W
	Back up light	21W	21W
	License plate light (models for Indonesia)	12W	10W
	License plate light (models for Vietnam)	10W	10W
Interior	Dome light	10W	10W

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.

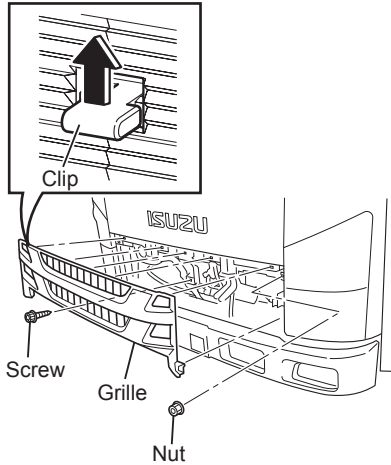
Replacing the Headlights

When the bulb has blown out, replace it with a bulb of the specified wattage. Be careful not to excessively tighten the screws when installing.

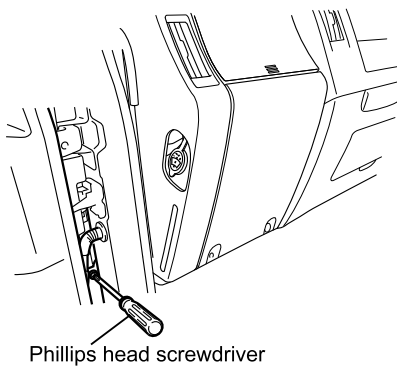
**ADVICE**

- Do not replace a bulb with other than the specified wattage. This will cause abnormal flashing, particularly for turn signal lights.
- Proper aiming of the headlights is most important to ensure sufficient illumination of the highway without blinding other motorists. When replacing headlight bulbs, have the headlight aim adjusted at your Isuzu Dealer.

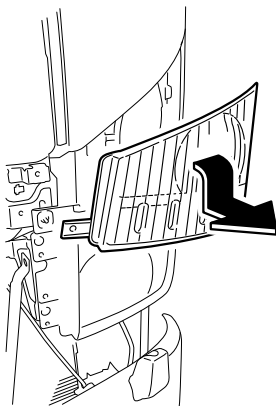
Bulb Wattage → Refer to page 8-32



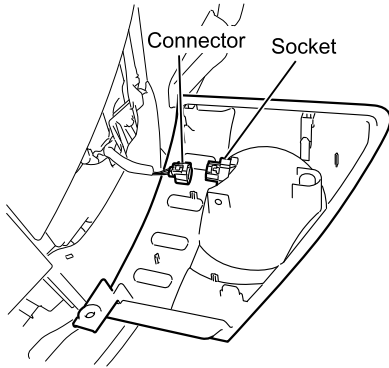
1. Remove the screw from the center of the grille. Push up on the tabs of the five clips on the upper side of the grille and pull the grille toward you to remove it. Loosen the nuts for the turn signal light.



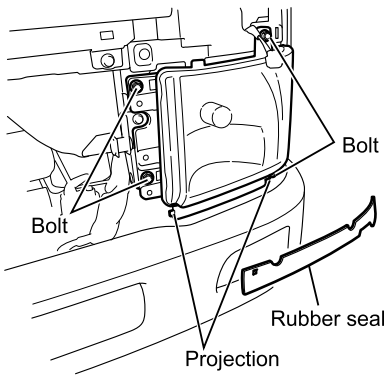
2. Open the front door. Use a phillips head screwdriver to remove the two screws between the door and the cab.



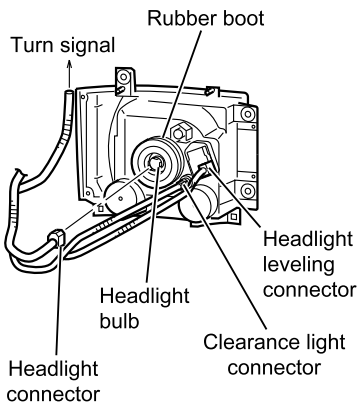
3. Tilt the turn signal light unit down toward the front of the vehicle and remove it.



4. Disconnect the connector for the turn signal light and then remove the light.

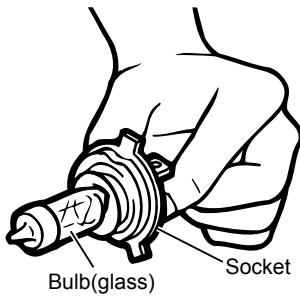
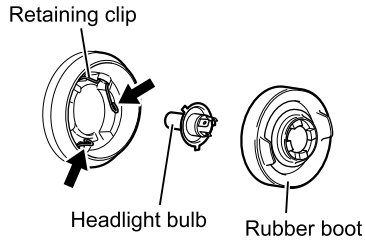


5. Disengage the rubber seals from the two projections at the bottom of the headlight. Remove the four bolts. Then disconnect the connector for the headlight, remove the clearance light unit, and disconnect the headlight leveling connector. Then remove the headlight assembly.



ADVICE

- When removing the headlight connector, pull out the connector while holding the center portion of the rubber boot. If the headlight connector is pulled out without holding the center portion of the rubber boot, the bulb will lift up and when the connector is removed, the bulb can hit the reflector by the reactive force of the retaining clip, resulting in the breakage of the bulb.

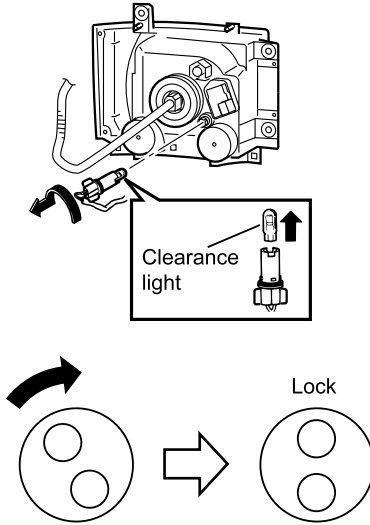


6. Remove the rubber boot. Then, while pinching the left and right of the bottom part of the clip that holds the bulb in place, slide it upwards to disengage the clip.
7. Pull off the bulb and replace with a new one.
8. After replacing the bulb, install the parts in the reverse order to removal.

**ADVICE**

- Do not touch the glass of the bulb with your hand. Soiling the glass will cause the bulb to blow out.
- When attaching the rubber boot, press in both the outside and inside circumference of it. Make sure that the rubber boot, the headlight assembly, and the bulb are securely installed without any raised section. If the rubber boot is not firmly in place, water could get inside the headlight and lead to a breakdown.

Replacing Clearance Lights, Turn Signal Lights, and Cornering Lights



Replacing a Clearance Light

1. Refer to "Replacing the Headlights" and remove the headlight assembly.

Replacing the Headlights

→ Refer to page 8-33

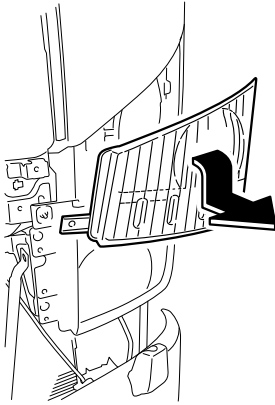
2. Pull the bulb out from the clearance light socket and replace with a new one.

3. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - Turn the connector clockwise to lock it securely.



ADVICE

- If the socket is not locked securely, water could get inside the light and lead to a breakdown.

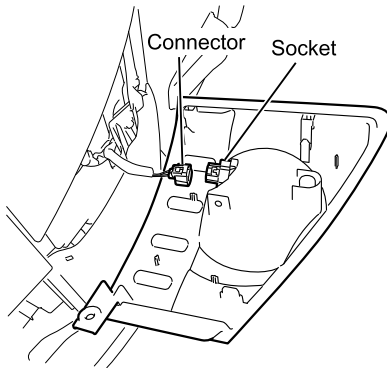


Replacing a Turn Signal Light

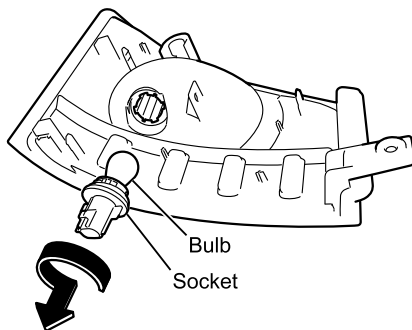
1. While referring to "Replacing the Headlights", tilt the turn signal light unit down toward the front of the vehicle and remove it.

Replacing the Headlights

→ Refer to page 8-33



2. Disconnect the connector for the turn signal light and then remove the socket.

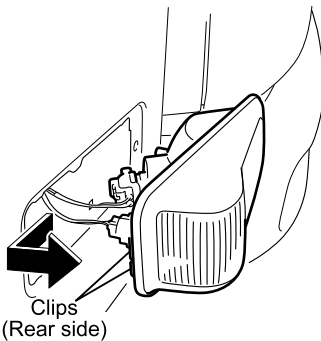
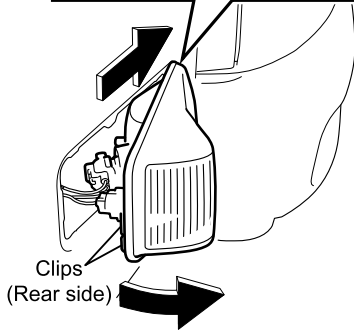
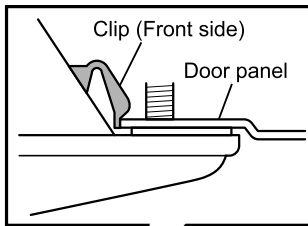
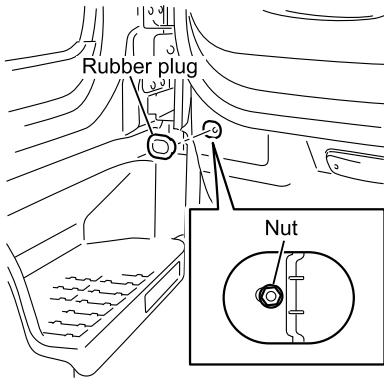


3. Pull off the bulb from the socket and replace with a new one.
4. To install the lights, perform the same sequence of operations in reverse taking care of the following point:
 - Turn the socket clockwise to securely lock it.



