OWNER'S AND DRIVER'S MANUAL E

ISUZU

N-SERIES

OWNER'S AND DRIVER'S MANUAL®



PICTORIAL INDEX

VEHICLE INFORMATION

IMPORTANT INFORMATION

DOORS, WINDOWS AND SEATS

CONTROLS AND INSTRUMENTS

COMFORT AND CONVENIENCE

TIPS ON SAFE AND SMOOTH OPERATION

SERVICE AND MAINTENANCE

IN CASE OF EMERGENCY

MAIN DATA

INDEX

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

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

Notes on Reading This Manual

- Please read this manual carefully, especially the information in the "IMPORTANT INFORMATION" section and the instructions and information identified by the following symbol/letter combinations:

 ADANGER
 ADANGER
- Throughout this manual, illustrations are primarily based on right-hand drive models.
- Due to differences in vehicle specifications, the illustration used for description may not match your vehicle.
- The contents of this manual are current at the date of issue, but may differ slightly from your vehicle due to specification changes or other modifications made thereafter.
- "Smoother" is an automated manual transmission system, which enables
 to start moving, shift gears and stop without clutch operation.
 In some regions, this product is marketed under the different name from
 "Smoother".
- This manual is applicable for vehicle in all countries except the USA and Canada.
- All rights reserved. This manual may not be reproduced in whole or in part, without the permission in writing of ISUZU MOTORS LIMITED.

Symbols Used in This Manual



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

MARNING

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.

A CAUTION

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

⊗ ADVICE

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

NOTE

This symbol identifies information that you need to know.

This symbol also identifies information that would be useful for operating the vehicle.

The following symbols are also used in this manual.

- V : Market-/type-specific equipment (Your vehicle may not have the equipment with this symbol.)
- M/T : Manual transmission model
- SA: Vehicle equipped with the Smoother system
- HB: Vehicle equipped with the hydraulic brake system
- FAB : Vehicle equipped with the full-air brake system
- VINI : VIN type 1 model (Refer to Vehicle Identification number (VIN) and Engine Number)
- VIN2 : VIN type 2 model (Refer to Vehicle Identification number (VIN) and Engine Number)

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)
AEBS	Advanced Emergency Braking System
API	American Petroleum Institute
ASR	Anti-Slip Regulator
BS	British Standards
DIN	Deutsche Industrie Normen
DPD	Diesel Particulate Defuser
EBA	Extended Brake Assistance
EBD	Electronic Braking force Distribution
EBL	Electronic Brake force Limitation
ECE	Economic Commission for Europe
EGR	Exhaust Gas Recirculation
ELR	Emergency Locking Retractor
ESC	Electronic Stability Control
FMVSS	Federal Motor Vehicle Safety Standards
GVM	Gross Vehicle Mass
HSA	Hill Start Aid
JASO	Japanese Automobile Standards Organization
LDWS	Lane Departure Warning System
M/T	Manual Transmission
MID	Multi-Information Display
PM	Particulate Matter
PTO	Power Take-Off
r/min	revolutions per minute
SAE	Society of Automotive Engineers
SCR	Selective Catalytic Reduction
SRS	Supplemental Restraint System
SVS	Service Vehicle Soon
UN	United Nations
VDA	Verband der Automobilindustrie
VIN	Vehicle Identification Number

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

U

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CHAPTER DESCRIPTION	0-9
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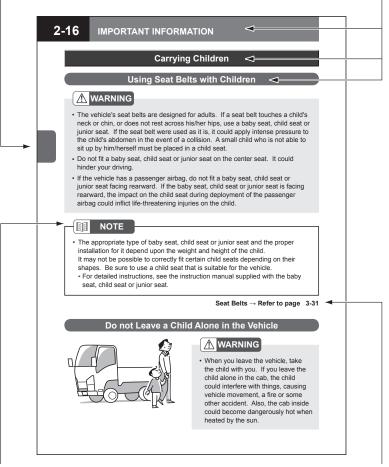
0-2 HOW TO USE THIS MANUAL

Chapter index tab

Use this for quick access to your desired chapter.

Chapter/section titles

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



WARNING A CAUTION ADVICE NOTE

Symbols

⚠ DANGER

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

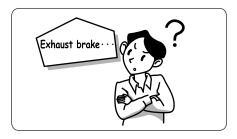
Search for the page describing the specific topic by using the general table of contents under CHAPTER DESCRIPTION, the CHAPTER INDEX, and/or the TABLE OF CONTENTS on the first page of each chapter.



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

PICTORIAL INDEX

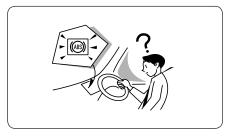
If you don't know the name of the switch or other device for which you need information, locate the page describing it by using the pictorial indexes.



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 0-24

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 8-58 IN CASE OF EMERGENCY

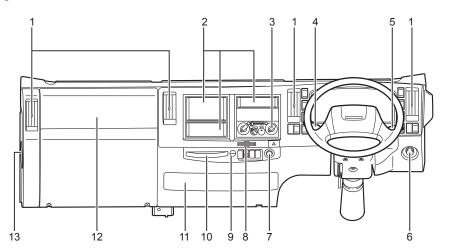
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VEHICLE INFORMATION 1
IMPORTANT INFORMATION 2 Describes what you should know before you can operate the vehicle safely and smoothly.
DOORS, WINDOWS AND SEATS
CONTROLS AND INSTRUMENTS 4 Explains how to start and stop the engine; describes various controls and instruments; describes special equipment such as the Smoother and HSA.
COMFORT AND CONVENIENCE
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.
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Interior

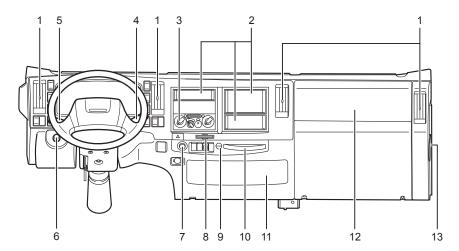
Right-hand Drive



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1	Air flow direction control lever	5-2
2	Small article storage pocket	5-15
3	V Heater/manual air conditioner	5-3
4	Combination light control switch	4-114
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	Windshield wiper and windshield washer switch	4-121

No.	Equipment	Page
6	V Idling control knob	4-112
7	Cigarette lighter	5-12
8	Card holder	5-15
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11	Relay box	8-47
12	V Passenger's SRS airbag	4-200
	V Glove compartment	5-16
13	Windshield washer fluid tank	7-145

Left-hand Drive



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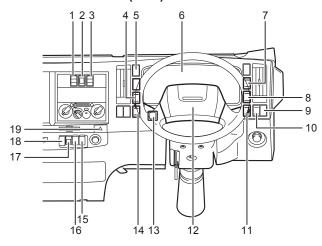
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PICTORIAL INDEX

Right-hand Drive Model

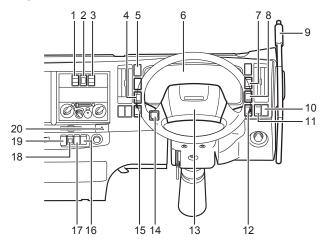
Model without Power Take-Off (PTO)



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9	∨ Warm-up switch	4-113
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15	V AEBS OFF switch	4-191
16	V LDWS switch	4-182
17	SA Smoother adjustment switch	4-146
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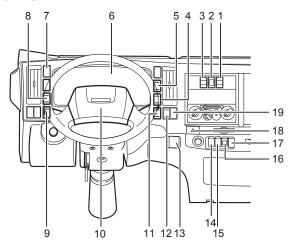
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Left-hand Drive Model

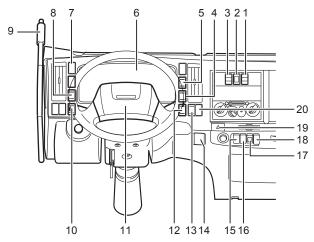
Model without PTO



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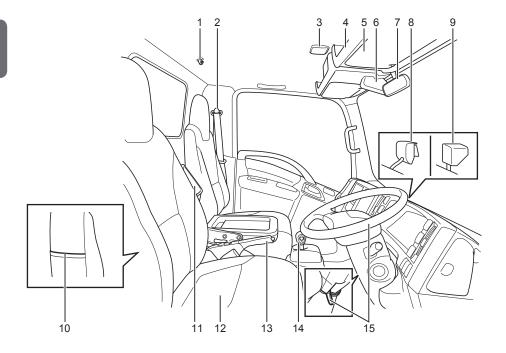
Model with PTO



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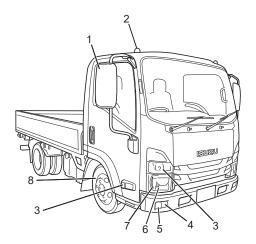
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1	V Coat hook	5-19
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6	V VIN1 Lane-recognition camera	4-177
7	Inside mirror	3-29
8	V VIN2 Lane-recognition camera (Type 1)	4-177

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10	V Seatback pocket (driver's side)	5-15
11	Back panel tray (storage receptacle)	5-18
12	Seat	3-24
13	Parking brake lever	4-127
14	Gearshift lever	4-130
15	Fully adjustable steering	3-28

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1	Outside rearview mirrors	3-30
2	V Roof-mounted clearance light	8-29
3	Turn signal light	8-29
4	Daytime running light	8-29

No.	Equipment	Page
5	Front fog light	8-29
6	Headlight	8-29
7	Clearance light	8-29
8	Tires	7-93

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Warning/Indicator Light Index

Multi-Information Display (MID) (Type 1) 🔻

WARNING LIGHTS

Message	Display area 1	Display area 3	Color	Page
Low fuel	□ j LOW FUEL		Amber	4-82
Water separator (fuel filter)	WATER SEPARATOR)	Red	4-73
AdBlue [®] level low	AdBlue AdBlue	AdBlue	Amber	4-97
AdBlue [®] refill	FILL UP AdBlue AdBlue	AdBlue	Amber	4-98
AdBlue [®] DOS malfunction	-!-3> AdBlueDOS. MALFUNC.	٠ <mark>٠</mark>	Amber	4-105
Critical emission fail	CRITICAL EMISSION FAIL	< i :3>	Red	4-103
Incorrect AdBlue®	:3 INCORRECT AdBlue	<u></u>	Red	4-102
AdBlue [®] injection system	:3 AdBlue INJ. SYSTEM	< i 3>	Amber	4-104
Engine torque reduction	TORQUE REDUCTION	Ð	Red	4-99
Speed limit	SPEED LIMIT	Œ)	Red	4-100
Engine overheating	OVER HEAT	₽.	Red	4-68
V Cab tilt	CABTILT	0 <u>!</u>	Red	4-82

Message	Display area 1	Display area 3	Color	Page
CAN system error	CAN	CAN	Red	4-106
Over speed	OVER SPEED	OVER SPEED	Red	4-67
Abnormal voltage low	VOLTAGE LLH	LOW*	Red	4-31
Abnormal voltage high	VOLTAGE	= ∓ HIGH	Red	4-31
LDWS failure	LDWS FAILURE	LDWS	Amber	4-96
Clean up camera	CLEAN UP CAMERA	ZAM	Amber	4-97

^{*}Depending on vehicle specifications, these lights may not come on.

INDICATOR LIGHTS

Message	Display area 1	Display area 3	Color	Page
Automatic regeneration of DPD	AUTO REGEN.	≈ <u>≣</u> 3> AUTO	Green	4-93
PM level being checked for selectable DPD regeneration	SPM LEVEL	= <mark>∏3</mark> > CHECK PMLVL	Amber	4-93

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Message	Display area 1	Display area 3	Color	Page
Manual regeneration of DPD in progress	∰3> MANUAL REGEN.	≍ <u>≣</u> ⊰> MANU.	Amber	4-93
Push DPD switch	PUSH PUSH SWITCH	≈ <u>II</u> 3> DPD SWITCH	Amber	4-93
DPD PM accumulation level	≠ <u>II</u> 3> <mark>PM LEVEL</mark>	_	Green	4-34
Progress of DPD regeneration	= <u>=</u> 3> REGEN. L_==□ H	_	Amber	4-34
РТО	红 PTO	红	Red	4-66
Engine oil level check	CHECK E/OIL LVL		Amber	4-70
Air cleaner check	Z ≣⇒ CHECK A/CLEANER		Amber	4-70
Engine oil and filter	ENGOIL&FILTER Y 22500km	_	Green/ Amber	4-69
Transmission oil	T/MISSION OIL Y 45000km	-	Green/ Amber	4-76
SA Smoother clutch oil	CLUTCH OIL Y 45000km		Green/ Amber	4-77
Fuel filter	FUEL FILTER Y 45000km	_	Green/ Amber	4-78
Power steering fluid	P/STEERING FLUID Y 45000km	_	Green/ Amber	4-79
Tire rotation	TIRE ROTATION Y 60000km	_	Green/ Amber	4-80



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WARNING/INDICATOR LIGHT INDEX

Message	Display area 1	Display area 3	Color	Page
Total fuel economy	FUELECONO(Total) 00.0L/100km	_	Green	4-30
Per trip fuel economy	FUELECONO(Trip) 00.0L/100km	_	Green	4-30
Instantaneous fuel economy	FUEL ECONO(Inst.)	_	Green	4-30
Voltmeter	VOLTAGE L.H	_	Green/ Red	4-31
Calendar	2013/ 5/12 (SUN)	2013 5/12 (SUN)	Green	4-32
Clock	AM 10:08	10:08	Green	4-33
Hour meter	HOUR METER 6.6H	_	Green	4-19
Over speed	SPEED WARNING OFF	_	Green	4-42
Dimmer	DIMMER DIMMER	_	Green	4-34



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Multi-Information Display (MID) (Type 2)

WARNING AND INDICATOR LIGHTS

Message	Display area 4	Color	Page
lcy road	\	Amber	4-106
Water separator (fuel filter)	₩	Red	4-73
AdBlue [®] level low	AdBlue	Amber	4-97
AdBlue [®] refill	∏} AdBlue	Red	4-98
AdBlue® DOS malfunction	< ! ऄ	Amber	4-105
Critical emission fail	< ! 3>	Red	4-103
Incorrect AdBlue®	< ! ॐ	Red	4-102
AdBlue [®] injection system	< ! 3>	Amber	4-104
Engine torque reduction	TORQUE LIMIT	Red/—	4-99
Speed limit	SPEED LIMIT	Red/—	4-100
Engine torque reduction and speed limit	TORQ. + SPEED LIMIT		4-101
CAN system error	CAN ERROR	_	4-106

WARNING/INDICATOR LIGHT INDEX

Message	Display area 4	Color	Page
Automatic regeneration of DPD	REGEN ACTIVE	Green/—	4-95
PM level being checked for selectable DPD regeneration	PM LEVEL CONTROL	Amber/—	4-95
Manual regeneration of DPD in progress	REGEN ACTIVE	Amber/—	4-95
Push DPD switch	PUSH DPD BUTTON	Amber/—	4-95
Cruise active	(3)	Green	4-90
Cruise set	SET	Green	4-91
SA ECONO mode	ECONO	Green	4-90
Air cleaner check	>≣⇒	Amber	4-70
SA 1st start mode	1ST START	Green	4-90
LDWS operational	/ ∃`\	Green	4-181
The vehicle drifts towards the left lane	B	Amber	4-181



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Message	Display area 4	Color	Page
The vehicle drifts towards the right lane		Amber	4-181
Upshift/Downshift		Green	4-106
Maintenance time	MAINTANENCE TIME!	_	4-81

Instrument Panel

WARNING LIGHTS

Name	Symbol	Color	Page
Check engine warning light	(Amber	4-71
Engine oil pressure warning light	میک:	Red	4-67
V Engine overheat warning light	_ <u>_</u>	Red	4-68
V ESC warning light	*	Amber	4-64
V ABS warning light	(ABS)	Amber	4-63
V SRS airbag warning light		Red	4-59
Generator warning light	==	Red	4-71
SA Smoother warning light	(Amber	4-74
V Water separator (fuel filter) warning light		Red	4-73
FAB Air pressure warning light		Red	4-60
HB Brake system warning light		Red	4-60
Parking brake warning light	(P)	Red	4-84
HB Brake booster warning light	BRAKE B oo st e r	Red	4-61

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Name	Symbol	Color	Page
Seat belt warning light	Ä	Red	4-58
V LDWS warning light		Amber	4-66
V AEBS warning light	***************************************	Amber	4-88
V Brake wear warning light		Amber	4-85
SA V Smoother clutch oil temperature warning light	(1)	Red	4-75

INDICATOR LIGHTS

Name	Symbol	Color	Page
Warm-up system indicator light		Amber	4-89
Glow plug indicator light	ক্ত	Amber	4-89
V Cruise control main indicator light	(*)	Green	4-90
V Cruise control set indicator light	SET	Green	4-91
High beam indicator light		Blue	4-83
V ASR indicator light	ASR	Green/ Amber	4-86
V ASR OFF indicator light	ASR OFF	Amber	4-87
V ESC OFF indicator light	Q Q Q Q F	Amber	4-88

WARNING/INDICATOR LIGHT INDEX

Name	Symbol	Color	Page
V AEBS Fault/OFF indicator light	AEBS	Amber	4-89
V Exhaust brake indicator light		Green	4-85
SA ECONO mode indicator light	ECONO	Green	4-90
SA 1st start mode indicator light	1ST START	Green	4-90
Turn signal and hazard warning indicator light – left	← ♦	Green	4-83
Turn signal and hazard warning indicator light – right	→ ⇔	Green	4-83
Rear fog light indicator light	() ‡	Amber	4-84
SVS indicator light	ଝାଁଚ	Amber	4-72
V DPD automatic regeneration indicator light		Green	4-92
V DPD manual regeneration indicator light	= <u> </u> 3	Amber	4-92
V PTO indicator light	红	Red	4-66
V Low fuel warning light	Low fuel warning light	Amber	4-82
V Lights on indicator light	=00=	Green	4-83



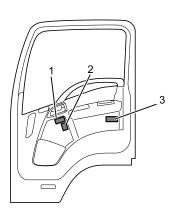
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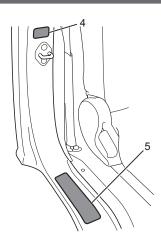
Name	Symbol	Color	Page
V Low beam indicator light	≣ D	Green	4-84
V Front fog light indicator light	事0	Green	4-84
V HSA indicator light		Green	4-85

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.

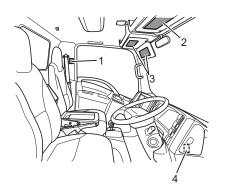
Warning/Caution Labels - Cab Interior

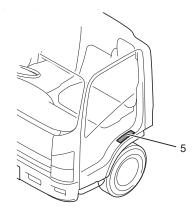




No.	Description
1	V PTO operation
2	V Gear shifting
3	V Speed limit device
4	▼ Tire air pressure
5	V E-mark

0-26 WARNING/CAUTION LABELS





No.	Description
1	Engine periodic check
2	DPD, Smoother, driver's SRS airbag, passenger's SRS airbag, urea SCR (reverse side)
3	V Passenger's SRS airbag ^{⋆¹}
4	Brake fluid
5	V Cab tilt instruction



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

Using Seat Belts with Children

→ Refer to page 2-16

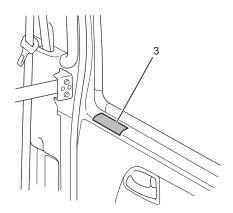
Seat Belt with Pretensioner and SRS Airbag System V

→ Refer to page 2-59

When Carrying a Child in the Vehicle

→ Refer to page 4-210

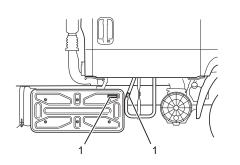




No.	Description
1	V Engine maintenance lid
2	Fuse
3	V Rear step

0-28 WARNING/CAUTION LABELS

Warning/Caution Labels - Cab Exterior



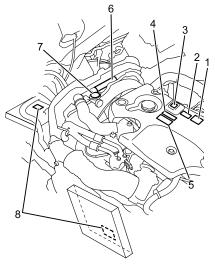


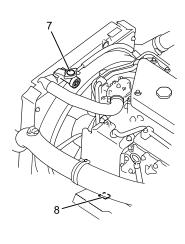
No.	Description
1	V Rear step
2	V Cab tilt instruction

Warning/Caution Labels - Engine Compartment

4JJ1 engine







No.	Description
1	Engine oil level check
2	Emission
3	V Diesel smoke
4	Fuel filter
5	Engine oil
6	Engine coolant
7	Radiator cap
8	V Engine control module

VEHICLE INFORMATION

• Vehicle Identification Number (VIN) and Engine Number

1-2

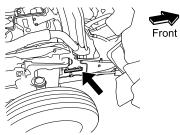
1-2 VEHICLE INFORMATION

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.

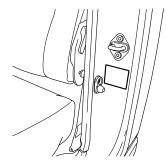
VIN

VIN location on frame



The VIN is stamped on the right-side front

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.

part of the frame.

ADVICE

 The location of the ID plate may differ depending on the market. For further details, ask your Isuzu Dealer. The ID plate indicates the VIN. This single number contains multiple pieces of information including the vehicle and engine model codes as shown below.



- There are two types of VIN, and either type is used according to the market. They are different in interpreting method from each other. For further details, ask your Isuzu Dealer.
- Interpretation of the VIN may differ depending on the market. For further details, please ask your Isuzu Dealer.

Type 1 (Example)

J	Α	Α	N	Р	R	7	5	Н	E	7	1	0	0	0	0	1
	1			2			3	4	<u> </u>				6			

Section	Description
1	World Manufacturer Identifier (WMI)
2	Vehicle model code NLR: 4 × 2 truck NLR model NMR: 4 × 2 truck NMRmodel NNR: 4 × 2 truck NNR model NPR: 4 × 2 truck NPR model
3	Engine code 75: 4HK1 Engine 85: 4JJ1 Engine
4	Wheelbase code
5	Model year code E: 2014 model F: 2015 model G: 2016 model H: 2017 model J: 2018 model K: 2019 model L: 2020 model M: 2021 model N: 2022 model
6	Production sequential number

1-4 VEHICLE INFORMATION

Type 2 (Example)



No.	Description				
1	World Manufacturer Identifier (WMI)				
2	Model code NAR: 4 × 2 truck NQR model				
3	Engine code 6C: EURO VI engine (Character-C) 6D: FURO VI engine (Character-D)				

No.	Description			
4	Wheelbase code			
5	Second axle code 0: dual type 1: single type			
6	Plant code			
7	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
LFB	4JJ1-TCS
RDU	4JJ1-TCC
RJS	4HK1

Option Codes	Transmission
RSL	MYY5A
RSM	MYY5T
RSR	MZZ6F
RST	MYY6S

Option Codes	Rear axle			
8PB	Light-duty _φ 220 mm			
G73	Heavy-duty ϕ 292 mm			
6CP	Heavy-duty			

Option Codes	Brake system			
Z06	Full-air brake system			

Option Codes	Other components
6QN	Generator 24V-50A
TLZ	Generator 24V-50A
KG2	Generator 24V-60A
8UF	Generator 24V-60A
7YN	Generator 24V-80A
8UG	Generator 24V-80A
NFU	Generator 24V-90A
8NS	With Smoother
8GF	With Smoother
8GJ	Without Smoother
6WC	PTO with lever
8JM	DPD
JCQ	DPD with SCR

3

ADVICE

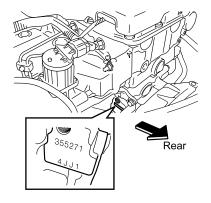
• There are more option codes than those indicated above. Depending on the market, an option code may not be shown. For detailed specifications of your vehicle, please ask your Isuzu Dealer.

1-6 VEH

VEHICLE INFORMATION

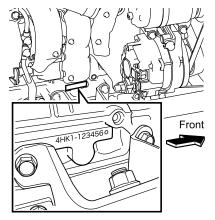
Engine Number

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.

IMPORTANT INFORMATION

Before Driving	2-2
Carrying Children	2-16
• Driving	2-19
Smoother Model SA	2-32
Stopping and Parking	2-35
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Diesel Particulate Defuser (DPD)	2-50
Urea Selective Catalytic Reduction (SCR)	2-54
Model with Speed Limit Device	2-58
Seat Belt with Pretensioner and SRS Airbag System	2-59
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Statement of Compliance with UN R13 (ECE R13)	2-63

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 the previous operation	7-20

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

zi onocko portornica mai ale ongine mepeetien naten openica er cas anteaj				
Check item	Reference page			
Fan belt looseness and damage	7-52			
Engine oil level	7-24			
Power steering fluid level	7-133			

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

Check item	Reference page
Brake fluid level (For a manual transmission model, brake fluid doubles as clutch fluid.) HB	7-74 (7-117)
Brake pedal free play	7-81, 7-83
Exhaust sound from brake valve FAB	7-83
Increase in air pressure FAB	7-79
Clutch pedal free play M/T	7-121
Operation of meters, gauges and warning/indicator lights	4-10, 4-20
Engine startability, abnormal noise and color of exhaust gases	7-22
Parking brake lever stroke	7-84
Windshield washer fluid spray condition and windshield wiper effectiveness	7-145, 7-146
Windshield washer fluid level	7-145
Steering wheel position and free play	3-28, 7-132
Operation of horn and turn signal lights	4-116, 4-123
Fuel level	4-18
Operation of door locks	3-9

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

Check item	Reference page
Illumination, flashing or for stained or damaged lights	7-149
Engine coolant level	7-36
Battery fluid level	7-154
Water collecting in the air tanks FAB	7-92
Leaf spring damage	_
Leakage of oil, engine coolant, fuel, brake fluid, and power steering fluid	_
Water collecting in the fuel filter (bottom)	7-67

[5. Checking wheels and tires]

Check item	Reference page
Air pressure	7-94
Cracks and other damage	7-97
Abnormal wear	7-98
Tread depth	7-98
Disc wheel mounting condition	7-99

2-4 IMPORTANT INFORMATION

[6. Checks performed while driving]

. 01	
Check item	Reference page
Brake effectiveness	7-83
Checking the engine at low speeds and during acceleration	7-23
Clutch system function MT	7-117

Use the Specified Fuel



- Always use only an extra-low-sulfur diesel fuel (10 ppm or lower sulfur content).
- The use of a poor-quality diesel fuel, mixing such an additive as water remover to the fuel in the tank, or filling the tank with gasoline, kerosene or an alcohol-based fuel or its mixture with a diesel fuel will badly affect the fuel filter and result in lubrication problems in fuel-lubricated components of the injectors. In addition, this practice can also impair the operation of the engine and the diesel particulate defuser (DPD), the urea selective catalytic reduction (SCR), 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.
- The use of any fuel other than an extra-low-sulfur diesel fuel may violate the relevant regulations enforced in certain countries or regions.
- 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 3-18

Fuel → Refer to page 6-21

Using Self-service Filling Stations

MARNING

[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.

A CAUTION

[Caution when refueling the vehicle]

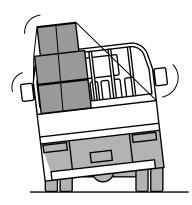
Be careful not to inhale fuel vapor when refueling the vehicle.

Fuel Tank Filler Cap

→ Refer to page 3-18



Load Cargo Correctly



MARNING

 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.

A CAUTION

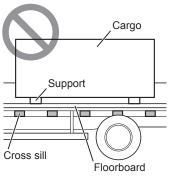
- The weight of the payload must be limited within the gross vehicle mass (GVM) rating and distributed over the front and rear axles so as not to exceed the axle capacities.
- It is extremely dangerous to overload the vehicle or to load the vehicle with the cargo positioned on one side. Load the vehicle 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.

IMPORTANT INFORMATION

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.		



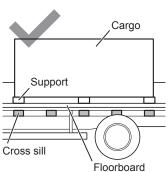
2-8 IMPORTANT INFORMATION



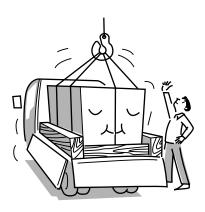


ADVICE

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



Loading Heavy Cargo





CAUTION

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

Loading Farming Equipment



A 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





 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



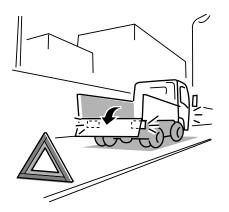
Driving too fast or driving so slowly that the engine knocks can lead to poor fuel economy.

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

Do not Carry Fuel and Spray Cans in the Cab





 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





- 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.

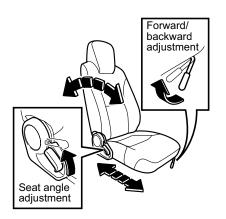
Correct Driving Posture



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.

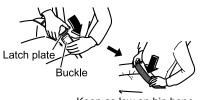
 $\begin{array}{lll} \text{Seats} & \rightarrow \text{Refer to page} & \text{3-24} \\ \text{Seat Belts} & \rightarrow \text{Refer to page} & \text{3-31} \\ \end{array}$

Mirrors \rightarrow Refer to page 3-29



Seat Adjustment

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



Keep as low on hip bone as possible



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
а	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.
С	Make sure you can adequately press each pedal.

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

2-14

IMPORTANT INFORMATION

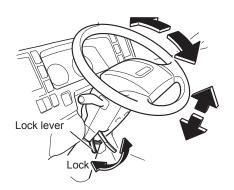
Passengers and Seat Belts

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

MARNING

- 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 \rightarrow Refer to page 2-16



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.

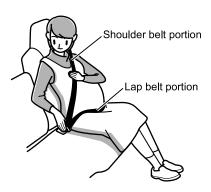
MARNING

- 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 3-28

Carrying an Expecting Mother or a Person Who Is III



MARNING

- 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 3-31

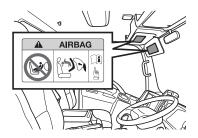
Carrying Children

Using Seat Belts with Children



- The vehicle's seat belts are designed for adults. If a seat belt touches a child's neck or chin, or does not rest across his/her hips, use a baby seat, child seat or junior seat. If the seat belt were used as it is, it could apply intense pressure to the child's abdomen in the event of a collision. A small child who is not able to sit up by him/herself must be placed in a child seat.
- Do not fit a baby seat, child seat or junior seat on the center seat. It could hinder your driving.
- If the vehicle has a passenger airbag, never fit a baby seat, child seat or junior seat facing rearward on a passenger seat. Failure to observe this precaution may result in serious injury to the child, or, in the worst case, death due to the impact during deployment of the passenger SRS airbag as a result of an accident, etc.

Please check the warning label on the passenger's side sun visor.



Seats \rightarrow Refer to page 3-24

Seat Belts → Refer to page 3-31

Seat Belt with Pretensioner and SRS Airbag System V

→ Refer to page 2-59

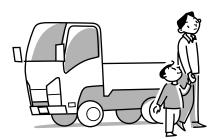


NOTE

- 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 3-31

Do not Leave a Child Alone in the Vehicle





 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



MARNING

 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



MARNING

• To protect the child from the danger of getting his/her hands and head trapped, an adult must open, close and lock the door for the child.

Be careful that the child does not interfere with the power window switches and get his/her hands or head trapped in the window. While a child is in the cab, be sure to control the power windows using the power window switches beside the driver's seat.

Opening and Closing Doors

 \rightarrow Refer to page 3-9

Power Windows V

→ Refer to page 3-14

Driving

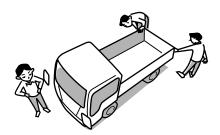
Proper care and operation will not only extend the service life of your vehicle but also improve oil and fuel economy.

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
- 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.

MARNING

 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

MARNING

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

Starting the Engine



A CAUTION

- Make sure that the parking brake lever is securely pulled. On a manual transmission model, make sure the gearshift lever is in the "N" position and then hold the clutch pedal down fully before starting the engine. On a Smoother model, hold the brake pedal down firmly and make sure the gearshift indicator is showing "N" 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 of a manual transmission model with the gearshift lever in a position other than "N", the vehicle could move.

Starting the Engine

→ Refer to page 4-4

2-22

IMPORTANT INFORMATION

If the Vehicle Has not Been Used for a Long Period



ADVICE

- When storing the vehicle over a long period of time, disconnect the cable at the negative terminal side.
- Replace the AdBlue[®] for vehicles that have not been used for a year or more (models with the urea selective catalytic reduction (SCR) system). Failure to do so may result a failure of the urea SCR system.
- At least once a month, and before using the vehicle, perform the following inspections. Moving the vehicle without performing the inspections may cause engine seizures or other problems.
- Check the engine and transmission for oil leakage, and make sure the oil is at the required levels. If there is insufficient oil, it will not adequately reach and lubricate components, and a breakdown will result.
- Start the engine and run it at idle for at least 5 minutes until the temperature indicated in the engine coolant temperature gauge becomes stable. Make sure that the engine produces no abnormal noise, and that the engine oil pressure warning light is not on.
- For instructions on warming up the engine, refer to "Starting the Engine" on page 4-4.



NOTE

[AdBlue®]

• AdBlue[®] is a registered trademark of Verband der Automobilindustrie (VDA).

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



MARNING

 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. Also, do not perform manual diesel particulate defuser (DPD) regeneration indoors. Combustion of particulate matter (PM) during DPD regeneration produces white smoke.

DPD Manual Regeneration Procedure

→ Refer to page 4-214

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 engaged by checking that the parking brake warning light is off.

Parking Brake Warning Light

→ Refer to page 4-84

Parking Brake Lever

→ Refer to page 4-127

Pulling Away in a Manual Transmission Model



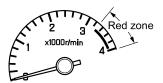
ADVICE

• 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.

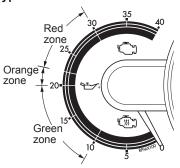
Appropriate Gearshifts



Type 1



Type 2



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 4-15

Gearshift Lever

→ Refer to page 4-130

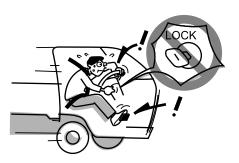


NOTE

[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

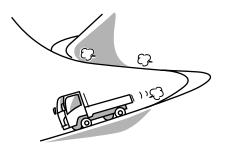


MARNING

- 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 4-110

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 4-119



- 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.
- Do not adjust the exhaust brake valve.



NOTE

[What is engine brake?]

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

[What is the exhaust brake?]

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

[What is 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.)

\triangle

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





 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 disc brakes
 - Engine damage due to wateringress
 - 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 V

→ Refer to page 7-113 Handling the Jack → Refer to page 7-140

Changing Tires

→ Refer to page 7-103

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 4-20

Smoother Model SA

On a Smoother model, the driver does not use a clutch pedal when pulling away, changing gears or stopping; he/she uses only the gearshift lever, accelerator pedal, and brake pedal. In addition, a Smoother model allows the driver to drive the vehicle with the gears changed automatically. Be sure to learn the characteristics of the Smoother model and how to correctly operate it. When the vehicle is stationary, remember to keep the brake pedal firmly pressed and, if necessary, place the gearshift lever in the "N" position and apply the parking brake.

Immediately after engine startup, while the air conditioner is running, and during diesel particulate defuser (DPD) regeneration, the engine speed rises, making creep stronger than it is at other times. When you move the gearshift lever out of the "N" position, firmly press the brake pedal.

Model with Smoother SA

→ Refer to page 4-133





NOTE

[Creep]

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

Operate the Brakes with Your Right Foot





ADVICE

- Sit in the correct driving position, and use your right foot to operate the brake and accelerator pedals.
 To avoid accidentally pressing the wrong pedal, check the pedal positions and practice putting your foot on the desired pedal.
- To ensure reliable brake application, be sure to use your right foot to press the brake pedal.

Pulling Away



- Sitting in the correct driving position, firmly hold down the brake pedal with your right foot and place the gearshift lever in the "D", "R", or "M" position.
- Check to be sure the area around the vehicle is clear and check the gearshift lever position and shift indicator, then release the parking brake lever.
- Take your foot off the brake pedal, then gradually press the accelerator pedal to pull away.

MARNING

- When you move the gearshift lever to a position other than "N", creep will cause
 the vehicle to move. When pulling away, be sure to keep the brake pedal
 pressed as you operate the gearshift lever.
- Do not operate the gearshift lever while pressing the accelerator pedal. Doing so is dangerous because the vehicle would suddenly move.
- Immediately after engine startup, while the air conditioner is running, and during diesel particulate defuser (DPD) regeneration, the engine speed automatically rises, making creep stronger than it is at other times. Keep the brake pedal firmly pressed.

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IMPORTANT INFORMATION



ADVICE

[Essential points for safety]

- Even if you plan to move only a short distance, adopt the correct driving position and make sure you can firmly press the brake and accelerator pedals.
- When you reverse, you twist to look rearward so pedal operation becomes
 difficult. Firmly press the brake pedal while twisting your body. Also, get in
 the habit of immediately returning the gearshift lever to the "N" position after
 reversing. When pulling away, visually check the gearshift lever position and
 the shift indicator.
- When repeatedly shifting between forward and reverse gears for a multiplepoint turn or a K-turn, firmly press the brake pedal and confirm that the vehicle is completely stopped before shifting.
- On a Smoother model, you cannot move the gearshift lever out of the "N"
 position unless you are pressing the brake pedal. If you are unable to move the
 gearshift lever, release the brake pedal, then press again and try moving the
 gearshift lever.
- On a Smoother model, standing starts are typically performed in 2nd gear. If
 you need extra-strong traction for pulling away (for example, when the vehicle
 is loaded), you can select a standing start in 1st gear by holding down the brake
 pedal and then placing the 1st start switch in the "ON" position or placing the
 gearshift lever in the "M" position and moving it in the "-" (downshift) direction.
 (The method using the gearshift lever yields a gear shift in manual mode.)

Model with Smoother SA

→ Refer to page 4-133

Actions that Can Lead to a Breakdown with a Smoother Vehicle

Action that can lead to a breakdown	Breakdown symptom
Stopping the vehicle on an uphill road with the gearshift lever in a position other than "N", the accelerator pedal pressed, and the brakes not applied Pressing the accelerator pedal and brake pedal at the same time Continuously driving in an inappropriate gear Repeatedly performing abrupt standing starts and stops	The Smoother clutch oil overheats.
Operating the gearshift lever with the accelerator pedal pressed and the engine speed high	The transmission gears or clutch are overloaded.
Placing the starter switch in the "ACC" or "LOCK" position while driving Keeping the gearshift lever in the "N" position on a long downward slope (this is dangerous due to the lack of engine brake) The transmission is properly lubricated.	

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

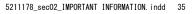


ADVICE

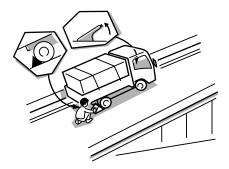
• Except in an emergency, do not apply the parking brake until the vehicle has come to a complete stop. Applying the parking brake before the vehicle has stopped can cause a breakdown.

Parking Brake Lever

→ Refer to page 4-127



Parking Safely on a Slope

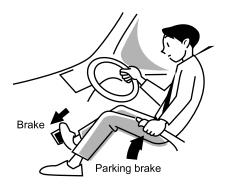


CAUTION

- 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.

Parking in Gear → Refer to page 4-139

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



A CAUTION

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

Hill Start Aid (HSA)

→ Refer to page 4-150

Napping in the Vehicle





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



A 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) or the diesel particulate defuser (DPD) is regenerating while the engine is idling.

DPD Manual Regeneration Procedure

→ Refer to page 4-214

Stopping and Parking with the Engine Running

MARNING

When stopping and parking with the engine running: If your vehicle is equipped
with a manual transmission, be sure to place the gearshift lever in the "N"
position to select neutral. With a Smoother vehicle, make sure the shift indicator
is showing "N". Then, firmly apply the parking brake. Unless you take these
steps, any unintended pressure on the accelerator pedal could cause an
accident.

A CAUTION

 The diesel particulate defuser (DPD) may automatically start regeneration when the vehicle is stopped and parked with the engine running. To prevent a fire, make sure there is no flammable material near the muffler, DPD, urea selective catalytic reduction (SCR), 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

MARNING

 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

A 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



A 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.

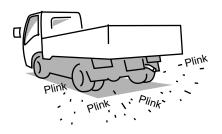
IMPORTANT INFORMATION

Leaving the Vehicle

MARNING

- 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

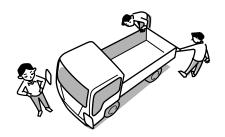




NOTE

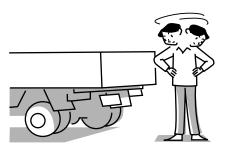
 Immediately after stopping the engine, you may hear a metallic plinking sound from the muffler. This sound occurs as the muffler cools down and contracts. It does not indicate an abnormality or breakdown.

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





 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 8-25

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IMPORTANT INFORMATION

When the Silencer and Exhaust Pipe are Hot

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CAUTION

When the engine is running and immediately after vehicle operation, the diesel
particulate defuser (DPD), urea selective catalytic reduction (SCR), 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 fire.