ADVICE

- If the socket is not locked securely, water could get inside the light and lead to a breakdown.



Replacing a Cornering Light or Side Turn Signal Light (Models with Cornering Light)

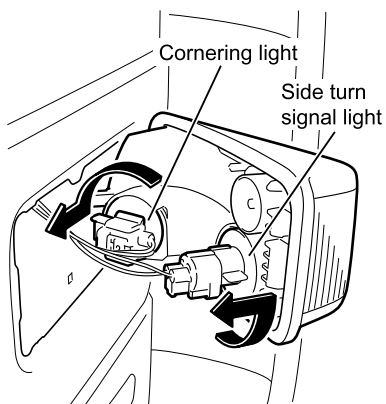
1. Open the front door, remove the rubber cap in the lower part of the door, and loosen the nut.
2. Slide the cornering light and the side turn signal light forward relative to the vehicle. Disconnect the clip on the light rear side from the door panel and pull out the light by its rear section.



ADVICE

- If you pull out the light rear section by too much when removing the clip on the light rear side, the clip on the light front side may be damaged.

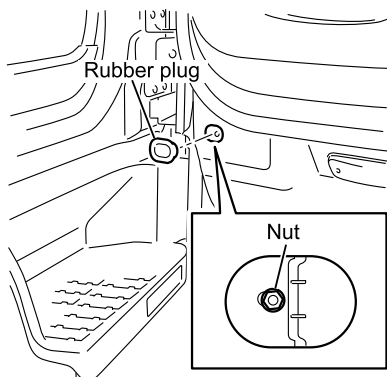
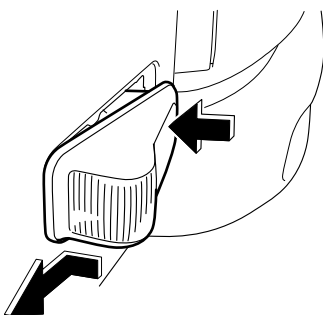
3. When the clip has been removed, pull the light out while sliding it out toward the rear of the vehicle.



4. Loosen the socket by turning it counterclockwise.
5. Pull the bulb out from the socket and replace with a new one.
6. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - a. Turn the socket clockwise to lock securely.

**ADVICE**

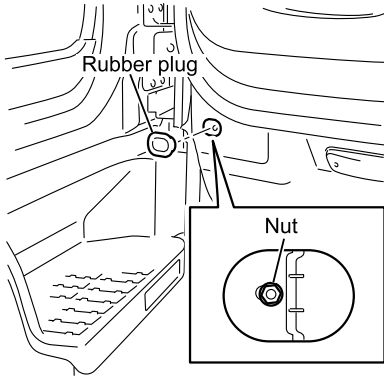
- If the socket is not locked securely, water could get inside the light and lead to a breakdown.



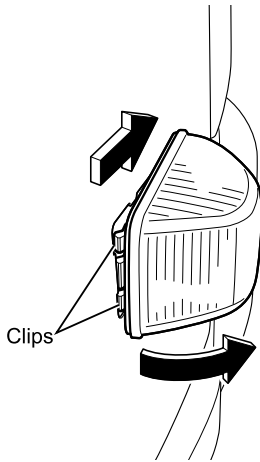
- b. Insert the clip on the back of the rear part of the light into the door panel.
- c. Push the front part of the light into the door panel, and insert the clip on the back of the front part of the light in the door panel.
- d. Open the front door, tighten the nut from the inside of the door, and install the rubber cap.

Replacing a Side Turn Signal Light (Models without Cornering Light)

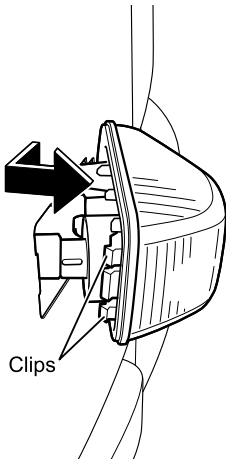
1. Open the front door, remove the rubber cap in the lower part of the door, and loosen the nut.

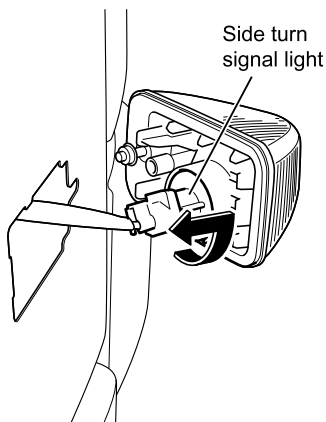


2. While sliding the side turn signal light toward the front of the vehicle, turn it to expose the rear part of the light. Disengage the clip on the side of the rear of the light from the door panel.



3. When the clip has been removed, pull the light out while sliding it out toward the rear of the vehicle.

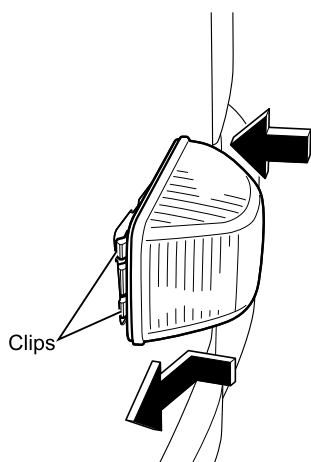




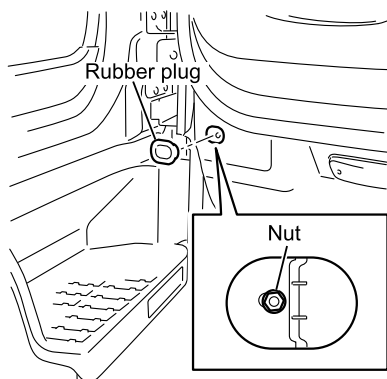
4. Loosen the socket by turning it counterclockwise.
5. Pull the bulb out from the socket and replace with a new one.
6. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - a. Turn the socket clockwise to lock securely.

**ADVICE**

- If the socket is not locked securely, water could get inside the light and lead to a breakdown.



- b. Insert the clip on the back of the rear part of the light into the door panel.
- c. Push the front part of the light into the door panel, and insert the clip on the back of the front part of the light in the door panel.



- d. Open the front door, tighten the nut from the inside of the door, and install the rubber cap.

Replacing the Front Fog Light v

1. Tilt and raise the cab.



WARNING

- Do not touch the lock on the cab support while the cab is tilted. If you touch it, the lock will release.

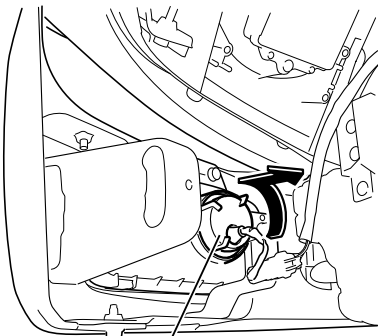


CAUTION

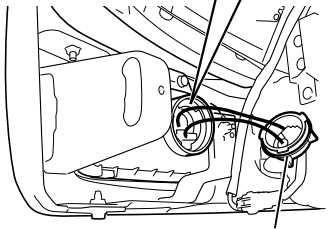
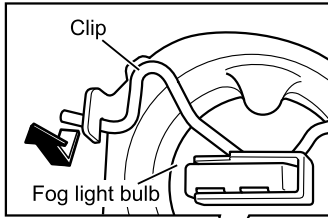
- Tilt the cab only on a level surface.
- Check the areas in front of and above the cab for sufficient clearance when tilting the cab indoors.
- When tilting the cab, close the doors securely. You should avoid opening or closing the doors when the cab is tilting.
- Confirm that the lock E for the tilt support is securely engaged after the cab is tilted.
- Do not tilt the cab when objects are placed on or in the instrument panel, seats, cup holders, or floor surface.
- Remove any ice or snow accumulating on the top of the bumper before tilting the cab. Failure to do so could result in damage to the bumper, headlights, back panel tray and other vehicle components.
- When you must 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 when it is being opened or closed. The door could hit you or someone else and cause an injury, or the door could be damaged. Confirm that the door is completely locked after closing it.

Tilting the Cab v → Refer to page 7-11

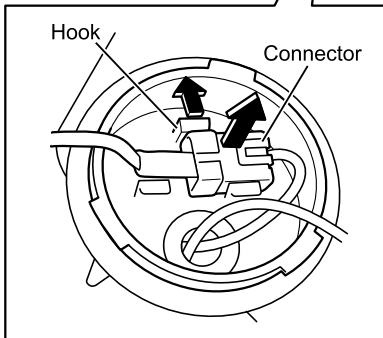
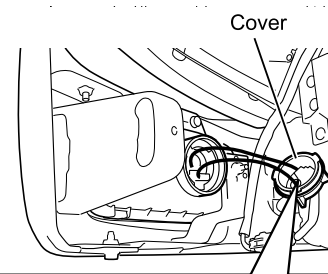
2. Turn the cover counterclockwise to disconnect it.



Cover

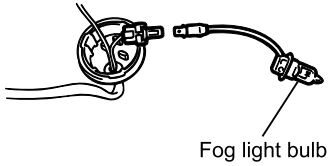


Cover



3. While pushing the clip that holds the bulb in place, slide it downward.

4. While pushing the hook on the cover, separate the connector and the cover.



5. Pull out the bulb and replace with a new one.

**ADVICE**

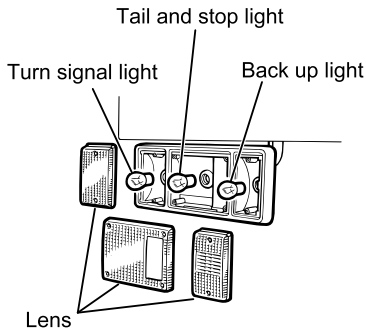
- Do not touch the glass of the bulb with your hand. Soiling the glass will cause the bulb to blow out.

6. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - Since there are different notches on the bulb on top and bottom (rounded or square), pay attention to the direction of insertion when installing.
 - The round notch should face up on both the left and right sides.
 - Turn the cover clockwise to lock it. When locking the cover, be sure that the harness will not be caught in the cover.

**ADVICE**

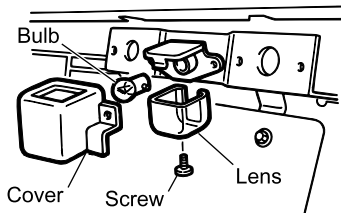
- If the socket is not locked securely, water could get inside the light and lead to a breakdown.

Replacing the Rear Turn Signal Lights, Taillights, Stop Lights, and Back Up Lights



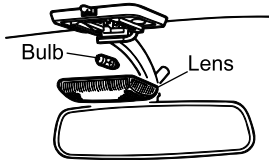
1. Loosen the screws and remove the lens.
2. Loosen the bulb by turning it counterclockwise while pressing on it.
3. To install the lights, follow the removal procedure in reverse.

Replacing the License Plate Light



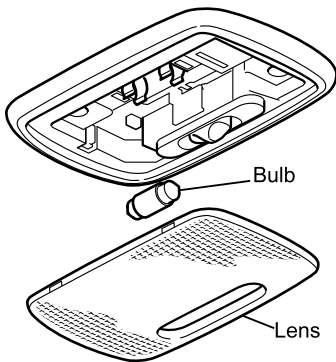
1. Loosen the screws and remove the cover.
2. Remove the lens.
3. Loosen the bulb by turning it counterclockwise while pressing on it.
4. To install the lights, follow the removal procedure in reverse.

Replacing the Dome Light



Type 1

1. Remove the lens using a Phillips head screwdriver or the like and take out the bulb.
2. To install the lights, follow the removal procedure in reverse.



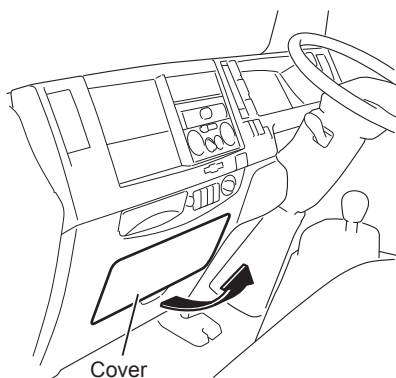
Type 2

1. Remove the lens and pull out the bulb.
2. To install the lights, follow the removal procedure in reverse.

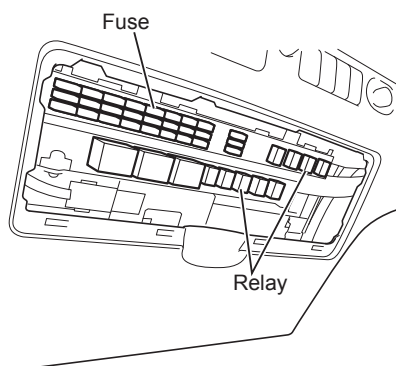
Replacing the Fuses and Relays

When the lights won't come on or flash, or the equipment in the electrical system does not operate, check to see if a fuse has blown.

The Location of Fuses and Relays

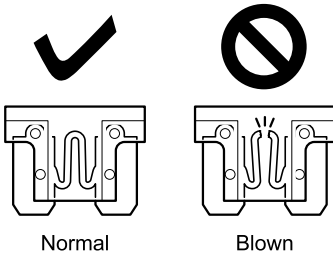


The fuses and relays are located in the lower part of the instrument panel in the center and in the left rear of the cab. The cover must be opened in order to carry out inspection and replacement. In addition, the cover of the relay box at the left rear of the cab must also be opened at this time.



Replacing Fuses

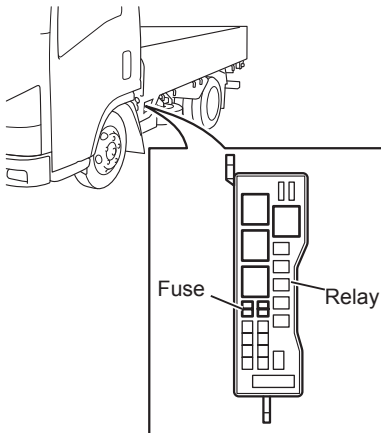
1. Before replacing fuses, be sure to place the starter switch in the "LOCK" position and pull back on the parking brake lever.
2. Place the fuse puller on the fuse and pull it out. (The fuse puller is stored in the fuse box inside the cab.)



3. If the fuse appears 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. 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

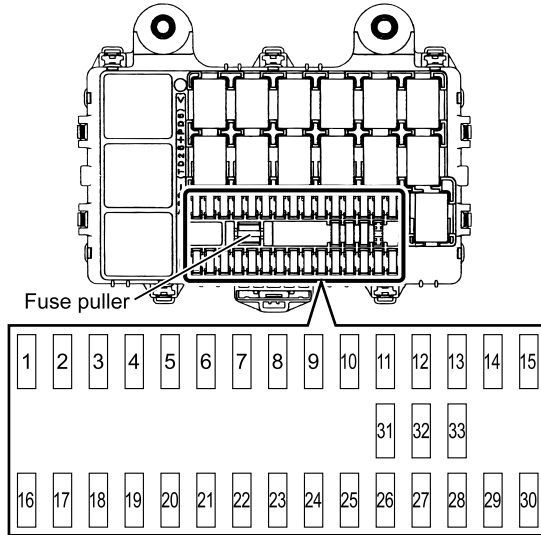
When replacing the relays, contact the nearest Isuzu Dealer.

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 Location (Cab Interior)

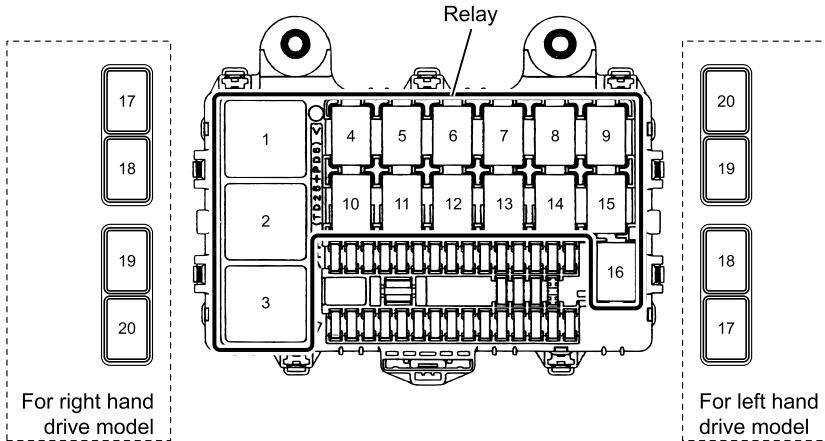
Fuse locations: 4JJ1/4HK1 engine models



No.	Description	Rating
1	ELEC PTO (BATT)	20A
2	RR P/WINDOW	20A
3	ROOM LAMP, AUDIO	15A
4	DOOR LOCK	15A
5	FOG LAMP	10A
6	P/WINDOW	20A
7	ABS	10A
8	WIPER	15A
9	H/LAMP LO (LH)	10A
10	ECU (BATT)	10A
11	H/LAMP LO (RH)	10A
12	STOP LAMP	10A
13	IGNITION2	15A
14	H/LAMP HI (LH)	10A
15	H/LAMP HI (RH)	10A
16	ELEC PTO (KEY ST)	10A
17	STARTER	10A

No.	Description	Rating
18	IGNITION1	15A
19	SRS	10A
20	ECM	10A
21	METER	10A
22	LAMPS (BATT)	10A
23	AUDIO, ACC	15A
24	MIRROR	15A
25	HORN	15A
26	TURN, HAZARD	15A
27	TAIL LAMPS	10A
28	ILLUMINATIONS	10A
29	CORNERING LAMPS, RR FOG LAMP	10A
30	BLOWER MOTOR	20A
31	SPARE	—
32	SPARE	—
33	SPARE	—

Relay locations: 4JJ1/4HK1 (hydraulic brake model) engine models (type 1)

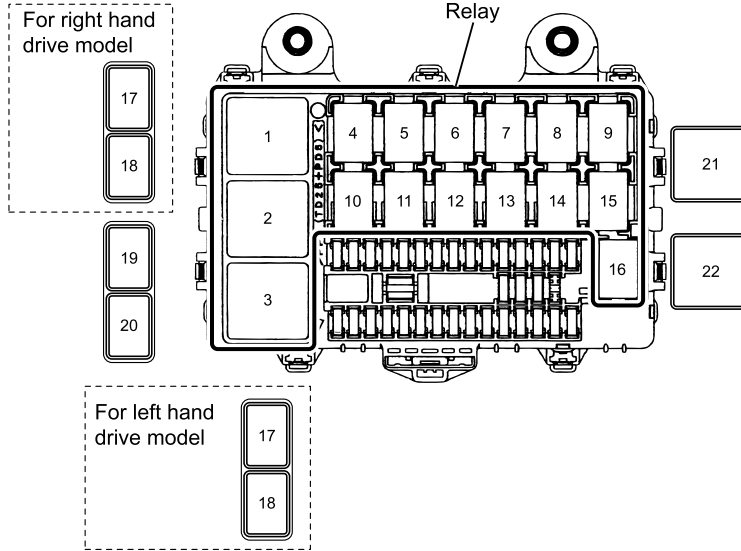


No.	Description
1	STOP LAMP
2	BLOWER MOTOR
3	WIPER KEY ON
4	DOOR LOCK (LOCK)
5	REAR FOG LAMP
6	WIPER MAIN
7	HORN
8	WIPER (HIGH/LOW)
9	FOG LAMP
10	PTO MAIN
11	DOOR LOCK (UNLOCK)

No.	Description
12	POWER WINDOW
13	HEAD LAMP (LOW)
14	4WD
15	HEAD LAMP (HIGH)
16	TAIL LAMP
17	PTO SOLENOID, M/T
18	PTO CUT
19	CHARGE (ENGINE RUN)
	TRANSFER IGNITION
20	POWER WINDOW (REAR)

Take the sufficient precautions as type 1 and type 2 relay locations appear to be very similar.