Ashtray → Refer to page 5-14

Do not Attach Accessories to the Windshield or Windows



MARNING

 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



A CAUTION

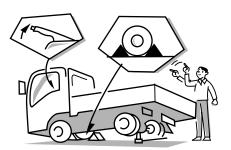
- Drivers should never use mobile telephones or car phones in any mode other than Hands Free while driving. Doing so is dangerous.
- Using a mobile telephone while driving could result in an accident because you would not be paying full attention to your surroundings.
- If you are driving and you wish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

IMPORTANT INFORMATION

Using the Jack

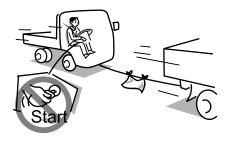
MARNING

- 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 \rightarrow Refer to page 7-7 Handling the Jack \rightarrow Refer to page 7-140

If the Battery Goes Flat





 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 8-13

Preventing Breakdowns

Do not Rest Your Foot on the Clutch Pedal while Driving MT





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 7-18

Engine Oil → Refer to page 7-24 Maintenance Schedule

→ Refer to page 7-173

IMPORTANT INFORMATION

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



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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 7-18

Engine Oil → Refer to page 7-24

Maintenance Schedule

→ Refer to page 7-173

When to Visit Your Isuzu Dealer

Do not Modify the Vehicle

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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





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 \rightarrow Refer to page 7-93 Changing Tires \rightarrow Refer to page 7-103

Installing Electrical Equipment





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



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.

IMPORTANT INFORMATION

Diesel Particulate Defuser (DPD)

DPD reduces particulate matter (PM) in the exhaust emissions. The DPD filter captures PM. When a certain amount of PM has accumulated in the DPD filter, the filter is automatically regenerated. (The PM is burned away.) To prevent a DPD failure, be sure to observe the following points:

MARNING

- The DPD, urea selective catalytic reduction (SCR), and exhaust pipe are
 extremely hot while the engine is running, during DPD filter regeneration
 (PM combustion) and immediately after vehicle operation. Be careful not to
 inadvertently touch them. Otherwise, you could be burned.
- Any grass, waste paper or other flammable material near the vehicle could catch fire.
- Before doing maintenance work on the vehicle, shut down the engine and allow it to cool down. Otherwise, you could be burned.

A CAUTION

 Using diesel fuel other than extra-low-sulfur diesel fuel (with sulfur content no higher than 10 ppm) for a vehicle equipped with a DPD/urea SCR could prevent the vehicle from complying with local legal requirements.



ADVICE

- Use Isuzu genuine engine oil compatible with the DPD. Using oil other than Isuzu genuine engine oil compatible with the DPD would shorten the time between DPD filter cleaning and could increase fuel consumption.
- Be sure to use extra-low-sulfur diesel fuel (with sulfur content no higher than 10 ppm). If you fill the vehicle with poor-quality fuel, water-removing additive or other additive, gasoline, kerosene or alcohol-based fuel, it could harm the fuel filter, prevent proper movement of fuel-lubricated parts in the injectors and adversely affect engine components, possibly resulting in a breakdown.
- Do not modify the DPD, urea SCR and exhaust pipe.
 Changing the alignment, length or diameter of the exhaust pipe would adversely affect the exhaust system's exhaust emission reduction function. If any modification is necessary to install a component to the rear of the vehicle, consult your Isuzu Dealer.
- Although the DPD filter automatically undergoes regeneration (burning
 of the accumulated PM) when a certain amount of PM has accumulated,
 driving conditions can prevent completion of regeneration. The DPD manual
 regeneration indicator light (amber) will flash in models without MID, while
 the "PUSH DPD SWITCH" message will flash or the "PUSH DPD BUTTON"
 message will be displayed in models with MID. Perform manual regeneration in
 accordance with the proper procedure.
- This is to restore DPD function and is normal.

 If the vehicle is left in gear during regeneration, the regeneration time could
- be extended, possibly having an effect on fuel consumption. Leave the transmission in neutral when idling the vehicle for extended periods of time.

2-52

IMPORTANT INFORMATION



NOTE

- If the vehicle is stationary with the engine idling during DPD regeneration, the
 exhaust brake or exhaust throttle operates. Operating sounds will be heard
 when the exhaust brake or exhaust throttle is activated or deactivated. The
 sounds do not indicate a fault
- Combustion of PM during DPD regeneration can cause white smoke to be briefly emitted from the exhaust pipe. The white smoke does not indicate a fault. Do not perform manual regeneration in any poorly ventilated indoor place.
- When a new vehicle has been driven a certain distance, it can emit white smoke during DPD regeneration. The white smoke does not indicate a fault. The vehicle may not emit white smoke during its initial operation when new.
- Although white smoke may be emitted from the muffler body when the DPD is regenerated for the first time, this does not indicate a malfunction.
- Owing to the exhaust emission reduction function, the exhaust gases emitted by the exhaust pipe smell different from those emitted by the exhaust pipes of earlier diesel vehicles.
- The exhaust brake may automatically be activated in order to prevent emission of white smoke if the engine idles continuously over an extended period of time.
- A long continuous idling can cause white smoke to be briefly emitted from the exhaust pipe. The white smoke does not indicate a fault.

Diesel Particulate Defuser (DPD)

→ Refer to page 4-212

Engine Oil $\rightarrow R$

→ Refer to page 7-24

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 cannot locate a fault, contact the nearest Isuzu Dealer.

Symptom	Cause	Corrective action	Reference page
	Engine not sufficiently warming up	Allow the engine to warm up.	4-113
	Too much engine oil	Correct the oil level.	7-24
	Engine control system faulty	0	_
White	Fuel system faulty	0	_
exhaust smoke	Continuous idling for a long period (more than 2 hours)	With the vehicle stationary in a place where it will not obstruct traffic, hold down the accelerator pedal and check that white smoke is not emitted.	
	Engine control system faulty	0	_
Black	Air cleaner clogged	Clean or replace the element.	7-58 7-60
exhaust smoke	Fuel system faulty	0	_
Janioke	Exhaust system clogged	0	
	DPD faulty	0	

ADVICE

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



2-54

IMPORTANT INFORMATION

Urea Selective Catalytic Reduction (SCR)

The urea SCR system reduces nitrogen oxides (NOx) in exhaust emissions.

The system uses $AdBlue^{\otimes}$ as a reducing agent and hydrolyzes it into ammonia (NH_3) using the heat from exhaust emissions. The nitrogen oxides (NOx) are then reduced to nitrogen and water and purified by the generated ammonia.

<u>(1)</u> C

CAUTION

 Do not touch any water discharged from the muffler. In case of contact with skin, wash off thoroughly with water.

ADVICE

 Do not modify the exhaust pipe or muffler, or change the location of any items including the AdBlue® tank. Doing so could affect exhaust emission reduction capabilities. If any modifications or relocation is necessary, consult your nearest Isuzu Dealer.



NOTE

 Exhaust emissions from the tailpipe have a smell different from those emitted from vehicles without urea SCR systems due to the exhaust emission reduction functions of the exhaust system.

[AdBlue®]

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

Handling of AdBlue®

AdBlue[®] is a clear, colorless, and harmless aqueous solution. It is normal for AdBlue[®] to emit an odor in some circumstances.



CAUTION

- AdBlue[®] is harmless to the human body even if touched, However, it may cause inflammation in rare circumstances depending on its constitution. In such cases, take the following actions.
 - In the case of contact with skin, wash off with water. Failure to do so may result in irritation for those with sensitive skin.
 - In the case of accidental ingestion, drink one or two glasses of water or milk and consult your physician immediately.
 - In the case of contact with eyes, immediately wash out with large amounts of water for at least 15 minutes and consult your physician.

Is a Specified AdBlue® Being Used?

- Use AdBlue® specified by Isuzu.
 - Use AdBlue® that is compliant with the ISO (International Organization for Standardization) 22241 standard defined for AUS 32.

Storing AdBlue®

- Seal the AdBlue® container to prevent evaporation and store it indoors or in places that are well ventilated and not exposed to direct sunlight.
- When stored, the expiration date of AdBlue® varies depending on the temperature of the storage location. Contact your Isuzu Dealer for details.



NOTE

- Even if frozen, AdBlue[®] retains the same quality as when thawed and is usable as is.
- When storing or carrying AdBlue[®], use the container in which the AdBlue[®] was
 contained when purchased. If not, use a dedicated polyethylene tank (PE) or
 stainless steel container that is free from any adhesion of foreign materials such
 as water or dust.

2-56

IMPORTANT INFORMATION

Refilling AdBlue®

MARNING

- Do not put anything other than AdBlue[®] in the AdBlue[®] tank.
- When refilling AdBlue[®], doing any of the following may cause a fire or malfunction of the urea SCR system.
 - Diluting with water or other liquids
 - Adding gasoline or diesel fuel
- If liquids, etc., other than the specified AdBlue[®] have been accidentally added, the urea SCR system must be inspected. Have the urea SCR system inspected/ serviced at your Isuzu Dealer.

A CAUTION

 AdBlue[®] rarely emits an odor when the tank cap is opened. Do not attempt to smell the tank from the supply inlet.

3

ADVICE

- Remember to add AdBlue[®] early so that the tank is always fully filled with AdBlue[®].
- Do not fill with AdBlue[®] over the "F" line on the level gauge. Doing so may result in leakage of AdBlue[®] from the breather hose during driving. In addition, if AdBlue[®] freezes, sensors may be damaged.
- Do not step or ride on the AdBlue® tank. Doing so may result in damage to the AdBlue® tank, pipe, and sensors.
- The urea SCR system will continue to operate for approximately 3 minutes after the starter switch is set to the "LOCK" position. Wait for 3 minutes or longer when removing the battery or power line connectors for inspection or repair.



NOTE

- The level gauge, mounted in front of the AdBlue® tank, is intended to prevent oversupply and overflow of AdBlue®, not to measure the remaining amount of AdBlue®. Even when the surface level of the AdBlue® reaches the lower end of the level gauge, the AdBlue® amount display on the meter panel still indicates levels 4 or 5. Check the remaining amount of AdBlue® on the AdBlue® amount display, not using the level gauge.
- Operating noises may be heard from the AdBlue[®] tank or supply module after the engine stops. This is the sound of AdBlue[®] returning from the pipe to the AdBlue[®] tank and is normal.

AdBlue® Tank ∨ → Refer to page 3-20

Disposing of AdBlue®

Do not dispose of AdBlue® or its empty containers into lakes, seas, rivers, or other such places.

Dispose of in an appropriate way complying with local legal requirements.

Model with Speed Limit Device V

Characteristics of the Speed Limit Device

The speed limit device restricts excessive speed to prevent a serious accident. The speed limit device sticker is attached to the door of the driver's side.

Market	Set speed
Europe	90 km/h (56 MPH)

CAUTION

- The speed limit device does not control braking, so it is possible for the vehicle to exceed the set speed on downhill slopes.
- If the tire size is changed, the speed limit device may not work normally. Have adjustments made by your Isuzu Dealer.

NOTE

• The speed limit device restricts the vehicle's speed by controlling the fuel injection volume. It prevents the speed from exceeding a certain, predetermined level regardless of the pressure on the accelerator pedal.

Seat Belt with Pretensioner and SRS Airbag System V





If a vehicle that has a seat belt with pretensioner and supplemental restraint system (SRS) airbag system suffers a frontal impact above a certain level, the seat belt with pretensioner and airbag (assuming the vehicle has a passenger airbag in addition to a driver airbag) securely restrain the driver and passenger in their seats and lessen the physical shock to their heads. To prevent the seat belt with pretensioner and airbag themselves from causing life-threatening injuries, be sure to observe the following points:

2-60

IMPORTANT INFORMATION

MARNING

- Before driving, adjust the seat to give you a correct driving position and fasten your seat belt. Do not sit closer than necessary to the steering wheel, and do not lean back further than necessary. If the vehicle has a passenger airbag, the passenger must not put his/her hands or feet on the instrument panel or sit with his/her face or chest close to the instrument panel.
 - When the driver's airbag (and the passenger's airbag, if equipped) deploys, the driver and passenger can suffer burns and other serious injuries on the arms and face.
- No person riding in the vehicle should hold any object on his/her lap or otherwise place any object between him/herself and the airbag. In the event of airbag deployment, the object would represent a hazard because it could be propelled toward the person's face and/or prevent normal airbag operation.
- If you carry a child in the vehicle, be sure to observe the following points.
 Otherwise, the force of airbag deployment could give the child life-threatening injuries.
 - Do not drive the vehicle while letting the child stand in front of the passenger seat airbag or while holding him/her on your lap. The child would be in danger in either of these positions because he/she would be exposed to a powerful physical shock in the event of airbag deployment.
 - Do not use a passenger seat that has a passenger airbag to carry a child who needs a baby seat, child seat, junior seat or other seat designed specifically for children.
- If the vehicle has a passenger airbag, never fit a baby seat, child seat or junior seat facing rearward on a passenger seat. Failure to observe this precaution may result in serious injury to the child, or, in the worst case, death due to the impact during deployment of the passenger SRS airbag as a result of an accident, etc.

Please check the warning label on the passenger's side sun visor.



Seats \rightarrow Refer to page 3-24

 $\textbf{Seat Belts} \qquad \quad \rightarrow \textbf{Refer to page} \quad \textbf{3-31}$

Seat Belt with Pretensioner and SRS Airbag System

→ Refer to page 2-59





MARNING

- Any improper modification of the vehicle or attachment of accessories could prevent the seat belt with pretensioner or airbag from operating normally.
- · Replacing the steering wheel with a steering wheel other than an Isuzuspecified one or affixing a sticker to the steering wheel pad would be dangerous because it could result in defective operation and cause the sticker to be propelled toward you in the event of airbag deployment. Also, do not affix any sticker to the top surface of the instrument panel or place any accessory or air freshener there. Such items could prevent the passenger airbag from functioning normally, and they could be propelled toward a passenger in the event of airbag deployment.

WARNING (Continued)

WARNING (Continued)

- The actions listed below require special measures. Please consult your Isuzu Dealer. Unless the correct measures are taken, the seat belt with pretensioner or airbag could be activated unexpectedly such that the seat belt rewinds or the airbag deploys, causing injuries. Also, the systems could be adversely affected such that they fail to operate.
 - Any repair or replacement in the vicinity of the steering wheel, instrument panel, center console clutch pedal, or brake pedal
 - Repair, replacement or disposal of the seat belt with pretensioner and airbag, or scrapping of a vehicle that has a seat belt with pretensioner and airbag
 - Installation of audio equipment or accessories, or installation of body parts
 - Repairing or painting of panels at the front of the vehicle or panels on the cab

Vehicle Data Collection

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

Isuzu may download and retrieve stored information for the purpose of diagnosing, servicing, or repairing your motor vehicle or improvement to future Isuzu motor vehicles.

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 driving with a heavy load, or after driving on a highway, let the engine idle
for at least 3 minutes to cool it down. This allows the turbocharger to return to
idle speed. Engine oil pressure is available for lubrication at this time and will
prolong the life of the turbocharger bearings.

Statement of Compliance with UN R13 (ECE R13)

Information required by European brake regulation UN R13 (ECE R13) is disclosed on the following website.

URL: http://www.isuzu.co.jp/world/index.html

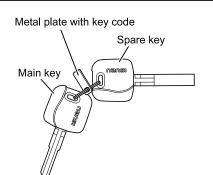
DOORS, WINDOWS AND SEATS

3

• Key	3-2
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3-2 DOORS, WINDOWS AND SEATS

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

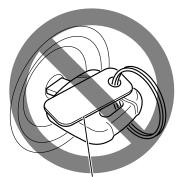
- To prevent theft, store the metal plate with key code in a safe place other than the vehicle.
- Should you lose the key, please give the key code to the nearest Isuzu Dealer.
 The Isuzu Dealer will be able to duplicate your key.
- If you resell the vehicle, be sure to hand over the plate with key code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

Key with Immobilizer Transponder Chip

The key contains an immobilizer transponder chip.

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

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



Metal key ring etc.



- There is a facility nearby that is emitting strong radio waves.
- A metallic object is touching or covering the handle of the key.

MARNING

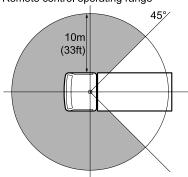
- Do not keep the starter switch in the "START" position for more than about 10 seconds. Operating the starter for too long might cause battery failure or might result in overheating and even a fire.
- Another vehicle's transponder key is near your key.

ADVICE

- Should you lose your transponder key, contact the nearest Isuzu Dealer
- Do not leave the transponder key on the dashboard or any other surface where the key might be exposed to high temperatures (exceeding 60°C /140°F).
- Do not place a magnetic object close to the transponder key.

Keyless Entry System 🔻

Remote control operating range



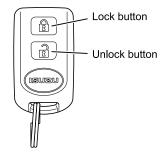
The keyless entry system allows you to lock/unlock the doors by simply pressing the remote control button rather than inserting the key into the lock.

The remote control unit works within a 10 m (33 ft) radius of the cab center as indicated in the figure (the actual distance over which the unit operates may vary depending on conditions).

The rear door of the crew cab vehicle cannot be locked or unlocked via a remote control

Unlocking and Locking the Doors

Remote control unit



Unlocking

Press the door unlock button of the remote control unit for 1 second or longer. The vehicle's keyless entry system causes the right and left turn signal lights to simultaneously flash twice upon receiving the signals from the remote control unit. If the doors are unlocked with the dome light switch in the "DOOR" position, the dome light comes on for about 10 seconds.

Locking

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



ADVICE

- Should you lose the remote control unit, please contact your Isuzu Dealer.
- After locking the doors using the remote control unit, be sure to check that they
 are locked by pulling the door handles.
- Avoid getting water on the remote control unit, dropping it, hitting it against another object, or stepping on it; otherwise, the remote control unit could malfunction.
- Do not leave the remote control unit on the dashboard or any other surface where the unit might be exposed to high temperatures (exceeding 60°C/140°F).
 Doing so may result in shorter battery life or malfunction of the remote control unit.
- Repeatedly locking and unlocking the doors using the remote control unit 10
 or more times in succession will trigger the protection circuit in the system,
 preventing the unit from working. If this happens, wait for a while. The system
 will then work normally.
- If the keyless entry system fails to operate normally, lock and unlock the doors using the key and have the system inspected by your Isuzu Dealer.



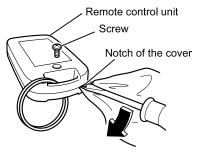
NOTE

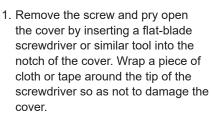
- The lock or unlock buttons on the remote control unit must be fully pressed for more than 1 second to work.
- If you do not open any doors within about 30 seconds after pressing the unlock button to unlock the doors, the automatic locking function of the system will lock the doors again to prevent theft.
- In areas near a TV tower, electric power plant, radio station, etc. or under any
 conditions involving strong electrical disturbances, the remote control unit
 operating range might change or the keyless entry system might not work.
- The keyless entry system does not operate in the following cases:
 - The starter switch is in the "ON" position.
 - The key is inserted in the starter switch.
 - One of the doors is open.

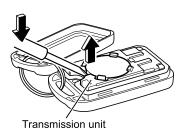
Replacing the Battery in the Remote Control Unit

When the battery runs down, replace it. Battery life is approximately 2 years.

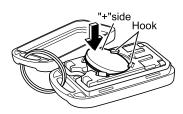
Battery used	Number of battery
Lithium battery Model number: CR2032 Voltage: DC3V	1





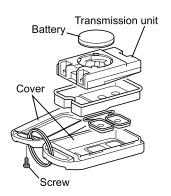


2. Insert a flat-blade screwdriver or similar tool into the recess of the transmission unit to remove the old battery.



Insert the new battery into the hook of the transmission unit with its positive side visible as shown in the diagram on the left and press it in to fit.

DOORS, WINDOWS AND SEATS



 Install the transmission unit and the battery in their original position inside the cover.



ADVICE

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



NOTE

- The warning mark (an exclamation mark in an equilateral triangle) indicated on the surface of or inside the remote control unit is intended to alert the user to the presence of important instructions in the owner's manual or workshop manual.
- Please comply with the collection system available in your country for the disposal of old batteries. In addition, take special care to prevent any danger to children.

This symbol [crossed-out wheeled bin] provided in Directive 2006/66/EC of the European Parliament and of the Council indicates separate collection of waste batteries in the European Union countries.



3-8 DOORS, WINDOWS AND SEATS

MARNING

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

A CAUTION

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

NOTE

- The battery life varies depending on how the remote control unit is used.
- The battery has reached its end of life when the remote control unit works intermittently or does not work at all. Replace the battery as soon as this happens.

Opening and Closing Doors

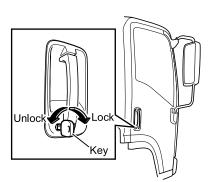


CAUTION

- 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.

DOORS, WINDOWS AND SEATS

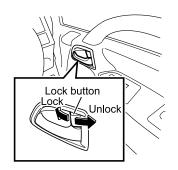
Locking and Unlocking the Front Doors



Locking and Unlocking the Door from Outside Using the Key

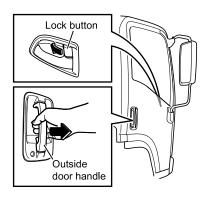
Turn the key toward the front of the vehicle to lock the door and turn it toward the rear of the vehicle to unlock it.

The doors can be opened by pulling the outside door handle.



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

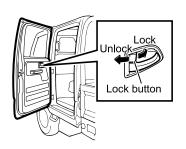
First, push the lock button on the inside door handle forward and then close the door while keeping the outside door handle raised.



NOTE

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

Locking and Unlocking the Rear Doors (Crew Cab Model)



Locking and Unlocking the Door from Inside

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

Locking the Door from Outside

Push the door lock button forward and then close the door: the door will be locked.

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.

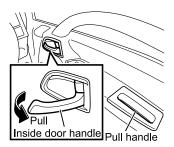
Opening and Closing the Front Doors



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.

To close the door, pull the pull handle.



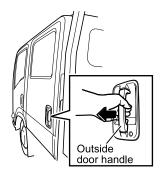
ADVICE

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

3-12

DOORS, WINDOWS AND SEATS

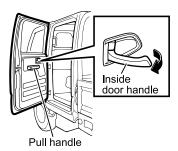
Opening and Closing the Rear Doors (Crew Cab Model)



From Outside the Vehicle

To open the door, pull the outside door handle.

To close the door, push the outside door handle.

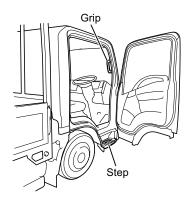


From Inside the Vehicle

To open the door, pull the inside door handle.

To close the door, pull the pull handle.

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.

\triangle

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.

3-14

DOORS, WINDOWS AND SEATS

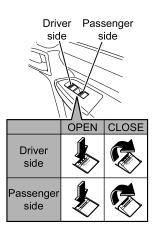
Power Windows V

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.



 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

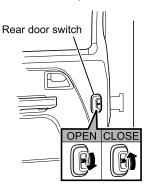
The passenger's window continues to move up while the passenger-side switch on the driver's door is being raised.

Window Switches on Passenger's Door and Rear Doors

Passenger side



Window switch on rear doors (Crew cab model)



(A) C

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.

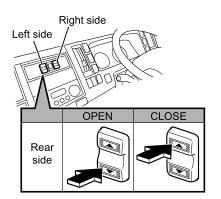


NOTE

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

DOORS, WINDOWS AND SEATS

Window Switches on center of dashboard (Crew Cab model)

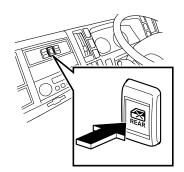


To Open a Rear Window

The window glass will move downward while you are pushing the bottom part of the switch.

To Close a Rear Window

The window glass will move upward while you are pushing the top part of the switch.



UNLOCK	LOCK
REAR	

To Lock Rear Power Windows

If you push the rear power window lock switch, only the driver's window and front passenger's window will be openable. To cancel the rear power window lock, push the switch again.

A CAUTION

 Use the rear power window lock switch to "LOCK" the rear power windows when carrying a child in the vehicle. By doing so, you can prevent the child from operating the rear power windows and causing an accident.

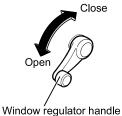
Manually Operated Windows



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.

3-18

DOORS, WINDOWS AND SEATS

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.



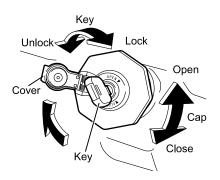
CAUTION

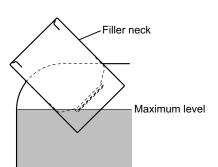
- Always use only an extra-low-sulfur diesel fuel (10 ppm or lower sulfur content).
- The use of a poor-quality diesel fuel, mixing such an additive as water remover to the fuel in the tank, or filling the tank with gasoline, kerosene or an alcohol-based fuel or its mixture with a diesel fuel will badly affect the fuel filter and result in lubrication problems in fuel-lubricated components of the injectors. In addition, this practice can also impair the operation of the engine and the diesel particulate defuser (DPD), the urea selective catalytic reduction (SCR), 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.
- The use of any fuel other than an extra-low-sulfur diesel fuel may violate the relevant regulations enforced in certain countries or regions.
- 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.

MARNING

- 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.

<mark>⊲</mark> 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.

3-20

DOORS, WINDOWS AND SEATS

Identifier for diesel-type fuels label





NOTE

 Fuel that has the same mark as the mark on the identifier for diesel-type fuels label near the fuel tank filler cap can be used.

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179

AdBlue® Tank 🔻



- Do not put anything other than AdBlue® in the AdBlue® tank. Refill the AdBlue® tank with AdBlue® specified by Isuzu.
- Adding liquids, etc., other than AdBlue[®] may result in a malfunction of the urea SCR system.



ADVICE

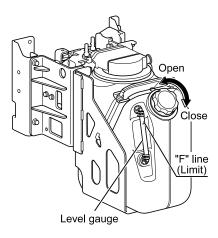
- Remember to add AdBlue[®] early so that the tank is always fully filled with AdBlue[®].
- Make sure that the inside the AdBlue[®] tank is not contaminated by materials such as dirt when opening the AdBlue[®] tank cap. Contaminants such as dirt may clog the AdBlue[®] filter or change the quality of the AdBlue[®], possibly resulting in a malfunction of the urea SCR system.
- Do not fill with AdBlue[®] over the "F" line on the level gauge. Doing so may result in leakage of AdBlue[®] from the breather hose during driving. In addition, if AdBlue[®] freezes, sensors may be damaged.
- AdBlue[®] spilled on the vehicle body or frame, etc., may cause rust. In such cases, wipe it off and wash with water.
- Do not step or ride on the AdBlue® tank. Doing so may result in damage to the AdBlue® tank, pipe, and sensors.
- Do not modify the exhaust pipe or muffler, or change the location of any items including the AdBlue[®] tank. Doing so could affect exhaust emission reduction capabilities. If any modifications or relocation is necessary, consult your nearest Isuzu Dealer.



NOTE

- AdBlue[®] is a clear, colorless, and harmless aqueous solution. It is normal for AdBlue[®] to emit an odor in some circumstances.
- It is normal for white powder deposits to form when AdBlue[®] adheres and dries in such places as the supply inlet. Wipe off to prevent it from entering the AdBlue[®] tank.
- The level gauge, mounted in front of the AdBlue® tank, is intended to prevent oversupply and overflow of AdBlue®, not to measure the remaining amount of AdBlue®. Even when the surface level of the AdBlue® reaches the lower end of the level gauge, the AdBlue® amount display on the meter panel still indicates levels 4 or 5. Check the remaining amount of AdBlue® on the AdBlue® amount display, not using the level gauge.
- Operating noises may be heard from the AdBlue[®] tank or supply module after the engine stops. This is the sound of AdBlue[®] returning from the pipe to the AdBlue[®] tank and is normal.
- It takes time for the AdBlue® amount to be displayed correctly when AdBlue® is added with the engine running or the starter switch in the "ON" position.

3-22 DOORS, WINDOWS AND SEATS



How to Add AdBlue®

- Set the starter switch to the "LOCK" position and stop the engine.
- Slightly loosen the cap of the AdBlue[®] tank and wipe off any dust or dirt adhered to the cap or supply inlet.
- 3. Turn the tank cap slowly to open the tank
- 4. Add AdBlue[®] up to the "F" line while viewing the level gauge mounted in front of the AdBlue[®] tank.
- 5. Turn the tank cap to securely install it to the AdBlue® tank.
- 6. Confirm that the tank cap is securely installed.

AdBlue[®] tank usable capacity [Reference value]

12.9 liters (3.41 US gal./2.84 Imp gal.)

Handling of AdBlue®

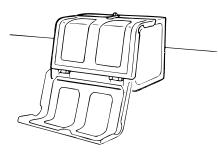
→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue[®] → Refer to page 2-56

Tool Box 🔻



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

A CAUTION

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

Tool Box $\boxed{\lor}$ \rightarrow Refer to page 7-161

3-24

DOORS, WINDOWS AND SEATS

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 can adequately press the pedals.

MARNING

- · 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.

WARNING (Continued)

WARNING (Continued)

- 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.

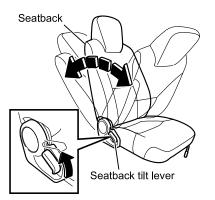
Driver's Seat



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.



Reclining Adjustment

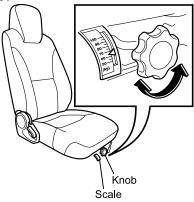
To recline the seatback, raise the seatback tilt lever and gently lean back to the desired position.

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.

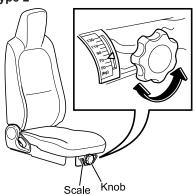
3-26

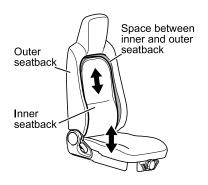
DOORS, WINDOWS AND SEATS





Type 2





Suspension Adjustment V

Before sitting on the seat, use the knob to adjust the suspension to suit your weight. Turn the knob clockwise to move the pointer down the scale and counterclockwise to move it up the scale. The pointer should be alongside your weight on the scale.



ADVICE

 Avoid making any kind of contact with the pointer on the scale. Doing so may result in damage to the pointer, preventing appropriate weight adjustments from being possible.



NOTE

• The range of adjustment is 50 -100 kg (110 - 221 lb) (Type 1) or 50 - 130 kg (110 - 287 lb) (Type 2). If your weight is outside this range, the suspension may not be fully effective. However, you will be able to sit in the correct position for driving.



ADVICE

[For type 2 seats]

 Avoid inserting fingers or objects between the inner and outer seatback, as doing so may prevent the seat suspension from operating properly.

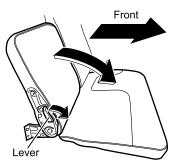
Passenger Seat/Center Seat

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.

Rear Seats V



Do not remove the seat cushion except when taking out or stowing onboard tools.

Tools→ Refer to Page 7-7

CAUTION

 Do not drive with the seat cushion removed. The seat would not be stable, which could lead to an accident.



NOTE

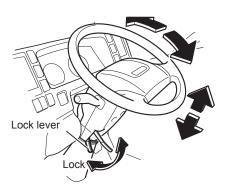
- The rear seat headrests are not adjustable.
- Do not use the rear seats with the headrests removed during driving.

Fully Adjustable Steering

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



- 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.



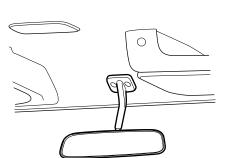
Adjustment

- 1. Lift the lock lever toward you to unlock the steering column.
- 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.
- 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



Adjustment

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

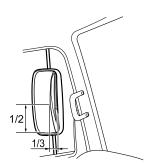
A CAUTION

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

DOORS, WINDOWS AND SEATS

Outside Rearview Mirrors

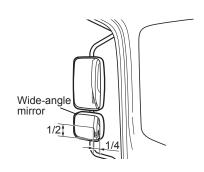
After adjusting your seat to the proper driving position, adjust the mirrors indicated below so that they provide adequate views for checking the rear and the side of the vehicle.



Outside Rearview Mirror

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

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



Wide-angle Mirror V

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

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



- 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.

MARNING

- · 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.

WARNING (Continued)

3-32 DOORS, WINDOWS AND SEATS

WARNING (Continued)

- 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.
- 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.

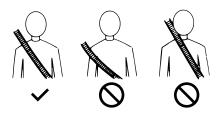
 $\begin{array}{ccc} \text{Seats} & \rightarrow \text{Refer to page} & \text{3-24} \\ \text{Seat Belt Warning Light} \\ \end{array}$

→ Refer to page 4-58

Seat Belt Care → Refer to page 7-168

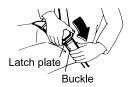
Three-Point Seat Belts

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.





 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.





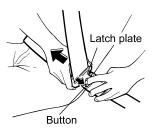
Keep as low on hip bone as possible

To Fasten

- 1. Sit on the seat in the correct driving position.
- 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.

3-34 DOORS, WINDOWS AND SEATS



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.

CAUTION

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



NOTE

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

[ELR function]

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

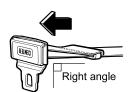
[Load limiter function]

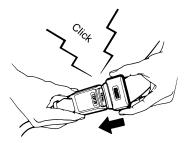
 The load limiter allows the seat belt to extend while maintaining the load working on the belt at a constant level. This helps alleviate the shock applied on the occupant's chest.

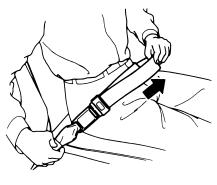
Seat Belt with Pretensioner and SRS Airbag System V

→ Refer to page 4-200

Two-Point Seat Belt (Center Seat)







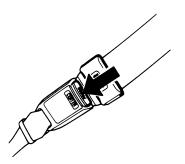


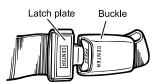
Keep as low on hip bone as possible

To Fasten

- 1. Sit on the seat in the correct position.
- 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.)
- After checking that there are no twists in the belt, insert the latch plate into the buckle until it clicks.

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





To Unfasten

Push the button on the buckle to unfasten the belt.



NOTE

[Center seat belt design to prevent incorrect fastening]

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

CONTROLS AND INSTRUMENTS

4

STARTING AND STOPPING THE ENGINE	4-3
INSTRUMENTS, WARNING LIGHTS AND INDICATOR LIGHTS	4-9
SWITCHES	4-109
DRIVING CONTROLS	4-125

4-3

CONTROLS AND INSTRUMENTS

STARTING AND STOPPING THE ENGINE

Starting the Engine	4-4
Stopping the Engine	4-8

4-4 CONTROLS AND INSTRUMENTS

Starting the Engine

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

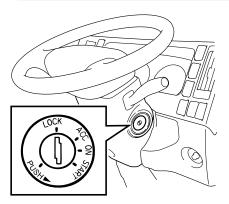
Turn the starter switch to the "ON" position to check that the warning and indicator lights turn on normally and the fuel level is proper.



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





 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 4-110

$\boxed{\mathbb{A}}$

CAUTION

- If your vehicle is equipped with a manual transmission, firmly engage the
 parking brake when you sit in the driver's seat before starting the engine. Also,
 be sure to start the engine while pressing the clutch pedal and after making
 sure that the gearshift lever is in the "N" position.
- If your vehicle is equipped with a Smoother system, firmly engage the parking
 brake when you sit in the driver's seat, check that the gearshift lever is in the
 "N" position and the shift indicator shows "N", and firmly press the brake pedal
 before starting the engine. Also, be sure the following when starting the engine.
 - After making sure the engine has started, place the gearshift lever to the "D" or "R" position from the "N" position. If you operate the gearshift lever when the engine is not running (starter switch is in the "ON" position), the starter motor turns on and off and the parts related to the starter motor such as the gear may be damaged.
- 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 position 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.

4-6 CONTROLS AND INSTRUMENTS

- If your vehicle is equipped with a manual transmission, fully press the clutch pedal.
 If your vehicle is equipped with a Smoother system, make sure that the gearshift lever is in the "N" position and firmly press the brake pedal.
- When the starter switch is turned to the "ON" position, 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, 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 warmup, regardless of the position of the warm-up switch.

A CAUTION

- · Do not leave the vehicle at this time.
- 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.
- If you place the warm-up switch in the "ON" position, the engine can be warmed up faster and the exhaust smoke can be reduced.
- 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 4-61



NOTE

[Preheating]

 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.

4-8

CONTROLS AND INSTRUMENTS

Stopping the Engine



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

(ST

ADVICE

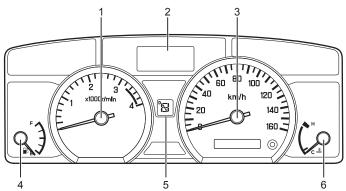
- Do not shut down the engine immediately after driving the vehicle. Otherwise, a seizure or other failures may result. Before stopping the engine, run the engine at idle for approximately 3 minutes to cool it down after applying the parking brake and making sure of the following: The gearshift lever is in the "N" position (a manual transmission equipped model), or the gearshift lever is in the "N" position and the shift indicator shows "N" (a Smoother equipped model).
- 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

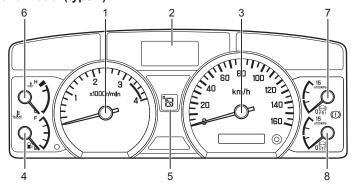
How to Read the Instruments (Instruments Layout)	4-10
Speedometer	4-12
Tachometer	4-15
Air Pressure Gauge FAB	4-16
Engine Coolant Temperature Gauge	4-17
• Fuel Gauge	4-18
Hour Meter V	4-19
Warning and Indicator Lights Layout	4-20
Multi-Information Display (MID) (Type 1)	4-24
Multi-Information Display (MID) (Type 2)	4-44
Warning and Indicator Lights	4-58
Warning Buzzer	4-107

How to Read the Instruments (Instruments Layout)

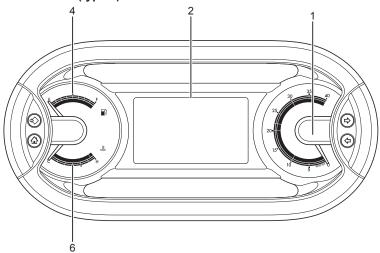
Hydraulic brake model



Full-air brake model (type 1)



Full-air brake model (type 2)

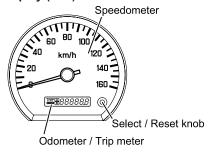


No.	Name	Reference page
1	Tachometer	4-15
2	Multi-Information Display (MID) (Type 1)	4-24
2	V Multi-Information Display (MID) (Type 2)	4-44
3	Speedometer	4-12
4	Fuel gauge	4-18

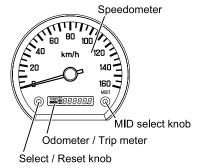
No.	Name	Reference page
5	SA Shift indicator	4-131
6	Engine coolant temperature gauge	4-17
7	FAB Air pressure gauge (primary)	4-16
8	FAB Air pressure gauge (secondary)	4-16

Speedometer

Model without multi-information display (MID)



Model with MID



Type 1

The speedometer indicates the vehicle speed in km/h or MPH. 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.

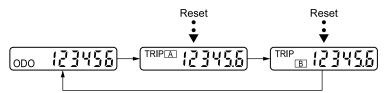
Odometer

The total distance traveled by your vehicle is indicated in km if the speedometer is graduated in kilometer units. The total distance traveled by your vehicle is indicated in miles if the speedometer is graduated in both mile and kilometer units. When 999,999 kilometers (or 999,999 miles) are exceeded, "B" is displayed.

Trip Meter

Use the trip meter to learn the distance between the specific points or the distance traveled during a specific period of time. In the case of a speedometer graduated in kilometers, the value to the right of the decimal point indicates 100-m units, whereas in the case of a speedometer graduated in both miles and kilometers, this value indicates 0.1-mile 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.

CONTROLS AND INSTRUMENTS



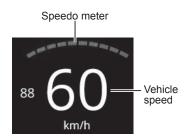
- --- :Select / Reset knob-Press once
- • Eselect / Reset knob-Press and hold (more than 1 second)

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.



4-14 CONTROLS AND INSTRUMENTS





Type 2

The speedometer indicates the vehicle speed in km/h.

Odometer

The total distance traveled by your vehicle is indicated in km.



NOTE

 The maximum value of the odometer is 999,999 km. If the maximum value is exceeded, it is necessary to reset the odometer (resetting cannot be performed by the driver). Please contact the nearest Isuzu Dealer.

Trip Meter

Use the trip meter to learn the distance between the specific points or the distance traveled during a specific period of time.

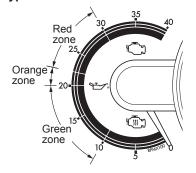
The trip meter can be reset on the adavanced settings screen in the setting screen.

Tachometer

Type 1



Type 2



The tachometer indicates the engine speed in revolutions per minute (r/min). Graduation "1" on the scale indicates 1,000 r/min (type 1) or graduation "5" on the scale indicates 500 r/min (type 2). The red zone indicates the dangerous engine speed range beyond the permissible level. With type 2, the green zone indicates the recommended speed range for driving the vehicle and the orange zone indicates the range between these ranges.

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.

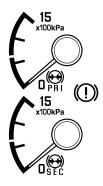
Appropriate Gearshifts

 \rightarrow Refer to page 2-25

Gearshift Lever → Refer to page 4-130

Air Pressure Gauge FAB

Type 1



Type 2



Proper air pressure range			
Type 1	830 - 870 kPa (8.5 - 8.9 kgf/cm²/ 120 - 126 psi)		
Type 2	7.5 - 7.7 Bar (750 - 770 kPa/ 7.5 -7.7 kgf/cm²)		

Air pressure warning light



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

The air pressure warning light comes on, and the warning buzzer sounds when the needle reaches the red zone (type 1) or when the air pressure drops to 6 bar or less (type 2) (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" (model with a manual transmission); place the gearshift lever into "N", firmly press the brake pedal and confirm that the shift indicator shows "N" (model with a Smoother). 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

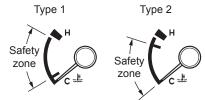
→ Refer to page 7-79



 Do not drive your vehicle if 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

Type 1 Type 2



Engine overheat warning light (Type 1)



Engine overheat warning light (Type 2)



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 or the warning message is indicated 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 7-33 When the Engine Overheats

→ Refer to page 8-25

Fuel Gauge

Type 1



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.

Type 2



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

Model without MID



Low fuel warning light

Model with MID (Type 1)



Model with MID (Type 2)



When your vehicle is running out of fuel, the low fuel warning light comes on (a model without a multi-information display (MID)) or the warning message is displayed (a model with a MID).



ADVICE

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

Low Fuel Warning Light

→ Refer to page 4-82

When the Fuel Runs Out

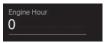
→ Refer to page 8-15

Hour Meter \vee

Type 1



Type 2



Model with Multi-Information Display (MID)

This meter indicates how many hours the engine has been run. This is displayed on the MID.

With type 1, the figure(s) on the left side of the decimal point indicate hours while the figure on the right side indicates 1/10 of an hour. Use the MID select knob to select the hour meter.

With type 2, go to the information screen to select the hour meter.

Multi-Information Display (MID) (Type 1)

→ Refer to page 4-24

Multi-Information Display (MID) (Type 2)

 \vee \rightarrow Refer to page 4-44

When ERROR is Displayed

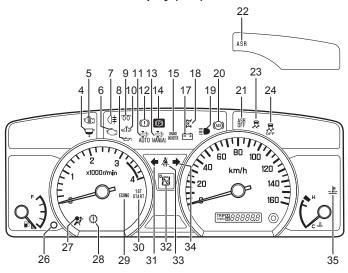
→ Refer to page 4-43

When ERROR is Displayed

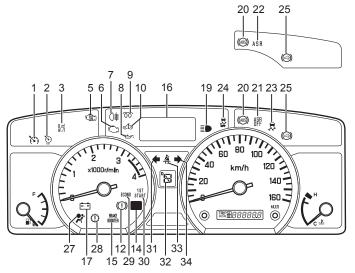
→ Refer to page 4-56

Warning and Indicator Lights Layout

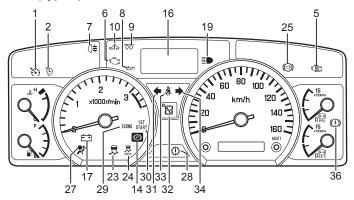
Model without multi-information display (MID)



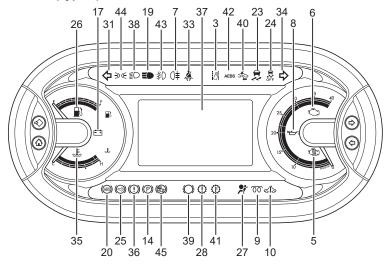
Model with MID (Type 1)



Model with MID (Type 2)



Model with MID (Type 3)



4-22 **CONTROLS AND INSTRUMENTS**

No.	Name	Reference page
1	V Cruise control main indicator light	4-90
2	V Cruise control set indicator light	4-91
3	V LDWS warning light	4-66
4	Water separator (fuel filter) warning light	4-73
5	Warm-up system indicator light	4-89
6	Check engine warning light	4-71
7	Rear fog light indicator light	4-84
8	Engine oil pressure warning light	4-67
9	Glow plug indicator light	4-89
10	SVS indicator light	4-72
11	V DPD automatic regeneration indicator light	4-92
12	HB Brake system warning light	4-60
13	V DPD manual regeneration indicator light	4-92
14	Parking brake warning light	4-84
15	HB Brake booster warning light	4-61
16	V MID (Type 1)	4-24
17	Generator warning light	4-71
18	V PTO indicator light	4-66

No.	Name	Reference
19	High beam indicator light	page 4-83
20	3	
20	V ABS warning light	4-63
21	V ASR OFF indicator light	4-87
22	V ASR indicator light	4-86
23	V ESC warning light	4-64
24	V ESC OFF indicator light	4-88
25	V Exhaust brake indicator light	4-85
26	V Low fuel warning light	4-82
27	SRS airbag warning light	4-59
28	SA Smoother warning light	4-74
29	SA ECONO mode indicator light	4-90
30	SA 1st start mode indicator light	4-90
31	Turn signal and hazard warning indicator light - left	4-83
32	SA Shift indicator	4-131
33	Seat belt warning light	4-59
34	Turn signal and hazard warning indicator light - right	4-83

4-23

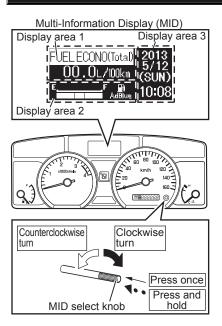
CONTROLS AND INSTRUMENTS

No.	Name	Reference page
35	Engine overheat warning light	4-68
36	FAB Air pressure warning light	4-60
37	✓ MID (Type 2)	4-44
38	V Low beam indicator light	4-84
39	V Brake wear warning light	4-85
40	V AEBS warning light	4-88

No.	Name	Reference page
41	SA V Smoother clutch oil temperature warning light	4-75
42	V AEBS Fault/OFF indicator light	4-89
43	Front fog light indicator light	4-84
44	Lights on indicator light	4-83
45	V HSA indicator light	4-85



Multi-Information Display (MID) (Type 1)



In models without AEBS, the MID in the instrument panel is divided into three display areas to display the following informations.

Display Area 1

- · Warning and indicator lights
- · Operation-related information
- DPD state
- · Maintenance data
- Errors

Display Area 2

- AdBlue[®] level
- Error

Display Area 3

- Warning and indicator lights
- · Calendar and clock

Use the MID select knob to select the desired screen or function.

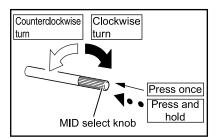
A CAUTION

 Warning or indicator lights indicated in display area 1 of the MID can be temporarily (only 60 seconds) moved to display area 3 by pressing the MID select knob once. However, if the warning light you have cleared is an engine overheat warning or other critical circumstance, never continue driving without taking the necessary actions. Otherwise, you will be in danger of vehicle breakdown or accident. Should any of the critical warning lights comes on, immediately contact the nearest Isuzu Dealer.

Main Routine

The following chart shows you the basic screens of the MID and what operations are necessary to access these screens.

Use the MID select knob to select the desired screen or function.



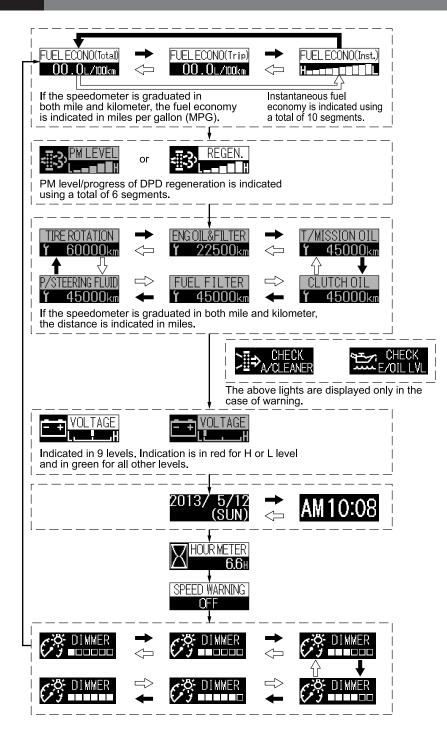
→ :MID select knob-Press once

• • ►:MID select knob-Press and hold

:MID select knob-Clockwise turn

:MID select knob-Counterclockwise turn

4-26 CONTROLS AND INSTRUMENTS



Warning and Indicator Lights Display

Warning and indicator messages are shown on the display to alert you to system failures or to prompt you to necessary checks you should perform while operation-related information is being displayed.

Use the MID select knob to select the desired screen page or function.

Display area 1	Display area 3	Color	Description	Reference page
AUTO REGEN.	= <u>≣</u> 3> AUTO	Green	DPD is being automatically regenerated.	4-217
S CHECKING PM LEVEL	= <mark>∐</mark> 3 CHECK PM LVL	Amber	System is checking if selectable regeneration of DPD is possible.	4-219
∰3> MANUAL REGEN.	≖ <u>I</u> I3> MANU.	Amber	DPD is being manually regenerated.	4-214
PUSH PDPD SWITCH	= <u> </u> 3> DPD SWITCH	Amber	Manual regeneration of DPD is needed.	4-213
AdBlue AdBlue LEVEL LOW	AdBlue	Amber	When the remaining amount of AdBlue® is low.	4-97
FILL UP Adbiue AdBlue	☐Ĵ AdBlue	Amber	When the remaining amount of AdBlue® is low and refilling is necessary.	4-98
3 INCORRECT AdBlue	₹.3>	Red	When quality of AdBlue [®] is abnormal.	4-102
< !:3> AdBlueDOS. MALFUNC.	<13>	Amber	When there is an abnormality with the urea SCR system.	4-105
-3 AdBlue INJ. SYSTEM	< i 3>	Amber	When there is an abnormality with the urea SCR system.	4-104

4-28 CONTROLS AND INSTRUMENTS

Display area 1	Display area 3	Color	Description	Reference page
3 CRITICAL EMISSION FAIL	* <mark>i</mark> 33	Red	When there is an abnormality with the urea SCR system.	4-103
TORQUE REDUCTION	r (i)	Red	When engine torque is restricted.	4-99
SPEED LIMIT	ĸŢ)	Red	When vehicle speed is restricted.	4-100
□ j LOW FUEL		Amber	Fuel level is too low.	4-82
VOLTAGE LLH	LOW *	Red	Battery voltage is too low.	4-31
VOLTAGE	HIGH	Red	Battery voltage is too high.	4-31
WATER SEPARATOR	[]	Red	Water needs to be drained from fuel filter.	4-73
OVER SPEED	OVER SPEED	Red	Vehicle is running at a speed above the preset speed.	4-67
OVER HEAT	.E.	Red	Engine overheated.	4-68
CABTILT	<u>p!</u>	Red	Cab tilt lock is not engaged.	4-82
红 PTO	红	Red	Power take-off (PTO) is in operation.	4-66
CAN	CAN	Red	Error in communication between instrument and connected systems.	4-106

^{*}Depending on vehicle specifications, these lights may not come on.

4-29

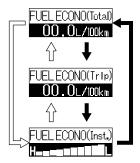
CONTROLS AND INSTRUMENTS

Display area 1	Display area 3	Color	Description	Reference page
E/OIL LYL	*	Amber	Engine oil level is too low.	4-70
> <u>I</u> ⇒a/CLEANER	Ž ≣ ⇒	Amber	Air cleaner needs cleaning soon.	4-70
D LDWS FAILURE	LDWS	Amber	The LDWS system is malfunctioning.	4-96
CLEAN UP CAMERA	Ø CAM	Amber	The lane-recognition camera lens or windshield (inside or outside) is dirty.	4-97
_	\wedge	Green	The warning timing is set to "Fast".	4-182
_	/\	Green	The warning timing is set to "Default".	4-182
_	<u>'</u> /\	Amber	The vehicle drifts towards the left lane (warning timing set to "Fast").	4-184
_	, ,	Amber	The vehicle drifts towards the left lane (warning timing set to "Default").	4-184
_	Λ !	Amber	The vehicle drifts towards the right lane (warning timing set to "Fast").	4-184
_	/ \ <u>'</u>	Amber	The vehicle drifts towards the right lane (warning timing set to "Default").	4-184



Operation-Related Information Display

This function displays vehicle operation related information on such items as fuel economy, battery voltage, calendar and clock, which is useful for efficient management of your vehicle operation.



:MID select knob-Clockwise turn

:MID select knob-Counterclockwise turn

Fuel Economy

The system calculates and stores the distance traveled and fuel consumption while driving to encourage the operator to drive the vehicle economically.

Fuel economy for the "TRIP B" distance is displayed.

Use the MID select knob to select the fuel economy display.

How to Reset the Per Trip Fuel Economy

Per trip fuel economy is also cleared when you reset the "TRIP B" to zero.

Message	Display indication	Color	Display condition
Total fuel economy	FUELECONO(Total) 00.0L/100km	Green	This indicates the average fuel economy over the total distance traveled.
Per trip fuel economy	FUELECONO(Trip) 00.0L/100km	Green	This indicates the fuel economy over a specific distance traveled.
Instantaneous fuel economy FUEL ECONO(Inst.)		Green	This indicates the fuel economy at a given moment while driving.

Voltmeter

The voltmeter shows the current status of the charge of the battery.

Use the MID select knob to select the voltmeter.

If a voltmeter sign appears with red, have the vehicle checked and serviced at the nearest Isuzu Dealer as soon as possible.

Message	Display indication	Color	Display condition
Voltmeter	VOLTAGE L. H	Green	Indicates the current status of the charge of the battery.
	VOLTAGE LEH	Red	This means the battery voltage is too low.
	VOLTAGE L !H	Red	This means the battery voltage is too high.



NOTE

 During or immediately after the engine is started, an abnormal "L" voltage (red letters on a black background) may be indicated on the MID. If the warning disappears after the engine has started, there is no problem with the battery voltage.

4-32

CONTROLS AND INSTRUMENTS

Calendar and Clock

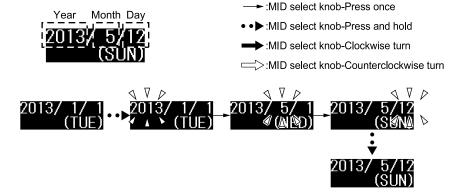
Use the MID select knob to select the calendar or clock to display.



CAUTION

The calendar and clock can be set only while the vehicle is stationary.
 When setting the calendar or clock, park your vehicle in a safe place where stopping or parking is permitted and is well clear of traffic.

[Setting the calendar]

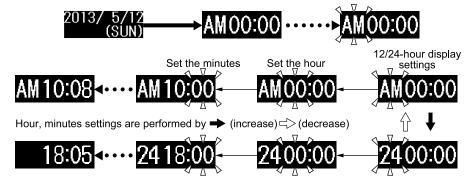


The year, month or day increases as the MID select knob is turned clockwise and decreases as the MID select knob is turned counterclockwise.

- 1. Press the MID select knob once or more to select the calendar.
- 2. Press and hold the MID select knob to enter the clock setting screen. The year segment starts flashing.
- Set the year: Turn the MID select knob clockwise to increase the year and counterclockwise to decrease the year. If you hold the switch after turning it clockwise or counterclockwise, the year continues to increase or decrease until the switch is released.
- 4. Set the month: While in the year setting screen, press the MID select knob once to switch to the month setting screen. The month segment starts flashing.
- Turn the MID select knob clockwise to increase the month and counterclockwise to decrease the month. If you hold the switch after turning it clockwise or counterclockwise, the month continues to increase or decrease until the switch is released.
- 6. Set the day: While in the month setting screen, press the MID select knob once to switch to the day setting mode. The day segment starts flashing.

- 7. Turn the MID select knob clockwise to increase the day and counterclockwise to decrease the day. If you hold the switch after turning it clockwise or counterclockwise, the day continues to increase or decrease until the switch is released.
- 8. To complete the calendar setting, press and hold the MID select knob. When the setting is complete, the normal calendar display will resume.

[Setting the clock]



- 1. Press the MID select knob once or more to select the calendar.
- 2. Turn the MID select knob clockwise to select the clock screen.
- 3. Press and hold the MID select knob to enter the clock setting screen. The "AM/ PM" or "24" will starts flashing.
- 4. Select either a 12-hour or 24-hour display. Switching between them is possible by turning the MID select knob.
 - 12-hour display → AM or PM is displayed
 - 24-hour display → 24 is displayed (the display will go off once clock setting is complete)
- 5. Set the hour: Press the MID select knob once while on the 12/24-hour setting screen to switch to the time setting display. The hour segment starts flashing.
- 6. Turn the MID select knob clockwise to increase the hour, and counterclockwise to decrease the hour. If you hold the switch after turning it clockwise or counterclockwise, the hour continues to increase or decrease until the switch is released.
- 7. Set the minute: While in the hour setting screen, press the MID select knob once to switch to the minute setting screen. The minute segment starts flashing.
- 8. Turn the MID select knob clockwise to increase the minutes and counterclockwise to decrease the minutes. If you hold the switch after turning it clockwise or counterclockwise, the minutes continue to increase or decrease until the switch is released.
- 9. To complete the clock setting, press and hold the MID select knob. When the setting is complete, the normal clock display will resume.

4-34 CONTROLS AND INSTRUMENTS

Dimmer

Select and set the brightness of the multi-information display (MID). Select the brightness from 6 levels by turning the MID select knob clockwise/counterclockwise. After selecting, set the brightness by pressing the MID select knob. The brightness for when the light control switch is in the "O (off)" position, or the "OOC" and "SOC" positions can also be set.

:MID select knob-Clockwise turn
:MID select knob-Counterclockwise turn



Diesel Particulate Defuser (DPD) State

This function displays the amount of particulate matter (PM) accumulated by DPD. During DPD regeneration, the progress of the regeneration is displayed.

Message	Display indication		Display condition
DPD PM accumulation level	FIS PM LEVEL	Green	The current level of PM accumulation in DPD is displayed.
Progress of DPD regeneration	REGEN.	Amber	The progress of DPD regeneration is displayed until it is completed.

When ERROR is Displayed

→ Refer to page 4-43

DPD PM Accumulation Level

The multi-information display (MID) shows the amount of PM accumulated in the DPD, using a total of six segments.

As the amount of PM in the DPD increases, the number of the displayed segments increases one by one from the left side ("L").

Status	Display	Status	Display
PM level 0	≠ <u>≣</u> ⊰y <mark>PM LEVEL</mark>	PM level 3	≠ <u>I</u> S> <mark>PM LEVEL</mark>
PM level 1	₹ IS PMUEVEU	PM level 4	
PM level 2	±≣33 <mark>PM LEVEL</mark>	PM level 5	≠ <u>I</u> I3> <mark>PM LEVEL</mark>

Progress of DPD Regeneration

During DPD regeneration, the MID indicates the progress using a total of six segments. The highest segment flashes.

As regeneration progresses, the number of displayed segments decreases one by one from the right side ("H").

Status	Display	Status	Display
Regeneration progressed to 1st step	REGEN.	Regeneration progressed to 4th step	REGEN.
Regeneration progressed to 2nd step	REGEN.	Regeneration progressed to 5th step	REGEN.
Regeneration progressed to 3rd step	REGEN.	Regeneration complete	REGEN.

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CONTROLS AND INSTRUMENTS

AdBlue® Level Display

The amount of AdBlue® remaining in the tank is indicated with "F" representing Full and "E" representing Empty.

The amount of AdBlue® remaining is indicated in display area 2 on the level of 0 to 5. The amount displayed will decrease along with decreases in the amount of AdBlue®.

AdBlue [®] level	Display area 2	Display area 1	Descriptions	Reference page
level 5	EF P) AdBlue	_	_	_
level 4	EF ∰ AdBlue	_	_	_
level 3	EF Bì AdBlue	_	_	_
level 2	EF ₽ð AdBlue	_	_	_
level 1	EF ₽ð AdBlue	AdBlue AdBlue	When the remaining amount of AdBlue® is low.	4-97
	F Prince AdBlue	FILL UP AdBlue AdBlue	When the remaining amount of AdBlue® is low and refilling is necessary.	4-98
	EF ₽ò — AdBlue	TORQUE REDUCTION	When engine torque is restricted.	4-99
level 0	EF Bà AdBlue	SPEED LIMIT	When vehicle speed is restricted.	4-100

ADVICE

• Engine torque will be restricted if the level of AdBlue® is low. Vehicle speed will also be restricted if there is no AdBlue®.

AdBlue® tank usable capacity [Reference value]

12.9 liters (3.41 US gal./**2.84 lmp gal.**)

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue[®] \rightarrow Refer to page 2-56

Maintenance Data

The maintenance data function indicates the distance remaining before the next scheduled maintenance.

Scheduled maintenance time is approaching when the display turns from green to amber. Have the vehicle checked and serviced at the nearest Isuzu Dealer as soon as possible.



CAUTION

 Your vehicle needs to be maintained more often if it is driven in severe conditions.

Maintenance schedule for severecondition operations

→ Refer to page 7-178



ADVICE

 The displayed distance represents the interval for each maintenance item before or after the expiration of the scheduled maintenance. When the next scheduled maintenance is approaching, the display background color changes from green to amber to alert you.

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Maintenance Message	Display indication	Color	Description	Reference page	
Engine oil and filter	ENGOIL&FILTER Y 22500km	Green	Distance remaining until the next engine oil and filter change is displayed.		
	ENGOIL&FILTER Y -00000km	Amber	This is displayed when the next engine oil and filter change is near or has already been reached.	4-69	
Transmission oil	T/MISSION OIL Y 45000km	Green	Distance remaining until the next transmission oil change is displayed.		
	T/MISSION OIL Y -00000km	Amber	This is displayed when the next change of transmission oil is near or has already been reached.	4-76	
Smoother clutch oil SA	CLUTCH OIL Y 45000km	Green	Distance remaining until the next Smoother clutch oil change is displayed.		
	CLUTCHOIL Y -00000km	Amber	This is displayed when the next change of Smoother clutch oil is near or has already been reached.	4-77	
Fuel filter	FUEL FILTER Y 45000km	Green	Distance remaining until the next fuel filter change is displayed.		
	FUEL FILTER Y -00000km	Amber	This is displayed when the next change of fuel filter is near or has already been reached.	4-78	
Power steering fluid	P/STEERING FLUID Y 45000km	Green	Distance remaining until the next power steering fluid change is displayed.		
	P/STEERING FLUID Y -00000km	Amber	This is displayed when the next change of power steering fluid is near or has already been reached.	4-79	
Tire rotation	TIRE ROTATION 60000km	Green	Distance remaining until the next tire rotation is displayed.	4.60	
	TIRE ROTATION Y -00000km	Amber	This is displayed when the next tire rotation is near or has already been reached.	4-80	



How to Set a New Change Interval (Odometer Reading) for Engine Oil and Filter (Models with Resettable Change Interval Type Display)

- 1. On the MID, go to ENG OIL & FILTER screen.
- 2. Enter the setting change screen by pressing and holding the MID select knob.



NOTE

- If you want to cancel the setting procedure, press the MID select knob once. The display goes back to the screen that was displayed just before entering the setting change screen.
- Pressing and holding the MID select knob resets the change interval (distance).



How to Set a New Change Interval (Odometer Reading) for Engine Oil and Filter (Models with Adjustable Change Interval Type Display)

- 1. On the MID, go to ENG OIL & FILTER screen.
- 2. Enter the setting change screen by pressing and holding the MID select knob.

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CONTROLS AND INSTRUMENTS



CLUTCHOIL Y 45000km

FUEL FILTER

45000km

P/STEERING FLUID

Y 45000km

NOTE

- If you want to cancel the setting procedure, press the MID select knob once. The display goes back to the screen that was displayed just before entering the setting change screen.
- 3. Set the change interval (distance) by turning the MID select knob.
 - Turn clockwise → Increase distance
 - Turn counterclockwise → Decrease distance
- 4. Complete the setting by pressing and holding the MID select knob.

How to Set a New Change Time (Odometer Reading) for Transmission Oil, Smoother Clutch Oil (Smoother Equipped Model), Fuel Filter and Power Steering Fluid

- On the MID, go to the screen for the maintenance item for which you want to adjust.
- Enter the setting change screen by pressing and holding the MID select knob.

NOTE

- If you want to cancel the setting procedure, press the MID select knob once. The display goes back to the screen that was displayed just before entering the setting change screen.
- Pressing and holding the MID select knob sets the new change interval (distance).



Setting the Tire Rotation Time (Odometer Reading)

- 1. On the MID, go to the TIRE ROTATION screen.
- 2. Enter the setting change screen by pressing and holding the MID select knob.



NOTE

- Your vehicle has been shipped from the factory with no tire rotation interval set. Therefore, the initial indication on the TIRE ROTATION screen is "OFF" instead of a distance.
- If you want to cancel the setting procedure, press the MID select knob once. The display goes back to the screen that was displayed just before entering the setting change screen.
- 3. Set the tire rotation interval by turning the MID select knob.
 - Turn clockwise → Increase distance
 - Turn counterclockwise → Decrease distance
 - The distance increases or decreases by 5,000 km increments.
- 4. Complete the setting by pressing and holding the MID select knob.

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CONTROLS AND INSTRUMENTS

Hour Meter



Hour Meter \bigvee \rightarrow Refer to page 4-19

Over Speed



- 1. On the multi-information display (MID), go to the SPEED WARNING screen.
- Enter the speed warning setting screen by pressing and holding the MID select knob.



NOTE

- Your vehicle has been shipped from the factory with no warning speed set. Therefore, the initial indication on the SPEED WARNING screen is "OFF".
- 3. Turn the MID select knob and set the warning speed.

0 1 1: 1	0.1
Speed display	Set speed range
km/h	40 to 120 km/h, 10 km/h increments
MPH	30 to 80 MPH, 10 MPH increments

4. Complete the setting by pressing and holding the MID select knob.

When ERROR is Displayed

If the system has not yet been able to access maintenance data, "ERROR" is shown on the multi-information display (MID).

If "ERROR" does not change automatically to a distance or other maintenance indication, have your vehicle inspected/serviced at the nearest Isuzu Dealer.

Per trip fuel economy

Instantaneous fuel economy

Total fuel economy

Progress of DPD regeneration









DPD PM accumulation level

Hour meter

Engine oil and filter







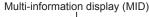


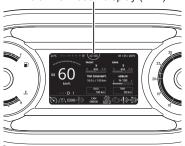
Fuel filter

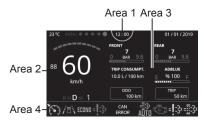




Multi-Information Display (MID) (Type 2)







The MID in the instrument panel can display the following information.

Display area 1

- Calendar
- Clock
- Outside temperature
- Menu

Display area 2

- · Vehicle speed gauge
- · Vehicle speed
- · Cruise control set speed
- · Shift indicator

Display area 3

- · Warning-related information
- · Operation-related information
- Odometer
- · Trip meter
- Fuel consumption
- Voltmeter
- · Brake air pressure
- Diesel particulate defuser (DPD) state
- AdBlue[®] level
- · Maintenance data
- Vehicle identification number (VIN)
- Hour meter

Display area 4

· Warning and indicator light

Full screen display

- Warning-related information
- Operation-related information
- · Setting screen

Use the HOME button, RIGHT button and LEFT button to select the desired screen or function.

Main Routine

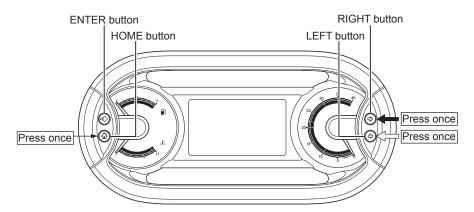
The following chart shows you the basic screens of the MID and what operations are necessary to access these screens.

Press the HOME button, RIGHT button and LEFT button to select the desired screen or function.

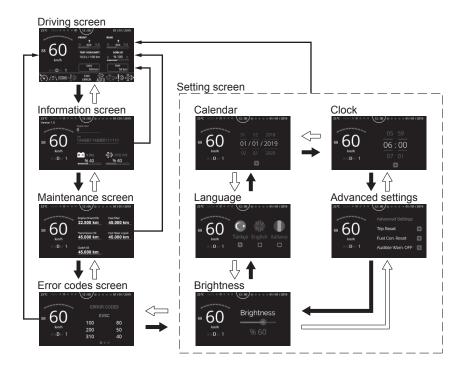
→: HOME button-Press once

: RIGHT button-Press once

: LEFT button-Press once



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Warning and Indicator Lights Display

Warning and indicator messages are shown on the display to alert you to system failures or to prompt you to necessary checks you should perform while operation-related information is being displayed.

Use the MID select knob to select the desired screen page or function.

Display indication	Color	Description	Reference page
(3)	Green	When the cruise control is functioning.	4-90
SET	Green	When the cruise control is functioning at the set speed.	4-91
/∄`\	Green	The LDWS system is functioning.	4-181
8	Amber	The vehicle drifts towards the left lane.	4-181
	Amber	The vehicle drifts towards the right lane.	4-181
ECONO	Green	When in ECONO mode.	4-90
1ST START	Green	When in 1st start mode.	4-90
AdBlue	Amber	When the remaining amount of AdBlue [®] is low.	4-97
AdBlue	Red	When the remaining amount of AdBlue® is low and refilling is necessary.	4-98
	Green	When shifting the gear up or down.	4-106
MAINTANENCE TIME!		When the maintenance period has come.	4-81

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Display indication	Color	Description	Reference page
TORQUE LIMIT	Red/—	When engine torque is restricted.	4-99
SPEED LIMIT	Red/—	When vehicle speed is restricted.	4-100
TORQ. + SPEED LIMIT	_	When engine torque and vehicle speed are restricted.	4-101
REGEN ACTIVE	Green/—	DPD is being automatically regenerated.	4-95
PM LEVEL CONTROL	Amber/—	System is checking if selectable regeneration of DPD is possible.	4-95
REGEN MANUAL ACTIVE	Amber/—	DPD is being manually regenerated.	4-95
PUSH DPD BUTTON	Amber/—	Manual regeneration of DPD is needed.	4-95
₩	Red	Water needs to be drained from fuel filter.	4-73
CAN ERROR	_	Error in communication between instrument and connected systems.	4-106
< ! ?>	Red	When quality of AdBlue [®] is abnormal.	4-102
< ! ॐ	Amber	When there is an abnormality with the urea SCR system.	4-103 4-104
₹ [3>	Red	When there is an abnormality with the urea SCR system.	4-105
* \	Amber	When the outside temperature is low and the road surface may be frozen.	4-106

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CONTROLS AND INSTRUMENTS

Display indication	Color	Description	Reference page
≱	Amber	Air cleaner needs cleaning soon.	4-70



Operation-Related Information Display

This function displays vehicle operation related information on such items as fuel consumption, battery voltage, calendar and clock, which is useful for efficient management of your vehicle operation.

Fuel Consumption

The system calculates and stores the distance traveled and fuel consumption while driving to encourage the operator to drive the vehicle economically.

To select the fuel consumption screen, go to the driving screen. Every time the ENTER button is pressed, the screen is switched from the total fuel consumption to the per trip consumption or vice versa.

How to Reset the Per Trip Fuel Consumption

Per trip fuel consumption is resettable on the advanced settings screen in the setting screen

In addition, per trip fuel consumption is cleared when the distance value on the trip meter is reset to zero.

Message	Display indication	Display condition
Total fuel consumption	TOT. CONSUMPT. 10.0 L / 100 km	This indicates the average fuel consumption over the total distance traveled.
Per trip fuel consumption	TRIP CONSUMPT. 10.0 L / 100 km	This indicates the fuel consumption over a specific distance traveled.



Voltmeter

The voltmeter displays the current status of the battery charge from 0% to 100%.

To select the voltmeter, go to the information screen.

Calendar and Clock

[Setting the calendar]



- 1. To select the calendar setting, go to the setting screen pressing the ENTER button.
- 2. The setting of the day/month/year can be changed pressing the RIGHT button and LEFT button. The changed values are indicated by red underlines.
- When the settings are completed, press the HOME button. To apply the settings, select the check box using the RIGHT or LEFT button, and then press the ENTER button.

[Setting the clock]



- 1. To select the clock setting, go to the setting screen pressing the ENTER button.
- 2. The setting of the hour/minute can be changed pressing the RIGHT button and LEFT button. The changed values are indicated by red underlines.
- 3. When the settings are completed, press the HOME button. To apply the settings, select the check box using the RIGHT or LEFT button, and then press the ENTER button.

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Dimmer

To adjust the brightness of the MID, go to the setting screen pressing the ENTER button

The brightness can be adjusted pressing the RIGHT button and LEFT button. Press the HOME button to change the brightness to the adjusted one. The brightness for when the light control switch is in the "O (off)" position, or the "OO_" and the "DO positions can also be set.

Diesel Particulate Defuser (DPD) State



This function displays the amount of particulate matter (PM) accumulated by the DPD from 0% to 100% on the information screen.

AdBlue[®] Level Display



The amount of AdBlue® remaining in the tank is indicated with "F" representing Full and "E" representing Empty.

This function displays the amount of AdBlue® remaining in the tank from 0% to 100% on the driving screen.

The amount displayed will decrease along with decreases in the amount of AdBlue®.



ADVICE

• Engine torque will be restricted if the level of AdBlue[®] is low. Vehicle speed will also be restricted if there is no AdBlue[®].

AdBlue® tank usable capacity [Reference value]

12.9 liters (3.41 US gal./2.84 Imp gal.)

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue[®] → Refer to page 2-56

AdBlue[®] Tank $\boxed{\lor}$ \rightarrow Refer to page 3-20

Maintenance Data



The maintenance data function indicates the distance remaining before the next scheduled maintenance on the maintenance screen.

The maintenance time indicator light is shown on the display when the interval until the next maintenance for any of the items is less than 2,000 km.

How to Reset the Maintenance Interval

- To reset the maintenance interval, go to the maintenance screen. Select the maintenance item you want to reset by pressing the RIGHT button and LEFT button.
- Press the ENTER button.
 "Maintenance Done!" message will be displayed, and the displayed distance will be reset.



 Your vehicle needs to be maintained more often if it is driven in severe conditions.

Maintenance schedule for severecondition operations

→ Refer to page 7-178



 The displayed distance represents the interval for each maintenance item before or after the expiration of the scheduled maintenance.

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CONTROLS AND INSTRUMENTS

Maintenance Message	Display indication	Description
Engine oil and filter	Engine Oil and Filt. 22.500 km	Distance remaining until the next engine oil and filter change is displayed.
Transmission oil	Transmission Oil 45.000 km	Distance remaining until the next transmission oil change is displayed.
Smoother clutch oil SA	Clutch Oil 45.000 km	Distance remaining until the next Smoother clutch oil change is displayed.
Fuel filter	Fuel Filter 45.000 km	Distance remaining until the next fuel filter change is displayed.
Power steering fluid	Hyd Steer Liquid 45.000 km	Distance remaining until the next power steering fluid change is displayed.

Hour Meter



Hour Meter ∨ → Refer to page 4-19

Cruise Control Set Speed



When the cruise control set switch is pressed after the cruise control is activated, the set speed is displayed on the screen.

Shift Indicator

Model with Smoother SA

→ Refer to page 4-131

Language



To select a language, go to the setting screen pressing the ENTER button.

Turkish, English, and Italian can be selected pressing the RIGHT button and LEFT button.

When the setting is complete, press the ENTER button. Then, press the HOME button to display the screen in the selected language, and return to the driving screen. (Before activating the language setting screen, the language with the gray check box is the currently selected language.)

When ERROR is Displayed



To check the error code relating to the vehicle, go to the error code screen. To switch between the error code display of each item (EVSC, VAT, AEBS), press the ENTER button and then the RIGHT or LEFT button. If any error is displayed, have your vehicle inspected/serviced at the nearest Isuzu Dealer.

Display indication	Display condition
ERROR CODES EVSC	It indicates that an error has occurred in the brake system.
ERROR CODES VAT	It indicates that an error has occurred in the LDWS.
ERROR CODES AEBS	It indicates that an error has occurred in the AEBS.

Advanced Settings



To change other settings, go to the advanced settings screen in the setting screen pressing the ENTER button. The settings can be changed by selecting the item you want to set, pressing the RIGHT button and LEFT button. When the setting is complete, press the ENTER button.

Display indication	Display condition
Trip Reset	Reset the mileage per trip on the driving screen.
Fuel Con. Reset	Reset the per trip fuel consumption on the driving screen.
Audible Warn. OFF	Turn ON/OFF the driver's seat belt warning buzzer.

Vehicle Identification Number (VIN)



Display the VIN on the information screen.

Vehicle Identification Number (VIN) and Engine Number

> → Refer to page 1-2

Warning and Indicator Lights

Seat Belt Warning Light



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

When the vehicle speed exceeds approximately 20 km/h (12 MPH), this warning light flashes. At this time, the warning buzzer sounds for approximately 90 seconds.



NOTE

- The warning light will go out and the buzzer will stop sounding as soon as the driver has buckled the seat belt
- The front seat belt warning operates when a passenger is in the passenger seat. However, when there is luggage on the passenger seat, the warning may operate even if there is no passenger.

SRS Airbag Warning Light V



The SRS airbag warning light should flash seven times when the starter switch is turned to the "ON" position, and then should go out.

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

CAUTION

• If an error occurs, have your vehicle inspected/serviced at your Isuzu Dealer as soon as possible.

[Error]

- If the warning light does not flash seven times when the starter switch is turned to the "ON" position.
- If the warning light does not go
- If the warning light comes on while driving the vehicle.

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 approximately 3 seconds.

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.)
- Abnormality in the anti-lock brake system (ABS), boost assist function, or electronic braking force distribution (EBD).



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 4-16

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.).
- 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.)

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

- · 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 on a manual transmission vehicle is pulled up.

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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 4-119

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) or the electronic brake force limitation (EBL). In this case, the ABS stops working but the brakes still function as ordinary service brakes.

For full-air brake models with the AEBS, this warning light comes on when the ABS operates to apply the brake.

A 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 warnig 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 4-160

ESC Warning Light V



When the starter switch is turned to the "ON" position, the ESC warning light turns on before going out after approximately 3 seconds. This warning light comes on whenever there is a problem in the electronic stability control (ESC) or when the vacuum pressure decreases. When the ESC is operating, the ESC warning light flashes.

For full-air brake models with the AEBS, the ESC warning light comes on when the starter switch is turned to the "ON" position, and remains on until the vehicle speed reaches 7 km/h (4 MPH) and the ESC system completes system checks.

The ESC warning light will also flash when only the anti-slip regulator (ASR) function is operating inside the ESC system.

When the ESC warning light does any of the following, the ESC may be faulty. Please contact the nearest Isuzu Dealer.

- When the ESC warning light remains on while driving.
- The ESC warning light does not turn on when the starter switch is turned to the "ON" position.



NOTE

- When the ESC warning light is on, the ESC/ASR will not operate, but this has no effect on normal driving.
- The ESC warning light may turn on when vacuum pressure decreases. In this
 case, there is no problem as long as the ESC warning light goes out quickly
 or after the engine has been restarted. If the warning light does not go out or
 comes on repeatedly, have the vehicle inspected/serviced at the nearest Isuzu
 Dealer as soon as possible.
- The ESC warning light may turn on when the battery cables are disconnected
 or the battery voltage is low. The ESC function turns off while the ESC warning
 light is on, but the ESC warning light will turn off by driving the vehicle normally
 for a while, then the ESC function will resume. If the ESC warning light remains
 on even after driving for a while, contact the nearest Isuzu Dealer.

Electronic Stability Control (ESC)

→ Refer to page 4-170



LDWS Warning Light V



It is normal for the light to come on and then turn off approximately 3 seconds after the starter switch is turned to the "ON" position.

The light will also come on when the LDWS is turned off or when there is an LDWS malfunction.

If the light does not turn off, stays illuminated even though the LDWS has not been turned off, or does not illuminate when the starter switch is turned to the "ON" position, contact your nearest Isuzu Dealer.



NOTE

· After the engine stops due to engine stalling, it is not abnormal if the LDWS warning light comes on momentarily when the engine is restarted.

> Lane Departure Warning System (LDWS) → Refer to page 4-177 V

PTO Indicator Light V

Model without MID



This indicator light comes on (models without MID) or the message appears on the display (models with MID) when the PTO switch is pressed.

Power Take-Off (PTO) V

→ Refer to page 4-193

Model with MID (Type 1)



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.

If your vehicle is not equipped with multiinformation display (MID), 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 \rightarrow Refer to page 7-24



NOTE

• If your vehicle is equipped with MID, the check engine oil level warning light appears on the display when the engine oil level is too low.

Check Engine Oil Level Warning Light

∨ → Refer to page 4-70

Over Speed Warning Light 🔻



The display will show this warning light when the vehicle speed approaches the speed that was set on the SPEED WARNING screen of the MID.

Engine Overheat Warning Light

Type 1



Type 2



This warning light comes on (type 1) or appears on the display (type 2) 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 (type 1) or the message appears on the display (type 2), and at the same time a buzzer sounds. Immediately pull off to a safe place, and check the vehicle and take necessary actions.

MARNING

 Do not remove the radiator cap or reserve tank cap when the engine coolant is still hot. Careless removal could result in burns caused by hot vapor being released. Burns may also be caused by boiling water released due to the high temperature of the coolant. Perform inspection, refilling, and replacement of coolant only when its temperature has cooled.

Adding the Engine Coolant

→ Refer to page 7-38

A CAUTION

 If you continue to drive the vehicle with the engine overheat warning light on steady (type 1) or the message appearing on the display (type 2), 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 8-25

Engine Oil and Filter Indicator Light V



(Comes on in amber when the next maintenance interval is near or has already been reached.) This message appears on the display when the engine oil and filter maintenance screen is selected or when the next engine oil and filter change interval is near or has already been reached. The distance shown is the remaining distance to the change interval or the distance traveled without replacement after that time.

When the maintenance interval is near or has already been reached, this message appears after the starter switch is turned to the "ON" position. The message remains on the display until the MID select knob is pressed once or the vehicle is started.

When the engine oil and filter indicator light (amber) has come on, have the vehicle inspected/serviced at your Isuzu Dealer.