Relay locations: 4JJ1/4HK1 (hydraulic brake model) engine models (type 2)

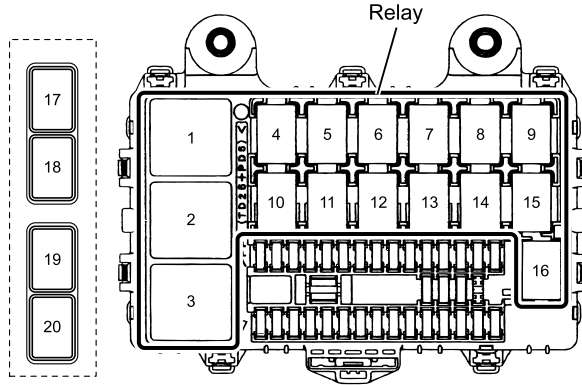


No.	Description
1	STOP LAMP
2	BLOWER MOTOR
3	WIPER KEY ON
4	DOOR LOCK (LOCK)
5	REAR FOG LAMP
6	WIPER MAIN
7	HORN
8	WIPER (HIGH/LOW)
9	FOG LAMP
10	PTO MAIN
11	DOOR LOCK (UNLOCK)
12	POWER WINDOW

No.	Description
13	HEAD LAMP (LOW)
14	4WD
15	HEAD LAMP (HIGH)
16	TAIL LAMP
17	CHARGE (ENGINE RUN) TRANSFER IGNITION
18	POWER WINDOW (REAR)
19	PTO SOLENOID, M/T
20	PTO CUT POWER WINDOW (REAR)
21	ACCESSORY
22	IGNITION MAIN

Take the sufficient precautions as type 1 and type 2 relay locations appear to be very similar.

Relay locations: 4HK1 (full-air brake model) engine model (type 1)

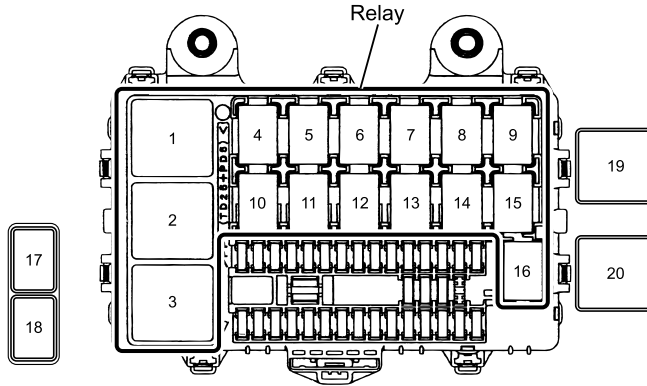


No.	Description
1	STOP LAMP
2	BLOWER MOTOR
3	WIPER KEY ON
4	DOOR LOCK (LOCK)
5	REAR FOG LAMP
6	WIPER MAIN
7	HORN
8	WIPER (HIGH/LOW)
9	FOG LAMP
10	PTO MAIN
11	DOOR LOCK (UNLOCK)

No.	Description
12	POWER WINDOW
13	HEAD LAMP (LOW)
14	EXHAUST BRAKE CONTROL (MODEL WITH ABS)
15	HEAD LAMP (HIGH)
16	TAIL LAMP
17	BLANK
18	BLANK
19	PTO SOLENOID, M/T
20	PTO CUT

Take the sufficient precautions as type 1 and type 2 relay locations appear to be very similar.

Relay locations: 4HK1 (full-air brake model) engine model (type 2)

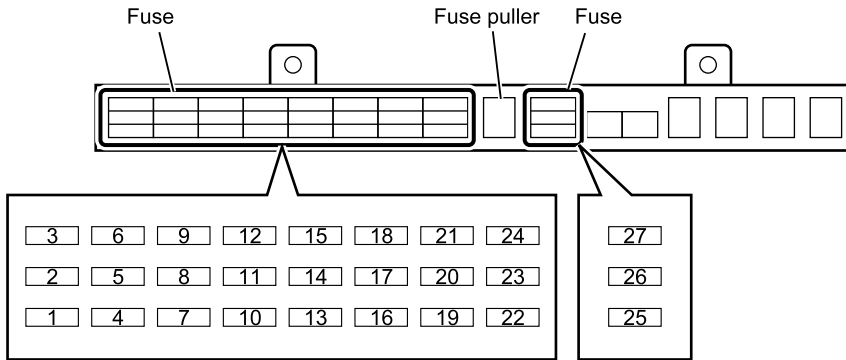


No.	Description
1	STOP LAMP
2	BLOWER MOTOR
3	WIPER KEY ON
4	DOOR LOCK (LOCK)
5	REAR FOG LAMP
6	WIPER MAIN
7	HORN
8	WIPER (HIGH/LOW)
9	FOG LAMP
10	PTO MAIN
11	DOOR LOCK (UNLOCK)

No.	Description
12	POWER WINDOW
13	HEAD LAMP (LOW)
14	EXHAUST BRAKE CONTROL (MODEL WITH ABS)
15	HEAD LAMP (HIGH)
16	TAIL LAMP
17	PTO SOLENOID, M/T
18	PTO CUT
19	ACCESSORY
20	IGNITION MAIN

Take the sufficient precautions as type 1 and type 2 relay locations appear to be very similar.

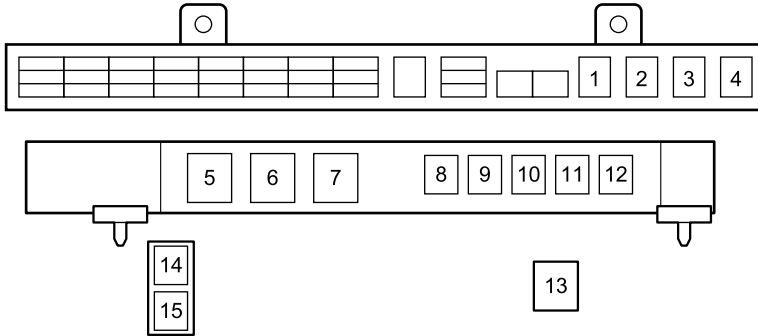
Fuse Locations: 4HG1-T engine model



No.	Description	Rating
1	LAMPS BATT	10A
2	EGR	10A
3	ROOM LAMP AUDIO	15A
4	DOOR LOCK	15A
5	FOG LAMP	10A
6	P/WINDOW	20A
7	H/LAMP HI (LH)	10A
8	H/LAMP HI (RH)	10A
9	STOP LAMP	10A
10	H/LAMP LO (LH)	10A
11	H/LAMP LO (RH)	10A
12	BLANK	—
13	TAIL LAMPS	10A
14	CORNERING LAMPS	10A

No.	Description	Rating
15	IGNITION2	15A
16	STARTER	10A
17	IGNITION1	15A
18	METER	10A
19	ACC AUDIO	15A
20	BLANK	—
21	BLOWER	20A
22	HORN	15A
23	TURN HAZARD	15A
24	WIPER	15A
25	SPARE	—
26	SPARE	—
27	SPARE	—

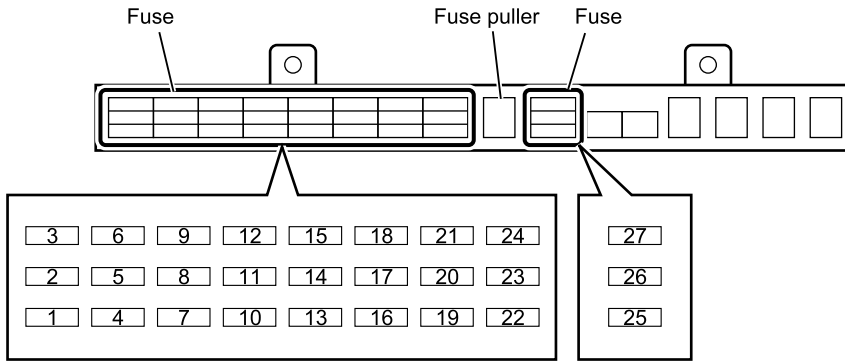
Relay Locations: 4HG1-T engine model



No.	Description
1	TAIL LAMP
2	HEAD LAMP (HIGH)
3	HEAD LAMP (LOW)
4	CHARGE (ENGINE RUN)
5	STOP LAMP
6	BLOWER MOTOR
7	WIPER KEY ON
8	EXHAUST BRAKE

No.	Description
9	WIPER MAIN
10	WIPER (HIGH/LOW)
11	FOG LAMP
12	HORN
13	BLANK
14	BLANK
15	BLANK

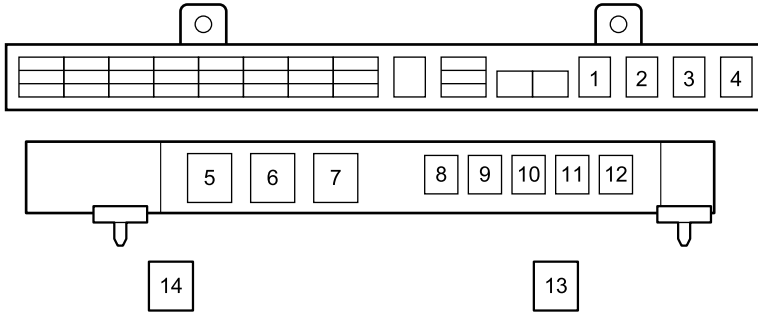
Fuse Locations: 4JB1-TC engine model



No.	Description	Rating
1	BLANK	—
2	ROOM LAMP AUDIO	10A
3	EXH BRAKE	10A
4	DOOR LOCK	15A
5	FOG LAMP	15A
6	P/WINDOW	25A
7	H/LAMP HI (LH)	10A
8	H/LAMP HI (RH)	10A
9	STOP LAMP	10A
10	H/LAMP LO (LH)	10A
11	H/LAMP LO (RH)	10A
12	TAIL LAMPS	10A
13	LAMPS BATT	10A
14	IGNITION2	10A