Multi-Information Display (MID) (Type 1)

→ Refer to page 4-24

When ERROR is Displayed

→ Refer to page 4-43

Engine Oil \rightarrow Refer to page 7-24

Changing the Engine Oil and Oil Filter

→ Refer to page 7-28

Check Engine Oil Level Warning Light V



This warning light appears on the display when the engine oil level is too low.



NOTE

- For the 4HK1 engine model, check to see if the check engine oil level warning light will appear approximately 8 seconds later than the starter switch is turned to the "ON" position.
- When the check engine oil level warning light is indicated on the display, check the engine oil level using the oil dipstick.

[Checking the engine oil level]

- Check the engine oil level before starting the engine with the vehicle parked on a level surface.
- When the engine has been running, wait for at least 30 minutes after stopping the engine and then check the oil level.

Multi-Information Display (MID) (Type 1)

V → Refer to page 4-24

Engine Oil → Refer to page 7-24

Changing the Engine Oil and Oil Filter

→ Refer to page 7-28

Air Cleaner Indicator Light V

Type 1



Type 2



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

Cleaning the Air Cleaner Element

→ Refer to page 7-60

Replacing the Air Cleaner Element

→ Refer to page 7-58

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 \rightarrow Refer to page 7-52 Handling the Battery

→ Refer to page 7-150

When the Battery Goes Flat

→ Refer to page 8-13

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.

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.

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CONTROLS AND INSTRUMENTS

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.

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

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

Water Separator (Fuel Filter) Warning Light

Type 1



Type 2



This warning light comes on or the message appears on the display 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.

A CAUTION

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

Draining Water from the Fuel Filter

→ Refer to page 7-67

Bleeding the Fuel System

→ Refer to page 8-16

Smoother Warning Light SA



This warning light should remain on for approximately 2 seconds after the starter switch is turned to the "ON" position, and then should go out.

This warning light should flash when the Smoother emergency switch is placed in the "ON" position, and should go out when the switch is placed in the "OFF" position. If this warning light comes back on after turning off, or if it comes on while driving, the Smoother system is not functioning properly. Promptly have your vehicle inspected at the nearest Isuzu Dealer.

$\overline{\mathbb{A}}$

CAUTION

- If this Smoother warning light comes on, the following conditions may occur.
 Also, vehicle movement during regular operation may become abnormal, such as difficulty during speed adjustments at very low speeds, or the inability to pull up to loading platforms correctly. In such cases, operate the vehicle while paying close attention to your surroundings and promptly have it inspected at the nearest Isuzu Dealer.
 - Creeping does not occur
 - Shifting up or down cannot be performed
 - The timing for the clutch is faster or slower than usual

ADVICE

If this warning light flashes while driving, the Smoother oil is abnormally hot.
 Pull off to a safe place well clear of traffic as soon as possible. Do not start driving again until the warning light goes out.

Smoother Warning Light and Warning Buzzer Operation

→ Refer to page 4-143

Smoother Clutch Oil Temperature Warning Light SA V



This warning light will come on when the Smoother clutch oil temperature becomes high. At the same time, the buzzer sounds. In addition, the Smoother warning light will flash when the Smoother clutch oil temperature becomes abnormally high. In these cases, stop the vehicle in a safe location, and place the shift lever into the "N" position to cool down the engine until the Smoother clutch oil temperature warning light goes out.

Smoother Warning Light and Warning Buzzer Operation



Transmission Oil Indicator Light V



(Comes on in amber when the next maintenance interval is near or has already been reached.)

This message appears on the display when the transmission oil maintenance screen is selected or when the next maintenance interval for the transmission oil is near or has already been reached. The distance shown is the remaining distance to the oil change interval or the distance the vehicle traveled after passing the maintenance interval.

When the maintenance is near or has already been reached, this message appears after the starter switch is turned to the "ON" position. The message remains on the display until the MID select knob is pressed once or the vehicle is started. When the transmission oil indicator light (amber) has come on, have the vehicle

inspected/serviced at your Isuzu Dealer. Multi-Information Display (MID) (Type 1) V

Smoother Clutch Oil Indicator Light SA



(Comes on in amber when the next change interval is near or has already been reached.)

This message appears on the display when the Smoother clutch oil maintenance screen is selected or when the next Smoother clutch oil change interval is near or has already been reached. The distance shown is the remaining distance to the oil change time or the distance the vehicle traveled after passing the maintenance interval.

When the maintenance interval is near or has already been reached, this message appears after the starter switch is turned to the "ON" position. The message remains on the display until the MID select knob is pressed once or the vehicle is started.

When the Smoother clutch oil indicator light (amber) appears on the display, have the vehicle inspected/serviced at your Isuzu Dealer.

Multi-Information Display (MID) (Type 1)



Fuel Filter Indicator Light V



(Comes on in amber when the next change interval is near or has already been reached.)

This message appears on the display when the fuel filter maintenance screen is selected or when the next fuel filter change interval is near or has already been reached. The distance shown is the remaining distance to the filter change time or the distance the vehicle traveled after passing the maintenance interval.

When the maintenance interval is near or has already been reached, this message appears after the starter switch is turned to the "ON" position. The message remains on the display until the MID select knob is pressed once or the vehicle is started.

When the fuel filter indicator light (amber) has come on, have the vehicle inspected/ serviced at your Isuzu Dealer.

Multi-Information Display (MID) (Type 1) → Refer to page 4-24

When ERROR is Displayed

Power Steering Fluid Indicator Light V



(Comes on in amber when the next change interval is near or has already been reached.)

This message appears on the display when the power steering fluid maintenance screen is selected or when the next fluid change time interval is near or has already been reached. The distance shown is the remaining distance to the fluid change time or the distance the vehicle traveled after passing the maintenance interval.

When the maintenance interval is near or has already been reached, this message appears after the starter switch is turned to the "ON" position. The message remains on the display until the MID select knob is pressed once or the vehicle is started.

When the power steering fluid indicator light (amber) is displayed, have the vehicle inspected/serviced at your Isuzu Dealer.

Multi-Information Display (MID) (Type 1)

→ Refer to page 4-24



Tire Rotation Indicator Light V



(Comes on when the next tire rotation interval is near or has already been reached.)

This message appears on the display when the tire rotation maintenance screen is selected or when the next tire rotation interval is near or has already been reached. The distance shown is the remaining distance to the next tire rotation time or the distance the vehicle traveled after passing the maintenance interval. When the maintenance interval is near or has already been reached, this message appears after the starter switch is turned to the "ON" position. The message remains on the display until the MID select knob is pressed once or the vehicle is started. If the tire rotation indicator light (amber) has come on, rotate the tires.

Multi-Information Display (MID) (Type 1)

V

 $\rightarrow \text{Refer to page} \quad \text{4-24}$

Tire Rotation

Maintenance Time Indicator Light $\overline{}$



This warning light is shown on the display when the interval until the next maintenance for any of the following items is less than 2,000 km.

- · Engine oil and filter
- · Transmission oil
- · Smoother clutch oil
- Fuel filter
- · Power steering fluid

When the maintenance time indicator light has come on, have the vehicle inspected/ serviced at your Isuzu Dealer.

Multi-Information Display (MID) (Type 2)

V

→ Refer to page 4-44

Engine Oil

→ Refer to page 7-24

Changing the Engine Oil and Oil Filter

 \rightarrow Refer to page 7-28

Low Fuel Warning Light

Model without MID



Low fuel warning light

Type 1



Type 2



When the fuel level in the tank becomes low while the engine is running, this warning light comes on (models with/without multi-information display (MID) (VIN type 2 models with AEBS)), or a message appears on the display (models with MID (except VIN type 2 models with AEBS)).

ADVICE

- If the low fuel warning light comes on (models with/without MID (VIN type 2 models with AEBS)) or a message appears on the display (models with MID (except VIN type 2 models with AEBS)), 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 4-18

When the Fuel Runs Out

→ Refer to page 8-15

Cab Tilt Warning Light 🔽

Model with MID



The message appears on the display and at the same time a buzzer sounds when the starter switch is turned to the "ON" position and if the cab is not fully locked.



ADVICE

 If you continue driving with the message is displayed, the cab may tilt from vibration. This is extremely dangerous. Ensure that the cab is securely locked.

Tilting the Cab V

Turn Signal and Hazard Warning Indicator Light

Type 1





Type 2





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 4-116



ADVICE

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

Lights On Indicator Light V



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

It comes on if the driver-side door is opened with the parking lights on and the starter switch in the "ACC" or "LOCK" position.

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

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CONTROLS AND INSTRUMENTS

Low Beam Indicator Light $\overline{\ }$



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

Light Control Switch

→ Refer to page 4-114

Front Fog Light Indicator Light V



This indicator light stays on while the front fog lights are on.

Front Fog Light Switch

→ Refer to page 4-117

Rear Fog Light Indicator Light



This indicator light stays on while the rear fog lights are on.

Rear Fog Light Switch

→ Refer to page 4-118

Parking Brake Warning Light



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

A 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 V



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 V

→ Refer to page 4-119

HSA Indicator Light V



(Green)

When vehicle needs support on grade, driver should activate HSA with switch. When HSA is active and the driver takes his foot off the brake, HSA indicator light comes on for approximately 3 seconds and then goes out.

Hill Start Aid (HSA)

→ Refer to page 4-150

Brake Wear Warning Light V



This warning light comes on when the brake pad is worn out.

This warning light comes on when the starter switch is turned to the "ON" position and goes out.



 If this warning light comes on, have your vehicle inspected at the nearest Isuzu Dealer.

ASR Indicator Light V

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)

ASR OFF Indicator Light V



When the starter switch is turned to the "ON" position, the ASR OFF indicator light turns on before going out after approximately 3 seconds. The ASR OFF function is normal if the indicator light goes out. For models with the ESC OFF switch, when you wish to cancel the ASR OFF after the engine is started, press the ESC OFF switch for approximately 1 second, and the ASR OFF indicator light in the meter will turn on

When the ASR OFF indicator light does any of the following, the ASR OFF function may be faulty. Please contact the nearest Isuzu Dealer.

- For models with the ESC OFF switch, when the ASR OFF indicator light comes on during driving (when the ESC OFF switch is not operated).
- The ASR OFF indicator light does not turn on when the starter switch is turned to the "ON" position.

Electronic Stability Control (ESC)

→ Refer to page 4-170



ESC OFF Indicator Light V



When the starter switch is turned to the "ON" position, the ESC OFF indicator light turns on before going out after approximately 3 seconds. The ESC OFF function is normal if the indicator light goes out.

For models with the ESC OFF switch, when you wish to cancel the ESC after the engine is started, press the ESC OFF switch for approximately 5 seconds to cancel the ESC and cause the ESC OFF indicator light in the meter to turn on. When the ESC OFF indicator light does any of the following, the ESC function may be faulty. Please contact the nearest Isuzu Dealer.

- For models with the ESC OFF switch, when the ESC OFF indicator light comes on during driving (when the ESC OFF switch is not operated).
- The ESC OFF indicator light does not turn on when the starter switch is turned to the "ON" position.

Electronic Stability Control (ESC)

→ Refer to page 4-170

AEBS Warning Light



This warning light comes on when the system detects obstacles located in the forward direction and prompts the driver to operate the brakes or autonomously operates the brakes.

It is normal if this light comes on when the starter switch is turned to the "ON" position and goes out after a few seconds.

AEBS Fault/OFF Indicator Light 🔻



It is normal if this light comes on when the starter switch is turned to the "ON" position and goes out after approximately 1 second. It will come on when the AEBS OFF switch is pressed. It will also come on if the AEBS function stops due to malfunctioning of the AEBS.

AEBS OFF Switch

→ Refer to page 4-191



NOTE

After the engine stops due to engine stalling, it is not abnormal if the AEBS
 Fault/OFF indicator light comes on momentarily when the engine is restarted.

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

Warm-up System Indicator Light



This indicator light comes on when the warm-up switch is pressed. While this indicator is on, the engine is warmed up.

Warm-Up Switch V

ECONO Mode Indicator Light SA

ECONO

This indicator light should remain on for approximately 2 seconds or appears on the display after the starter switch is turned to the "ON" position, and then should go out. This indicator light comes on or appears on the display when the ECONO mode is selected.

ECONO Mode → Refer to page 4-141

1st Start Mode Indicator Light SA

1ST START This indicator light should remain on for approximately 2 seconds or appears on the display after the starter switch is turned to the "ON" position, and then should go out. This indicator light comes on or appears on the display when the 1st start mode is selected.

1st Start Mode → **Refer to page 4-140**

Cruise Control Main Indicator Light V



This indicator light comes on or appears on the display when the cruise control main switch is placed in the "ON" position.

This indicator light comes on or appears on the display when the starter switch is turned to the "ON" position, and then goes out after approximately 5 seconds.

Cruise control main switch

Cruise Control Set Indicator Light V



This indicator light comes on or appears on the display when the vehicle enters the cruise control mode after the cruise control set switch is operated to set the vehicle speed.

This indicator light comes on or appears on the display when the starter switch is turned to the "ON" position, and then goes out after approximately 5 seconds.

Cruise control set switch



DPD Indicator Light

DPD automatic regeneration indicator light*





(Green)

* Your vehicle has either of two indicator lights described above.

DPD manual regeneration indicator light**





(Amber)

** Your vehicle has either of two indicator lights described above.

Model without Multi-Information Display (MID)

The DPD automatic regeneration indicator light (green) comes on while the DPD is being automatically regenerated. Regeneration starts automatically, and the indicator light goes off when regeneration is completed. No operation is required. This indicator light comes on when the starter switch is turned to the "ON" position, and goes out when the engine is started.

This indicator light comes on when the starter switch is turned to the "ON" position, and goes out when the engine is started. If the DPD manual regeneration indicator light flashes, manual regeneration (PM combustion) of the DPD needs to be performed.

A CAUTION

- If your vehicle is a power take-off (PTO)-equipped model and when the PTO is operated for an extended time period, check that the DPD manual regeneration indicator light (amber) is not flashing.
- During extended engine idling, the DPD manual regeneration indicator light (amber) may come on and the DPD may be automatically regenerated.

Diesel Particulate Defuser (DPD)

→ Refer to page 2-50

Diesel Particulate Defuser (DPD)

→ Refer to page 4-212

DPD Manual Regeneration Procedure

→ Refer to page 4-214

Procedure for Selectable Regeneration of DPD → Refer to page 4-218



(Green)



(Amber)



(Amber)



(Amber)

Model with MID (Type 1)

When the "AUTO REGEN." (green) message appears on the display, the DPD is under automatic regeneration. Regeneration starts automatically, and the message goes off when regeneration is completed. No operation is required.

When the "PUSH DPD SWITCH" (amber) message is flashing, the DPD needs to be manually regenerated.

When the "MANUAL REGEN." (amber) message appears on the display, manual regeneration of the DPD is in progress.

Push the DPD switch until the "CHECKING PM LEVEL" (amber) message appears on the display. While the message remains on, the system is checking if selectable regeneration can be performed. If the system determines that selectable regeneration can be performed, the display changes to a flashing "PUSH DPD SWITCH" message.

If the display does not change to "PUSH DPD SWITCH", selectable regeneration does not need to be performed.



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A CAUTION

- If your vehicle is a PTO-equipped model, check that the "PUSH DPD SWITCH" (amber) message is not flashing when you use the PTO for an extended time period.
- During extended engine idling, the "AUTO REGEN." (green) message may appear on the MID and the DPD may be automatically regenerated.

Multi-Information Display (MID) (Type 1)

∨ → Refer to page 4-24

Diesel Particulate Defuser (DPD)

→ Refer to page 2-50

Diesel Particulate Defuser (DPD)

→ Refer to page 4-212

DPD Manual Regeneration Procedure

→ Refer to page 4-214

Procedure for Selectable Regeneration of DPD → Refer to page 4-218

CONTROLS AND INSTRUMENTS





(Green)

Model with MID (Type 2)

While the "REGEN ACTIVE" message is shown on the display and the DPD automatic regeneration indicator light (green) is on, automatic regeneration of the DPD is in progress.

Regeneration starts automatically, and the message and indicator light go out when the regeneration completes.

PUSH DPD BUTTON



(Amber)





(Amber)





(Amber)

When the "PUSH DPD BUTTON" message is shown on the display and the DPD manual regeneration indicator light (amber) is on, it is required to regenerate the DPD manually.

While the "REGEN ACTIVE" message is shown on the display and the DPD manual regeneration indicator light (amber) is on, manual regeneration of the DPD is in progress.

Push the DPD switch when the "PM LEVEL CONTROL" message is shown on the display and the DPD manual regeneration indicator light (amber) is on. While the message and the indicator light are on, the system checks if selectable regeneration can be performed. When selectable regeneration can be performed, the display changes to "PUSH DPD BUTTON".

When the display does not change to "PUSH DPD BUTTON", selectable regeneration is not required.

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CONTROLS AND INSTRUMENTS

CAUTION

- If your vehicle is a PTO-equipped model, check that the "PUSH DPD BUTTON" message and the DPD manual regeneration indicator light (amber) are not on before using the PTO for an extended period of time.
- While idling the engine for an extended period of time, "REGEN ACTIVE" and the DPD automatic regeneration indicator light (green) may appear on the MID, and the DPD may be automatically regenerated.

Multi-Information Display (MID) (Type 2)

∨ → Refer to page 4-44

Diesel Particulate Defuser (DPD)

→ Refer to page 2-50

Diesel Particulate Defuser (DPD)

→ Refer to page 4-212

DPD Manual Regeneration Procedure

→ Refer to page 4-214

Procedure for Selectable Regeneration of DPD → Refer to page 4-218

LDWS Failure Warning Light 🔻



This message will be shown on the multiinformation display (MID) and the LDWS warning light will illuminate simultaneously if there is an LDWS failure. If the "LDWS FAILURE" warning light (amber) is displayed, contact your nearest Isuzu Dealer.

Lane Departure Warning System (LDWS)

V

Clean Camera Warning Light V



This message will be shown on the multiinformation display (MID) and the LDWS warning light will illuminate simultaneously if the lens of the lane-recognition camera or the windshield (inside and/or outside) is dirty.



NOTE

- Clean the lens of the lane-recognition camera or the windshield (inside and/ or outside) when the "CLEAN UP CAMERA" warning message (amber) is displayed.
- The lane-recognition camera is installed near the rearview mirror or at the bottom center of the windshield.

Lane Departure Warning System (LDWS)

→ Refer to page 4-177

AdBlue® Level Low Warning Light V

Type 1



Type 2



This warning is displayed on the multiinformation display (MID) when the amount of AdBlue® remaining becomes low level. Set the starter switch to the "LOCK" position and add AdBlue® up to the full level. Afterward, set the starter switch to the "ON" position and check if the warning on the MID has turned off.

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

 \rightarrow Refer to page 2-55

Refilling AdBlue[®] \rightarrow Refer to page 2-56

AdBlue[®] Tank $\boxed{\lor}$ \rightarrow Refer to page 3-20

AdBlue® Refill Warning Light 🔻

Type 1



Type 2



If the vehicle continues to operate without AdBlue® being added even after the AdBlue® resupply warning is illuminated on the multi-information display (MID) with the remaining amount of AdBlue® at very low

A CAUTION

This vehicle consume AdBlue[®] to comply with emission regulation.
 Therefore, it may be a criminal offence to use a vehicle that does not consume AdBlue[®].

If this vehicle use continously in case of ignoring this warning, the engine torque will reduce.

When the engine torque has been reduced, engine torque will not recover, if the amount of AdBlue[®] added is too little. Add at least 5.0 liters (1.32 US gal./1.10 Imp gal.) of AdBlue[®].



ADVICE

 Engine torque will be restricted if the level of AdBlue[®] is low. Vehicle speed will also be restricted if there is no AdBlue[®].

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

 $\textbf{Refilling AdBlue}^{\circledast} \, \rightarrow \textbf{Refer to page} \quad \textbf{2-56}$

AdBlue[®] Tank ∨ → Refer to page 3-20

Engine Torque Reduction Warning Light V

Type 1



Type 2



This warning light appears on the multiinformation display (MID) when the vehicle continues to be driven without having the AdBlue® refilled, despite the AdBlue® refill warning light being displayed.

A CAUTION

 When this warning light appears, engine torque is restricted to 75% of its maximum output.

⊗ ADVICE

 Add at least 5.0 liters (1.32 US gal./1.10 lmp gal.) of AdBlue[®] when this warning light comes on.

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

 $\textbf{Refilling AdBlue}^{\circledast} \, \rightarrow \textbf{Refer to page} \quad \textbf{2-56}$

CONTROLS AND INSTRUMENTS

Speed Limit Warning Light V

Type 1



Type 2



This warning light appears on the multiinformation display (MID) when the vehicle continues to be driven without having the AdBlue® refilled and the amount of AdBlue® remaining becomes level 0, despite the engine torque reduction warning light being displayed.



 When this warning light appears, maximum vehicle speed is restricted to 20 km/h (12 MPH).

ADVICE

 Add at least 7.0 liters (1.85 US gal./1.54 lmp gal.) of AdBlue[®] when this warning light comes on.

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue $^{\circ}$ \rightarrow Refer to page 2-56

AdBlue[®] Tank \vee \rightarrow Refer to page 3-20

Engine Torque Reduction and Speed Limit Warning Light V

TORQ. + SPEED LIMIT This warning light appears on the multiinformation display (MID) when the vehicle continues to be driven without having the AdBlue® refilled and the amount of AdBlue® remaining becomes level 0, despite the engine torque reduction warning light being displayed.

A CAUTION

 When this warning light appears, maximum vehicle speed is restricted to 20 km/h (12 MPH).

ADVICE

 Add at least 7.0 liters (1.85 US gal./1.54 lmp gal.) of AdBlue[®] when this warning light comes on.

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

 $Refilling \ AdBlue^{\circledast} \ \rightarrow Refer \ to \ page \quad 2\text{-}56$

AdBlue[®] Tank \vee \rightarrow Refer to page 3-20

Incorrect AdBlue® Warning Light V

Type 1



Type 2



Check engine warning light



If liquids, etc., other than the specified AdBlue® are added or the AdBlue® is diluted with liquids such as water, the abnormal AdBlue® quality warning will be displayed on the multi-information display (MID) and the check engine warning light will illuminate at the same time. When this warning has been displayed, the urea SCR system may be damaged. Have

the urea SCR system inspected/serviced

immediately at the nearest Isuzu Dealer.

ADVICE

 If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
 Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue[®] \rightarrow Refer to page 2-56

AdBlue[®] Tank \vee \rightarrow Refer to page 3-20

Critical Emission Fail Warning Light 🔻

Type 1



Type 2



Check engine warning light



When there is an abnormality with the emission control system, this warning will be indicated on the multi-information display (MID) and the check engine warning light will illuminate also at the same time. If the vehicle continues to be operated without the appropriate actions being taken even after this warning is displayed, the emission control system may be damaged.

Have the emission control system inspected/serviced immediately at the nearest Isuzu Dealer.



 If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
 Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

 \rightarrow Refer to page 2-55

Refilling AdBlue[®] \rightarrow Refer to page 2-56

CONTROLS AND INSTRUMENTS

AdBlue® Injection System Warning Light 🔻

Type 1



Type 2



Check engine warning light



When there is an abnormality with the urea SCR system, this warning will be indicated on the multi-information display (MID) and the check engine warning light will illuminate also at the same time. If the vehicle continues to be operated without the appropriate actions being taken even after the abnormal AdBlue® injection system warning is displayed, the urea SCR system may be damaged.

Have the urea SCR system inspected/ serviced immediately at the nearest Isuzu Dealer.



 If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
 Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

 \rightarrow Refer to page 2-55

Refilling AdBlue[®] \rightarrow Refer to page 2-56

AdBlue® DOS Malfunction Warning Light 🔻

Type 1



Type 2



Check engine warning light



When there is an abnormality with the AdBlue® consumption, this warning will be indicated on the multi-information display (MID) and the check engine warning light will illuminate also at the same time.

ADVICE

- If the vehicle continues to be operated without the appropriate actions being taken even after the abnormal AdBlue[®] consumption warning is displayed, the urea SCR system may be damaged. Have the urea SCR system inspected/ serviced immediately at the nearest Isuzu Dealer
- If this vehicle continues to be operated without appropriated action being taken even after this warning, engine torque will be reduced.
 Moreover, if this vehicle continues to be operated in condition reduced torque, the vehicle speed will be restricted at max 20 km/h (12 MPH).

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue[®] → Refer to page 2-56

AdBlue[®] Tank \bigvee \rightarrow Refer to page 3-20

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CONTROLS AND INSTRUMENTS

CAN System Error V

Type 1

CAN

Type 2



This message appears on the display when the instrument panel cannot establish normal communications with connected systems.

If a CAN error has occurred, the engine coolant temperature gauge stops functioning and the alarming functions of the panel do not work properly. Pull off to a safe place, stop the engine and restart it. If the message still appears, contact the nearest Isuzu Dealer.

Upshift/Downshift Indicator Light V





Either of these indicator lights is displayed when the gear is shifted up or down.

Icy Road Warning Light 🔻



This warning light appears on the display when the outside temperature is low and the road surface may be frozen. Since this is based on the outside temperature detected by the outside air temperature sensor and not the actual road surface temperature, it does not accurately display frozen road surface conditions.

A CAUTION

 When the outside temperature is low, the road surface may be frozen even if the icy road warning light does not illuminate. Concentrate on driving safely, paying attention to the condition of the road surface.

Warning Buzzer

A warning buzzer sounds under the following conditions.

The back up warning buzzer sounds inside the cab and behind the vehicle. All other warning buzzers sound inside the cab.

Warning	Buzzer pattern	Condition
Brake booster HB	Continuous beep	Refer to page 4-61.
Low air pressure	Continuous beep	Parking brake is released when air pressure is below specification.
Engine overheat	Continuous beep	Engine has overheated.
Cab tilt V	Continuous beep	Refer to page 4-82.
Back up V	Long, repeated beeps	Gearshift lever is placed in "R" position.
Diesel particulate defuser (DPD) manual regeneration	Three short beeps	"PUSH DPD SWITCH" or "PUSH DPD BUTTON" message is flashing. (Model with multi-information display (MID))
	One short beep	The DPD manual regeneration indicator light (amber) is flashing. (Model without MID)
Smoother SA	Refer to page 4-143.	Refer to page 4-143.
LDWS V	Refer to page 4-184.	Refer to page 4-184.
AEBS V	Refer to page 4-192.	Refer to page 4-192.
Driver seat belt not buckled V	Continuous beep	Refer to page 4-58.
Light control OFF	Short repeated beeps	When the light control switch is set to "-00-" or "=0", the starter switch is turned to the "LOCK" position.
Door open V	Continuous beep	When the doors are open.
Low engine oil pressure V	Continuous beep	Refer to page 4-67.
Buzzer check V	Continuous beep	When the starter switch is turned to the "ON" position.
Seat belt (Driver seat) V	Short repeated beeps	When the vehicle speed exceeds approximately 20 km/h (12 MPH) during driving with the seat belt unfastened.
Seat belt (Passenger seat)	Short repeated beeps	When the vehicle speed exceeds approximately 20 km/h (12 MPH) during driving with the seat belt unfastened.

4-108 CONTROLS AND INSTRUMENTS

d 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.
- At night, the buzzer back-up warning sound volume can be reduced by placing the light control switch in the "ON" position.

4-109

CONTROLS AND INSTRUMENTS

SWITCHES

Starter Switch	4-110
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Remote Control Mirror Switch	4-123
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4-110 CONTROLS AND INSTRUMENTS

Starter Switch



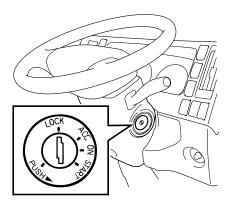
While driving, never turn the starter switch to the "LOCK" position. The key
could be removed from the switch, which then locks the steering wheel. This is
extremely dangerous.

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





: In this position, the key can be inserted or removed.
Remove the key and turn the steering wheel until it locks. The steering wheel will be locked to help prevent theft. To place the starter switch in the "LOCK" position, press and hold the key in the "ACC" position and then turn it to the "LOCK" position.

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

ON : The key stays in this position while the engine is running.

This position is also used for preheating before starting the engine.

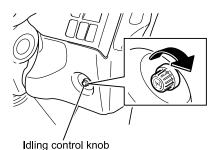
START : The engine is started in this position. Release the key as soon as the engine has started. The key automatically returns to the "ON" position.

NOTE

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

CONTROLS AND INSTRUMENTS

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.

MARNING

- Running the engine in a poorly ventilated place can lead to carbon monoxide poisoning. Choose a well ventilated place when starting and warming-up the engine. White smoke may be emitted for a short time during diesel particulate defuser (DPD) regeneration due to combustion of particulate matter (PM).
 Choose a well ventilated place to perform the manual regeneration.
- If you leave the idling control knob in a high speed position without returning it to
 the lowest speed position, the vehicle is likely to move suddenly during standing
 start or it will consume more fuel during subsequent driving or have a shortened
 clutch life.

Never forget to fully turn the idling control knob back to the lowest speed position before driving the vehicle.

Adjustment angle 300°





ADVICE

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

CONTROLS AND INSTRUMENTS



NOTE

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

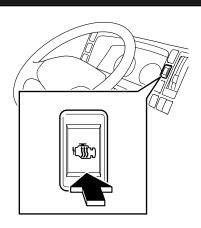
Starting the Engine

→ Refer to page 4-4

Diesel Particulate Defuser (DPD)

→ Refer to page 4-212

Warm-Up Switch 🔻



This switch is used to allow engine coolant to warm up faster at low temperatures to increase the efficiency of the heater and/or the defroster, or to increase the efficiency of the heater while the vehicle is parked. Start the engine and press the warm-up switch. The warm-up system indicator light on the instrument panel comes on and the engine warms up faster.

After the engine has warmed up, press the switch again to turn the warm-up system to the "OFF" position. The indicator light goes out.



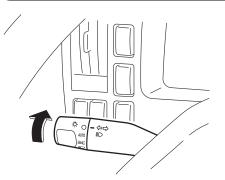
NOTE

- The warm-up system does not operate even if the warm-up switch is pressed when it is sufficiently warm, the engine is warm enough or the vehicle is already being driven.
- If your vehicle is equipped with an idling control knob, increasing the engine speed to 1,000 r/min or above using the knob deactivates the warm-up system, in this case the system then does not work even if the warm-up switch is pressed and the warm-up system indicator light comes on.

CONTROLS AND INSTRUMENTS

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.

Non	Position					
Name	0	AUTO V	<u> </u>	≣ O	() ‡	
Headlight			Off			
Clearance light						
Taillight						
License plate light				On		
Illumination light control	Off	On / Off* ²	On		On	
Roof-mounted clearance light V						
Rear fog light V			Off	Off		
Daytime running light*1 V	On			Off		

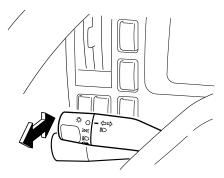
- *1: The daytime running light will come on when the following conditions are met.
 - 1) The engine has been started.
 - 2) The light control switch is "O (OFF)" position, "AUTO" (with the headlight "OFF") position (if equipped) or "-00-" position (model with "AUTO" position).
 - 3) The parking brake has been released.
 - 4) The front fog lights are turned off (model with "AUTO" position).
- *2: When the light control switch is in the "AUTO" position, the lights come on or go out automatically depending on the brightness outside the vehicle.



NOTE

["AUTO" function model]

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



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.



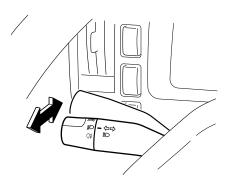
NOTE

 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 8-29

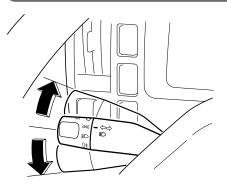
4-116 CONTROLS AND INSTRUMENTS



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

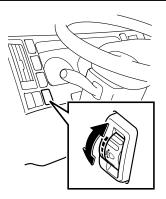
 The turn signal lights come on even when the starter switch is in the "LOCK" or "ACC" position. Do not operate the turn signal lights for an extended time period with the engine stopped. Otherwise, the battery may go dead, making it impossible to start the engine.



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.

Headlight Leveling Switch



The headlight aim can be adjusted at four different angles. When the cargo load causes the headlights to aim upwards, this feature can be used to lower the aiming angle.

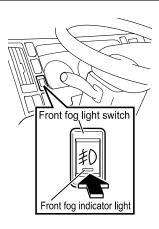
When your vehicle is not loaded with cargo, the switch should be set at the uppermost position. ("0" position)

A CAUTION

Do not lower the aiming angle too much.

Otherwise, the illuminated range may be so reduced that you may be involved in an accident.

Front Fog Light Switch



With the light control switch positioned in "-OO-" or " ■ O ", 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.



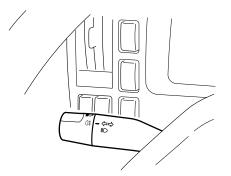
 When replacing a front fog light bulb, do not use one of a larger wattage than the specified wattage. Otherwise, the wiring may be burned.

When the Bulb Does not Come On

→ Refer to page 8-29

CONTROLS AND INSTRUMENTS

Rear Fog Light Switch



When the light control switch is placed in "()‡", the rear fog lights come on and the rear fog indicator light comes on. Use this feature in low visibility such as in fog.

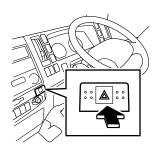


 When replacing a rear fog light bulb, do not use one of a wattage larger than the specified wattage. Otherwise, the wiring may be burned.

When the Bulb Does not Come On

→ Refer to page 8-29

Hazard Warning Flasher Switch



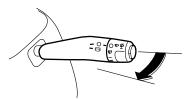
The hazard warning flasher is used to signal other vehicles that your vehicle is stationary on the road because of an accident or component failure.

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 V



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 (if your vehicle is a manual transmission vehicle). Releasing the pedal reengages the exhaust brake.

 If your vehicle is equipped with a Smoother, the exhaust brake is disengaged during gear shifting or when the engine speed is reduced before the vehicle comes to a stop. The exhaust brake reengages when gear shifting is completed or when the engine speed increases sufficiently.

A CAUTION

 It is extremely dangerous to apply the exhaust brake on slippery roads (with their surfaces being wet, frozen, or covered with compacted snow) as the tires can skid.



ADVICE

- If a warning buzzer sounds when the exhaust brake is in operation, promptly pull the vehicle over safely and contact the nearest Isuzu Dealer for inspection.
- The exhaust brake indicator light flashes if there is a problem with the exhaust brake system. Have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.
- 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.

4-120 CONTROLS AND INSTRUMENTS

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 (a manual transmission model) is pressed.
- The gearshift lever is in the "N" position.
- The vehicle is traveling at 5 km/h (3 MPH) or lower speeds.
- The engine speed is close to idling.
- During gear shifting (a Smoother model).



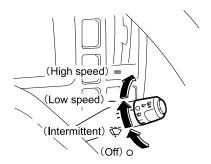
NOTE

- The exhaust brake may disengage during ABS operation even when the
 exhaust brake switch is in the "ON" position and the exhaust brake indicator
 light is on. The exhaust brake may disengage temporarily as the vehicle passes
 over a bump even when the brake pedal is not depressed.
- 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

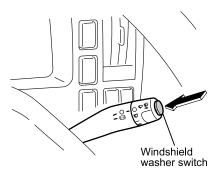
- The safety system may work to stop the wiper when excessive load is applied on the motor. In this case, turn the switch to the off position and, a few minutes later, check to see if the wiper is back to normal operation. If the wiper frequently stops operation, refrain from using it and contact the 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	0	\triangle	-	=
Wiper state	Stopped	Intermittent (Light rain)	Low speed (Moderate rain)	High speed (Heavy rain)

CONTROLS AND INSTRUMENTS

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.

\triangle

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.



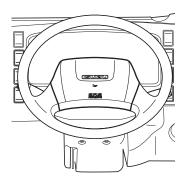
ADVICE

- 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

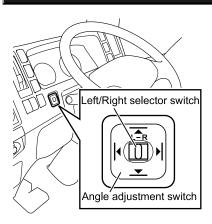
→ Refer to page 7-145

Horn Button



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

Remote Control Mirror Switch



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

Adjust

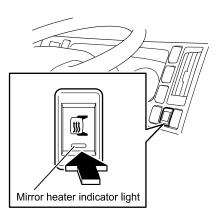
- Press the left/right selector switch on the "L" or "R" side to move the mirror to the desired direction.
- 2. Press the angle adjustment switch to adjust the mirror angle.

⊗ ADVICE

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

CONTROLS AND INSTRUMENTS

Mirror Heater Switch V



Defrosting the Mirror

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



ADVICE

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

CONTROLS AND INSTRUMENTS

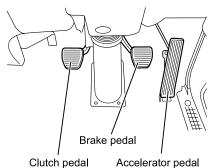
DRIVING CONTROLS

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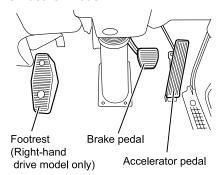
CONTROLS AND INSTRUMENTS

Pedals

M/T model



Smoother model



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

MARNING

 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.

- (85)

ADVICE

- Do not race the engine; engine components as well as fuel economy may be badly affected.
- If your vehicle has a manual transmission, do not drive with your foot resting on the clutch pedal.
 Doing so may damage the clutch.

Parking Brake Lever



CAUTION

- Although the parking brake warning light will come on if the parking brake is
 engaged while the starter switch is in the "ON" position, this does not mean the
 parking brake is fully engaged, so always make sure the lever is fully pulled up.
- Simply pressing the release button does not return the lever to its original position. You should always press the release button while pulling the parking brake lever up slightly.
- If the vehicle is parked facing up a hill, place the gearshift lever in the "1 (1st)" gear, and if parked facing down a hill, place the lever in the "R (reverse)" gear. In addition, chocks must always be applied in either of these situations.
- · Never park the vehicle on a steep slope.



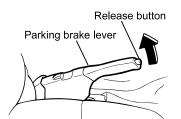
NOTE

- · 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.



CONTROLS AND INSTRUMENTS

Operation of Parking Brake



Parking brake warning light



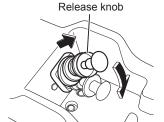
Model with Center Parking Brake

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.

CONTROLS AND INSTRUMENTS





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.



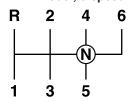
Gearshift Lever

Manual Transmission Model M/T

MYY model, 5-speed



MYY or MZZ 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.



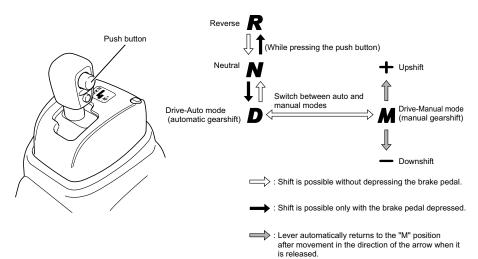
ADVICE

 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.

Model with Smoother SA

Move the gearshift lever to make it shift into each gear.



Type 1

Gearshift lever position	Shift indicator display in instrument panel	Gear position
R	R	Reverse: Used when backing up the vehicle.
N	N	Neutral: Used when starting the engine.
D	D D [6-speed transmission model]	Drive-Auto mode (automatic gearshift): The system automatically selects an optimum gear according to the vehicle speed.
M	+ J, E, S,	Drive-Manual mode (manual gearshift): Manually selecting the "+" (upshift) or the "-" (downshift) position allows the driver to select the desired gear.

CONTROLS AND INSTRUMENTS

Type 2

Gearshift lever position	Shift indicator display in multi-information display	Gear position	
R	RNDM	Reverse: Used when backing up the vehicle.	
N	R N D M	Neutral: Used when starting the engine.	
D	RNDM1	Drive-Auto mode (automatic gearshift): The system automatically selects an optimum gear (1st to 6th) according to the vehicle speed.	
M	+ - RND M 1	Drive-Manual mode (manual gearshift): Manually selecting the "+" (upshift) or the "- " (downshift) position allows the driver to select the desired gear (1st to 6th).	

MARNING

When operating the gearshift lever while the vehicle is stationary, fully depress
the brake pedal until the shift indicator light stops flashing and stays on steady.
While the shift indicator light is flashing, the gear is still being shifted and
creeping force is not yet available from the Smoother. If you release the brake
pedal before the indicator light shines steady, the vehicle may move down a
slope, possibly causing an accident.

NOTE

- While the engine is not running, you cannot shift gears by moving the gearshift lever. Start the engine before you can change the gear.
- When the vehicle is stationary with the engine running, the shift lock function works for safety. You cannot move the gearshift lever from "N" into "D" or "R" without depressing the brake pedal.
 - When starting the vehicle, be sure to operate the gearshift lever while keeping the brake pedal depressed.

Model with Smoother SA

Smoother is a transmission system that allows the driver to move the vehicle from a standstill, drive the vehicle with gears automatically changing and bring the vehicle to a stop by only using the gearshift lever, accelerator pedal and brake pedal, without needing to use the clutch pedal. Make sure you fully understand the characteristics of the Smoother system and familiarize yourself with its operation.

Smoother Model SA

→ Refer to page 2-32



- Fully depress the brake pedal to prevent the vehicle from moving even if it is stopped on a level road, and place the gearshift lever into "N" and securely set the parking brake as needed.
- The engine speed is increased immediately after its start, while the air conditioning is in operation or the diesel particulate defuser (DPD) is being regenerated. This makes the transmission produce a stronger creeping force than usual. You need to firmly depress the brake pedal.