No.	Description	Rating
15	STARTER	10A
16	ENGINE STOP	10A
17	IGNITION1	10A
18	BACK UP LAMPS	10A
19	METER	10A
20	ACC AUDIO	15A
21	AIR CON	10A
22	HORN	15A
23	TURN HAZARD	15A
24	WIPER	25A
25	SPARE	—
26	SPARE	—
27	SPARE	—

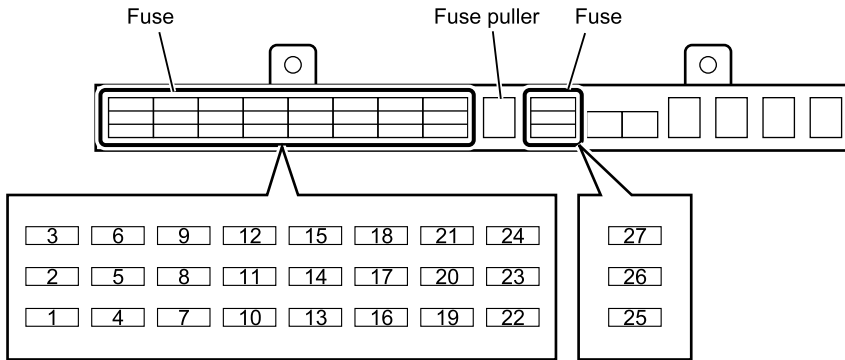
Relay Locations: 4JB1-TC engine model



No.	Description
1	TAIL LAMP
2	HEAD LAMP (HIGH)
3	HEAD LAMP (LOW)
4	BLANK
5	STOP LAMP
6	CHARGE (ENGINE RUN)
7	KEY ON

No.	Description
8	EXHAUST BRAKE
9	WIPER MAIN
10	WIPER (HIGH/LOW)
11	FOG LAMP
12	HORN
13	BLANK
14	BLOWER MOTOR

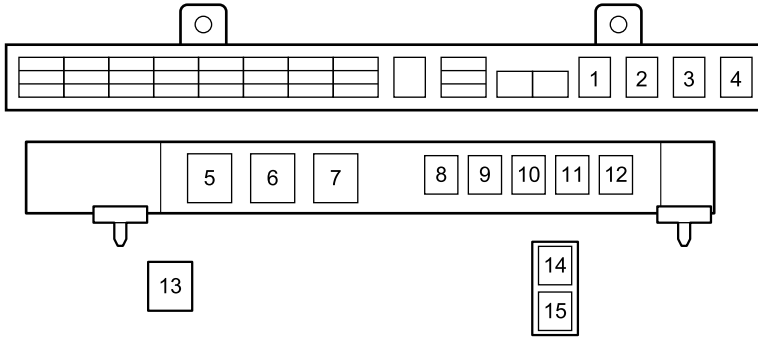
Fuse Locations: 4JH1 engine model



No.	Description	Rating
1	ECM,BACK UP	10A
2	DOME LIGHT,AUDIO	10A
3	CORNERING LIGHT	10A
4	DOOR LOCK	15A
5	FOG LIGHT	15A
6	POWER WINDOW	25A
7	H/LIGHT HI(LH)	10A
8	H/LIGHT HI(RH)	10A
9	STOP LIGHT	10A
10	H/LIGHT LO(LH)	10A
11	H/LIGHT LO(RH)	10A
12	TAIL LIGHT	10A
13	LIGHT,BATT	10A
14	IGNITION2	10A

No.	Description	Rating
15	STARTER	10A
16	ECM	10A
17	IGNITION1	10A
18	BACK LIGHT	10A
19	METER	10A
20	AUDIO(ACC)	15A
21	AIR CON.	10A
22	HORN	15A
23	TURN,HAZARD	15A
24	WIPER	25A
25	SPARE	—
26	SPARE	—
27	SPARE	—

Relay Locations: 4JH1 engine model

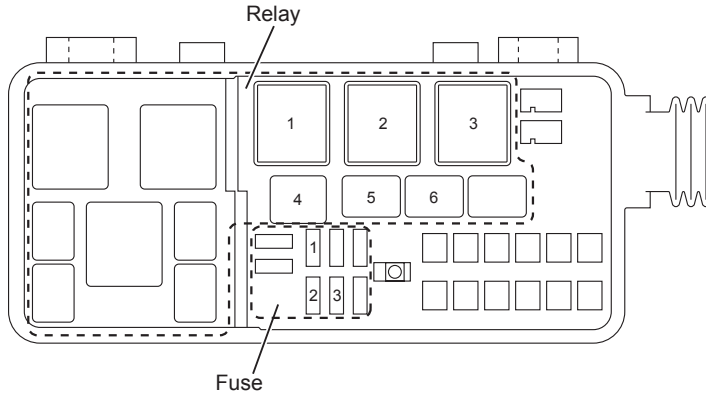


No.	Description
1	TAIL LAMP
2	HEAD LAMP (HIGH)
3	HEAD LAMP (LOW)
4	POWER WINDOW
5	STOP LAMP
6	BLANK
7	WIPER KEY ON
8	BLANK

No.	Description
9	WIPER MAIN
10	WIPER (HIGH/LOW)
11	FOG LAMP
12	HORN
13	BLOWER
14	REAR POWER WINDOW
15	BLANK

Fuse and Relay Location (Cab Exterior)

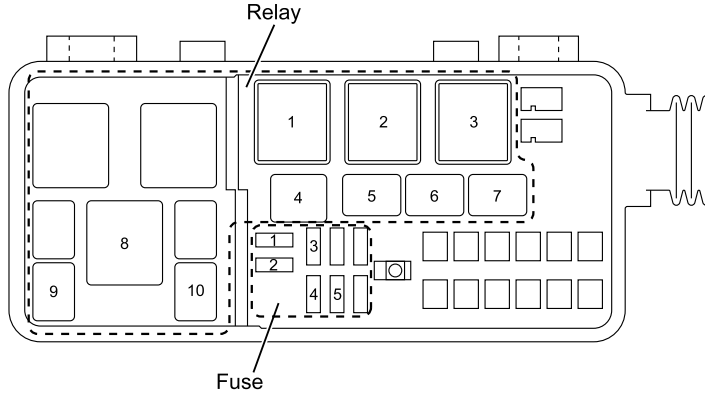
4HK1 engine model with hydraulic brake system, 4JJ1 engine model



No.	Relay name
1	STARTER
2	ECM
3	GLOW PLUG
4	A/C COMPRESSOR
5	CONDENSER FAN
6	STARTER CUTOFF

No.	Fuse name	Rating
1	ECM MAIN	10A
2	BATTERY	10A
3	A/C	10A

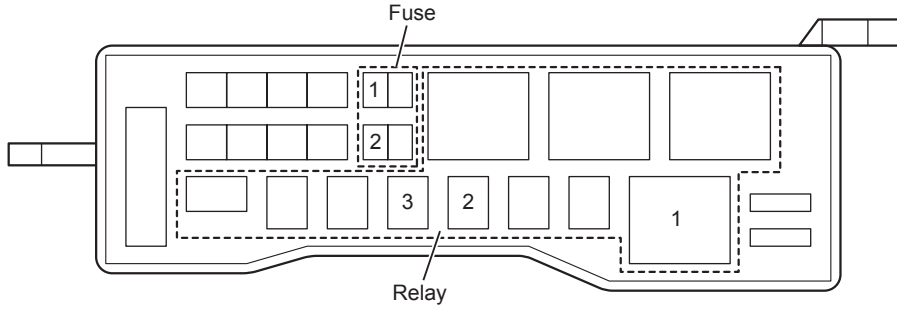
4HK1 engine model with full-air brake system



No.	Relay name
1	STARTER
2	ECM
3	GLOW PLUG
4	A/C COMPRESSOR
5	CONDENSER FAN
6	STARTER CUTOFF
7	EXHAUST BRAKE
8	FUEL HEATER
9	ENGINE RUN
10	MARKER LAMP

No.	Fuse name	Rating
1	MARKER LAMP	10A
2	ABS AIR	20A
3	ECM MAIN	10A
4	BATTERY	10A
5	A/C	15A

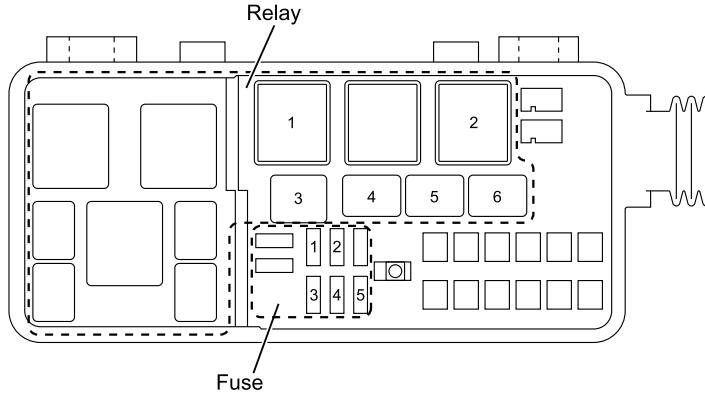
4JB1-TC/4HG1-T engine model



No.	Relay name
1	STARTER
2	ENG STOP (4HG1-T)
3	EXT BRAKE CONTROL

No.	Fuse name	Rating
1	ENG STOP	10A
2	POWER SOURCE	15A

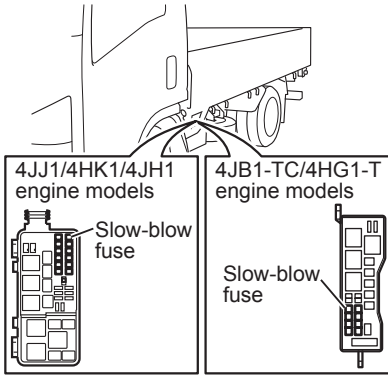
4JH1 engine model



No.	Relay name
1	STARTER
2	GLOW PLUG
3	A/C COMPRESSOR
4	CONDENSER FAN
5	STARTER CUT
6	ECM MAIN

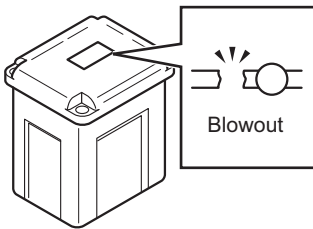
No.	Fuse name	Rating
1	ECM MAIN	20A
2	ECM MAIN2	10A
3	BATTERY	15A
4	A/C	20A
5	A/C	20A

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. 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 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 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

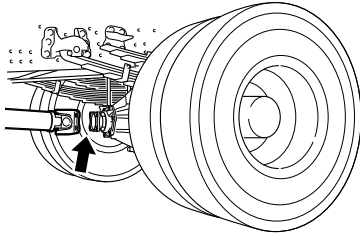
- Be sure to chock the wheels when disconnecting the propeller shaft. The vehicle could start to move and cause a serious accident.
- When a full-air brake vehicle is being towed, always run the engine. If the engine cannot be started, use a tow truck to move the disabled vehicle.

CAUTION

- Place the gearshift lever in the "N" position, and tow for a maximum distance of 10 km (6.2 miles) at speeds less than 40 km/h (25 MPH). Other than the above, disconnect the propeller shaft when towing to avoid damage to the transmission.
- For hydraulic brake models, 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).

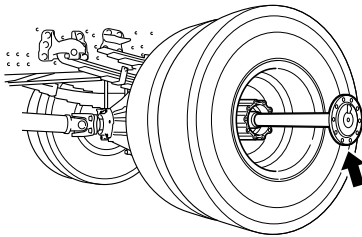


When it is possible to operate the steering wheel, the vehicle can be towed with all wheels on the ground.

However, the power steering will not be able to provide any power assist when the engine cannot be started.

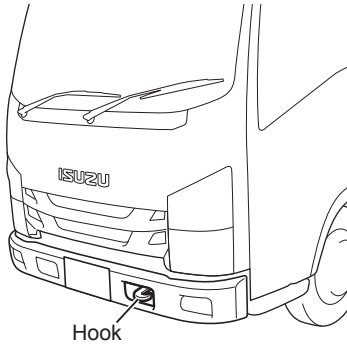
If the engine of a full-air brake vehicle cannot be started, the air pressure will be low and the brakes will not work. If the engine cannot be started, use a tow truck to move the disabled vehicle.

If the transmission is damaged, disconnect the propeller shaft at the rear axle flange and secure it to the frame.

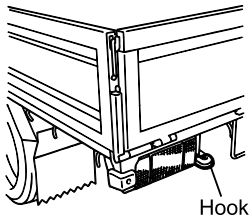


If the rear axle fails or rear axle failure is suspected, remove the axle shaft and plug up the opening of the hub to prevent differential gear oil from leaking, or to prevent dirt or foreign objects from entering the axle.

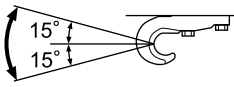
Front



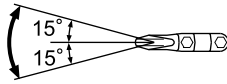
Rear



Usable
range of
towing
rope



Usable
range of
towing
rope



1. If the vehicle is towing or being towed, firmly attach a rope to the front or rear towing hook on the same side.
2. 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.

**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.

MAIN DATA

9

• Main Data and Specifications	9-2
• Others	9-20

Main Data and Specifications

Engine

4JJ1 Engine Model

Specifications		
Water-cooled, overhead camshaft, direct injection engine with an inter-cooled turbocharger		
Compression ratio	(to 1)	17.5
Displacement	cc (cu. in)	2,999 (183.0)
Firing order		1-3-4-2
Fuel injection timing	(static) degree	0°
Valve clearance (Between cam and roller)	mm (in)	Both intake and exhaust valves: 0.15 (0.006) in cold engine
Idling speed	r/min	575 - 625
Fan belt tension	mm (in)/Hz	New belt: 4 - 6 (0.16 - 0.24)/212 - 236 When reused: 6 - 8 (0.24 - 0.31)/181 - 195
Oil filter		Replaceable element type
Engine oil capacity [Reference value]		When changing oil only: 9.0 (2.38/1.98) When changing oil and filter: 10.0 (2.64/2.20)
Engine coolant capacity [Reference value]		
	liters (US gal./Imp gal.)	liters (US gal./Imp gal.)
		*** (***/***)
Preheating system		Glow plugs

4HK1 Engine Model

Specifications	
Water-cooled, overhead camshaft, direct injection engine with an inter-cooled turbocharger	
Compression ratio (to 1)	17.5
Displacement cc (cu. in)	5,193 (317.0)
Firing order	1-3-4-2
Fuel injection timing (static) degree	0°
Valve clearance mm (in)	Both intake and exhaust valves: 0.4 (0.016) in cold engine
Idling speed r/min	550 - 600
Fan belt tension mm (in)/Hz	50A generator New belt: *** (***)/*** - *** When reused: *** (***)/*** - ***
	60A/80A/90A generator New belt: 6 - 7 (0.24 - 0.28)/179 - 199 When reused: 8 - 9 (0.31 - 0.35)/152 - 164
Oil filter	Cartridge (spin on) type
Engine oil capacity [Reference value] liters (US gal./Imp gal.)	When changing oil only: 9.5 (2.51/2.09) When changing oil and filter: 11.5 (3.04/2.53)
Engine coolant capacity [Reference value] liters (US gal./Imp gal.)	*** (***/***)
Preheating system	Glow plugs

4JH1 Engine Model

Specifications	
Water-cooled, overhead camshaft, direct injection engine with an inter-cooled turbocharger	
Compression ratio (to 1)	15.9
Displacement cc (cu. in)	2,999 (183.0)
Firing order	1-3-4-2
Fuel injection timing (static) degree	0°
Valve clearance mm (in)	Both intake and exhaust valves: 0.4 (0.016) in cold engine
Idling speed r/min	675 - 725
Fan belt tension mm (in)/Hz	New belt: 7 - 9 (0.28 - 0.35)/133 - 157 When reused: 9 - 11 (0.35 - 0.43)/112 - 126
Power steering pump belt tension mm (in)/Hz	New belt: 8 - 12 (0.31 - 0.47)/135 - 165 When reused: 11 - 13 (0.43 - 0.51)/117 - 135
Oil filter	Cartridge (spin on) type
Engine oil capacity [Reference value] liters (US gal./Imp gal.)	When changing oil only: 6.0 (1.59/1.32) When changing oil and filter: 6.6 (1.74/1.45)
Engine coolant capacity [Reference value] liters (US gal./Imp gal.)	*** (***/***)
Preheating system	Glow plugs

4JB1-TC Engine Model

Specifications		
Water-cooled, overhead valve, direct injection engine with an inter-cooled turbocharger		
Compression ratio	(to 1)	18.1
Displacement	cc (cu. in.)	2,771 (169.1)
Firing order		1-3-4-2
Fuel injection timing	(static) degree	BTDC 4°
Valve clearance	mm (in.)	Both intake and exhaust valves: 0.4 (0.016) in cold engine
Idling speed	r/min	725 - 775
Fan belt tension	mm (in.)/Hz	New belt: 7 - 9 (0.28 - 0.35)/133 - 157 When reused: 9 - 11 (0.35 - 0.43)/112 - 126
Oil filter		Cartridge (spin on) type
Engine oil capacity [Reference value]		When changing oil only: 6.4 (1.69/1.41) When changing oil and filter: 7.0 (1.85/1.54)
Engine coolant capacity [Reference value]		10.0 (2.64/2.20)
Preheating system		—

4HG1-T Engine Model

Specifications		
Water-cooled, overhead camshaft, direct injection engine with a turbocharger		
Compression ratio	(to 1)	19.0
Displacement	cc (cu. in.)	4,570 (278.9)
Firing order		1-3-4-2
Fuel injection timing	(static) degree	BTDC 7°
Valve clearance	mm (in.)	Both intake and exhaust valves: 0.4 (0.016) in cold engine
Idling speed	r/min	600 - 650
Fan belt tension	mm (in.)/Hz	New belt: 7 - 9 (0.28 - 0.35)/140 - 170 When reused: 9 - 10 (0.35 - 0.39)/121 - 139
Oil filter		Cartridge (spin on) type
Engine oil capacity [Reference value]		When changing oil only: 7.8 (2.06/1.72) When changing oil and filter: 9.3 (2.46/2.05)
Engine coolant capacity [Reference value]		13.6 (3.59/2.99)
Preheating system		—

Transmission

MSB5S Model

Specifications		
Five-speed transmission (overdrive gear for 5th), synchromesh for 1st to 5th		
Gear ratio (to 1)	1st	5.016
	2nd	2.672
	3rd	1.585
	4th	1.000
	5th	0.770
	Reverse	4.783
Transmission oil capacity [Reference value] liters (US gal./ Imp gal.)		2.7 (0.71/ 0.59)

MSB5M Model

Specifications		
Five-speed transmission (overdrive gear for 5th), synchromesh for 1st to 5th		
Gear ratio (to 1)	1st	5.594
	2nd	2.814
	3rd	1.660
	4th	1.000
	5th	0.794
	Reverse	5.334
Transmission oil capacity [Reference value] liters (US gal./ Imp gal.)		2.7 (0.71/ 0.59)