NOTE

- If the vehicle is equipped with an idling control knob, the clutch engagement shock may become significant when the engine speed is increased using the idling control knob. Therefore, when placing the gearshift lever into a position other than "N", therefore, turn the idling control knob fully counterclockwise.
- You can utilize the creeping effect of the transmission to move your vehicle smoothly in a traffic jam or in a narrow space by controlling the speed without using the accelerator pedal but by using only the brake pedal.

Idling Control Knob V

→ Refer to page 4-112

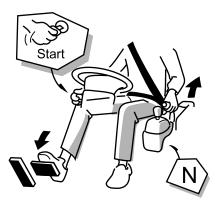
CONTROLS AND INSTRUMENTS

How to Use Smoother

\triangle

CAUTION

- Before starting the engine, place the gearshift lever into "N", make sure the shift indicator indicates "N", pull up the parking brake lever and fully depress the brake pedal.
- When moving the gearshift lever from "N" into "D" or "R", be sure to depress the brake pedal.
- Never leave the driver seat with the gearshift lever placed in "D", "M" or "R" while the engine is running. The vehicle may start moving. When leaving the driver seat, be sure to securely set the parking brake and place the gearshift lever into "N".



Type 1



Type 2



To start Your Vehicle - on Normal Roads

- Fully depress the brake pedal. After making sure the gearshift lever is placed in "N" and the parking brake lever is fully pulled up, place the starter switch into the "ON" position.
- 2. Start the engine while fully pressing the brake pedal with your right foot. Place the gearshift lever into "D" for forward movement or into "R" for backward movement. The clutch disengages automatically upon operation of the gearshift lever, the gear is changed, and then the clutch is re-engaged automatically. The gear is then controlled in the auto mode (automatic gearshift).
- 3. Make sure that the shift indicator indicates "2" or "R", release the parking brake, release the brake pedal, and then slowly press the accelerator pedal. The vehicle starts moving as you depress the accelerator pedal further.



NOTE

- When starting the engine after parking with a gear engaged, make sure that the shift indicator indicates "N". Then, place the gearshift lever into "D" for forward movement and "R" for backward movement.
- While the engine is not running, you cannot shift gears by moving the gearshift lever. You must start the engine before you can shift gears.
- When the vehicle is stopped with the engine running, the shift lock function
 works for safety. You cannot move the gearshift lever from "N" to "D" or "R"
 without depressing the brake pedal. When starting the vehicle, be sure to
 operate the gearshift lever while keeping the brake pedal depressed.

To Start Your Vehicle - on a Steep Slope

- 1. Firmly depress the brake pedal and make sure the parking brake lever is fully pulled up.
- 2. Place the gearshift lever into the "D" position for forward movement or "R" position for backward movement while fully depressing the brake pedal with your right foot. (When strong traction is required to start the vehicle, change to 1st start mode.)
- 3. Make sure that the shift indicator indicates "2" or "R", check the surrounding area to make sure it is safe to move the vehicle, ease your right foot pressure off the brake pedal, and slowly press the accelerator pedal.
- 4. After you feel the vehicle start moving, slowly release the parking brake lever and start the vehicle.

MARNING

- When you move the gearshift lever to "D" or "R", creep will cause the vehicle to move. When starting the vehicle, be sure to operate the selector lever with the brake pedal depressed.
- When moving a Smoother equipped vehicle from a standstill, you must control
 the speed using only the accelerator pedal. Operate the accelerator pedal
 carefully.
- Do not operate the gearshift lever while depressing the accelerator pedal. The vehicle may make a sudden start, possibly causing an accident.
- The gear is in the process of being shifted while the shift indicator is flashing.
 The vehicle may roll down a slope because driving force is not transmitted to the wheels
 - Be sure to keep the brake pedal depressed until you see the shift indicator comes on steady.

CONTROLS AND INSTRUMENTS



ADVICE

- When the vehicle is stopped, do not keep depressing the accelerator pedal with the gearshift lever placed in the "D", "M" or "R" position while depressing the brake pedal. Doing so may cause a failure.
- When stopping the vehicle on a slope, be sure to fully apply the brakes.
 Keeping the vehicle stopped by depressing the accelerator pedal to produce a strong creeping effect may cause a failure.



NOTE

- The vehicle normally starts off in the 2nd gear. When strong torque is required to start up when the vehicle is heavily loaded, press the 1st start switch to enable the vehicle to start in 1st gear.
- You can also shift into 1st gear when the vehicle is stopped by depressing the brake pedal, placing the gearshift lever into "M" and moving the lever towards "- (downshift)".
- When stopping the vehicle to wait for a traffic light, it is recommended that you place the gearshift lever into "N" for improved fuel economy.

1st Start Mode → **Refer to page 4-140**

Type 1

Type 2



To Change Gears - Auto Mode

 When you change the gearshift lever from "N" into "D", shifting takes place in the automatic mode. Check that "D" is displayed at the upper left (Type 1) or the left (Type 2) of the shift indicator.

A CAUTION

• If you are using the auto mode on a steep uphill slope, the vehicle may automatically shift up and down making it difficult to drive. In this case, use the manual mode to maintain the same gear.



NOTE

- On a continuous steep uphill slope or in a traffic jam, it may be easier for you to
 drive using the manual mode keeping the vehicle in a particular gear rather than
 using the auto mode. It is recommended that you drive your vehicle under the
 above conditions using the manual mode.
- · Driving in the ECONO mode can improve fuel economy.

ECONO Mode → Refer to page 4-141

Type 1



[6-speed transmission model]

Type 2



To Shift Gears - Manual Mode

- When changing the gear in the manual mode, place the gearshift lever into the "M" position and move the lever towards the "+ (upshift)" or "– (downshift)" direction as necessary to select the desired gear. Check that the desired gear is displayed on the shift indicator.
- The clutch is automatically disengaged upon operation of the gearshift lever. When the shift has completed, the clutch is automatically re-engaged. You can make both upshifts and downshifts in a similar manner.
- Gears are not automatically shifted in the manual mode. To return to the auto mode, place the gearshift lever into the "D" position. Check that "D" is displayed at the upper left (Type 1) or the left (Type 2) of the shift indicator.

Ø□

ADVICE

- Shift into the gear appropriate for the vehicle speed. If an inappropriate gear shift position is selected, a warning buzzer will sound and the shift will not occur.
- Driving using an inappropriate gear in the manual mode will result in a failure
 of the transmission system. You are alerted to an inappropriate gear selection
 by a warning buzzer and the transmission is automatically shifted down into an
 appropriate gear.
- Strongly depressing the accelerator pedal immediately after shifting gears not only prevents the vehicle from running smoothly but also causes a failure of the transmission. Operate the accelerator pedal gradually.

CONTROLS AND INSTRUMENTS



NOTE

- When it is necessary to make fine speed control of the vehicle as when
 reversing it onto a platform, you can utilize the creeping effect of the
 transmission to move the vehicle smoothly using only the brake pedal, not using
 the accelerator pedal.
- When the vehicle is not running, the transmission gear is not shifted even if you shift to the auto mode (by shifting the lever from "M" to "D" position). The gear is shifted automatically only after the vehicle has started.

To Stop the Vehicle

- Press the brake pedal with your right foot to slow down and stop the vehicle. No special gear shifting is required.
 - After the vehicle has stopped, the gear is automatically shifted into the starting gear in both the manual mode and auto mode.
- While the vehicle is stopped, place the gearshift lever into the "N" position.
 When the vehicle must be stationary for several minutes, set the parking brake.



CAUTION

 When leaving the driver's seat, be sure to firmly set the parking brake and place the gearshift lever into the "N" position, make sure that the shift indicator displays "N".



ADVICE

- When the vehicle is stopped, do not keep depressing the accelerator pedal with the gearshift lever placed in "D", "M" or "R" while depressing the brake pedal.
 Doing so may cause a failure.
- When stopping the vehicle on a slope, be sure to fully apply the brakes.
 Keeping the vehicle stopped by depressing the accelerator pedal to produce a strong creeping effect may cause a failure.



NOTE

• When stopping the vehicle to wait for a traffic light, it is recommended that you place the gearshift lever into the "N" position for improved fuel economy.

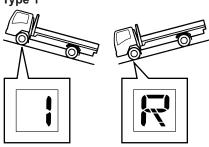
Type 1



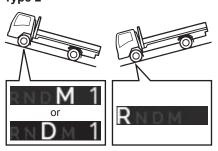
Type 2



Type 1



Type 2



When Parking Your Vehicle

- Set the parking brake while depressing the brake pedal with your right foot.
- Place the gearshift lever into the "N"
 position, make sure that the shift
 indicator displays "N", and then slowly
 ease your right foot off the brake
 pedal.
- 3. Stop the engine.

Parking in Gear

When it is necessary to park your vehicle when it is cold outside with the transmission in 1st or reverse gear, follow the steps below.

- Place the gearshift lever into the "M" position while fully depressing the brake pedal with your right foot, and move the lever towards the "– (downshift)" direction or place the gearshift into the "R (reverse)" position. Make sure the shift indicator displays "1" or "R".
- 2. Stop the engine and slowly ease your right foot off the brake pedal.
- Make sure the vehicle does not move. Be sure to block the wheels with chocks.

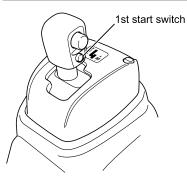
CONTROLS AND INSTRUMENTS



NOTE

- When starting the engine after parking it with the transmission in gear, first place
 the gearshift lever into the "N" position and then start the engine with the brake
 pedal depressed. The shift indicator first displays "1" or "R" but the indication
 changes to "N" after the engine is started.
 - After parking the vehicle with the transmission in "R", you will hear a beep when moving the starter switch to the "ON" position. This is normal.
- Make sure that the shift indicator displays "N" when the engine is started after
 the vehicle has been parked with the transmission in gear before performing the
 next operation.

1st Start Mode



1st start mode indicator light

1ST START The vehicle normally moves off from a standstill in 2nd gear. Use the 1st start mode when you need powerful torque to start the vehicle, for example, when it is heavily loaded.

When you press the 1st start switch in auto mode (i.e., when the vehicle is stopped and either the foot brake or parking brake is applied), the 1st start mode indicator light comes on, indicating that the transmission has switched to 1st start mode. Return the transmission to the normal start mode (2nd start mode) by pressing the 1st start switch again.



CAUTION

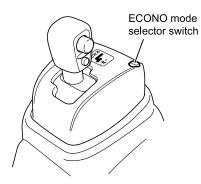
• The transmission shifts when you press the 1st start switch while the vehicle is stationary. Fully depress the brake pedal before pressing the switch and keep depressing the brake pedal until the shift indicator changes from flashing to steady illumination. While the shift indicator is flashing, the gear is being shifted and the transmission creeping effect does not work. If you release the brake pedal while the indication is still flashing, the vehicle may move down a slope, causing an accident.



NOTE

- When you select the manual mode, the vehicle does not start with the 1st gear.
- If you shift the lever from "D" to "M" position when starting the vehicle with the 1st gear, the 1st start mode indicator light goes out. This light comes on only when you shift the lever from the "M" to "D" position again.
- When you shift the lever from "M" to "D" position and when the 1st start mode indicator light comes on again, the transmission may not be shifted to the 1st gear. If you need to start the vehicle with the 1st gear, press the 1st start switch again.
- When you place the starter switch in the "LOCK" or "ACC" position and restart the engine, the mode returns to the normal start mode (2nd start mode).

ECONO Mode



You can improve fuel economy if you select the ECONO mode when the vehicle is driven with the transmission in the auto mode (automatic gearshift mode). When you press the ECONO mode selector switch, the ECONO mode is selected and the ECONO mode indicator light comes on.

ECONO mode indicator light

ECONO

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NOTE

 The ECONO mode cannot be selected while the transmission is in manual mode.

When the transmission is changed to manual mode (the gearshift lever is moved from "D" to "M"), while ECONO mode is active, the ECONO mode indicator light will go out.

When the transmission is changed from manual mode back to auto mode (the gearshift lever is moved from "M" to "D"), the ECONO mode resumes and the ECONO mode indicator light comes on again.

• If the ECONO mode has been selected, it remains active when you restart the engine even if you have turned the starter switch to "LOCK" or "ACC".

Smoother Warning Light and Warning Buzzer Operation

The Smoother warning light comes on or flashes and the warning buzzer sounds to warn you of the following conditions.

warn you of the following conditions.					
Condition and alarm type	Smoother warning light	Warning buzzer	Corrective action		
The driver opens the door and is leaving the vehicle with the starter switch in the "ON" position and the transmission in gear.	_	Short, repeated beeps	Return the gearshift lever to the "N" position and set the parking brake.		
The accelerator pedal is kept depressed while the brakes are being applied.	_	Short, repeated beeps	Release the accelerator pedal or return the gearshift lever to the "N" position.		
The vehicle is stopped on a slope with the accelerator pedal kept depressed.	_	Short, repeated beeps	Release the accelerator pedal and apply the brakes.		
The vehicle continues to be driven in an inappropriate gear.*	_	Short, repeated beeps	Release the accelerator pedal or shift down to an appropriate gear and drive in the manual mode.		
The engine is overrunning	_	Continuous beep	Apply the brake to slow down vehicle speed or shift up to an appropriate gear to slow down engine speed.		
The vehicle is started and stopped too frequently.	_	Short, repeated beeps	Stop the vehicle at a safe place, return the gearshift lever to the "N" position and run the engine at idle to cool it down.		
The vehicle is driven with the parking brake lever pulled up or the vehicle is stopped by pulling up the parking brake lever with the transmission in gear for a long time.	_	Short, repeated beeps	Release the parking brake. Or return the gearshift lever into the "N" position.		
The PTO is being used.	_	Short, slow beeps	_		

^{*:}The gear is automatically shifted down into an appropriate gear to prevent a failure due to an excessive rise in oil temperature. At the same time, the buzzer sounds to notify the driver that this gear shift has taken place to prevent the oil temperature from rising excessively.

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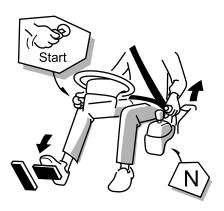
Condition and alarm type	Smoother warning light	Warning buzzer	Corrective action	
		Continuous beep	Stop the vehicle at a safe place and have your vehicle inspected at the nearest Isuzu Dealer promptly. Refer to "If the Smoother"	
The Smoother system has failed.	Comes on	Short, repeated beeps		
		_	System Fails" on page 4-147.	
Smoother oil temperature is abnormally high.	Flashes	_	Stop the vehicle at a safe place, place the gearshift lever into the "N" position and run the engine at idle until the Smoother warning light goes out.	
While in manual mode, the vehicle was driven at low speed in a higher gear.*	_	Short, repeated beeps	Choose a suitable gear when driving in manual mode.	
Smoother emergency switch is in the "ON" position.	Flashes	_	Turn the Smoother emergency switch "OFF".	
The Smoother adjustment switch was operated.	_	One-time, short beep	_	
An attempt is made to shift into a gear that will cause engine r/min to be too high (manual mode).	_	Continuous beep	Place the gearshift lever into the "D" position and drive with an appropriate gear selected. (Automatic gearshifts will not occur.)	
An attempt is made to shift into a gear that will cause engine r/min to be too low (manual mode).	_	Short, repeated beeps	Place the gearshift lever into the "D" position and drive with an appropriate gear selected. (Automatic gearshifts will not occur.)	

^{*:}The gear is automatically shifted down into an appropriate gear to prevent a failure due to an excessive rise in oil temperature. At the same time, the buzzer sounds to notify the driver that this gear shift has taken place to prevent the oil temperature from rising excessively.

How to Adjust Partial Clutch Engagement of Smoother

With the Smoother system, you can select the desired degree of partial clutch engagement from the 4 positions in both the fast and slow engagement directions from the default (standard) setting. You need to make an adjustment in the following cases.

- If clutch engagement is too fast or too slow when you start the vehicle.
- The timing of clutch engagement does not agree with your preference.



Adjustment

- With the engine running, pull up the parking brake lever and place the gearshift lever into the "N" position.
- 2. Press the "FAST" side or "SLOW" side of the Smoother adjustment switch. If you feel the clutch slip, press the "FAST" side. If you feel the clutch engages abruptly, push the "SLOW" side. Select your desired position from the 4 plus (+) stages and the 4 minus (-) stages with the center position as the default. This makes nine stages total.
- Each time you press the adjustment switch, a buzzer beeps once, showing you that one step of adjustment has completed. If you want to make another step of adjustment, release the switch and press it again. The buzzer beeps again, showing you that the next adjustment has been completed.

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	What side of and how many times the switch should be pressed		
Condition	SLOW side	FAST side	
Fine adjustment is required.	Once	Once	
When you feel the clutch slip.	_	2 to 3 times	
When you feel the clutch engage abruptly.	2 to 3 times	_	



- If it is not possible to make a full adjustment within the adjustable range (±4 stages), have the default setting checked at the nearest Isuzu Dealer.
- Make partial clutch engagement adjustments when the engine is running at idle.
- Have the initial adjustment of the Smoother system performed at your Isuzu Dealer.

If the Smoother System Fails

Should the Smoother warning light come on and remain on or flash during driving, stop the vehicle at a safe place. If the warning light does not go out, have the vehicle inspected at the nearest Isuzu Dealer.

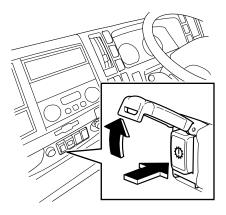
Smoother Warning Light SA

→ Refer to page 4-74



CAUTION

- If this Smoother warning light comes on, the following conditions may occur. Also, vehicle movement during regular operation may become abnormal, such as difficulty during speed adjustments at very low speeds, or the inability to pull up to loading platforms correctly. In such cases, operate the vehicle while paying close attention to your surroundings and promptly have it inspected at the nearest Isuzu Dealer.
 - Creeping does not occur
 - Shifting up or down cannot be performed
 - The timing for the clutch is faster or slower than usual
- · A vehicle with a Smoother system cannot pushed to start the engine or to turn the starter motor. If the engine stalls and cannot be restarted, place the gearshift lever into the "N" position and make sure that the shift indicator displays "N". Then push the vehicle to move it to a safe place. If the shift indicator displays any position other than "N", press the Smoother emergency switch to the "ON" position and place the gearshift lever into the "N" position. Then push the vehicle to a safe place.



How to Use the Smoother Emergency Switch

Use the Smoother emergency switch if a failure to the Smoother system's electrical system occurs and move the vehicle to a safe place. After moving to a safe place, promptly contact the nearest Isuzu Dealer. Normally, the emergency switch must be kept in the "OFF" position. Do not touch it during driving.

CONTROLS AND INSTRUMENTS



- Fully pull up the parking brake lever, turn the starter switch to the "LOCK" or "ACC" position while fully pressing the brake pedal and make sure that the gearshift lever is in "N".
- Turn the starter switch to the "ON" position.
- Open the cover of the Smoother emergency switch, press the switch, and check that the Smoother warning light flashes.
- 4. Start the engine while fully depressing the brake pedal. Release the parking brake and then place the gearshift lever into "D" or "M" for a forward movement or into "R" for a backward movement. Make sure that the shift indicator displays "1" when the gearshift lever is placed in a forward movement position and "R" when the lever is in the backward movement position.
- Release the brake pedal and slowly depress the accelerator pedal to start the vehicle.

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CAUTION

- The Smoother emergency switch must be used only in an emergency.
 Normally, the switch must be kept in the "OFF" position. Do not open the cover of the emergency switch. Never operate the Smoother emergency switch while driving.
- After you have moved the vehicle to a safe place using the emergency switch, promptly place the emergency switch back to the "OFF" position, return the gearshift lever to "N", and close the cover.
- When the Smoother emergency switch is in the "ON" position, the Smoother warning light flashes.
- When the emergency switch is in the "ON" position with the gearshift lever in any position other than "N", the vehicle may suddenly start moving. When turning the emergency switch to the "ON" position, be sure to keep the brake pedal depressed.
- When the emergency switch is in the "ON" position, the engine can be started
 even with the gearshift lever in a position other than "N".
 When the engine is started with the transmission in gear, the vehicle may
 suddenly start moving. To prevent this, firmly set the parking brake and fully
 depress the brake pedal with your right foot when starting the engine.
- When the emergency switch is placed in the "ON" position, the shift lock function does not work. If you fail to depress the brake pedal when moving the gearshift lever from "N" into "D" or "R", the vehicle will suddenly start moving.
 Operate the gearshift lever only after holding the brake pedal fully depressed.



NOTE

 When the emergency switch is in the "ON" position and the gearshift lever is in the "D" or "M" position, the transmission does not shift to any gear other than the 1st

CONTROLS AND INSTRUMENTS

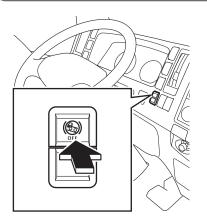
Hill Start Aid (HSA)

When HSA is activated, the system retains the braking pressure that is produced when the brake pedal is depressed during a stop even after the brake pedal is released. The vehicle is then held stopped for the period of time until the HSA is deactivated. (The HSA works only while the engine is in operation.)

A CAUTION

- When leaving the driver's seat, be sure to firmly set the parking brake.
- Since the HSA no longer provides braking pressure if the starter switch is turned
 to the "ACC" or the "LOCK" position, the HSA OFF switch is pressed, or the
 fuse for the HSA circuit is removed while the HSA is activated, the vehicle will
 move down a slope and a very dangerous situation may result.
- When the engine is not in operation, the brake system air pressure is low (fullair brake model) or the battery voltage is low, do not use the HSA because its ability to retain the brakes applied is decreased.
- If the vehicle rolls while the HSA is activated, either push the brake pedal further down or ensure that the parking brake is fully applied.
- Use the parking brake when stopping the vehicle with a gradient of 10% or higher if the vehicle is loaded up to the rating limit.
- When stopping the vehicle for a long time, set the parking brake rather than relying on the HSA.
- If you suspect a problem with the HSA, press the HSA OFF switch to turn it off.
 Normal braking will be restored.
- When the vehicle stops after strong braking or due to the wheels being locked, the HSA may temporarily not operate. If this happens, use the parking brake or keep depressing the brake pedal to hold the vehicle in place.

HSA OFF Switch



Press this switch when deactivating the HSA. The HSA stops working. Pressing the switch again activates the HSA.

CAUTION

 Deactivate the HSA on a snowy, icy or otherwise slippery road. When the wheels are locked on a slippery road, the HSA may activate, keeping the wheels locked.

ADVICE

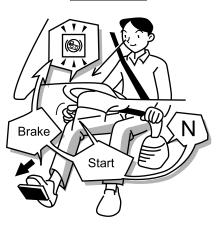
- Deactivating the HSA returns the brake system to normal operation. The air pressure of the brake is not retained when you release the brake pedal.
- Only when vehicle needs support on a grade, driver should activate HSA with switch.

CONTROLS AND INSTRUMENTS

How to Use HSA

HSA indicator light





 Place the starter switch into the "ON" position. Make sure the HSA indicator light in the meter panel comes on and stays on for about 3 seconds.

HSA Indicator Light ∨

→ Refer to page 4-85

 Start the engine. Release the parking brake and fully depress the brake pedal for at least 1 second. Confirm activation of the HSA by checking that the HSA indicator light in the meter panel comes on.

When the HSA OFF switch remains "ON", the HSA indicator light does not come on.

 $\textbf{HSA OFF Switch} \rightarrow \textbf{Refer to page 4-151}$

To Activate the HSA

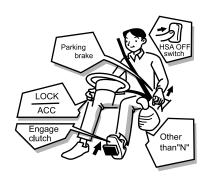
- 1. Stop the vehicle.
- When HSA is active and the driver takes his foot off the brake, HSA indicator light comes on for a few seconds and then goes out.

A CAUTION

- The HSA is a device to retain the vehicle in a stopped position for a short time and cannot replace the parking brake. When leaving the vehicle, be sure to set the parking brake.
- If the brake pedal is not pressed down sufficiently when on a steep downslope, the vehicle may move. In such a case, depress the brake pedal down further.
- The HSA is activated about 1 second after the brake pedal is depressed. Keep fully depressing the brake pedal during this period.
- When the vehicle stops after strong braking or due to the wheels locking, the HSA may temporarily not operate. If this happens, use the parking brake or keep depressing the brake pedal to hold the vehicle in place.
- If the HSA system is not working normally, deactivate the HSA and have it inspected at the nearest Isuzu Dealer as soon as possible.



CONTROLS AND INSTRUMENTS



To Deactivate the HSA

The HSA cancels its operation and releases the brakes in any of the following cases.

- When the HSA OFF switch is pressed into the "ON" position.
- When the starter switch is placed into the "ACC" or "LOCK" position.

<u></u> CA

CAUTION

- When leaving the driver's seat, be sure to firmly set the parking brake.
- Since the HSA no longer provides braking pressure if the starter switch is turned
 to the "ACC" or the "LOCK" position, the HSA OFF switch is pressed, or the
 fuse for the HSA circuit is removed while the HSA is activated, the vehicle will
 move down a slope and a very dangerous situation may result.
- When the engine is not in operation, the brake system air pressure is low (fullair brake model) or the battery voltage is low, do not use the HSA because its ability to retain the brakes applied is decreased.
- If the vehicle rolls while the HSA is activated, either push the brake pedal further down or ensure that the parking brake is fully applied.
- Use the parking brake when stopping the vehicle with a gradient of 10% or higher if the vehicle is loaded up to the rating limit.
- When stopping the vehicle for a long time, set the parking brake rather than relying on the HSA.
- If you suspect a problem with the HSA, press the HSA OFF switch to turn it off.
 Normal braking will be restored.
- When the vehicle stops after strong braking or due to the wheels being locked, the HSA may temporarily not operate. If this happens, use the parking brake or keep depressing the brake pedal to hold the vehicle in place.

Cruise Control V

The cruise control function allows you to drive the vehicle at a constant speed without operating the accelerator pedal. The setting range for cruise control is approximately between 40 and 80 km/h (25 and 50 MPH). This function should only be used when driving without frequent starts and stops.

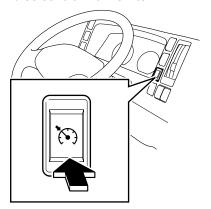


Do not use the cruise control function on the following roads, where using it could be dangerous.

- · A road with a heavy traffic, such as an urban road
- · A road that includes sharp curves and steep downhill slopes
- · An icy, snowy or otherwise slippery road

Setting to Your Desired Vehicle Speed

Cruise control main switch



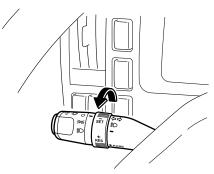
 Press the cruise control main switch to the "ON" position. The cruise control main indicator light will come on.

Cruise control main indicator light



CONTROLS AND INSTRUMENTS

Cruise control set switch



Cruise control set indicator light



2. Use the accelerator pedal to adjust the vehicle to a desired speed between approximately 40 and 80 km/h (25 and 50 MPH). Upon reaching the desired speed, operate the cruise control set switch. The vehicle speed at the moment you operate the switch is set in the system, enabling you to drive with the set speed automatically maintained without using the accelerator pedal. At the same time the cruise control set indicator light comes on.



NOTE

 When you use the exhaust brake, the cruise control cannot be set.
 Turn off the exhaust brake switch.

Exhaust Brake Switch

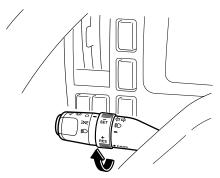
→ Refer to page 4-119

Accelerating during Cruise Control Driving

If you want to accelerate temporarily to pass another vehicle while driving using the cruise control, depress the accelerator pedal. When you release the accelerator pedal, the speed returns to the original set vehicle speed.

Changing the Cruise Control Speed Setting

Cruise control resume switch



When Increasing Vehicle Speed

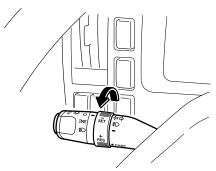
When the cruise control resume switch is operated, the speed increases while the switch is held.

After the speed is increased to the desired vehicle speed, and the switch is released, the speed is set at the increased vehicle speed. If you want to increase the speed quickly, depress the accelerator pedal and accelerate to the desired vehicle speed. Then, operate the cruise control set switch.

When Increasing Vehicle Speed Slightly

If the cruise control resume switch is operated and released immediately, the set vehicle speed increases 1 km/h (0.6 MPH) per operation.

Cruise control set switch



When Decreasing Vehicle Speed

When the cruise control set switch is operated, the speed decreases while the switch is held.

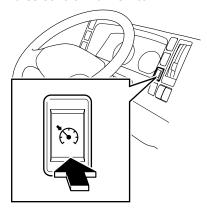
After the speed is decreased to the desired vehicle speed, and the switch is released, the speed is set at the decreased vehicle speed. If you want to decrease the speed quickly, depress the brake pedal to cancel cruise control and decelerate to the desired vehicle speed. Then, operate the cruise control set switch.

When Decreasing Vehicle Speed Slightly

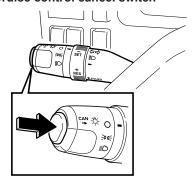
If the cruise control set switch is operated and released immediately, the set vehicle speed decreases 1 km/h (0.6 MPH) per operation.

When Canceling Cruise Control

Cruise control main switch



Cruise control cancel switch



Press the cruise control main switch again to set it to "OFF". The cruise control main indicator light will go out.

The cruise control is canceled in the following cases.

- When the brake pedal is depressed.
- When depressing the clutch pedal (manual transmission model).
- When applying the exhaust brake.
- When the vehicle speed decreases to approx. 40 km/h (25 MPH) or less.
- When there is an abnormality in the engine control system.
- When the vehicle speed decreases approx. 40 km/h (25 MPH) or more from the set vehicle speed.
- · When shifting gears.
- When operating the cruise control cancel switch.
- When the electronic stability control (ESC) or anti-slip regulator (ASR) is activated (model with ESC).

ADVICE

- When you do not use the cruise control, be sure to place the cruise control main switch into "OFF".
- When you place the starter switch into "ACC", place the cruise control main switch into "OFF" then reset the cruise control.



NOTE

 A Smoother model may automatically shift during the auto mode operation. This does not cancel cruise control.

When Returning to Cruise Control Driving

If you have canceled cruise control under the following conditions, you can return to the cruise control driving condition before cancellation when you operate and release the cruise control resume switch. The moment the resume switch is released, the cruise control set indicator light comes on.

- · When depressing the brake pedal.
- · When applying the exhaust brake.
- · When shifting gears.
- When operating the cruise control cancel switch.

Auxiliary Brake Function

Automatic activation of the auxiliary brake (exhaust brake) during cruise control driving suppresses an increase in the speed on a downhill slope, decreasing the need for the driver to apply the regular brake pedal.

A CAUTION

• The maximum slope angle at which the system can control the vehicle speed increase is different depending on the load the vehicle is carrying.

Automatic Activation and Automatic Release of Auxiliary Brake

- The auxiliary brake is engaged when the vehicle speed exceeds the set speed on a downhill slope.
- The auxiliary brake is disengaged when the vehicle slows down close to the set speed.



CONTROLS AND INSTRUMENTS

Anti-lock Brake System (ABS)

Wheels may be locked and slip during sudden braking or braking on a slippery road surface such as a snowy road. ABS is a device to prevent the wheels from locking by detecting a slippery condition during braking and to secure directional stability and handling stability of the vehicle. ABS is only to assist in slippery conditions and will not prevent an accident if you exceed safe driving speeds for road conditions. Always drive safely.

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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 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.

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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 4-63

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.

A 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.
- ABS does not work for wheel skid during a standing start, acceleration and
 cornering which do not involve braking. On a very slippery icy road, tires may
 lose grip and steering wheel operation may not be able to control the vehicle's
 direction, resulting in very unstable driving. Always drive the vehicle observing
 a safe speed well matched with both road surface and tire conditions, and avoid
 sudden braking.
- If powerful engine braking is applied on a very slippery icy road, the drive wheels may be locked (the ABS then does not work), resulting in loss of vehicle control. If this happens with a manual transmission vehicle, disengage the clutch or place the gearshift lever into the "N" position to prevent engine braking from acting on the drive wheels. Then, drive the vehicle with the gearshift lever placed in an appropriate gear.
- 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.

CAUTION (Continued)



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CONTROLS AND INSTRUMENTS

CAUTION (Continued)

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.

Boost Assist Function V

This device boosts hydraulic pressure to provide the necessary braking force during sudden braking or when strong braking force exceeding the boost limit of the brake booster unit is required. It also provides braking assistance when the performance of the brake servo unit is decreased. The boost assist device is not a device for enabling unsafe driving and stopping practices. Please drive safely.



NOTE

• When the boost assist function is operating, vibrations may be felt from the brake pedal and steering wheel, and operational sounds may also be heard. This is normal when the boost assist function is operating properly.

Mechanical Brake Assist System 🔻

The mechanical brake assist system assists the driver when the brake pedal cannot be adequately depressed, such as in case of an emergency. This system reduces the pedal force necessary for the vehicle's full braking effect to be achieved and maximizes the effects of the ABS by increasing braking power based on the detected force and speed at which the pedal is depressed by the driver.

Electronic Braking force Distribution (EBD) VIN1 V

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.

A 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.
- For full-air brake models, EBD 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.

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.

Electronic Brake force Limitation (EBL) VIN2 V

EBL 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.

A CAUTION

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

CONTROLS AND INSTRUMENTS

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.

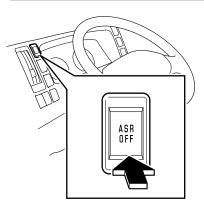
NOTE

- · 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 reenabled when you restart the engine.

CONTROLS AND INSTRUMENTS

ASR Operation Check and ASR Operation

ASR indicator light

ASR

(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
 - 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 V

→ Refer to page 4-86

Precautions for Driving an ASR-equipped Vehicle

ASR is not a device that enables driving under conditions exceeding safe limits. Always drive safely.

A 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 (manual transmission model) 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 4-167

Electronic Stability Control (ESC)

The ESC improves safety and a vehicle's stability. The ESC controls the engine power and applies the brakes to the wheels that need it in order to suppress wheelspin when starting or accelerating on slippery road surfaces, maintain drive power, prevent skidding to the side and improve vehicle stability. The ESC has various sensors that detect rapid changes in the vehicle conditions while driving. The anti-slip regulator (ASR) suppresses wheelspin when starting or accelerating. The ASR is included in the ESC. The ESC is automatically activated when the engine is started. However, if your vehicle is equipped with the ESC OFF switch, the ESC can be canceled (operation stopped status) or only the function of the ASR can be canceled (operation stopped status) by using the ESC OFF switch.

The ESC is a requirement of the General Safety Regulations. The user will be held responsible when deactivating this system.

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CAUTION

- When the ESC is activated, the ESC warning light flashes.
- The ESC warning light will also flash when only the ASR function is operating.
- When the ESC warning light is flashing, the road surface is slippery or acceleration is too fast. Loosen pressure on the accelerator pedal and drive conservatively.
- The ESC warning light may also flash when fully depressing the accelerator pedal on roads that are not slippery such as dry asphalt roads. This is a normal condition that predicts slipping and operates control.
- Even with an ESC-equipped model, when driving on a snowy or icy road, install tire chains or winter tires, and carefully drive the vehicle. The ESC is not a device for drastically improving the vehicle stability when driving or starting performance, so drive carefully on snowy or icy roads.
- In the case of VIN type 1 model, when tire chains are installed, it may be easier
 for you to start the vehicle to move on an icy slope if just the ASR is canceled.
 Be aware, however, that ASR deactivation will result in reduced vehicle stability.
- Install tires of the specified size, same brand, same type and same tread design (including winter tires) on all wheels. In addition, do not install or use tires with significantly varying degrees of wear. If tires other than the specified size, different types, or tires with significantly varying degrees of wear are used, the ESC may not operate properly.
- If the tire diameter is different such as when installing tire chains or a spare tire, the ESC may not operate properly.
- If suspension-related parts, brake-related parts, or engine-related parts are replaced with parts other than Isuzu genuine parts or modified, the ESC may not operate properly.

CAUTION (Continued)

CAUTION (Continued)

- Be sure to consult with your Isuzu Dealer for replacement or repair of the steering wheel or steering-related parts. There is a sensor on the steering wheel that detects driving operation conditions, and the ESC may not operate properly if the steering wheel center position is misaligned.
- Do not tow the vehicle with the starter switch turned to the "ON" position with just the front wheels or rear wheels raised. The ESC may operate and cause an accident.



NOTE

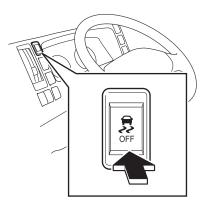
[These are not signs of ESC malfunction]

- Immediately after the engine is started, a motor sound may be heard from the engine compartment. This sound is from a self-check by the ESC. In addition, you may also feel some vibration if the brake pedal is pressed at this time.
- When the ESC is operating, the brake pedal movement may wiggle or feel tight.
 In addition, the vehicle body may vibrate or you may hear operating sounds.
 This is normal for ESC operation.
- In the case of VIN type 1 model, the ESC will not operate immediately after starting until the vehicle reaches approximately 15 km/h (9 MPH).



ESC OFF Switch

When getting unstuck from mud or fresh snow with the ESC and ASR operating, the engine output may not rise even when the accelerator pedal is depressed, making getting unstuck difficult. In times like this, pressing the ESC OFF switch will make getting unstuck easier. The ESC can be turned off using the ESC OFF switch, or just the ASR (function for suppressing tire spinning when starting or accelerating) in the ESC system can be turned off.



ASR OFF indicator light



ESC warning light



When Canceling the ASR

When the ESC is active after the engine is started, press the ESC OFF switch for approximately 1 second to cancel the ASR and cause the ASR OFF indicator light in the meter to turn on. When the switch is pressed again for approximately 1 second, the ASR function turns back on.

A CAUTION

- When you turn off the 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 the ASR during normal driving.
- Even when the ASR is off, partial brake control will operate. The ESC warning light will flash during operation.



NOTE

 If the engine is turned off and then restarted again while the ASR is off, the ASR will be automatically reactivated.

When Canceling the ESC

When the ESC is active after the engine is started, press the ESC OFF switch for approximately 5 seconds to cancel the ESC and cause the ESC OFF indicator light in the meter to turn on. When the switch is pressed again for approximately 1 second, the ESC function turns back on.



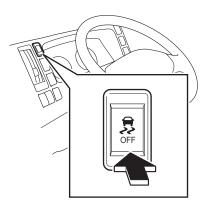
CAUTION

- When you turn off the ESC, it will not be available to assist you in slippery driving conditions. Always use caution when driving on slippery roads.
- Be sure to enable the ESC during normal driving.
- When the ESC is turned off, the ASR will also be turned off, thus be careful when driving on slippery roads.



NOTE

 If the engine is turned off and then restarted again while the ESC is off, the ESC will be automatically reactivated.



ESC OFF indicator light



ESC Operation Check, Operation, Error

ESC warning light



ASR OFF indicator light



ESC OFF indicator light



ESC Operation Check

When the starter switch is turned to the "ON" position, for models with the ESC OFF switch, the ESC warning light, ASR OFF indicator light, and ESC OFF indicator light turn on before going out after approximately 3 seconds. For models without the ESC OFF switch, the ESC warning light turns on before going out after approximately 3 seconds. The ESC is normal if the warning light and indicator light go out.

When the ESC is Operational

When the ESC is operating, the ESC warning light flashes.

ESC Faulty

When the ESC warning light does any of the following, the ESC may be faulty. Please contact the nearest Isuzu Dealer.

- The ESC warning light remains on while driving.
- For models with the ESC OFF switch, the ASR OFF indicator light and ESC OFF indicator light turn on while driving (when the ESC OFF switch is not operated).
- For models with the ESC OFF switch, the ESC warning light, ASR OFF indicator light, and ESC OFF indicator light do not turn on when the starter switch is turned to the "ON" position.
- For models without the ESC OFF switch, the ESC warning light does not turn on when the starter switch is turned to the "ON" position.



NOTE

 If the ESC is faulty, it does not interfere with normal driving. However, the ESC will not function.

Driving Precautions for Vehicles Equipped with ESC

A CAUTION

- The ESC is not a device that enables driving under conditions exceeding safe limits. Always drive safely.
- Always concentrate on driving safely and do not be overconfident just because
 the vehicle is equipped with the ESC, so do not drive too fast and turn the
 steering wheel too sharply.
- The ESC does not increase the road grip of tires although it controls slipping and sliding of vehicles and improves the vehicle stability on a slippery road surface during starting and acceleration when compared to a model without ESC. On an icy or otherwise slippery road, the grip of the tires decreases which also reduces steering control, resulting in unstable vehicle behavior. Always drive the vehicle observing a safe speed well matched to the road surface and tire conditions, and also avoid speeding.
- The ESC is a system for maintaining drive power and vehicle stability. Turn the system on even when it is not needed. When the system is turned off, drive carefully at a safe speed well matched to the road surface.
- Even if ESC is equipped, avoid sudden operation of the accelerator pedal, clutch pedal (manual transmission models) and steering wheel. Especially when starting the vehicle on a slippery road, start up slowly as you would in a vehicle without ESC.
- When the ESC is activated, the ESC warning light flashes.
- The ESC warning light will also flash when only the ASR function is operating.
- When the ESC warning light is flashing, the road surface is slippery or acceleration is too fast. Loosen pressure on the accelerator pedal and drive conservatively.
- The ESC warning light may also flash when fully depressing the accelerator pedal on roads that are not slippery such as dry asphalt roads. This is a normal condition that predicts slipping and operates control.
- Even with an ESC-equipped model, when driving on a snowy or icy road, carefully drive the vehicle, and install tire chains or winter tires.
- In the case of VIN type 1 model, when tire chains are installed, it may be easier
 for you to start the vehicle to move on an icy slope if just the ASR is canceled.
 Be aware, however, that ASR deactivation will result in reduced vehicle stability.
- Do not install a commercially available limited slip differential (LSD). The ESC may not operate properly.

4-176 CONTROLS AND INSTRUMENTS



NOTE

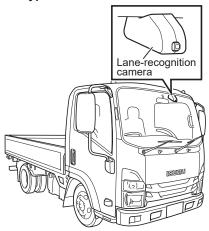
- · When the ESC is operating, the brake pedal movement may wiggle or feel tight. In addition, the vehicle body may vibrate or you may hear operating sounds. This is normal for ESC operation.
- If there is significant wear or degradation on parts related to the suspension, tires, brakes, etc., the ESC warning light may turn on. In such cases, the ESC may not function properly.
- The ESC warning light may turn on when the vehicle is on a turntable at the entrance of a parking garage or on a moving object, etc. In such cases, re-start the engine after the vehicle has left the turntable.
- The ESC warning light may turn on when driving on roads with extreme inclines (the banks seen on race tracks, etc.). In such cases, the ESC may not function properly, so do not drive on such roads.
- The ESC warning light may turn on when the battery cables are disconnected or the battery voltage is low. The ESC function turns off while the ESC warning light is on, but the ESC warning light will turn off by driving the vehicle normally for a while, then the ESC function will resume. If the ESC warning light remains on even after driving for a while, contact the nearest Isuzu Dealer.

Lane Departure Warning System (LDWS) 🔻

The Lane Departure Warning System (LDWS) detects when a vehicle deviates from a lane and alerts the driver by way of audible warnings and multi-information display (MID) messages. This system operates at speeds of 60 km/h (37 MPH) and above. There are two types of LDWS (Type 1) camera, VIN type 1 model and VIN type 2 model.

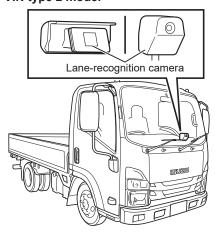
The LDWS is a requirement of the General Safety Regulations. The user will be held responsible when deactivating this system.

VIN type 1 model



The lane-recognition camera is equipped near the rearview mirror.

VIN type 2 model



The lane-recognition camera is equipped at bottom-center of windshield.

CONTROLS AND INSTRUMENTS

MARNING

- The LDWS is designed to support driving within the lanes, and is not meant as
 a substitute for paying attention to the road or keeping your hands on the wheel.
 Always keep your hands on the steering wheel and drive safely.
- The system may not function properly due to not being able to recognize the lane when:
 - Lane markers are blurred or dirty
 - Lane markers are hard to detect due to rain, snow, fog, reflective light, etc.
 - Lane markers can not be easily recognized due to being faded from road construction, or due to shadows, snow, puddles, etc.
 - Lane markers are drawn close to each other
 - Lane markers are excessively narrow or wide
 - Driving on sharp curves, such as those at highway entrances
 - Driving across lane markers because of lane restrictions due to construction or within temporary markers that have been drawn for construction purposes
 - Driving on twisting or rough roads
 - Driving outside of main highway lanes such as when in the cruising or passing lanes (e.g. on the shoulder, etc.)
 - Headlight illumination is weak or unfocused due to dirty headlight lenses, etc.
 - Sudden or continuous changes in brightness occur
 - The vehicle is tilted significantly due to an unevenly loaded cargo, incorrectly adjusted tire pressure, etc.

A CAUTION

- Observe the following in order to prevent failure or malfunction of the LDWS.
 - Always keep the windshield clean. Functionality may decrease due to the adherence of raindrops, condensation, ice, or snow.
 - Use the heater or air conditioner to clear the windshield when it is fogged.
 - Do not subject the lane-recognition camera to strong impacts.
 - Do not remove, disassemble, or change the mounting location of the lanerecognition camera. If removed, have it inspected and serviced at your Isuzu Dealer.
 - In the case of VIN type 1 model, do not place objects on top of the dashboard. Items may be reflected on the windshield, and the lane markers may not be properly recognized.
 - Do not place stickers, etc., on the windshield glass in front of the lanerecognition camera lens.
- In the case of VIN type 1 model, do not remove the left and right door speakers.
 Doing so will cause the warning buzzer to stop operating. Also, if the speakers
 are replaced by anything other than Isuzu genuine products, not only will
 the warning buzzer stop operating, but the LDWS warning light (amber) may
 illuminate as well.
- In the case of VIN type 2 model, the LDWS will not function if the LDWS camera
 is not properly attached to the windshield.
 If the LDWS camera is loose or has become detached, have the vehicle
 inspected at your nearest Isuzu Dealer immediately.

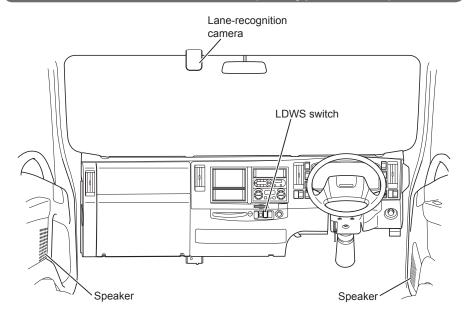


NOTE

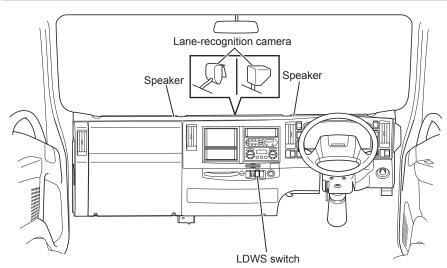
· LDWS stands for "Lane Departure Warning System".

4-180 CONTROLS AND INSTRUMENTS

LDWS Related Devices (VIN type 1 model)



LDWS Related Devices (VIN type 2 model)



Details of LDWS MID displays

Depending on the LDWS status, the following will be shown on the MID.

Model with MID (Type 1)

Name	Screen display	Indication details
LDWS OFF	2014 10/30 (THU)	When the LDWS warning function is stopped using the LDWS switch
LDWS ON	\wedge	When the LDWS system is operating
Warning display	\\.	When the LDWS system detects lane deviation and issues a warning
Vehicle lane cannot be detected		When the lane-recognition camera cannot detect the vehicle lane

^{*}Will be shown in display area 3

Multi-Information Display (MID) (Type 1) \rightarrow Refer to page 4-24

Model with MID (Type 2)

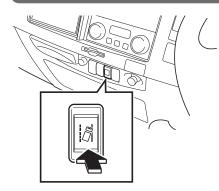
Name	Screen display	Indication details	
LDWS ON	/ ∃` \	When the LDWS system is operating	
Warning display	B	When the LDWS system detects lane deviation and issues a warning	

^{*}Will be shown in display area 4

Multi-Information Display (MID) (Type 2) \rightarrow Refer to page 4-44

CONTROLS AND INSTRUMENTS

LDWS Switch



Use the LDWS switch to change the timing of the LDWS warning or to stop LDWS operation.

In type 1, with each press of the LDWS switch, a short beep sound can be heard and the LDWS system will switch between "Default", "LDWS Off", and "Fast" in that order before returning to "Default". When operation of the LDWS is stopped, the LDWS warning light (amber) will come on.

Model with MID (Type 1)

Warning timing	Display area 3	LDWS warning light	Warning timing description
Fast	Λ	OFF	Sounds when the vehicle comes in contact with the left or right lane markers
Default	/\	OFF	Sounds when the vehicle crosses the left or right lane markers
System OFF	2014 10/30 (THU)	ON	_

NOTE

- If the engine is stopped with the warning timing set to "Default" or "Fast", the same warning timing will be maintained when the engine is started again.
- If the engine is stopped with the LDWS operation stopped, the LDWS will automatically turn back on with the warning timing set to "Default" when the engine is restarted.

CONTROLS AND INSTRUMENTS

Model with MID (Type 2)

Display area 4	LDWS warning light	Warning timing description
BB	OFF	Sounds when the vehicle comes in contact with the left or right lane markers
_	ON	_



LDWS Operation Check

LDWS Warning Light



It is normal for the LDWS warning light (amber) to come on and then turn off after approximately 3 seconds when the starter switch is turned to the "ON" position. When the LDWS is enabled, the LDWS ON indicator light (green) will illuminate in MID display area 3.

Multi-Information Display (MID) (Type 1)

→ Refer to page 4-24

Multi-Information Display (MID) (Type 2)

 \rightarrow Refer to page 4-44

LDWS Warning Light V

→ Refer to page 4-66

LDWS Warnings

When the LDWS detects the vehicle deviating from a lane, it alerts the driver with messages in the MID display and warning sounds.

Model with MID (Type 1)

Warning timing	Display area 3	Warning sound	Condition
	Λ;	Repeated beeping	Vehicle tire in contact with right lane marker (Warning buzzer sounds from right speaker)
Fast	! V	Repeated beeping	Vehicle tire in contact with left lane marker (Warning buzzer sounds from left speaker)
Default	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Repeated beeping	Vehicle tire crossed right lane marker (Warning buzzer sounds from right speaker)
	<u> </u>	Repeated beeping	Vehicle tire crossed left lane marker (Warning buzzer sounds from left speaker)

Model with MID (Type 2)

Display area 3	Warning sound	Condition
	Continuos beep	Warning buzzer sounds when the vehicle tire in contact with right lane marker
	Continuos beep	Warning buzzer sounds when the vehicle tire in contact with left lane marker



NOTE

- The warning will sound if the driver changes lanes without operating the turn signal switch.
- If the vehicle is parked in the sun for an extended period of time, the LDWS may not operate immediately after the vehicle is started, but this is normal. The lone-recognition camera will resume operation once the temperature around the camera has returned to a normal level.
- After the LDWS operates, the function will be temporarily halted. The function will recover a few seconds after it is halted.
- LDWS warnings will be temporarily disabled in the following cases.
 - The turn signal switch is operated
 - The steering wheel is turned with a force appropriate for making a lane change
 - The brake pedal is depressed
 - When driving on sharp curves
 - When vehicle speed is below 60 km/h (37 MPH)
 - When lane markers can not be recognized during vehicle operation
 - Immediately after an LDWS warning has been issued (The system will stop and remain off for a few seconds after a warning has been issued.)

CONTROLS AND INSTRUMENTS

LDWS Failure

Model with MID (Type 1)

When an abnormality occurs, the following indications will be shown on the MID. At this time, the LDWS will not operate.

MID indication	Screen display	Indication details	Remedy
Camera dirty	CLEAN UP CAMERA	The lane-recognition camera lens and/or the windshield (inside and/or outside) are dirty	Clean the lane- recognition camera lens or windshield (inside and/or outside).
LDWS failure	LDWS FAILURE	When the system has malfunctioned	Contact your nearest Isuzu Dealer.



NOTE

• When driving on snow covered roads, "CLEAN UP CAMERA" will be shown in the MID when the windshield has been blocked by snow. However, this does not indicate a failure.

Model with MID (Type 2)

If there is a malfunction, an error code is shown on the error code display. If an error code is shown, contact the nearest Isuzu Dealer.

> Multi-Information Display (MID) (Type 2) V → Refer to page 4-44

Advanced Emergency Braking System (AEBS)

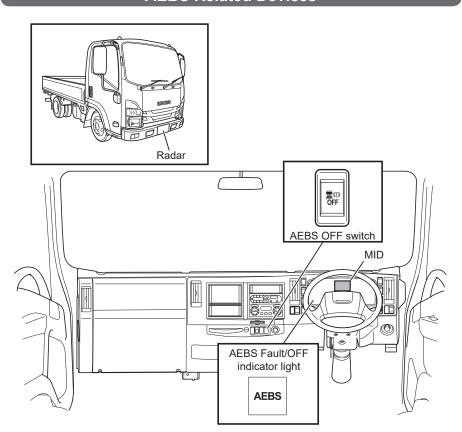
This system automatically detects emergency situations by radar and reduces the vehicle speed by operating the brakes in order to avoid a collision or mitigate the damage from a collision. This system does not react to the oncoming traffic. The AEBS is a requirement of the General Safety Regulations. The user will be held responsible when deactivating this system.



NOTE

· AEBS stands for "Advanced Emergency Braking System".

AEBS Related Devices



CONTROLS AND INSTRUMENTS

MARNING

- · Limits of the AEBS
 - Do not overly rely on the AEBS. When driving, always pay attention to your surroundings and drive safely.
- · In order to use safely
 - Objects located in the forward direction may not be detected correctly or
 objects located on the side of the road may detected erroneously if cargo
 loading is performed unevenly (only on one side, only to the front or rear), if
 the vehicle attitude is excessively tilted, or depending upon surrounding road
 conditions. The AEBS may not function effectively in such circumstances.
 - The AEBS is not for avoiding collisions by compensating driver operation or for bringing the vehicle to a safe stop. Do not overly rely on this system and always drive safely.
- Consult your Isuzu Dealer when performing either of the following, as they will
 result in changes to the vehicle attitude and require special procedures to be
 taken. If the vehicle is driven without the required procedures being taken, the
 AEBS may not operate correctly or may malfunction.
 - Changing the tire sizes
 - Replacing leaf springs

A CAUTION

- Observe the following in order to prevent failure or malfunction of the AEBS.
 - Do not subject the radar to strong impacts.
 - Do not change the position of the radar or the radar cover.
 - Do not paint the radar cover.
 - Do not change the radar cover.
 - Do not apply any stickers on the radar cover.



NOTE

- Operating conditions (All of the following conditions must be met for operation)
 - The starter switch is in the "ON" position.
 - The AEBS OFF switch is not pressed.
 - The vehicle is travelling in the speed range between 15 km/h (9 MPH) and 125 km/h (78 MPH).
 - The vehicle is not traveling in Temporary Out of Service Mode.
 - The AEBS Fault/OFF indicator light is not on.
- Cases where the AEBS may not operate or its operation may be delayed or limited
 - Other vehicles suddenly cut in front of your vehicle
 - The system determines that the emergency situation can be avoided by driver operation
 - The vehicle is travelling at a low speed
 - The weather and/or road conditions are poor
 - The center of the object cannot be detected on the road
 - The center of the object cannot be detected on a narrow curve
 - The stop lights have not illuminated for a certain period of time before the emergency brake is to be applied
 - The vehicle speed is 90 km/h (56 MPH) or higher
 - The vehicle is travelling on a narrow curve
 - The vehicle is travelling on a curve where the lateral acceleration becomes high
 - The vehicle is travelling in a tunnel
 - Another vehicle's stability control system is operating
 - The travel distance after the vehicle started travelling is 10 km or less
- Warnings may operate after the driver recognizes the situation and/or takes actions to avoid a collision. They are not false warnings.

[EBA (Extended Brake Assistance)]

• The EBA increases the brake force requested manually by the driver to avoid a collision when the vehicle is about to collide with an oncoming vehicle. The EBA is operated by the driver depressing the brake pedal, even slightly, only when the AEBS warning is operating. As long as the AEBS warning is operating, even when the object moves outside the range of collision after the driver depressed the brake pedal, the last deceleration request from the EBA will be kept.



CONTROLS AND INSTRUMENTS

Stopping or Automatic Deactivation of AEBS Operation

The AEBS will not operate or will be automatically deactivated under the following conditions. At this time, the system will not operate even when the possibility of a collision occurring exists.

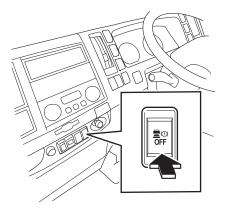
- When the AEBS OFF switch is pressed to deactivate the AEBS
- · When an AEBS abnormality is detected
- · When the turn signal lights are illuminated or when the driver fully depresses the accelerator pedal
- When the AEBS has operated 3 times



NOTE

 If the AEBS operates 3 times then automatically deactivates, the AEBS Fault/ OFF indicator light will come on. The vehicle should be taken to an Isuzu Dealer for reactivation.

AEBS OFF Switch



AEBS Fault/OFF indicator light



This switch is for turning the AEBS on and off. Pressing the switch will result in the AEBS not operating. At this time, the AEBS Fault/OFF indicator light comes on, and the buzzer beeps. Pressing the switch again will result in the AEBS being reactivated, at which time the AEBS Fault/OFF indicator light will turn off. This function is to be used when it is necessary to deactivate the AEBS, such as when the AEBS occasionally operates even though there is no possibility of a collision.

CAUTION

- In the following cases, be sure to turn off the AEBS:
 - When the vehicle is being towed
 - When using a speed tester or brake tester, or other situations where the wheels are rotated at a location where the vehicle is stable
 - When the wheels are rotated while the vehicle is lifted from its front or rear axle

NOTE

 The AEBS will always turn on after the engine is started.

Warning Sounds During AEBS Operation

Depending on the situation, the AEBS will issue the following warning sounds.

Name	Warning	Description
Driver attention alert	Continuous beep	When the system detects obstacles located in the forward direction and encourages the driver to operate the brakes
Autonomous brake (partial) operation warning	Continuous beep	When the AEBS autonomously operates the brake partially
Autonomous brake (full) operation warning	Continuous beep	When the AEBS autonomously operates the brake fully

AEBS Operation

AEBS operation flow is shown below.

Driver attention alert

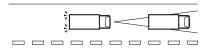


Brake operation warning (partial)



- AEBS detects obstacles located in the forward direction and a warning (continuous beep) will sound to alert the driver. In addition, the wheel brakes will be applied shortly. At this time, the stop lights are not illuminated.
- AEBS determines that there is a strong possibility of collision and autonomously operates the brakes partially. A warning (continuous beep) will sound, and the AEBS warning light will illuminate. At this time, the stop lights come on.

Brake operation warning (full)



 AEBS determines that there is a strong possibility of collision due a further decrease in inter-vehicular distance and autonomously operates the brakes. A warning (continuous beep) will sound, and the AEBS warning light will illuminate. At this time, the stop lights come on.

Power Take-Off (PTO) V

PTO is a device that is used to provide engine power to special equipment directly from the engine or through the transmission. This manual describes an operation of PTO, but for an operation of special equipment other than the PTO lever and PTO switch, consult [Instruction Manual for Special Equipment].

When Operating the PTO



CAUTION

- Make sure that there are no persons or objects around and above the vehicle before operating PTO.
- · Operate PTO on a level surface.
- 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].

CONTROLS AND INSTRUMENTS



ADVICE

- The PTO of the Smoother model cannot be engaged when the engine speed is 800 r/min or higher to prevent a failure of the system. However, the PTO can be engaged at engine speeds of up to 1,200 r/min during diesel particulate defuser (DPD) regeneration or upon startup of a cold engine (when the quickwarm system is activated). 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.
- While operating the PTO of the vehicle equipped with DPD, the DPD system will continue to filter the exhaust and accumulate soot. The engine control system, depending on the speed and load being applied by the PTO, may not be able to generate enough energy or adequate heat needed to clean or regenerate the filter. Continued operation under conditions that do not allow effective regeneration or cleaning will eventually plug the filter and result in reduced power. The check engine warning light will be displayed, and dealer service will be required to return the vehicle to normal operation. During PTO operation, frequently monitor the vehicle and pay particular attention to the DPD manual regeneration indicator light (amber) if the vehicle is not equipped with multi-information display (MID) or the "PUSH DPD SWITCH" message (amber) if the vehicle is equipped with MID to prevent these matters above.

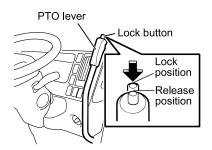


NOTE

[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 SA



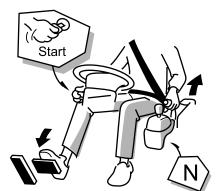
Operation of Lock Button

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.



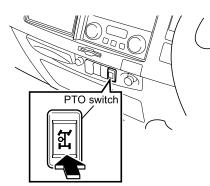
CAUTION

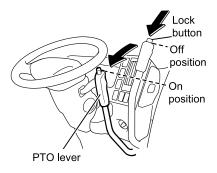
 When operating the PTO lever, move the lever after unlocking has been confirmed. The lever may break if the lock button is pressed when force is being applied to the lever.



To Engage the PTO

 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.

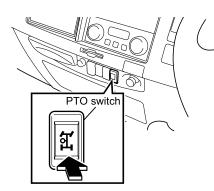


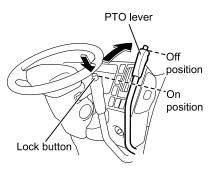


2. Press the PTO switch, and while the buzzer is making short, repeated beeps, press the lock button on the PTO lever and lower the PTO lever to engage the PTO.

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. The buzzer pattern will change to short, slow beeps, and the clutch will automatically engage.
- 4. Operate the special equipment by following the special equipment's instructions.





To Disengage the PTO

Press the PTO switch. While the buzzer is making short, repeated beeps, press the lock button on the PTO lever and move the lever from the "ON" position to the "OFF" position.

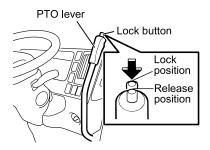
CAUTION

- · 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.
- · Before starting the vehicle, you should confirm the following.
 - The special equipment is in a safe condition for driving.
 - The PTO lever and the PTO switch are in the "OFF" position.

NOTE

- Press the PTO switch and then operate the PTO lever within approximately 10 seconds.
- If it is not possible to operate the PTO lever within approximately 10 seconds, press the PTO switch once again, and then operate the lever.

Lever-type PTO MT



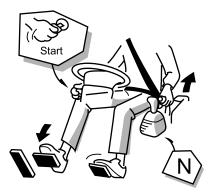
Operation of Lock Button

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.



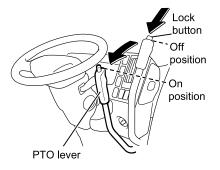
CAUTION

 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

 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.

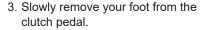


Depress the clutch pedal fully, and after waiting for a short time, lower the PTO lever while pressing the lock button in order to engage the PTO.



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.



 Operate the special equipment by following the special equipment's instructions.



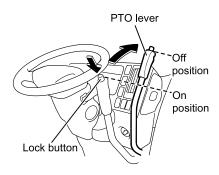
 While depressing the clutch pedal, press the lock button on the PTO lever and move the lever from the "ON" position to the "OFF" position.

A 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.

A 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.



Seat Belt with Pretensioner and SRS Airbag System V

The seat belt with pretensioner and supplemental restraint system (SRS) airbag system is activated in the event of a frontal collision when the impact energy exceeds a certain level to help mitigate the shock on the head of the driver (and the passenger, if the passenger side airbag is equipped) by firmly restraining the body of the occupant in the seat with the seat belt with pretensioner and airbag. Be sure to observe the following instructions to prevent you and your passenger from suffering a serious or fatal injury due to impacts resulting from the seat belt with pretensioner and airbag operation.

Operation Check



Airbag assembly for driver seat

The SRS airbag warning light should flash seven times when the starter switch is turned to the "ON" position, and then should go out.

If the SRS airbag warning light stays on, the airbag(s) may not function properly when needed. Drive the vehicle after the warning light goes out.

CAUTION

· If an error occurs, have your vehicle inspected/serviced at your Isuzu Dealer as soon as possible.

[Error]

- If the warning light does not flash seven times when the starter switch is turned to the "ON" position.
- If the warning light does not go out.
- If the warning light comes on while driving the vehicle.

MARNING

- If you make unauthorized modifications to the vehicle or install an unauthorized accessory, the seat belt with pretensioner and airbag may not operate correctly.
- If the steering wheel is changed to a non-standard one or a sticker is attached to the steering wheel pad, there could be a danger of system malfunction or the sticker flying off in the event of system activation. Attaching stickers or placing such things as accessories or air fresheners on the top surface of the instrument panel is also dangerous. They may prevent normal operation of the airbag or could fly off in the event of system activation.
- Doing any of the following may require special precautions. Be sure to consult
 your Isuzu Dealer before doing any of the following. Failure to do so may cause
 the seat belt with pretensioner and airbag to be unduly activated, causing the
 seat belt to be unexpectedly retracted or the airbag to be suddenly inflated,
 causing an injury to the occupant. Doing any of them improperly will adversely
 affect the operation of the system, causing a malfunction or failure.
 - Repair or replacement of the steering wheel, instrument panel, center console and parts around the accelerator pedal.
 - Repair, replacement or disposal of the seat belt with pretensioner and airbag, or scrapping of a vehicle that has seat belt with pretensioner and airbag.
 - When audio equipment and accessories are installed or modification such as body mounting is carried out.
 - Repainting of vehicle front and cab panels.

A CAUTION

Have your vehicle inspected at the nearest Isuzu Dealer promptly if you encounter any of the following conditions.

- The SRS airbag warning light shows an abnormality.
- The seat belt with pretensioner and airbag are activated by an impact. (The SRS airbag warning light comes on.)
- Your vehicle has received a significant level of frontal impact even when the impact has not activated the seat belt with pretensioner and airbag.
- · The seat belt is frayed or worn out.
- The steering pad surface is cracked or otherwise damaged, or it receives a significant level of impact.
- The instrument panel surface is cracked or otherwise damaged, or it receives a significant level of impact.

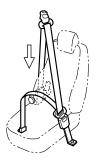
SRS Airbag Warning Light V

→ Refer to page 4-59



CONTROLS AND INSTRUMENTS

Seat Belt with Pretensioner



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

Seat Belts → Refer to page 3-31

MARNING

- The seat belt with pretensioner helps reduce the risk of a serious injury to the
 occupant should the vehicle receive a frontal impact exceeding a certain level.
 The maximum effect is achieved only if the seat belt is correctly worn.
- The seat belt with pretensioner takes up the slack in the seat belt instantly
 to help reduce the risk of a serious injury. If the seat belt with pretensioner
 activates, you may suffer a slight bruise or burn due to heat generated by
 rubbing.

CAUTION

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



ADVICE

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



NOTE

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

Supplemental Restraint System (SRS) Airbag

The SRS airbag, when it inflates, helps to disperse and reduce the impact on the occupant's body, as a supplement to the seat belt with pretensioner.

This occurs when there is an with an impact exceeding a certain level.

MARNING

- The airbag supplements the occupant protection effect of the seat belt by being
 activated together with the seat belt with pretensioner to reduce severity of injury
 to the occupant should the vehicle receive a frontal impact exceeding a certain
 level. The maximum effect is achieved only if the seat belt is correctly worn.
- The airbag does not replace the seat belt. Be sure to wear the seat belt.
- The airbag is instantly inflated with considerable force to reduce serious injury. If the airbag inflates, you may suffer a slight bruise or burn due to heat generated by rubbing.
- When the vehicle receives an impact exceeding a certain level, resulting in airbag deployment, deformation of the vehicle may cause the windshield to break.

ADVICE

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



NOTE

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

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

The seat belt with pretensioner and airbag system are activated when the vehicle receives an impact exceeding a certain level in the event of a frontal collision. Because the vehicle body absorbs part of impact energy, the system may not be activated due to reduction in the force of the impact or the intensity or direction of the impact received. However, even if the front of the vehicle is largely deformed by the collision, in some cases the impact on the seat is not severe. Therefore, the severity of deformation of and damage to the vehicle do not necessarily coincide with the activation of the airbag.

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

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

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





MARNING

• Immediately after the airbag is inflated, the metal portion that inflates the airbag gets hot. Do not touch it. Doing so may cause a serious injury such as a burn.

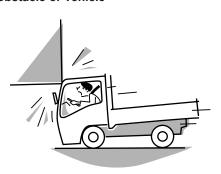
When are the Seat Belt with Pretensioner and SRS Airbag System Not Likely to Be Activated?

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

When the vehicle collides against a utility pole or standing tree



When the vehicle gets under an obstacle or vehicle



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



When the vehicle has a frontal angle collision



CONTROLS AND INSTRUMENTS

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



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



• Immediately after the airbag is inflated, the metal portion that inflates the airbag gets hot. Do not touch it. Doing so may cause a serious injury such as a burn.

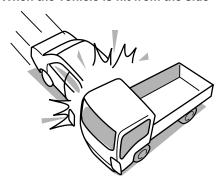
When are the Seat Belt with Pretensioner and SRS Airbag System Not Activated?

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

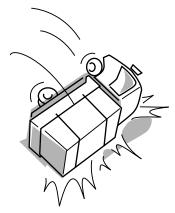
When the vehicle is hit from the rear



When the vehicle is hit from the side



When the vehicle rolls onto its side or upside down



CONTROLS AND INSTRUMENTS

MARNING

- Body repair and paint of the cab, repair around the side panel, steering wheel, instrument panel and center console, installation of accessories such as audio equipment and repair around the dashboard may adversely affect the airbag system or cause a fatal or serious injury due to the impact of the airbag when it unexpectedly inflates. Never make these repairs by yourself, but be sure to consult your Isuzu Dealer.
- If you make modifications to the front of the vehicle (bumper, frame, etc.), install
 equipment (snow plow, for example), or make a change the vehicle's height
 using unauthorized methods and/or materials, the airbag system may fail to
 operate normally. Be sure to consult your Isuzu Dealer.
- Special treatment is required when an airbag is disposed of. When discarding a vehicle equipped with an airbag system, consult your Isuzu Dealer.

A CAUTION

Have your vehicle inspected at the nearest Isuzu Dealer at once in the following cases.

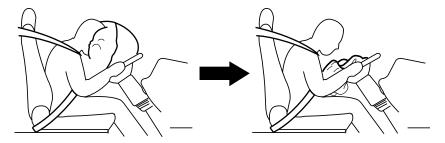
- When the SRS airbag warning light does not go out or comes on during driving.
- · When the airbag is inflated.
- When the airbag was not inflated although the vehicle received a significant level of impact at the front.
- When the steering pad surface is cracked or otherwise damaged or it receives an impact.
- When the instrument panel surface is cracked or otherwise damaged or it receives an impact.

NOTE

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

Deployment of SRS Airbag

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



When Does An SRS Airbag Develop Its Full Effect?



- Before driving the vehicle, properly adjust your seat for proper driving position and wear the seat belt correctly. Do not sit closer than necessary to the steering wheel and do not lean over it. If your vehicle is equipped with a passenger's airbag, do not allow the passenger to put his/her hands or feet on the instrument panel and to sit with his/her face or chest close to it. When the airbags are activated, you or the passenger may suffer a burn on or serious injury to the arm or face. Attaching stickers or placing such things as accessories or air fresheners on the instrument panel is also dangerous. They may prevent normal operation of the airbags or would fly off in the event of airbags activation.
- If the steering wheel is changed to a non-standard one or a sticker is attached to the steering wheel pad, there would be a danger of system malfunction or the sticker flying off in the event of airbag activation.



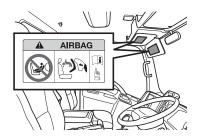
CONTROLS AND INSTRUMENTS

When Carrying a Child in the Vehicle

MARNING

- Be sure to observe the following precautions when carrying a child in the vehicle. Otherwise the child may be fatally injured by the impact from an inflating airbag.
 - Do not drive with a child standing in front of the passenger's airbag or held on your lap. Doing so is dangerous because the child would receive a very strong impact by an inflating airbag.
 - If the vehicle has a passenger airbag, never fit a baby seat, child seat or junior seat facing rearward on a passenger seat. Failure to observe this precaution may result in serious injury to the child, or, in the worst case, death due to the impact during deployment of the passenger SRS airbag as a result of an accident, etc.

Please check the warning label on the passenger's side sun visor.



 $\begin{array}{lll} \text{Seats} & \rightarrow & \text{Refer to page} & \text{3-24} \\ \text{Seat Belts} & \rightarrow & \text{Refer to page} & \text{3-31} \\ \text{Seat Belt with Pretensioner} & & & \end{array}$

and SRS Airbag System V

 \rightarrow Refer to page 2-59

Handling of SRS Airbag



- Do not remove or disassemble the airbag. Doing so may cause a malfunction or inadvertent activation.
- Do not place anything near the airbag. You may suffer an injury when an object is thrown by the inflation force of the airbag.
- Do not take a rest using the steering wheel as a pillow or with your arms or legs resting on it. If the vehicle is stopped with the starter switch in the "ON" position and an impact greater than the airbag activation level occurs to the front of the vehicle, the airbag will injure you.
- Do not drive the vehicle with something placed between you and airbag or held on your lap. If the airbag inflates, the objects may be thrown and hit your face. Doing so also hinders normal activation of the airbag, which is dangerous.
- Do not wet the airbag sensor with water or subject it to an impact. The system may malfunction; this is very dangerous.



CONTROLS AND INSTRUMENTS

Diesel Particulate Defuser (DPD)

The DPD purifies particulate matter (PM) in exhaust gases. The DPD collects PM in the DPD filter and when PM is collected in the filter to the predetermined level, the DPD automatically burns PM (regeneration the filter). We recommend that you observe the following instructions to keep the DPD in order.

DPD PM Accumulation Level

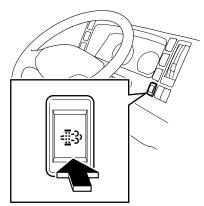
→ Refer to page 4-35

Progress of DPD Regeneration

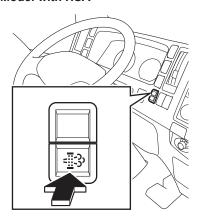
→ Refer to page 4-35

DPD Switch

Model without HSA



Model with HSA



The DPD switch is used to manually burn PM (regenerate the filter).

Take the steps for manually regenerating the DPD when the DPD manual regeneration indicator light (amber) flashes in models without MID (flashes at intervals of about one second, accompanied by "a short beep" of the warning buzzer), or when the "PUSH DPD SWITCH" message flashes (flashes at intervals of about one second, accompanied by "short repeated beeps" of the warning buzzer) or the "PUSH DPD BUTTON" message is displayed in models with MID. Perform the manual regeneration of the DPD while parking the vehicle after the day's operation, for example, following the instructions under "DPD Manual Regeneration Procedure". If you continue driving with the light or message flashing at about once per second (1 Hz) intervals, the flashing intervals will change to shorter ones (about 3 times per second (3 Hz) intervals). If you continue driving for a long time with flash intervals shortened or with "PUSH DPD BUTTON" message displayed, DPD may malfunction. Stop the vehicle at a safe place immediately and perform the manual regeneration.

Model without MID*





(Amber, flashing)

* Your vehicle has either of two indicator lights described above.

Model with MID (Type 1)



(Amber, flashing)

Model with MID (Type 2)





(Amber)

ADVICE

 Continuing driving without performing the regeneration will cause the check engine warning light to come on. The DPD then must be repaired at the nearest Isuzu Dealer.

NOTE

• The DPD automatically burns PM (regenerates the filter) when a certain amount of PM is accumulated in the DPD filter, but the automatic regeneration may not be completed in certain driving conditions. At this time, the DPD manual regeneration indicator light (amber) will flash in models without MID, while the "PUSH DPD SWITCH" message will flash or the "PUSH DPD BUTTON" message will be displayed in models with MID. Promptly take the manual regeneration steps according to the instructions described later. The manual regeneration is necessary to recover the DPD function. It is not an action to take after occurrence of a DPD failure.

DPD Manual Regeneration Procedure



 Stop the vehicle at a safe place free of flammable materials such as grass or wastepaper.

\triangle

CAUTION

 To prevent a fire, make sure that there is no flammable material near the muffler, DPD, urea selective catalytic reduction (SCR) and exhaust pipe. Remember that the temperature of exhaust gases is high enough to burn you.

- 2. In a manual transmission model, place the gearshift lever into the "N" position and firmly engage the parking brake.
 - In a Smoother model, place the gearshift lever into the "N" position, confirm the "N" indication and securely pull the parking brake.
- 3. Run the engine at idle.
 - If your vehicle is equipped with an idling control knob, return it fully counterclockwise to decrease the engine speed when the engine speed has been increased using the idling control knob.
- 4. If your vehicle is a PTO-equipped model, disengage the PTO.

Model without MID*





(Amber)

* Your vehicle has either of two indicator lights described above.

Model with MID (Type 1)



(Amber)

- 5. Press the DPD switch.
- 6. If your vehicle is not equipped with a multi-information display (MID), the DPD manual regeneration indicator light (amber) stops flashing and stays on, and the engine speed automatically increases to start regeneration. If your vehicle is equipped with a MID, the "PUSH DPD SWITCH" message (amber) stops flashing and changes to a steady "MANUAL REGEN." message (amber) or the "PUSH DPD BUTTON" message changes to the "REGEN ACTIVE" message, and the engine speed automatically increases to start the regeneration.
- 7. Do not leave the vehicle during the regeneration. Regeneration normally completes in about 20 minutes.

Model with MID (Type 2)





(Amber)

 When the DPD manual regeneration indicator light (amber) or "MANUAL REGEN." message (amber) or "REGEN ACTIVE" message goes out, regeneration is completed. Normal driving is then possible.



 White smoke may be produced during manual regeneration; do not perform manual regeneration in a poorly ventilated indoor place.



ADVICE

 When operating the PTO for a long time if your vehicle is so equipped, make sure that the DPD manual regeneration indicator light (amber) (model not equipped with MID) or the "PUSH DPD SWITCH" message (amber) (model equipped with MID) is not flashing or the "PUSH DPD BUTTON" message is not displayed.



NOTE

- The time needed to complete regeneration differs depending on the outside temperature.
- The exhaust brake or exhaust throttle is activated during DPD regeneration.
 The exhaust brake or exhaust throttle starting to operate or being disengaged will produce a sound, but this does not indicate a failure.
- During regeneration, white smoke may be temporarily produced from the exhaust pipe. This results from combustion of PM, it does not indicate a failure.
- Manual regeneration will complete earlier immediately after driving than when the engine is cold.
- The engine coolant temperature may rise during manual regeneration.

Interruption of Manual Regeneration

If you must interrupt regeneration for an unavoidable reason, press the DPD switch again.

The DPD manual regeneration indicator light (amber) starts flashing if your vehicle is not equipped with a MID or the "MANUAL REGEN." message (amber) changes to a flashing "PUSH DPD SWITCH" message (amber) or the "PUSH DPD BUTTON" message changes to the "REGEN ACTIVE" message if your vehicle is equipped with MID. Then, you can drive the vehicle. If you interrupt regeneration, you need to perform regeneration again. Perform manual regeneration beginning with Step 1 as soon as possible.



NOTE

- Manual regeneration will be interrupted in the following operation.
 - Accelerator is ON.
 - Gear-in (with Smoother)
 - Vehicle speed is ON.
- Operation noise in these cases is bigger than interrupting by pressing the DPD switch. This does not indicate a failure.

Automatic Regeneration of DPD

Model without MID*





(Green, comes on)

* Your vehicle has either of two indicator lights described above.

Model with MID (Type 1)



(Green, comes on)

Model with MID (Type 2)





(Green)

The engine speed may increase and the exhaust brake may activate while the vehicle is stopped with the engine idling. When this occurs, the DPD is automatically regenerated. This does not indicate a failure. The automatic regeneration causes the DPD automatic regeneration indicator light (green) to come on if your vehicle is not equipped with multi-information display (MID) or the "AUTO REGEN." message (green) or the "REGEN ACTIVE" message to be displayed if your vehicle is equipped with MID.

No operation of DPD switch is required. Although the regeneration process will be paused if the engine is stopped during automatic regeneration, it will automatically resume once the engine is restarted. If this pattern is repeated and automatic regeneration cannot be completed, the DPD manual regeneration indicator light (amber) (models without MID) or the "PUSH DPD SWITCH" message (amber) (models with MID (type 1)) will begin flashing (an audible warning will be issued simultaneously) or the "PUSH DPD BUTTON" message (models with MID (type 2)) will be displayed and it will become necessary for manual regeneration to be performed. To prevent this, it is advised that the engine not be stopped during automatic regeneration if possible.



ADVICE

 Do not press the DPD switch when the DPD automatic regeneration indicator light (green) comes on if the vehicle is not equipped with MID or the "AUTO REGEN." message (green) or the "REGEN ACTIVE" message comes on if the vehicle is equipped with MID.

CONTROLS AND INSTRUMENTS



NOTE

- The engine speed may increase and the exhaust brake may activate while
 the vehicle is stopped with the engine idling. When this occurs, the DPD is
 automatically regenerated. This does not indicate a failure.
- The system generates a sound during the automatic regeneration and its cancellation. This does not indicate a failure.

Procedure for Selectable Regeneration of DPD

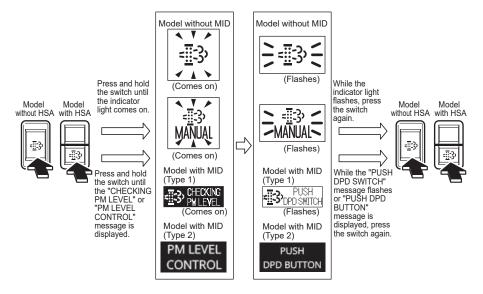
This is a function that initiates manual regeneration of the DPD at any time before PM accumulates in the DPD filter and the DPD automatic regeneration indicator light (green) (model not equipped with MID) or the "AUTO REGEN." message (green) (model equipped with MID (type 1)) or the "REGEN ACTIVE" message (model equipped with MID (type 2)) comes on, or the DPD manual regeneration indicator light (amber) (model not equipped with MID) or the "PUSH DPD SWITCH" message (amber) (model equipped with MID (type 1)) starts flashing or the "PUSH DPD BUTTON" message is displayed.