MYY5T Model

Specifications		
Five-speed transmission (overdrive gear for 5th), synchromesh for 1st to 5th and reverse		
Gear ratio (to 1)	1st	5.315
	2nd	3.053
	3rd	1.655
	4th	1.000
	5th	0.721
	Reverse	5.068
Transmission oil capacity [Reference value] liters (US gal./ Imp gal.)		2.8 (0.74/ 0.62)

MY6S Model

Specifications			
Six-speed transmission (overdrive gear for 6th), synchromesh for 1st to 6th and reverse			
Gear ratio	(to 1)	1st	5.979
		2nd	3.434
		3rd	1.862
		4th	1.297
		5th	1.000
		6th	0.759
		Reverse	5.701
Transmission oil capacity [Reference value] liters (US gal./ Imp gal.)			3.5 (0.92/ 0.77)

Service Specifications

NMR85/NPR85 Models

Weights		
Axle weight rating : Front	kg (lb)	NMR85: ***
		NPR85: ***

Engine	
Model	4JJ1
Engine oil capacity	Refer to page 9-2
Engine coolant capacity	

Transmission	
Model	MY5T, MY6S
Transmission oil capacity	Refer to page 9-5, 9-6

Rear axle	
Differential gear oil capacity [Reference value]	Refer to page 7-135

Fuel	
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	100 (26.4/22.0)

Clutch		
Clutch pedal free play	mm (in)	15 - 25 (0.59 - 0.98)
The distance from the fully pressed position to the position just before the clutch engages	mm (in)	20 (0.79) or more

Steering		
Steering wheel free play	mm (in)	10 - 50 (0.39 - 1.97)
Power steering fluid capacity [Reference value] liters (US gal./Imp gal.)		***

Wheel		
Wheel alignment : Toe-in	mm (in)	***
: Camber	(degree)	***
: Caster	(degree)	***
: King pin	(degree)	***
Wheel hub bearing grease capacity [Reference value]	kg (lb)	***

Service brakes		
Brake pedal free play	mm (in)	Refer to page 7-90
Clearance between the brake pedal and the brake pedal bracket		Refer to page 7-90

Parking brake	
Lever effective stroke (Under pull force of approx. 147 N (15 kgf/33 lb))	6 - 8 notches

Electrical system		
Battery type (Volt-Amp.h.) x No. of units	<input type="checkbox"/> V	65D23L (12 - 65) × 2
	<input type="checkbox"/> V	75D23L (12 - 65) × 2
	<input type="checkbox"/> V	80D26L (12 - 69) × 2
Starter	volt-kw	24 - 4.0
Generator	volt/amp.	<input type="checkbox"/> V 24/50, <input type="checkbox"/> V 24/90

NQR75/NQR90 Models

Weights		
Axle weight rating : Front	kg (lb)	***

Engine	
Model	4HK1
Engine oil capacity	Refer to page 9-3
Engine coolant capacity	

Transmission	
Model	MYY6S
Transmission oil capacity	Refer to page 9-6

Rear axle	
Differential gear oil capacity [Reference value]	Refer to page 7-135

Fuel	
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	100 (26.4/22.0)

Clutch		
Clutch pedal free play	mm (in)	15 - 25 (0.59 - 0.98)
The distance from the fully pressed position to the position just before the clutch engages	mm (in)	20 (0.79) or more

Steering		
Steering wheel free play	mm (in)	10 - 50 (0.39 - 1.97)
Power steering fluid capacity [Reference value] liters (US gal./Imp gal.)		***

Wheel		
Wheel alignment : Toe-in	mm (in)	***
: Camber	(degree)	***
: Caster	(degree)	***
: King pin	(degree)	***
Wheel hub bearing grease capacity [Reference value]	kg (lb)	***

Service brakes	
Brake pedal free play	<input type="checkbox"/> HB Refer to page 7-90 <input type="checkbox"/> FAB Refer to page 7-91
Clearance between the brake pedal and the brake pedal bracket	<input type="checkbox"/> HB Refer to page 7-90

Parking brake	
Lever effective stroke (Under pull force of approx. 147 N (15 kgf/33 lb))	<input type="checkbox"/> HB 6 - 8 notches

Electrical system	
Battery type (Volt-Amp.h.) x No. of units	<input type="checkbox"/> V 80D26L (12 - 69) × 2 <input type="checkbox"/> V 115E41L (12 - 110) × 2
Starter	volt-kw <input type="checkbox"/> V 24 - 4.0, <input type="checkbox"/> V 24 - 4.5
Generator	volt/amp. <input type="checkbox"/> V 24/50, <input type="checkbox"/> V 24/60, <input type="checkbox"/> V 24/80, <input type="checkbox"/> V 24/90

NLR55 Model

Weights	
Axle weight rating : Front	kg (lb) 2,900 (6,395)

Engine	
Model	4JB1-TC
Engine oil capacity	Refer to page 9-4
Engine coolant capacity	

Transmission	
Model	MSB5M, MSB5S
Transmission oil capacity	Refer to page 9-5

Rear axle	
Differential gear oil capacity [Reference value] liters (US gal./Imp gal.)	Refer to page 7-135

Fuel	
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	<input type="checkbox"/> V 75 (19.8/16.5), <input type="checkbox"/> V 100 (26.4/22.0)

Clutch	
Clutch pedal free play mm (in)	15 - 25 (0.59 - 0.98)
The distance from the fully pressed position to the position just before the clutch engages mm (in)	20 (0.79) or more

Steering		
Steering wheel free play	mm (in)	Power steering 10 - 50 (0.39 - 1.97)
Oil capacity [Reference value] liters (US gal./Imp gal.)		Power steering 1.5 (0.40/0.33)

Wheel		
Wheel alignment : Toe-in	mm (in)	-2 to 2 (-0.08 to 0.08)
: Camber	(degree)	0°15'
: Caster	(degree)	3°
: King pin	(degree)	12°
Wheel hub bearing grease capacity [Reference value]	kg (lb)	0.11 (0.24)

Service brakes		
Brake pedal free play	mm (in)	Refer to page 7-90
Clearance between the brake pedal and the brake pedal bracket		Refer to page 7-90

Parking brake	
Lever effective stroke (Under pull force of approx. 147 N (15 kgf/33 lb))	6 - 8 notches

Electrical system		
Battery type	(Volt-Amp.h.) x No. of units	95D31R (12 - 64) × 1
Starter	volt-kw	12 - 2.0
Generator	volt/amp.	12/60

NLR77 Model

Weights		
Axle weight rating : Front	kg (lb)	***

Engine	
Model	4JH1
Engine oil capacity	Refer to page 9-3
Engine coolant capacity	

Transmission	
Model	MSB5S
Transmission oil capacity	Refer to page 9-5

Rear axle	
Differential gear oil capacity [Reference value] liters (US gal./Imp gal.)	Refer to page 7-135

Fuel	
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	63 (16.6/13.9)

Clutch		
Clutch pedal free play	mm (in)	15 - 25 (0.59 - 0.98)
The distance from the fully pressed position to the position just before the clutch engages	mm (in)	20 (0.79) or more

Steering		
Steering wheel free play	mm (in)	10 - 50 (0.39 - 1.97)
Oil capacity [Reference value] liters (US gal./Imp gal.)		***

Wheel		
Wheel alignment : Toe-in	mm (in)	***
: Camber	(degree)	***
: Caster	(degree)	***
: King pin	(degree)	***
Wheel hub bearing grease capacity [Reference value]	kg (lb)	***

Service brakes	
Brake pedal free play	Refer to page 7-90
Clearance between the brake pedal and the brake pedal bracket	Refer to page 7-90

Parking brake	
Lever effective stroke (Under pull force of approx. 147 N (15 kgf/33 lb))	6 - 8 notches

Electrical system		
Battery type	(Volt-Amp.h.) x No. of units	80D26L (12 - 69) × 2
Starter	volt-kw	12 - 2.0
Generator	volt/amp.	12/60

QLR77/QMR77 Models

Weights		
Axle weight rating : Front	kg (lb)	***

Engine	
Model	4JH1
Engine oil capacity	Refer to page 9-3
Engine coolant capacity	

Transmission	
Model	MSB5S
Transmission oil capacity	Refer to page 9-5

Rear axle	
Differential gear oil capacity [Reference value] liters (US gal./Imp gal.)	Refer to page 7-135

Fuel	
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	100 (26.4/22.0)

Clutch		
Clutch pedal free play	mm (in)	15 - 25 (0.59 - 0.98)
The distance from the fully pressed position to the position just before the clutch engages	mm (in)	20 (0.79) or more

Steering		
Steering wheel free play	mm (in)	10 - 50 (0.39 - 1.97)
Oil capacity [Reference value] liters (US gal./Imp gal.)		***

Wheel		
Wheel alignment : Toe-in	mm (in)	***
: Camber	(degree)	***
: Caster	(degree)	***
: King pin	(degree)	***
Wheel hub bearing grease capacity [Reference value]	kg (lb)	***

Service brakes	
Brake pedal free play	Refer to page 7-90
Clearance between the brake pedal and the brake pedal bracket	Refer to page 7-90

Parking brake	
Lever effective stroke (Under pull force of approx. 147 N (15 kgf/33 lb))	6 - 8 notches

Electrical system		
Battery type	(Volt-Amp.h.) x No. of units	80D26L (12 - 69) × 2
Starter	volt-kw	12 - 2.0
Generator	volt/amp.	12/60

NLR71/NMR71 Models

Weights		
Axle weight rating : Front	kg (lb)	2,900 (6,395)

Engine	
Model	4HG1-T
Engine oil capacity	Refer to page 9-4
Engine coolant capacity	