Perform the manual regeneration of the DPD during breaks between operation or when the engine (engine coolant temperature) and exhaust pipe are still warm such as when the day's operation is finished.

\triangle

CAUTION

- Perform the selectable regeneration until it is completed without interruption.
- Do not leave the vehicle during the regeneration.
- To prevent a fire, make sure that there are no flammables near the muffler, DPD, urea SCR and exhaust pipe.
- Remember that the temperature of exhaust gases is high enough to burn you.
- Stop the vehicle at a safe place free of flammable material such as grass or wastepaper.
- 2. With the engine idling, ensure that the gearshift lever is placed in the "N" position for a manual transmission model or place the gearshift lever in the "N" position for a model with Smoother. Then, confirm that the gearshift indicator shows "N" and fully engage the parking brake. When the engine speed is increased by operating the idling control knob in the vehicle equipped with the idling control knob, return the engine speed to the normal idling state.
 - Make sure that the operation of PTO is stopped if your vehicle is equipped with a PTO.



- 3. If your vehicle is not equipped with multi-information display (MID), press the DPD switch until the DPD manual regeneration indicator light (amber) comes on. The DPD manual regeneration indicator light (amber) will go from steadily on to flashing. If your vehicle is equipped with MID, press the DPD switch until the "CHECKING PM LEVEL" message (amber) or the "PM LEVEL CONTROL" message is displayed. The "CHECKING PM LEVEL" message (amber) or the "PM LEVEL CONTROL" message will then change and "PUSH DPD SWITCH" message (amber) with flashing or the "PUSH DPD BUTTON" message displayed.
- 4. Press the DPD switch again.
- 5. If your vehicle is not equipped with MID, the DPD manual regeneration indicator light (amber) stops flashing and then stays on, and the engine speed automatically increases to start regeneration.
 If your vehicle is equipped with MID, the flashing "PUSH DPD SWITCH" message (amber) changes to the "MANUAL REGEN." message (amber) or "PUSH DPD BUTTON" message changes to the "REGEN ACTIVE" message, and the engine speed automatically increases to start regeneration.
- 6. Do not leave the vehicle during regeneration. Regeneration normally completes in about 20 minutes.
- 7. When the DPD manual regeneration indicator light (amber) (in a model without MID) or the "MANUAL REGEN." / "REGEN ACTIVE" message (in a model with MID) goes out, regeneration is completed. Normal driving is then possible.

CONTROLS AND INSTRUMENTS



ADVICE

- Should the selectable regeneration be interrupted due to restart of driving, the DPD manual regeneration indicator light (amber) will start "flashing" if your vehicle is not equipped with MID, or the "MANUAL REGEN." message (amber) changes to a "flashing" "PUSH DPD SWITCH" message (amber) or the "REGEN ACTIVE" message changes to a "PUSH DPD BUTTON" message if your vehicle is equipped with MID. In this case, stop the vehicle safely immediately, press the DPD switch again, and wait until the selectable regeneration is completed. Do not continue driving or using the PTO, if the vehicle is so equipped, with the indicator light or the message flashing.
- When the PM level in the DPD filter is lower than the preset level, the DPD manual regeneration indicator light (amber) does not change from "steady illumination" to "flashing" if your vehicle is not equipped with MID even if the DPD switch is kept pressed. Likewise, the "CHECKING PM LEVEL" message (amber) does not change to a "flashing" "PUSH DPD SWITCH" message (amber) or the "PM LEVEL CONTROL" message does not change to a "PUSH DPD BUTTON" message if your vehicle is equipped with MID. In either case, the DPD does not require regeneration, so it ignores the DPD switch operation.



WARNING

• White smoke may be produced during regeneration. Do not perform regeneration in a poorly ventilated indoor place.



NOTE

- The time needed to complete regeneration differs depending on the outside temperature.
- The exhaust brake or exhaust throttle is activated during DPD regeneration.
 The exhaust brake or exhaust throttle starting to operate or being disengaged will produce a sound, but this does not indicate a failure.
- During regeneration, white smoke may be temporarily produced from the exhaust pipe. This results from combustion of PM, it does not indicate a failure.
- Regeneration is finished earlier immediately after driving than when the engine is cold.
- The engine coolant temperature may rise during regeneration.

DPD Regeneration during Prolonged Idling



NOTE

- DPD regeneration may be initiated automatically during prolonged idling. When
 the DPD manual regeneration indicator light (amber) or "MANUAL REGEN."
 message (amber) or "REGEN ACTIVE" message goes out, regeneration is
 completed.
- When operating the PTO for a long time if your vehicle is so equipped, make sure that the DPD manual regeneration indicator light (amber) (model not equipped with MID) or the "PUSH DPD SWITCH" message (amber) (model equipped with MID) is not flashing or the "PUSH DPD BUTTON" message is not displayed. Initiate manual regeneration by following the "DPD Manual Regeneration Procedure".
- The DPD manual regeneration indicator light (amber) starts flashing if your
 vehicle is not equipped with a MID or the "MANUAL REGEN." message (amber)
 changes to a flashing "PUSH DPD SWITCH" message (amber) or the "PUSH
 DPD BUTTON" message changes to the "REGEN ACTIVE" message in models
 with MID.

Urea Selective Catalytic Reduction (SCR) System 🔻

The urea SCR system reduces nitrogen oxides (NOx) in exhaust emissions. The system uses $AdBlue^{\otimes}$ as a reducing agent and hydrolyzes it into ammonia (NH $_3$) using the heat from exhaust emissions. The nitrogen oxides (NOx) are then reduced to nitrogen and water and purified by the generated ammonia.

MARNING

- Do not put anything other than AdBlue[®] in the AdBlue[®] tank.
- When refilling AdBlue[®], doing any of the following may cause a fire or malfunction of the urea SCR system.
 - Diluting with water or other liquids
 - Adding gasoline or diesel fuel
- If liquids, etc., other than the specified AdBlue[®] have been accidentally added, the urea SCR system must be inspected. Have the urea SCR system inspected/ serviced at your Isuzu Dealer.

CONTROLS AND INSTRUMENTS



CAUTION

- AdBlue[®] is harmless to the human body even if touched, However, it may cause inflammation in rare circumstances depending on its constitution. In such cases, take the following actions.
 - In the case of contact with skin, wash off with water. Failure to do so may result in irritation for those with sensitive skin.
 - In the case of accidental ingestion, drink one or two glasses of water or milk and consult your physician immediately.
 - In the case of contact with eyes, immediately wash out with large amounts of water for at least 15 minutes and consult your physician.



ADVICE

- Use AdBlue[®] specified by Isuzu.
 - Use AdBlue® that is compliant with the ISO (International Organization for Standardization) 22241 standard defined for AUS 32.
- Do not modify the exhaust pipe or muffler, or change the location of any items including the AdBlue[®] tank. Doing so could affect exhaust emission reduction capabilities. If any modifications or relocation is necessary, consult your nearest Isuzu Dealer.



NOTE

[Urea SCR]

• Urea SCR stands for "Urea Selective Catalytic Reduction". In this technology, urea is used as the selective catalytic reducing agent.

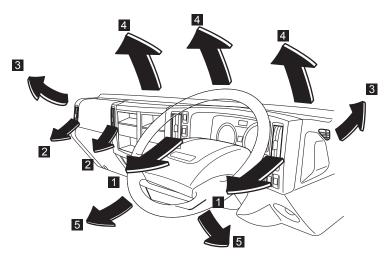
[AdBlue®]

- AdBlue[®] is an aqueous solution especially for use with urea SCR systems.
- AdBlue[®] freezes at a temperature of -11°C. Since the urea SCR system is
 equipped with a heating function that utilizes the engine coolant, the engine will
 start even when AdBlue[®] is frozen.
- AdBlue® is a registered trademark of Verband der Automobilindustrie (VDA).

COMFORT AND CONVENIENCE

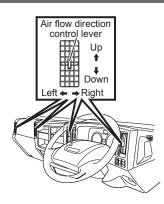
Air Outlets	5-2
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Air Outlets



No.	Outlet	Features
1	Driver side outlet	Air flow direction is adjustable with the lever.
2	Passenger side outlet	Air flow direction is adjustable with the lever.
3	Door windows outlet	Air is delivered towards the door windows.
4	Windshield outlet	Air is delivered towards the windshield.
5	Foot outlet	Air is delivered towards the feet.

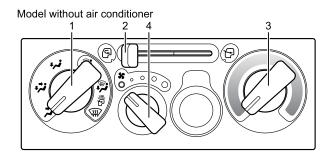
Air Flow Direction Control Lever

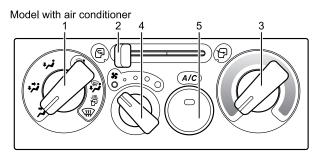


Use the control lever to adjust the airflow direction from the outlet. To close the outlet, move the lever down.

Heater/Manual Air Conditioner V

How to Use the Controls





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
だ	Face	Air flows through outlets 1 and 2.
نټ	Bi-level	Air flows through outlets 1, 2 and 5.
نہ	Feet	Air flows through outlets 5.
•	Feet and defroster 1	Air flows through outlets 5 and some through outlets 3 and 4.
نژ	Feet and defroster 2	Air flows through outlets 5 and air of a greater volume than in position "flows through outlets 3 and 4.
(H)	Defroster	Air flows through outlets 3 and 4.

5-4 COMFORT AND CONVENIENCE



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

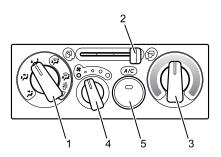
- Extended use of the inside air recirculation position causes the windshield and windows to fog up easily, making visibility poor.
- Temperature control knob
 Use this knob to select the preferred cab interior temperature. Turn the knob
 counterclockwise to lower the outlet air temperature and clockwise to raise it.
- 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

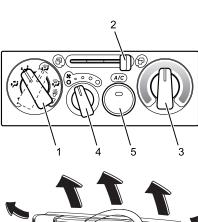


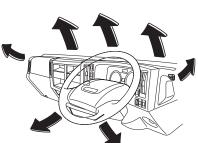
Outside Air Ventilation

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 ""," or """ position. Use the """

" position for warming your feet while defogging the windshield.

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



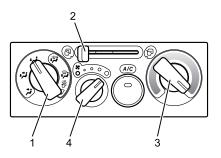
NOTE

 As the heater uses the heat from the engine coolant, its heating effect is weak when the engine coolant temperature is low. Turn on the warm-up switch to increase the heat.

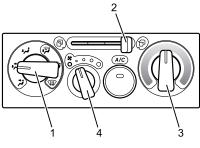
Warm-Up Switch ✓

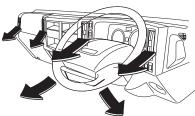
→ Refer to page 4-113

COMFORT AND CONVENIENCE









Maximum Heating

Turn the outlet selector knob (1) to the """ 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.

Turn on the warm-up switch.

Warm-Up Switch V

→ Refer to page 4-113



NOTE

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

Bi-level Heating

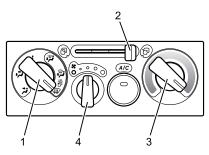
Set the outlet selector knob (1) to the ""
position.

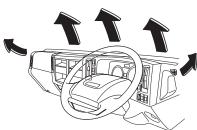
Set the air selector lever (2) to the "" position.

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 "m" position.

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

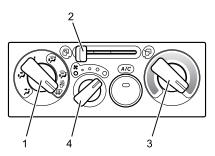
Turn the temperature control knob (3) to a high-temperature position according to your preference. For defogging in the summer months, set the temperature control knob (3) to any desired position.

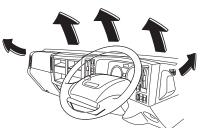
Set the fan speed control knob (4) to any speed position (not the OFF position). If your vehicle is equipped with an air conditioning system, using the dehumidifying effect of the system is very effective for defogging.

NOTE

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

COMFORT AND CONVENIENCE





Defrosting

Set the outlet selector knob (1) to the "\(\pi \)" 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.

Turn on the warm-up switch.

Warm-Up Switch V

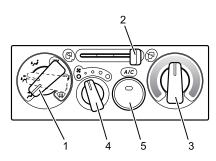
→ Refer to page 4-113



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.

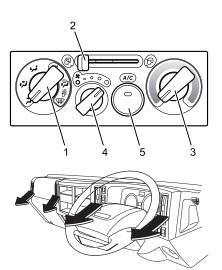
Adjust the temperature control knob (3) to the desired position.

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.



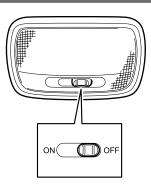
NOTE

- 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.

COMFORT AND CONVENIENCE

Interior Lights

Dome Light



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.

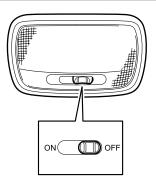
OFF : The light stays off regardless of the doors being open or closed.



NOTE

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

Rear Light (Crew Cab Model)



The rear light operates regardless of the starter switch position. To make the rear light be controlled by the "DOOR" operation, move the rear 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.

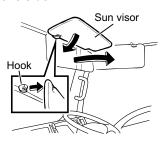


NOTE

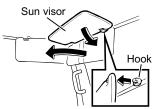
 To prevent the light from being left on and discharging the battery, be sure to completely close the doors.

Sun Visor

Driver's side



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



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.

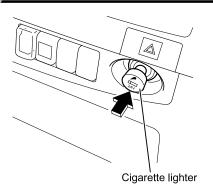
\triangle

CAUTION

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

COMFORT AND CONVENIENCE

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.

MARNING

- 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.

COMFORT AND CONVENIENCE

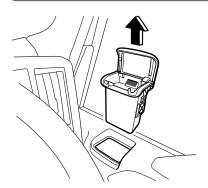
Ashtray



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 fire.

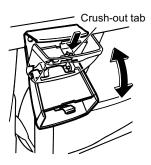
Driver's Ashtray (and Passenger's Ashtray $\boxed{\lor}$)



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.

Rear Ashtray (Crew Cab Model)

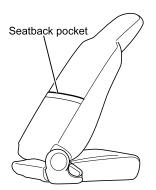


Pull the ashtray towards you to use it.

Pull out lit cigarettes on the crush-out tab.

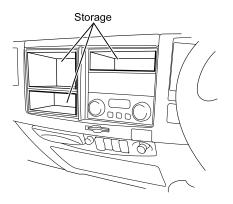
The ashtray cannot be removed. To empty the ashtray, turn it down while pushing the crush-out tab to remove cigarette butts into an appropriate container.

Seatback Pocket (Driver's Side)



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

Small Article Storage Pocket V

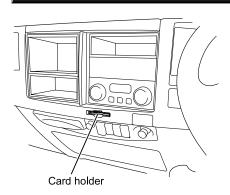


Use them for storing small articles.

A 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.

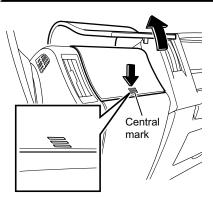
Card Holder

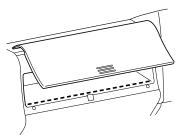


Use this to hold your cards.

COMFORT AND CONVENIENCE

Glove Compartment V





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

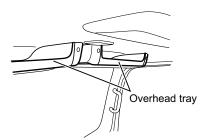
A CAUTION

- 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.
- Store large documents such as vehicle registration documents or Owner's manuals that cannot be stored in the glove compartment in the pocket located on the rear side of the driver seat, or in the center console box, overhead shelf, or other location.

Seatback Pocket (Driver's Side)

→ Refer to page 5-15

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.

Cup Holder V

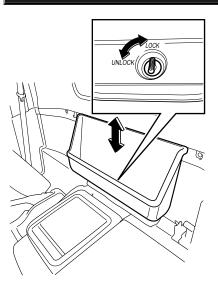


Pull towards you to open.

A 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)



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

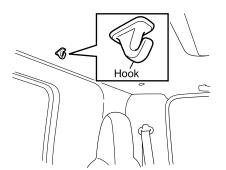
Installation and Removal

- Turn the knob to the "UNLOCK" position.
- 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.

A CAUTION

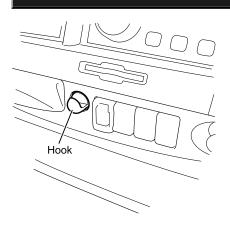
- Do not use the back panel tray to hold any object weighing more than 2 kg (71 oz) or an object that may fly or fall out during vehicle operation.
 Doing so would be dangerous.
- Items may fly or fall out when the cab is tilted.
- Do not leave eyeglasses or a lighter in the vehicle. If the cab became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

Coat Hook V



Use this to hang clothing.

Hook



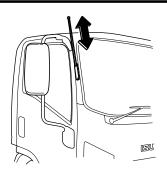
This can be used to hold plastic shopping bags.

A 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.

COMFORT AND CONVENIENCE

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.

TIPS ON SAFE AND SMOOTH OPERATION

6

 Driving Safely and with Confidence 	6-2
On the Road	6-3
Cautions for Parking	6-1
Cautions for Driving in Hot Regions	6-1
Cautions for Driving in Cold Regions	6-1
Using Tire Chains	6-2

6-2 TIP

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



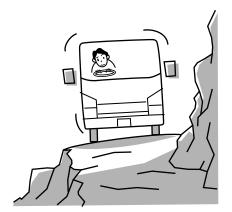




- Concentrate on driving safely, obeying all legally designated speed limits, road signs and traffic signals.
- Do not place the starter switch to any position other than the "ON" position while driving. The power steering would stop working, making steering extremely difficult. Also, the brakes would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

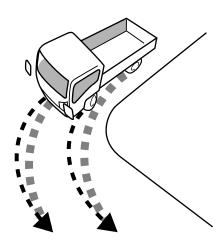
You could damage the tires, resulting in a blowout or flat tire.

TIPS ON SAFE AND SMOOTH OPERATION



Narrow or Congested Roads

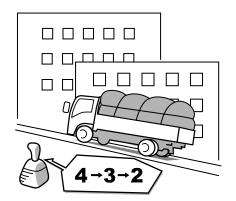
When passing or overtaking a vehicle on a narrow mountain road or on a narrow or congested urban road, pay careful attention to obstacles on either side and to the condition of the shoulder of the road.



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.

6-6 TIPS ON SAFE AND SMOOTH OPERATION

Brake Operation

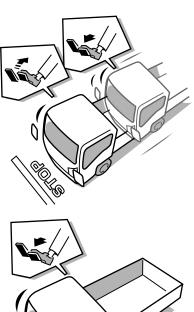
The brakes give strong braking force with only light pressure on the pedal. Do not press the brake pedal hard except in the event of an emergency.

Model with Hydraulic Brake System

- 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.
- 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

 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.



- Stopping distance Reaction distance Braking distance

- 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 "@" 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

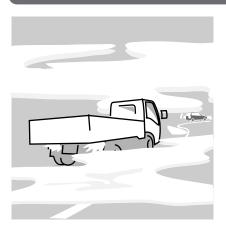
 Worn wiper blades cannot wipe the windshield clean and thus cannot maintain visibility. When the wiper blades become worn, replace them with new ones.

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.

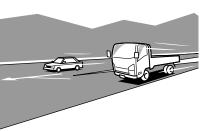
Driving in Fog

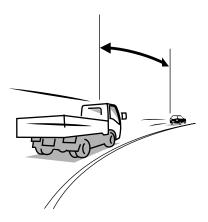


Turn on the fog lights and drive slowly, using the road's center line as a guide. It is dangerous only to follow the lights of the preceding vehicle because they can cause optical illusions. Drive with caution.

Highways

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





 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 7-18

- 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.
- 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.



- 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.
- 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





- 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.



ADVICE

• With a Smoother vehicle, you can make a standing start in the manual-mode 3rd gear if you first hold down the brake pedal and move the gearshift lever to the "+ (upshift)" position.



NOTE

- For models that are equipped with anti-slip regulator (ASR), when you want to free the vehicle from snow where the tires may slip slightly by increasing the engine speed, you can press the ASR OFF switch to disable the ASR.
- For models that are equipped with electronic stability control (ESC) and the ESC OFF switch, when you want to free the vehicle from snow where the tires may slip slightly by increasing the engine speed, you can press the ESC OFF switch to disable just the anti-slip regulator (ASR).

Using Tire Chains → Refer to page 6-25

Anti-Slip Regulator (ASR)

→ Refer to page 4-166

Electronic Stability Control (ESC)

✓

→ Refer to page 4-170

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 6-21

6-14

TIPS ON SAFE AND SMOOTH OPERATION

Driving on Snowy or Frozen Roads (Fenders)



Pay Attention to the Way the Steering Wheel Turns and Feels

\triangle

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

\triangle

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.

6-16 TIPS ON SAFE AND SMOOTH OPERATION



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.
- 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.



NOTE

- For models that are equipped with anti-slip regulator (ASR), when you want
 to free the vehicle from mud where the tires may slip slightly by increasing the
 engine speed, you can press the ASR OFF switch to disable the ASR.
- For models that are equipped with electronic stability control (ESC) and the ESC OFF switch, when you want to free the vehicle from mud where the tires may slip slightly by increasing the engine speed, you can press the ESC OFF switch to disable just the anti-slip regulator (ASR).

Exterior Maintenance

→ Refer to page 7-164

Anti-lock Brake System (ABS)

→ Refer to page 4-160

Anti-Slip Regulator (ASR)

→ Refer to page 4-166

Electronic Stability Control (ESC)

→ Refer to page 4-170

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 carbonmonoxide 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: If the vehicle has a manual transmission, place the gearshift lever in the "1 (1st gear)" or "R (reverse)" position. With Smoother model, make sure the shift indicator is showing "1 (1st gear)" or "R (reverse)".

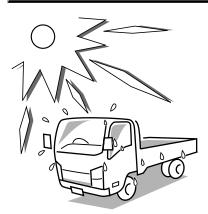
Parking in Gear → Refer to page 4-139



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 7-33 Windshield Washer Fluid

→ Refer to page 7-145

Handling the Battery

→ Refer to page 7-150

Engine Oil \rightarrow Refer to page 7-24

Using Tire Chains → Refer to page 6-25

Winter Tires \rightarrow Refer to page 6-23

A 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 carbonmonoxide poisoning. Take preventive action by, for example, clearing the snow
 around the vehicle.

Fuel → Refer to page 6-21

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 at the ratio of 50/50. Replace damaged rubber hoses as the engine coolant becomes liable to leak even past minor cracks when the engine coolant solution is used.

Preparing Engine Coolant

→ Refer to page 7-34

Changing the Engine Coolant

→ Refer to page 7-40

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 7-28

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179

Engine Oil and Gear Oil Viscosity

Charts \rightarrow Refer to page 7-182

Fuel

A CAUTION

- Always use only an extra-low-sulfur diesel fuel (10 ppm or lower sulfur content).
- The use of a poor-quality diesel fuel, mixing such an additive as water remover to the fuel in the tank, or filling the tank with gasoline, kerosene or an alcohol-based fuel or its mixture with a diesel fuel will badly affect the fuel filter and result in lubrication problems in fuel-lubricated components of the injectors. In addition, this practice can also impair the operation of the engine and the diesel particulate defuser (DPD), the urea selective catalytic reduction (SCR), 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.
- The use of any fuel other than an extra-low-sulfur diesel fuel may violate the relevant regulations enforced in certain countries or regions.
- 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.

6-22 TIPS

TIPS ON SAFE AND SMOOTH OPERATION

AdBlue[®]



ADVICE

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

Adding AdBlue® in Freezing Conditions

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



CAUTION

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

Handling of AdBlue®

→ Refer to page 2-55

Is a Specified AdBlue® Being Used?

→ Refer to page 2-55

Refilling AdBlue[®] → Refer to page 2-56

AdBlue[®] Tank ∨ → Refer to page 3-20

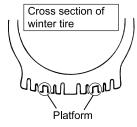
When Ice Prevents You from Putting the Key in the Door or Opening the Door



If you try to force the key into the door, you could bend it. And if you try to pull the door open with undue force, the rubber seal around the door could come unstuck or become damaged. Use warm water to melt the ice, then quickly wipe it away and open the door.

If the wipers, electric door mirrors, or power windows freeze up, also use warm water to melt the ice and then operate the system. Otherwise, you could damage the mechanism and drain the battery. After that, wipe the water away.

Winter Tires

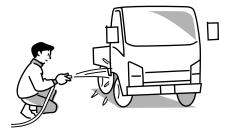


Use winter tires of the same sizes as the standard tires. Also, use wheels of the same size as those with the standard tires. A winter tire has reached its wear limit when the tread grooves have worn to half of the depth of the new tire. At this time, platforms indicating that the tire can no longer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

A 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



A 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

- 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 4-160

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

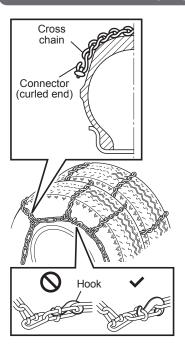
- Fit the tire chains securely without looseness. If the vehicle is driven with the loosened tire chains, they may interfere with other components or come off, leading to an unexpected accident.
- If an abnormal sound is heard, it may indicate a possibility that a tire chain was cut or came off partially. 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.



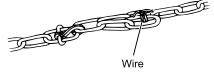
ADVICE

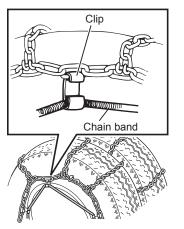
- Tire chains cannot be fitted on the front wheels. Make sure to fit the tire chains suitable for the tire size on the rear wheels.
- For triple chains, they may not be fitted depending on vehicle specifications, so please consult the nearest Isuzu Dealer for details.
- For dual tires, do not fit a single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



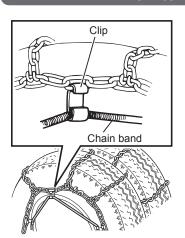
- Making sure the tire chain is not twisted, place it on the tire such that the curled ends are on the outside (the side that will make contact with the ground).
- 2. Pull both ends of the tire chain as far as possible. Couple the inner hooks first, and then couple the outer hooks.
- 3. The hook should 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.
- Hook the clips over the chain band (with the clips pointing outward) such that the clips are evenly positioned around the band.
- 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.

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7-3

SERVICE AND MAINTENANCE

BEFORE SERVICE AND MAINTENANCE

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7-4 SERVICE AND MAINTENANCE

Precautions for Checking and Adjustments

MARNING

- 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.
 - If your vehicle is equipped with a manual transmission, make sure the gearshift lever is in "N".
 - If your vehicle is equipped with a Smoother system, place the gearshift lever in "N" and make sure the shift indicator displays "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 3 minutes (models with SCR) or 1 minute (models without SCR), and then disconnect the negative cable from the negative terminal on battery. If the negative cable is disconnected within 3 minutes (models with SCR) or 1 minute (models without SCR), 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.



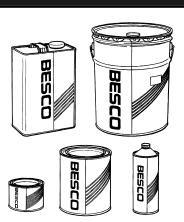
ADVICE

- · 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.

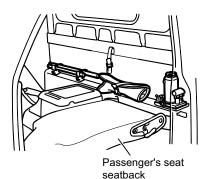
Isuzu Motors guarantees the quality and performance of the Isuzu genuine oils and grease. We recommend the use of Isuzu genuine oils and grease for maintenance and service of your vehicle.

CAUTION

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

Tools

Storage Location in Single Cab Model



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 3-25

Passenger Seat/Center Seat

→ Refer to page 3-27

Storage Location in Crew Cab Model



The tools are stored under the rear seat. To take out the tools, remove the seat cushion by pulling up the front.



ADVICE

- It is recommended that you familiarize yourself with the contents and use of the various tools and the jack before using them.
- After finishing work with the tools, return them to the correct storage location and ensure that they will not move while the vehicle will be in motion.
- Triangle reflectors must always be kept inside the vehicle.

Tools Carried in Your Vehicle

Model with dual tires (type 1)

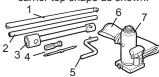
① Illustration of the spare tire carrier top shape as shown.



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

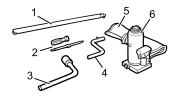
Model with dual tires (type 2)

() Illustration of the spare tire carrier top shape as shown.



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

Model with single tires



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



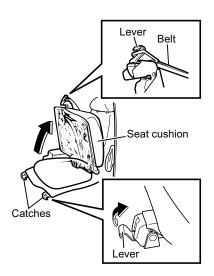
ADVICE

• 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.

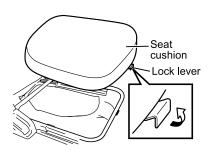
Closing

- 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

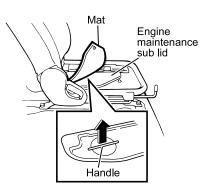
· Take care to avoid jamming fingers, hands or any other part of your body when returning the seat cushion to its original position. In addition, confirm that the seat cushion is firmly locked. A seat with an improperly locked cushion will be unstable during driving, possibly causing an accident.

Engine Maintenance Sub Lid



Opening

Unlock the driver's seat cushion by lifting the lock lever (red) while pulling toward you. Then remove the cushion.



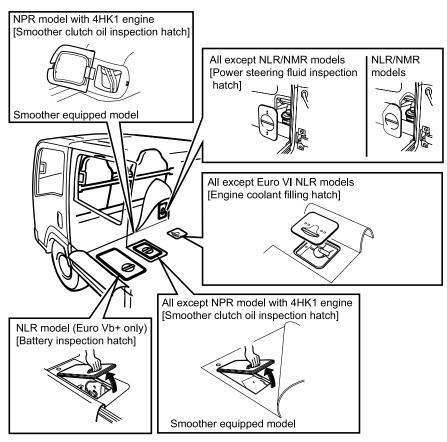
Lift up the mat, and then remove the engine maintenance sub lid by pulling the handle.

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.

Rear Inspection Hatches (Crew Cab Model)

All rear inspection hatches are located in the floor in the vicinity of the rear seat. To open an inspection hatch, lift the floor mat first, and then grip the handle on the hatch to raise the hatch.



Power Steering Fluid

→ Refer to page 7-133

Smoother Clutch Oil SA

→ Refer to page 7-125

Handling the Battery

→ Refer to page 7-150

Engine Coolant → Refer to page 7-33

7-12 SERVICE AND MAINTENANCE

Tilting the Cab 🔻

MARNING

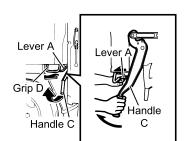
- Strictly adhere to the instructions below and follow the cab tilting procedure specified in this manual. Otherwise, it may result in death, injury, or property damage.
- · Tilt the cab only on a level surface.
- Apply the parking brake firmly and make sure that the gearshift lever is in the "N" position.
- 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, urea selective catalytic reduction (SCR) system, and diesel particulate defuser (DPD) (DPD equipped models) 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 anything on the bumper surface (including ice and snow) before tilting the cab. Otherwise, the bumper, lights, and other parts may be damaged.
- 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.
- The handle and lever will be very hot immediately after driving. Pay careful attention.
- During the cab tilting operation, be very careful that your hands, legs, or other body parts are not caught.

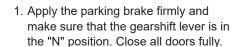
Tilting Up the Cab

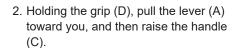


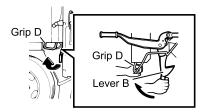
• Do not touch the lock (E) on the cab support while the cab is tilted. If you touch it, the lock will release. Refer to Step 4 of the following "Tilting Up the Cab" section and be sure to follow the instructions given.

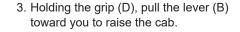


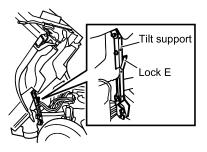










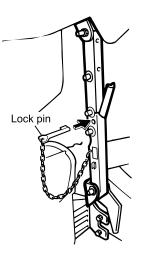


 When you have raised the cab, support the cab with the grip (D) and confirm that the tilt support's lock (E) has been securely engaged.

MARNING

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

7-14 SERVICE AND MAINTENANCE



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

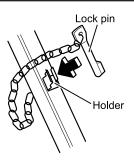
Lowering the Cab

MARNING

- After lowering the cab, make sure the cab is securely locked.
- In models with cab tilt warning light, when the starter switch is turned to the "ON" position with the lock being incompletely engaged, a warning message will be displayed.

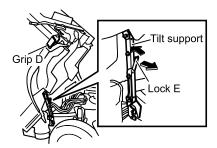
A CAUTION

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

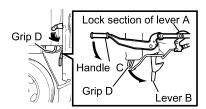


1. If a lock pin is equipped, remove it and place it in the holder.

SERVICE AND MAINTENANCE



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



- 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. Pull down the handle (C) until the lock part of the lever (A) is securely locked. After the operation of the handle (C), be sure to check that the cab is not lifted when lifting the grip (D) while pulling the lever (B).
- In addition, in models with cab tilt warning light, place the starter switch in the "ON" position and make sure that a warning message is not displayed.

Cab Tilt Warning Light

→ Refer to page 4-82



NOTE

 Confirm that the lock section of lever (A) has securely engaged.

7-17

SERVICE AND MAINTENANCE

DAILY CHECKS

Daily Checks (Preoperational Checks)	7-18
 Checking Components that Showed Abnormalities during Previous Operation 	7-20

7-18 SERVICE AND MAINTENANCE

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 the previous operation	7-20

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

<u> </u>	
Check item	Reference page
Fan belt looseness and damage	7-52
Engine oil level	7-24
Power steering fluid level	7-133

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

Check item	Reference page
Brake fluid level (For a manual transmission model, brake fluid doubles as clutch fluid.) HB	7-74 (7-117)
Brake pedal free play	7-81, 7-83
Exhaust sound from brake valve FAB	7-83
Increase in air pressure FAB	7-79
Clutch pedal free play M/T	7-121
Operation of meters, gauges and warning/indicator lights	4-10, 4-20
Engine startability, abnormal noise and color of exhaust gases	7-22
Parking brake lever stroke	7-84
Windshield washer fluid spray condition and windshield wiper effectiveness	7-145, 7-146
Windshield washer fluid level	7-145
Steering wheel position and free play	3-28, 7-132
Operation of horn and turn signal lights	4-116, 4-123
Fuel level	4-18
Operation of door locks	3-9

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

Check item	Reference page
Illumination, flashing or for stained or damaged lights	7-149
Engine coolant level	7-36
Battery fluid level	7-154
Water collecting in the air tanks FAB	7-92
Leaf spring damage	_
Leakage of oil, engine coolant, fuel, brake fluid, and power steering fluid	_
Water collecting in the fuel filter (bottom)	7-67

[5. Checking wheels and tires]

Check item	Reference page
Air pressure	7-94
Cracks and other damage	7-97
Abnormal wear	7-98
Tread depth	7-98
Disc wheel mounting condition	7-99

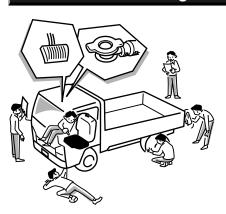
7-20

SERVICE AND MAINTENANCE

[6. Checks performed while driving]

<u> </u>	
Check item	Reference page
Brake effectiveness	7-83
Checking the engine at low speeds and during acceleration	7-23
Clutch system function M/T	7-117

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.

SERVICE AND MAINTENANCE

ENGINE-RELATED SERVICE AND MAINTENANCE

Engine Conditions	7-22
• Engine Oil	7-24
Engine Coolant	7-33
Handling the Radiator and Intercooler	7-51
• Fan Belt	7-52
Air Cleaner	7-57
Air Compressor Air Cleaner V	7-61
• Fuel Filter	7-62
Diesel Particulate Defuser (DPD)	7-69
AdBlue [®] Filter V	7-70



7-22 SERVICE AND MAINTENANCE

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.

A CAUTION

- If your vehicle is equipped with the Smoother system, the engine will not start unless the transmission is actually in neutral.
- For safety, firmly press the brake pedal before starting the engine.
- 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

Check that the engine is running at a speed within the standard idle speed range.

Idling Control Knob V

→ Refer to page 4-112



NOTE

 During regeneration of the diesel particulate defuser (DPD), the engine idle speed may increase.

Diesel Particulate Defuser (DPD)

→ Refer to page 4-212

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.

SERVICE AND MAINTENANCE

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.



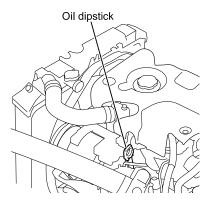
NOTE

 When particulate matter (PM) has accumulated to a preset level in the diesel particulate defuser (DPD) filter, the filter is automatically regenerated through combustion. To make this regeneration (combustion) possible, a small amount of fuel is injected into the engine combustion chamber after firing. This causes fuel to gradually become mixed with the engine oil, and the engine oil level will rise beyond the original level. This does not indicate a malfunction of the engine.

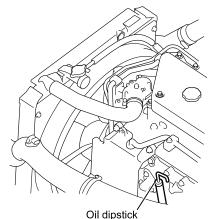
Checking the Engine Oil Level

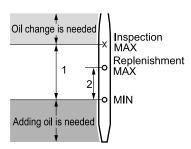
Park the vehicle on a level surface and check the engine oil level before starting or at least 30 minutes after turning off the engine. To check the oil level, remove the oil dipstick, wipe off the end with a clean cloth, reinsert it and then gently remove it. If the oil level is between the "Inspection MAX" and "MIN" marks, the oil is at the correct level. Also check to see if there are any oil leaks.

4JJ1 engine model



4HK1 engine model





Checking the Engine Oil Level

- Remove the oil dipstick and wipe off any oil on the oil dipstick.
- Reinsert the oil dipstick fully and then gently remove it. If the oil level is between the "Inspection MAX" and "MIN" marks (range 1), the oil is at the correct level.
- If the oil level is too low, add oil to the "Replenishment MAX" mark (range 2). If the oil level is beyond the "Inspection MAX" level, then the oil needs to be changed.
- 4. Reinstall the oil dipstick into position after checking the oil level.



ADVICE

- Any oil level above the "Inspection MAX" mark on the oil dipstick may cause engine malfunctions. Change the oil whenever its level exceeds the "Inspection MAX" mark.
- Fuel will gradually become mixed with the engine oil, thinning it out. Be sure to change the oil at the specified intervals.



NOTE

- Perform all engine oil level checks on a level surface before starting the engine.
- The oil level cannot be checked correctly when the engine is running.
- Fuel will gradually become mixed with the engine oil, and the engine oil level will rise beyond the original level. This does not indicate an engine malfunction.
- Wait for at least 30 minutes after stopping the engine when measuring the oil level after the engine has been operated.

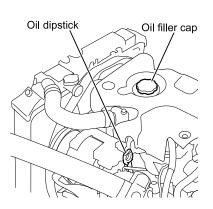
7-26 SERVI

SERVICE AND MAINTENANCE

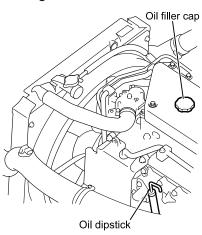
Adding the Engine Oil

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



MARNING

- 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 "Inspection MAX" mark on the oil dipstick could result in faulty engine operation. Be sure to check the oil level by using the oil dipstick.
- Failure to use DPD compatible oil could result in engine or DPD breakdown, or in poor fuel efficiency. Be sure to use DPD compatible engine oil.

7-28 SERVICE AND MAINTENANCE

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.



 Hot engine oil can cause severe skin burns. Allow the engine to cool before draining the engine oil.

3

ADVICE

- Use the oil quantities indicated below only as guidelines when changing the engine oil. After changing the oil, make sure the oil is at the required level.
- Failure to use DPD compatible oil could result in engine or DPD breakdown, or in poor fuel efficiency. Be sure to use DPD compatible engine oil.

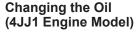
Quantity of engine oil to be changed

Engine	Oil quantity [Reference value]	
model	When changing oil only	When changing oil and filter
4JJ1	7.5 liters (1.98 US gal./ 1.65 lmp gal.)	8.2 liters (2.17 US gal./ 1.80 lmp gal.)
4HK1	9.5 liters (2.51 US gal./2.09 Imp gal.)	11.5 liters (3.04 US gal./ 2.53 lmp gal.)

Maintenance Schedule

→ Refer to page 7-173

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179

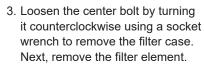


- Clean around the oil filler cap so that foreign matter does not enter. Remove the oil filler cap.
- Place a container for receiving the oil beneath the oil pan and the oil filter. Remove the oil pan drain plug and the oil filter drain plug to discharge the oil into the container.

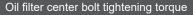


ADVICE

 Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.



- 4. To ensure that the new oil filter makes good contact, wipe the filter mounting surface clean using a workshop rag.
- Replace the three O-rings and filter element with new parts. Tighten the center bolt using the socket wrench.

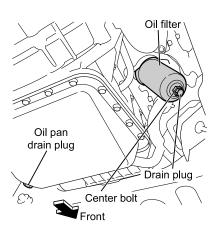


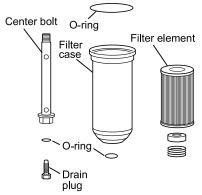
44 N·m (4.5 kgf·m/33 lb·ft)



ADVICE

 When installing the oil filter, be careful not to let the O-rings catch other parts. This may cause oil leakage.





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6. Reinstall and tighten the oil pan drain plug and oil filter drain plug.

2	
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.

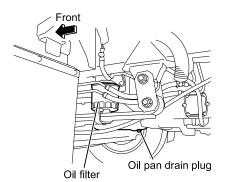
WARNING

- 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 "Inspection MAX" mark on the oil dipstick. Overfilling could damage the engine.