Transmission	
Model	MYY5T, MY6S
Transmission oil capacity	Refer to page 9-5, 9-6

Rear axle	
Differential gear oil capacity [Reference value]	Refer to page 7-135

Fuel	
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	<input type="checkbox"/> 75 (19.8/16.5), <input type="checkbox"/> 100 (26.4/22.0)

Clutch		
Clutch pedal free play	mm (in)	15 - 25 (0.59 - 0.98)
The distance from the fully pressed position to the position just before the clutch engages	mm (in)	20 (0.79) or more

Steering		
Steering wheel free play	mm (in)	Power steering 10 - 50 (0.39 - 1.97)
Oil capacity [Reference value] liters (US gal./Imp gal.)		Power steering 1.5 (0.40/0.33)

Wheel		
Wheel alignment : Toe-in	mm (in)	-2 to 2 (-0.08 to 0.08)
: Camber	(degree)	0°15'
: Caster	(degree)	<input type="checkbox"/> 3°, <input type="checkbox"/> 2°45'
: King pin	(degree)	12°
Wheel hub bearing grease capacity [Reference value]	kg (lb)	<input type="checkbox"/> 0.11 (0.24), <input type="checkbox"/> 0.18 (0.40)

Service brakes	
Brake pedal free play	Refer to page 7-90
Clearance between the brake pedal and the brake pedal bracket	Refer to page 7-90

Parking brake	
Lever effective stroke (Under pull force of approx. 147 N (15 kgf/33 lb))	6 - 8 notches

Electrical system		
Battery type	(Volt-Amp.h.) x No. of units	<input type="checkbox"/> 75D23R (12 - 52) × 2 <input type="checkbox"/> 80D26R (12 - 55) × 2
Starter	volt-kw	<input type="checkbox"/> 24 - 4.0
Generator	volt/amp.	<input type="checkbox"/> 24/35, <input type="checkbox"/> 24/60

Others**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 $> \lambda/4$ (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 $> \lambda/4$ 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 $> \lambda/4$ for transmit frequency $f < 600$ MHz and $> \lambda$ for transmit frequency $f > 600$ MHz (see Table 1).

Table 1. Approximate frequency-to-wavelength conversion

Frequency f MHz	Wavelength λ cm	$\lambda/4$ 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

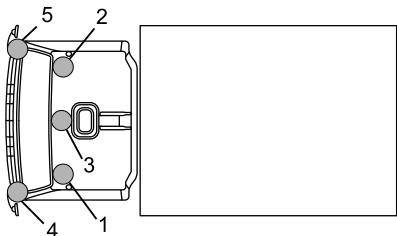
- a ground-plane-independent antenna can be fitted directly to any surface (glass-fiber etc.) or onto a mounting bracket which may be supplied by the manufacturer,
- a standard antenna can be used with a ground plane fitted to the underside of the panel, for example a metallic plate complying with dimensions 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



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

Figure 1. Drawing showing antenna installation points in the vehicle

[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 safety equipment (if equipped).



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" (if equipped).

[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 cigarette 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 24 V]

1. A 12 V tap shall not be taken from 24 V vehicle batteries.

**NOTE**

- Most mobile RF-transmitting equipment operates from a 12 V supply. ISUZU NMR85/NPR85/NQR75/NQR90/NLR71/NMR71 have a 24 V, 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.

A

Accessory Power Outlet (24V) <input type="checkbox"/>	5-17
Air Cleaner	7-56
Air Conditioning Filters <input type="checkbox"/>	7-160
Air Dryer <input type="checkbox"/>	7-100
Air Outlets	5-2
Air Pressure Gauge <input type="checkbox"/>	4-14
Air Tanks <input type="checkbox"/>	7-100
AM/FM Radio (Type 1) <input type="checkbox"/>	5-31
AM/FM Radio (Type 2) <input type="checkbox"/>	5-51
AM/FM Radio (with USB Player) <input type="checkbox"/>	5-60
Antenna	5-30
Anti-lock Brake System (ABS) <input type="checkbox"/>	4-55
Anti-Slip Regulator (ASR) <input type="checkbox"/>	4-60
Ashtray <input type="checkbox"/>	5-18

B

Back Panel Tray (Storage Receptacle) <input type="checkbox"/>	5-25
Before Driving	2-2
Brake Hoses and Pipes <input type="checkbox"/>	7-96
Brakes	7-80

C

Card Holder	5-19
Carrying Children	2-15
Cautions for Driving in Cold Regions	6-18
Cautions for Driving in Hot Regions	6-17
Cautions for Parking	6-16
CD Player (with AM/FM Radio) <input type="checkbox"/>	5-39
CD/USB Player (with AM/FM Radio) <input type="checkbox"/>	5-80
Changing Tires	7-112
Checking Components that Showed Abnormalities during Previous Operation	7-18
Cigarette Lighter <input type="checkbox"/>	5-15
Clutch	7-124
Coat Hook <input type="checkbox"/>	5-26
Combination Light Control Switch	4-37
Cup Holder <input type="checkbox"/>	5-24

D

Daily Checks (Preoperational Checks)	7-16
Discarded Parts, Oils and Other Liquids	7-6
Driving	2-17
Driving Safely and with Confidence	6-2
Drum Brakes	7-97

E

Electronic Braking force Distribution (EBD) <input type="checkbox"/>	4-59
Engine Conditions	7-20
Engine Coolant	7-32
Engine Coolant Temperature Gauge	4-15
Engine Oil	7-22
Exhaust Brake Switch <input type="checkbox"/>	4-41
Exterior (PICTORIAL INDEX)	0-13
Exterior Maintenance	7-164

F

Fan Belt	7-49
Front Fog Light Switch <input type="checkbox"/>	4-40
Fuel Filter	7-60
Fuel Gauge	4-16
Fuel Tank Filler Cap	3-10
Fully Adjustable Steering	3-17

G

Gearshift Lever	4-52
Getting In and Out of the Vehicle	3-6
Glove Compartment with Lid <input type="checkbox"/>	5-20
Glove Compartment without Lid <input type="checkbox"/>	5-21
Greasing Chassis Components	7-141

H

Handling the Battery	7-153
Handling the Jack	7-144
Handling the Radiator and Intercooler	7-47
Hazard Warning Flasher Switch	4-40
Headlights and Turn Signal Lights	7-152
Heater/Manual Air Conditioner <input type="checkbox"/>	5-6
Hook	5-26
Horn Button	4-45
How to Read the Instruments (Instruments Layout)	4-10
Hub Bearing Grease	7-140
Hydraulic Brake Booster (HBB) <input type="checkbox"/>	4-53

I

Idling Control Knob <input type="checkbox"/>	4-36
Inspection and Maintenance	7-173
Inspection Hatches <input type="checkbox"/>	7-9
Interior (PICTORIAL INDEX)	0-6
Interior Lights	5-14
Interior Maintenance	7-167
Isuzu Genuine Oils and Grease	7-6

K

Key	3-2
-----	-----

M

Main Data and Specifications	9-2
Manually Operated Windows <input type="checkbox"/>	3-9
Mirrors	3-18

O

On the Road	6-3
Opening and Closing Doors	3-3
Operating Tips for the Radio and CD Player	5-27
Others	9-20
Overhead Tray <input type="checkbox"/>	5-23

P

Parking Brake	7-93
Parking Brake Lever	4-49
Particulate Matter (PM) Catalytic Converter <input type="checkbox"/>	2-45, 4-69
Pedals	4-48
Power Steering Fluid	7-137
Power Take-Off (PTO) <input type="checkbox"/>	4-64
Power Windows <input type="checkbox"/>	3-7
Precautions for Checking and Adjustments	7-4
Preventing Breakdowns	2-39

R

Rear Axle Differential Gear Oil	7-133
Refrigerant <input type="checkbox"/>	7-162
Replacing the Fuses and Relays	8-48

S

Seat Belts	3-20
Seat Side Tray <input type="checkbox"/>	5-22
Seatback Pocket (Driver's Side)	5-24
Seatback Tray <input type="checkbox"/>	5-23
Seats	3-13
Small Article Storage Pocket	5-19
Spare Tire	7-122
Speedometer	4-11
Starter Switch	4-34
Starting the Engine	4-4
Staying Safe	2-35
Steering Wheel	7-136
Stopping and Parking	2-28
Stopping the Engine	4-7
Sun Visor <input type="checkbox"/>	5-15

T

Tachometer	4-13
Tilting the Cab <input type="checkbox"/>	7-11
Tire Rotation	7-110
Tool Box <input type="checkbox"/>	3-12
Tools	7-7
Transmission Oil	7-129
Troubleshooting	8-2
Turbocharger	2-44

U

Using Tire Chains	6-23
-------------------	------

V

Vehicle Identification Number (VIN) and Engine Number	1-2
Ventilator <input type="checkbox"/>	5-4

W

Warning and Indicator Lights	4-19
Warning and Indicator Lights Layout	4-17
Warning Buzzer	4-32
Warning/Caution Labels in Your Vehicle	0-16
Warning/Indicator Light Index	0-14
Wheels and Tires	7-101
When Driving on Bad Roads	8-67
When Slow-blow Fuses Blow Out	8-65
When the Battery Goes Flat	8-12
When the Brakes Do not Work	8-11
When the Bulb Does not Come On	8-32
When the Engine Overheats	8-27
When the Engine Stalls and Cannot be Restarted	8-10
When the Engine Stops While Driving	8-9
When the Fuel Runs Out	8-16
When the Meter Shows an Abnormality	8-29
When the Tire Goes Flat	8-8
When the Vehicle Breaks Down during Driving	8-7
When the Warning Light Comes On	8-21
When the Wheel Parking Brake Cannot be Released <input type="checkbox"/>	8-30
When to Visit Your Isuzu Dealer	2-42
When Towing	8-68
When Your Vehicle is Involved in an Accident	8-67
Windshield Washer Fluid	7-148
Windshield Wiper and Windshield Washer Switch	4-43
Windshield Wiper Blades	7-149

MEMO

MEMO

MEMO

MEMO

MEMO