Changing the Oil (4HK1 Engine Model)

- 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.
- Install the new oil filter. After the filter gasket comes in contact with the surface to which it will be attached, use the special oil filter wrench and tighten it by 1 1/4 (one and a quarter) turns.



ADVICE

 When installing the oil filter, make sure the gasket is not caught in the screw threads. This could cause oil leaks.

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Make sure that the oil pan drain plug is securely tightened.

Oil pan drain plug tightening torque

83 N·m (8.5 kgf·m/61 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.
- Shut off the engine. Then, after waiting at least 30 minutes, check the oil level using the oil dipstick.



- 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 "Replenishment MAX" mark on the oil dipstick. Overfilling could damage the engine.

Engine Coolant

The engine cooling system is a device for keeping the engine temperature at an appropriate level.

The engine coolant must be changed according to the Maintenance Schedule.

Maintenance Schedule

→ Refer to page 7-173

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179



- 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.

d ADVICE ∆

Replace the engine coolant periodically.
 If the engine coolant is not replaced periodically, rust is generated due to degradation of the engine coolant, which may cause a failure such as water leakage, clogging of the radiator or heater core, or damage to the urea SCR system.

7-34 SERVICE AND MAINTENANCE



NOTE

 Engine coolant is fluid which is made by mixing coolant and water at the 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.

Direct use of "50/50 Pre-diluted" product which is already diluted to 50% concentration is recommended.

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179



ADVICE

- Isuzu does not guarantee the use of the engine or vehicle at the outside temperature of -30°C (-22°F) or below.
- If the engine or vehicle is used at the outside temperature of -30°C (-22°F) or below, the coolant concentration of 55% is recommended.

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	13.3 liters (3.51 US gal./ 2.93 lmp gal.)
4HK1	18.7 liters (4.94 US gal./ 4.11 lmp gal.)

MARNING

- 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.

A CAUTION

- · Use only an Isuzu recommended coolant.
- Using any coolant other than that Isuzu recommended could cause damage
 to the engine, radiator or heater core. In particular, use of coolants containing
 borate salts or silicates may result in engine, urea selective catalytic reduction
 (SCR) or radiator corrosion, causing engine coolant leaks and other problems.

ADVICE

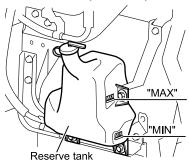
- To dilute the coolant, use distilled water or deionized water.
- Do not use the coolant at any coolant concentration other than that specified. If the coolant concentration is 60% or higher, overheating is likely to occur, while if it is 50% or lower, anti-corrosion function is not provided sufficiently.
- Using coolant at any coolant concentration other than that specified may reduce anti-freezing performance, and engine coolant may freeze.
- If the engine coolant decreases rapidly, go immediately to the nearest Isuzu Dealer for a check or repair.

Checking the Engine Coolant Level

Single cab model



Crew cab model (Euro Vb+)



NPR crew cab model (Euro VI)



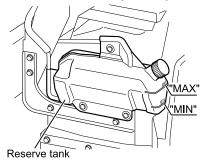
The reserve tank is located behind the front-right wheel. When the engine has cooled down, make sure that the fluid level in the reserve tank is no lower than the "MIN" line.

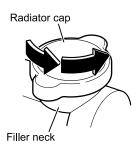
In addition, carefully remove the radiator cap and check that the engine coolant is full to the filler neck. Check the engine coolant level only when it is cold.

A 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.

NLR crew cab model (Euro VI)





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.



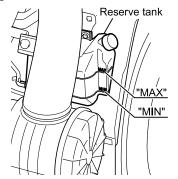
CAUTION

• Using the vehicle when there are leaks can lead to engine seizure.

Rear Inspection Hatches (Crew Cab Model) → Refer to page 7-11

Adding the Engine Coolant

Single cab model

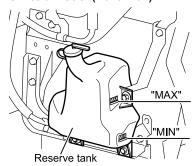


When the engine coolant level in the reserve tank is below the "MIN" line, open the tank cap and fill to near the "MAX" line with engine coolant. Tighten the cap securely after the engine coolant has been replenished.

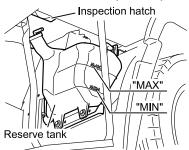
MARNING

 Check, replenish or change the engine coolant only after the engine has sufficiently cooled down.

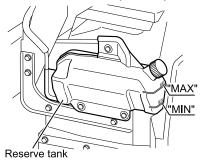
Crew cab model (Euro Vb+)



NPR crew cab model (Euro VI)



NLR crew cab model (Euro VI)



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

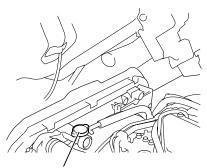


ADVICE

 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	13.3 liters (3.51 US gal./ 2.93 lmp gal.)
4HK1	18.7 liters (4.94 US gal./ 4.11 lmp gal.)



Radiator cap



Draining the Cooling System

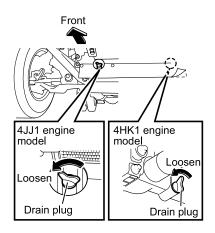
When changing the engine coolant, also clean the radiator cap, radiator, intercooler and engine coolant passages.

Handling the Radiator and Intercooler \rightarrow Refer to page 7-51

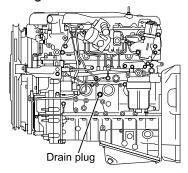
- Confirm that the engine has fully cooled down before starting work.
- 2. Remove the radiator cap.

⚠ CAUTION

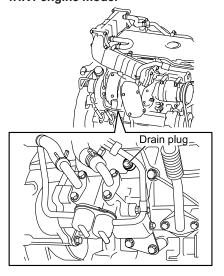
- The radiator cap is a double-action type that must be opened and closed in two turning motions. When removing the cap, take care not to damage the cap or filler.
 - Turn the cap slowly to the left until it reaches a stop. Do not press down while turning the cap.
 - Wait until any remaining pressure (indicated by a hissing sound) is relieved, then press down on the cap and continue turning it to the left.



4JJ1 engine model



4HK1 engine model



- 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.
- 4. Tighten the drain plugs on the radiator and the engine.

For the 4JJ1 engine, apply sealant (LOCTITE® 262 or equivalent) to the screw threads of the engine drain plug before installing it.

For the 4HK1 engine, replace the gasket of the engine drain plug with a new one before installing it.

Engine	Engine drain plug tightening torque
4JJ1	21.6 N·m (2.2 kgf·m/16 lb·ft)
4HK1	22.1 N·m (2.3 kgf·m/17 lb·ft)

A CAUTION

 Do not start the engine when engine coolant has been drained from the radiator. This could cause the engine to seize up.

N D

ADVICE

 Tighten the radiator drain plug by hand. Tightening with pliers or some other tool could damage it.

7-42 SERVICE AND MAINTENANCE

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

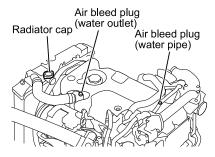
→ Refer to page 7-51



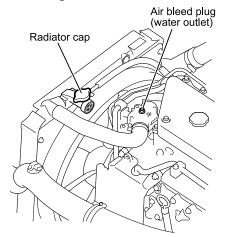
ADVICE

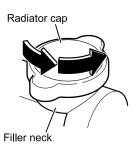
 When cleaning the radiator core and intercooler core, do not crush or damage the fins.

4JJ1 engine model



4HK1 engine model





Cleaning the Engine Coolant Passages

 Remove the air bleed plug from the water outlet and water pipe above the engine cover (only 4JJ1 engine model). After that, refill the radiator with tap water up to the top of the opening. After refilling, tighten the air bleed plugs.

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	18.6 - 28.4 N·m (1.9 - 2.9 kgf·m/ 14 - 21 lb·ft)

Engine	Water pipe air bleed plug tightening torque
4JJ1	4.5 - 8.5 N·m * (0.46 - 0.87 kgf·m/ 40 - 75 lb·in)

* Do not overtighten the plug.

\triangle

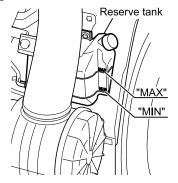
CAUTION

- 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.

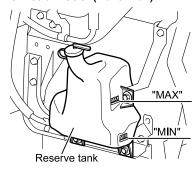
SERVICE AND MAINTENANCE



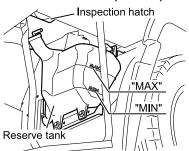
Single cab model



Crew cab model (Euro Vb+)



NPR crew cab model (Euro VI)

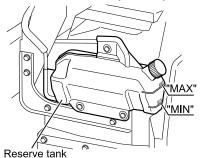


- Check and clean the radiator cap. Replace the cap if there is anything abnormal with it.
- 3. Securely fasten the radiator cap.
- Engine coolant may leak from even minor cracks. Replace damaged rubber hoses.
- 5. Refill the reserve tank with tap water to the "MAX" line.
- 6. Close the cap of the reserve tank.
- 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 7-40

NLR crew cab model (Euro VI)



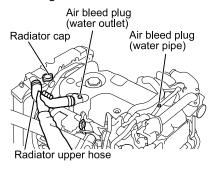
Filling the Cooling System



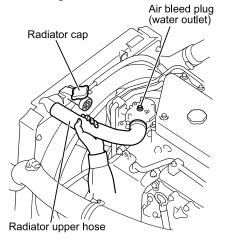
- A failure to correctly fill the engine cooling system in changing or topping up engine coolant may sometimes cause the engine coolant to overflow from the filler neck even before the engine and radiator are completely full.
- If the engine runs under this condition, the shortage of engine coolant may possibly result in engine overheating. To avoid such trouble, the following precautions should be taken when refilling with the engine coolant.

SERVICE AND MAINTENANCE

4JJ1 engine model



4HK1 engine model



- 1. Confirm that the engine has fully cooled down before starting work.
- Tighten the drain plugs on the radiator and the engine.
 For the 4JJ1 engine, apply sealant (LOCTITE® 262 or equivalent) to the screw threads of the engine drain

plug before installing it.
For the 4HK1 engine, replace the gasket of the engine drain plug with a new one before installing it.

Engine	Engine drain plug tightening torque
4JJ1	21.6 N·m (2.2 kgf·m/16 lb·ft)
4HK1	22.1 N·m (2.3 kgf·m/17 lb·ft)

3. Remove the air bleed plug from the water outlet and water pipe above the engine cover (only 4JJ1 engine model). After that, pour engine coolant in the specified concentration. After filling with engine coolant, replace the gaskets of both air bleed plugs with new ones and tighten the air bleed plugs.

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	18.6 - 28.4 N·m (1.9 - 2.9 kgf·m/ 14 - 21 lb·ft)

Engine	Water pipe air bleed plug tightening torque
4JJ1	4.5 - 8.5 N·m * (0.46 - 0.87 kgf·m/ 40 - 75 lb·in)

^{*} Do not overtighten the plug.

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.



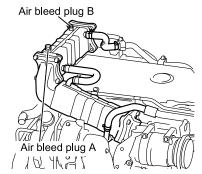
Filler neck

CAUTION

- The radiator cap is a double-action type that is 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.

SERVICE AND MAINTENANCE

4HK1 engine model



 If the vehicle is not equipped with an air bleed plug and exhaust gas recirculation (EGR) cooler, close the radiator cap.

For the 4HK1 engine, 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.

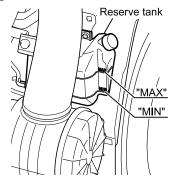
Remove both air bleed plugs (A and B) from the EGR cooler above the cylinder head and refill with engine coolant from the air bleed plug hole. Air bleed plug (B) is used for bleeding air.

After filling with engine coolant, replace the gasket of air bleed plug with a new one and tighten the air bleed plug.

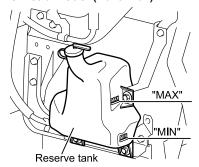
Engine	Water outlet air bleed plug tightening torque
4HK1	18.6 - 28.4 N·m (1.9 - 2.9 kgf·m/ 14 - 21 lb·ft)

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)			

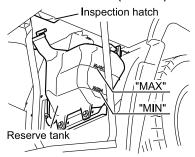
Single cab model



Crew cab model (Euro Vb+)



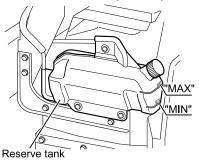
NPR crew cab model (Euro VI)



- 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.

SERVICE AND MAINTENANCE

NLR crew cab model (Euro VI)



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.

In order to save time, if the vehicle is equipped with a warm-up switch, turn the switch on to warm up the engine.

If the vehicle is not equipped with a warm-up switch, 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.

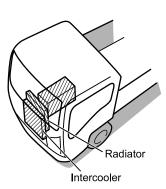
If the vehicle is equipped with an air conditioner, turn the A/C switch off to facilitate warming.

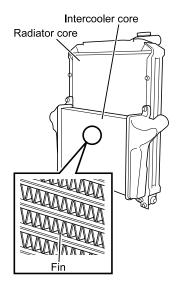
If the vehicle is equipped with a heater, turn off the fan to facilitate warming. Check if the thermostat is open or not by checking whether the upper hose and lower hose are hot.

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.

MARNING

- 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.

A 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)

7-52 SERVICE AND MAINTENANCE

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.

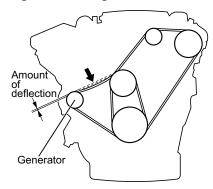
Fan Belt

A CAUTION

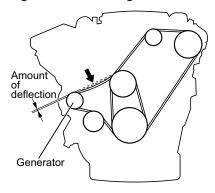
- A V-ribbed belt is used for the fan belt. This type of belt requires the tension
 to be adjusted more accurately than is required with the conventional V belt.
 Inappropriate tension could cause the belt to make noise or break. When the
 fan belt is damaged, electricity is not properly generated or 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

Engine with 50A generator



Engine with 80A/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.

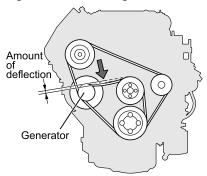
When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 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.

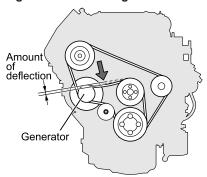
	Standard value [amount of deflection]	Standard value [vibration frequency]
New belt	4 - 6 mm (0.16 - 0.24 in)	212 - 236 Hz
When reused	6 - 8 mm (0.24 - 0.31 in)	181 - 195 Hz

SERVICE AND MAINTENANCE

Engine with 50A/60A generator



Engine with 80A/90A generator



4HK1 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.

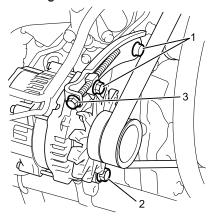
When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 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.

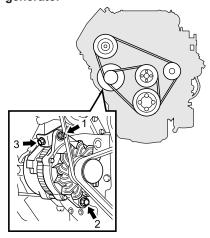
Generator	Standard value [amount of deflection]		Standard value [vibration frequency]
50A/60A	New belt	5 - 7 mm (0.20 - 0.28 in)	208 - 232 Hz
	When reused	6 - 8 mm (0.24 - 0.31 in)	178 - 190 Hz
80A/90A	New belt	5 - 7 mm (0.20 - 0.28 in)	187 - 209 Hz
	When reused	6 - 8 mm (0.24 - 0.31 in)	161 - 173 Hz

Adjustment and Replacement

4JJ1 engine model



4HK1 engine model with 50A/60A generator



4JJ1 Engine Model or 4HK1 Engine Model with 50A/60A Generator

Adjustment

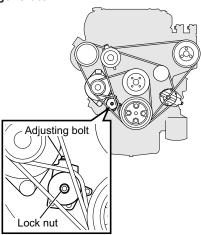
- 1. Loosen the generator's upper and lower nuts and bolts (1, 2).
- 2. Turn the adjusting bolt (3) until the belt tension falls within the standard value range.
- 3. After adjustment, firmly tighten all the loosened nuts and bolts.

Changing the Belt

- Remove the air conditioning compressor belt.
- 2. Loosen the generator's upper and lower nuts and bolts (1, 2), and then detach the belt from the pulleys.
- 3. Take out the belt through the opening in the fan.
- 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.
- 5. Turn the adjusting bolt (3) until the belt tension falls within the standard value range.
- 6. After adjustment, firmly tighten all the loosened nuts and bolts.
- 7. Install the air conditioning compressor belt

SERVICE AND MAINTENANCE

4HK1 engine model with 80A/90A generator



4HK1 Engine Model with 80A/90A Generator

Adjustment

- 1. Loosen the tensioner's lock nut.
- 2. Adjust the belt tension with the adjusting bolt.
- 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.
- Insert the new belt through the opening in the fan, and install the belt while aligning its grooves with those in the pulleys.
- Turn the adjusting bolt until the belt tension is within the standard value range.
- When the tension has been adjusted, securely fasten the tensioner's lock nut.

Air Cleaner

Use of clogged air cleaner element not only causes a deterioration in the engine output but also increased fuel consumption. The air cleaner element should be serviced in the following manner.

Replace 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



Remove the air cleaner element and check to see if it is blocked by dirt.

If the air cleaner indicator light comes on (model with multi-information display (MID) only), check the air cleaner element regardless of whether or not it is due for inspection.

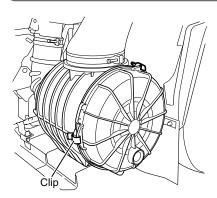
Air Cleaner Indicator Light V

→ Refer to page 4-70

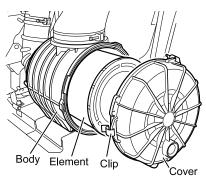
Maintenance Schedule

→ Refer to page 7-173

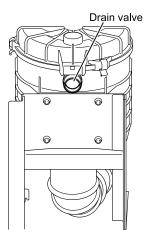
Replacing the Air Cleaner Element



1. Unfasten the 3 clips and remove the air cleaner cover.

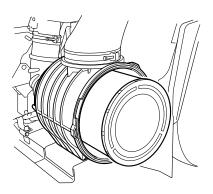


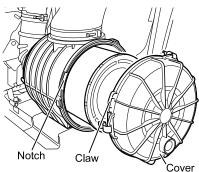
2. Remove the air cleaner element by pulling it out toward you.



- 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.

SERVICE AND MAINTENANCE





5. Push the element back into position in the air cleaner body.

 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/cm²/100 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.
 - Remove the element from the detergent solution and rinse well using tap water.
 - 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.



Air Compressor Air Cleaner V

The air compressor air cleaner is located at the front left of the engine when the cab is tilted.

The air compressor air cleaner cleans air sent to the air compressor.

Change the air cleaner element in accordance with the Maintenance Schedule.



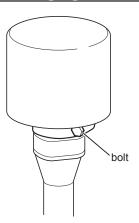
ADVICE

• Be sure to use an Isuzu genuine air cleaner element.

Maintenance Schedule

→ Refer to page 7-173

Changing the Air Compressor Air Cleaner Element



- 1. Loosen the bolt.
- 2. Pull out the element and replace with a new one. Push the element all the way to the back.
- 3. Tighten the bolt to the specified torque.

Tightening torque

5 N·m (0.5 kgf·m/4 lb·ft)

SERVICE AND MAINTENANCE

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

Model without multi-information display (MID)



Model with MID



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.)

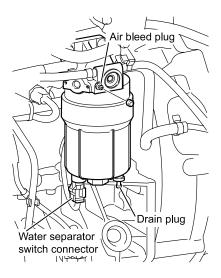
A CAUTION

- 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

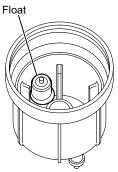
→ Refer to page 7-67

Changing the Fuel Filter



Engine-side Fuel Filter

- 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.

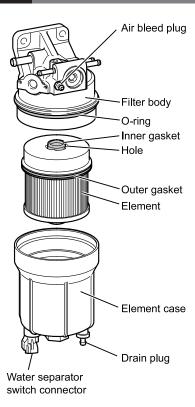




ADVICE

- 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.

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 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.
- 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.
- 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.



 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.

S 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".

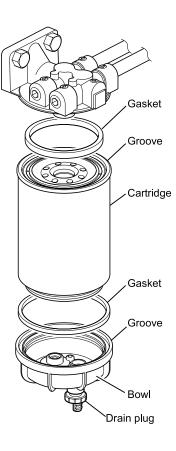
Bleeding the Fuel System

→ Refer to page 8-16



 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.

SERVICE AND MAINTENANCE



Chassis-side Fuel Filter (Model with Pre-fuel Filter Only)

- Loosen the drain plug at the bottom of the bowl to drain the fuel inside the filter. (Self-bleeding type)
- Turn the filter element cartridge counterclockwise to loosen and remove it from the filter head.
- 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.
- 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))
- 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".

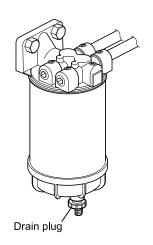
Bleeding the Fuel System

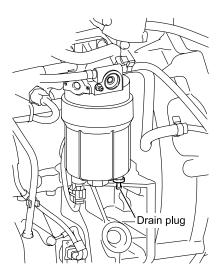
→ Refer to page 8-16



 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





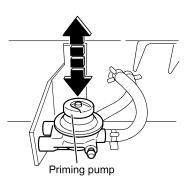
Chassis-side Fuel Filter (Only Models with a Pre-fuel Filter)

- 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.

Engine-side Fuel Filter (All Models)

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.

SERVICE AND MAINTENANCE



- 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 doesn't start in 10 seconds, wait for a while and try again.
- Fuel will be mixed in the drained water. Dispose of it in a method conforming to the regulatory requirements in your country.
- 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.

Diesel Particulate Defuser (DPD)

Checking and Cleaning the DPD

Have the exhaust pressure check performed at your Isuzu Dealer in accordance with the Maintenance Schedule. The filter may need cleaning depending on the results of the check. If you cannot do the exhaust pressure check, clean the filter and inspect the exhaust differential pressure sensor rubber.

A CAUTION

 Failure to perform checks or cleaning of the DPD could result in a faulty DPD and engine damage, or poor fuel economy. Ask your Isuzu Dealer about checks and cleaning of the DPD.

Maintenance Schedule

 \rightarrow Refer to page 7-173

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AdBlue® Filter V

The AdBlue[®] filter removes foreign material. It is recommended to use Isuzu genuine filters when replacing.

Maintenance Schedule

→ Refer to page 7-173

Replacement of AdBlue® Filter



ADVICE

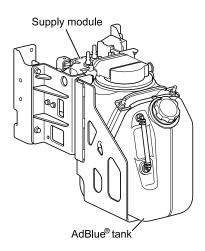
- The urea SCR system continues to operate for approximately 3 minutes even after the starter switch is set to the "LOCK" position. Wait for 3 minutes or more before inspecting or making repairs.
- Discharged AdBlue® is not reusable. Reuse may result in failure of the urea SCR system.
- When disposing of discharged AdBlue®, comply with regulations.
- Do not clean using highly-pressurized air, but instead wipe with clean cloth.
 Were foreign material blown by air to intrude into the AdBlue[®] piping, a failure with the urea SCR system may result.

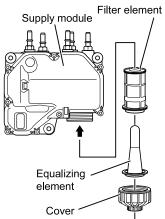
Handling of AdBlue®

→ Refer to page 2-55

Disposing of AdBlue®

→ Refer to page 2-57





How to Replace

- Set the starter switch to the "LOCK" position and wait for 3 minutes or more until the supply module stops operating.
- Place a tray under the supply module and loosen the cover. Pull out the filter element and equalizing element together.
- 3. Mount the new filter element and equalizing element.
- 4. Close the cover.

Tightening torque for the AdBlue® filter cover

20 - 25 N·m (2.0 - 2.5 kgf·m/14 - 18 lb·ft)

SERVICE AND MAINTENANCE

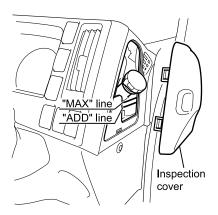
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Brakes

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.

A 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 any other brand.
- If the brake fluid level decreases rapidly, there may be a problem in the brake system or brake pads 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.

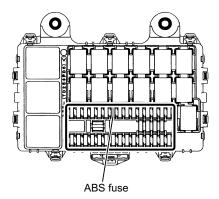
WARNING

- · 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.

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1. Fully apply the parking brake.

A CAUTION

 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.

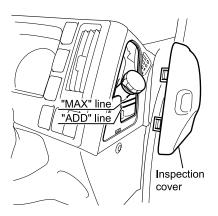
The Location of Fuses and Relays → Refer to page 8-47

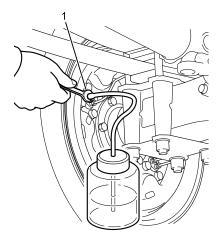
2. Start the engine and allow it to idle.

A CAUTION

 If the engine is not running during air bleeding, the brake booster may be damaged.

SERVICE AND MAINTENANCE



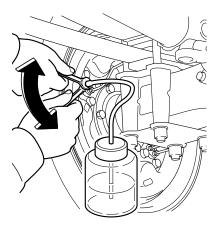




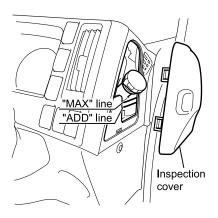
- 3. Remove the cap from the brake fluid tank, and then add brake fluid to the "MAX" line on the tank. Maintain this level throughout bleeding by adding brake fluid as necessary.
- 4. Bleed the brake hydraulic system part by part in the following sequence: Right-hand drive: Left rear wheel → Right rear wheel → Left front wheel → Right front wheel Left-hand drive: Right rear wheel → Left rear wheel → 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.

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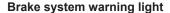
7. Loosen the bleeder screw to let the brake fluid containing air bubbles flow into the container and then tighten the bleeder screw immediately.



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.
- 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.





Air Pressure FAB

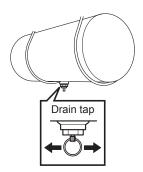


Checking Air Pressure

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

830 - 870 kPa (8.5 - 8.9 kgf/cm²/120 - 126 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.

Air pressure warning light



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.

SERVICE AND MAINTENANCE

Time taken before air pressure warning light goes out

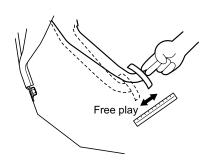
Time (minutes)

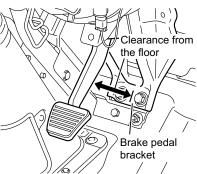
The time taken before the air pressure warning light goes out may somewhat vary depending on the temperature and other environmental conditions. However, you should contact the nearest Isuzu Dealer if air pressure does not increase at all, the time taken before reaching a proper pressure is significantly different from that indicated in the table, or the needles of the two air pressure gauges indicate considerably different pressures.

MARNING

 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 (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)

5 - 10 mm (0.20 - 0.39 in)

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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			
Front disc brake and rear drum brake model	20 mm (0.79 in) or more		
4-wheel disc brake model (GVM: 3,500 kg (7,718 lb))	35 mm (1.38 in) or more		
4-wheel disc brake model (GVM: 5,500 kg (12,128 lb))	25 mm (0.98 in) or more		
4-wheel disc brake model (GVM: 6,500 kg (14,333 lb))	45 mm (1.77 in) or more		
4-wheel disc brake model (GVM: 7,500 kg (16,538 lb))			

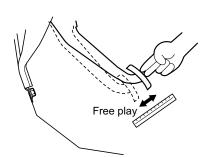
ADVICE

- 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.
- · If your vehicle's brakes squeak during normal driving or braking, the cause may be one of the following.
 - Brake pad wear Brake pads are about to wear out. If this happens, have your vehicle inspected at the nearest Isuzu Dealer as soon as possible.
 - Adherence of sand, grit or mud If 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.



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)

10 - 18 mm (0.39 - 0.71 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.

SERVICE AND MAINTENANCE

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.

Inspection



Model with Center Parking Brake

НВ

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).



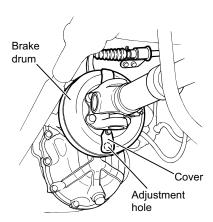
Model with Wheel Parking Brake

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

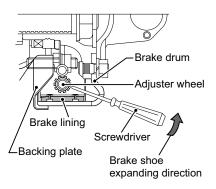
- Park the vehicle on a level and flat ground surface, prevent the vehicle from moving by applying chocks to the front and back of the front wheels, and release the parking brake completely.
- 2. Loosen the parking brake lever cable adjusting nut inside the cab.
- Confirm that the transmission is in 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 7-140



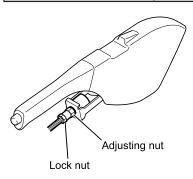
• Before going under the raised vehicle, make sure that the vehicle is securely supported with jack stands.

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- 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.
- Insert a screwdriver through the adjustment hole and turn the adjuster wheel upwards until it cannot be turned any further.
- From this point, turn the adjuster wheel back by the number of teeth indicated below. After the adjustment, reinstall the adjustment hole cover.

Transmission model	Number of teeth by which the adjuster wheel should be turned back	Parking brake drum-to-lining clearance	
MZZ	8 teeth	0.23 mm (0.009 in)	
MYY	30 teeth	0.75 mm (0.030 in)	



- 8. Loosen the lock nut.
- 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

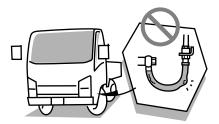


NOTE

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.

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Disc Brakes V

If the brake pads wear out beyond their usable limit, not only will the brake performance be impaired, but brake components could also fail.

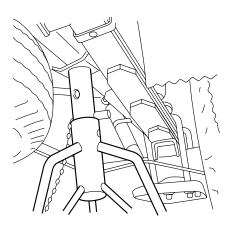
MARNING

 Do not drive with brake pads worn out beyond the limit. Excessively worn brake pads may cause breakdown of brake components and poor braking performance. This is very dangerous.

ADVICE

 The pad has an embedded wear indicator. A squeaking noise from the indicator means that the pad is approaching the usable limit. If the squeaking noise from the indicator can be heard, contact the nearest Isuzu Dealer for inspection or replacement.

Checking the Brake Rotor and Pads for Wear



Removal

1. Apply the parking brake firmly and chock the wheels.

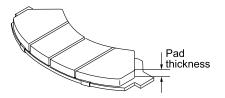
Parking Brake Lever

- → Refer to page 4-127
- 2. Raise the vehicle until the wheel is completely clear of the ground.
- 3. Support the raised vehicle with jack stands.
- 4. Remove the wheel.

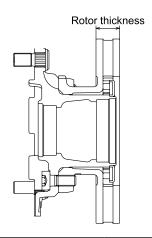
Removing a Wheel

 \rightarrow Refer to page 7-105

7-90 SERVICE AND MAINTENANCE



5. Check the pad and rotor as follows: Measure the pad thickness, rotor thickness and rotor runout.



Brake size	Rotor thickness		Pad thi	ckness
(Diameter × Thickness)	Standard value	Usable limit	Standard value	Usable limit
φ265 × 35 mm	35.0 mm	33.0 mm	14.0 mm	1.0 mm
(10.43 × 1.38 in)	(1.378 in)	(1.299 in)	(0.551 in)	(0.039 in)
φ275 × 30 mm	30.0 mm	28.0 mm	14.0 mm	1.0 mm
(10.83 × 1.18 in)	(1.181 in)	(1.102 in)	(0.551 in)	(0.039 in)
φ293 × 40 mm	40.0 mm	37.0 mm	13.0 mm	1.0 mm
(11.54 × 1.57 in)	(1.575 in)	(1.457 in)	(0.512 in)	(0.039 in)
φ310 × 42 mm	42.0 mm	39.0 mm	13.0 mm	1.0 mm
(12.20 × 1.65 in)	(1.654 in)	(1.535 in)	(0.512 in)	(0.039 in)
ф330 x 34 mm	34.0 mm	28.0 mm	19.0 mm	2.0 mm
(12.99 x 1.34 in)	(1.339 in)	(1.102 in)	(0.748 in)	(0.079 in)

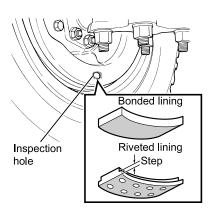
Drum Brakes 🔻

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.



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.
- 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

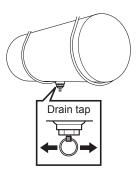


Hydraulic Brake Model

- 1. Press down the brake pedal as far as it goes.
- 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.

SERVICE AND MAINTENANCE

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.

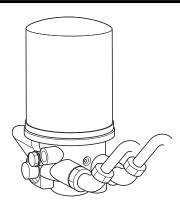
After discharging water, check that air is not leaking from each drain tap.

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.



 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.

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.

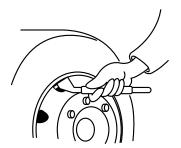
Wheels and Tires

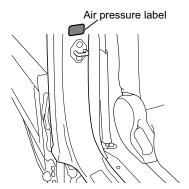
The wheels have a major influence upon the safety and comfort of driving. Should any wheel fall off the vehicle, it not only causes the vehicle to break down on the road and block other traffic, but it may also lead to a serious accident. We strongly recommend that you check the wheels and tires daily and maintain them in satisfactory condition.



- 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 table on the following page 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.

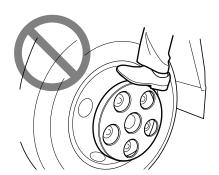
Tire Size and Tire Air Pressure

Vehicle	Vehicle Tire size		Tire air pressure kPa (kgf/cm²/psi)	
model	Front	Rear	Front	Rear
NLR85E	195/75R16C	195/75R16C	475 (4.75/69)	475 (4.75/69)
INLROSE	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NLR85E (Single tire rear wheel model)	205/75R16C 110/108	205/75R16C 110/108	450 (4.50/64)	450 (4.50/64)
NI DOEE	195/75R16C	195/75R16C	475 (4.75/69)	475 (4.75/69)
NLR85F	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NI DOCI I	195/75R16C	195/75R16C	475 (4.75/69)	475 (4.75/69)
NLR85H	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NMR85E	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NMR85F	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NMR85H	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NNR85F	195/75R16C	195/75R16C	475 (4.75/69)	475 (4.75/69)
ININGOF	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NNR85H	195/75R16C	195/75R16C	475 (4.75/69)	475 (4.75/69)
INININOSHI	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NPR75H	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NPR75K	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NPR75M	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
	205/75R16C	205/75R16C	475 (4.75/69)	475 (4.75/69)
NPR85H	215/75R16C	215/75R16C	525 (5.25/76)	525 (5.25/76)
	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NPR85K	215/75R16C	215/75R16C	525 (5.25/76)	525 (5.25/76)
INFROSK	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NPR85M	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NQR90H	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NQR90K	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)
NQR90M	215/75R17.5	215/75R17.5	600 (6.00/87)	600 (6.00/87)

SERVICE AND MAINTENANCE

MARNING

- 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.



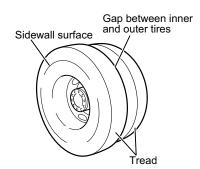
CAUTION

- 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.
- On a dual-tire rear-wheel model, the wheel nut cover of the front wheel cannot be used as a step. Do not step on it.

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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

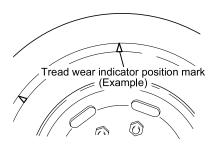
Check the tread and sidewall surfaces of each tire for cracks or other damage. Especially check the tread for nails or other metal pieces embedded in grooves and also the gap between the inner and outer tires of a dual-tire wheel for pebbles lodged in it.

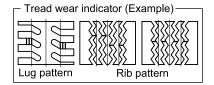


ADVICE

 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.

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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.

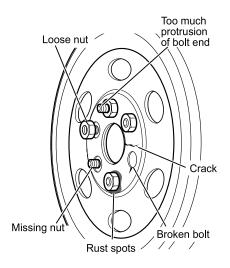


 Tires with excessively shallow tread grooves will increase the chance of skidding and, when driving at high speeds, hydroplaning.



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.
- 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.
- 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.

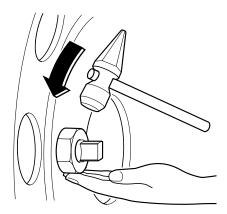
A CAUTION

 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.

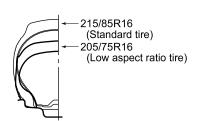


A CAUTION

 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.

SERVICE AND MAINTENANCE





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.
- Your vehicle may be equipped with special tires whose direction of rotation is specified. A tire of this type has a set of arrows on the sidewall. The larger arrow shows the direction of rotation for forward movement of the vehicle. When installing the wheel assembly consisting of a tire of this type and a disc wheel, install the assembly so that the larger arrow points in the direction of rotation when the vehicle moves forward. (If the tread depth is 5 mm (0.20 in) or less when measured, it is possible to install the assembly so that the smaller arrow points in the direction of rotation when the vehicle moves forward. The tread depth can be checked with a depth gauge in either of the two center grooves among the four.)

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.

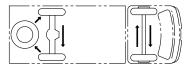
If there is a difference in diameter between the inner and outer tires of a dual-tire wheel, install the smaller diameter tire inside.

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.

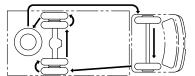


SERVICE AND MAINTENANCE

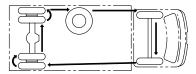
[Single-wheel model]



[Model with spare tire stored at rear]



[Model with spare tire stored at side]



A 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)	

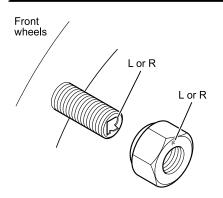
ADVICE

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 7-111

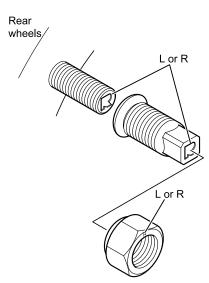
Changing Tires



Change a tire on a level and solid surface after checking safety in the surrounding area.

Handling the Jack \rightarrow Refer to page 7-140

Every bolt or nut for right-hand wheels is marked "R" or "\time\time", and each bolt or nut for left-hand wheels is marked "L" or "\time\time\time".



SERVICE AND MAINTENANCE

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.



• Use a tire of the specified size and the same tread pattern as the one to be replaced.

Removing a Wheel

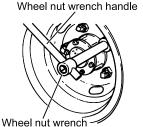


- Always apply the parking brake fully and correctly chock the wheels before
 raising the vehicle. Applying only the parking brake is insufficient to prevent the
 vehicle from moving. When a rear wheel is jacked up, the vehicle blocked only
 by the parking brake would move, creating a very dangerous 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.

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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. Do
 not change a tire while diesel particulate defuser (DPD) regeneration is under
 way, as the exhaust temperature is very high at that time.
 - 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.

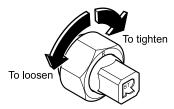


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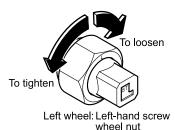
CAUTION

 Do not loosen the wheel nuts too much. The wheel bolts would be damaged.

SERVICE AND MAINTENANCE



Right wheel: Right-hand screw wheel nut



- 5. Jack up the vehicle so that the tire is clear of the ground completely.
- 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 7-142

Rear Wheel Jacking Points

→ Refer to page 7-143

Installing a Wheel



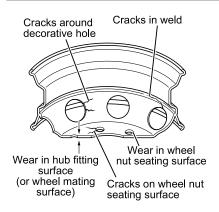
WARNING

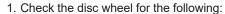
- A disc wheel, wheel bolts or wheel nuts in any abnormal condition could break later, causing the wheel to be detached from the vehicle while driving.
- Do not repaint any mating surfaces, wheel nut seating surfaces (tapered surfaces) and hub fitting surface of the disc wheel. Thick paint films would cause loosened or broken wheel bolts.

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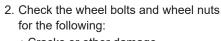
CAUTION

- 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.

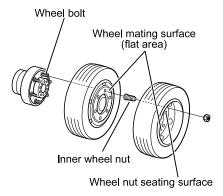




- Cracks or other damage around the bolt holes and decorative holes
- Cracks or other damage or wear on the wheel nut seating surfaces (tapered surfaces)
- · Cracks or other damage on welds
- Wear or other damage on the hub fitting surface or wheel-to-wheel mating surface



- · Cracks or other damage
- Bolt elongation or excessive rust
- · Crushed, thinned or seized threads



SERVICE AND MAINTENANCE

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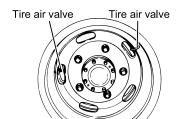
CAUTION

- 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.
 - 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-towheel 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.



 Install the wheel while aligning the bolt holes in the disc wheel with the wheel bolts.

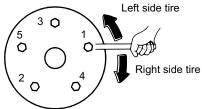
When installing the rear wheel, place the outer wheel so that its tire air valve will be 180 degrees apart from that of the inner wheel to enable inflating both inner and outer tires.

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.

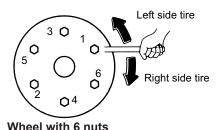
5. Screw in each wheel nut by hand until

- Turn the bleeder screw of the jack counterclockwise to lower the vehicle slowly.
- 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.

Wheel nut tightening sequence



Wheel with 5 nuts



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.

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 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	Front wheel nuts		Rear wheel nuts	
specification	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	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 7-111

Retightening Wheel Nuts

Check the wheel nuts to make sure they are tightened to the specific torque by using a torque wrench.

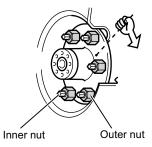
Use the following methods to check loose wheel nuts. The tightening torque of the wheel nuts may decrease after a tire change or rotation due to their initial settlement. After driving 50 to 100 km (31 to 62 miles), be sure to retighten the wheel nuts to the specified torque.

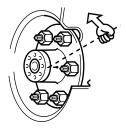
Model or	Front wheel nuts		Rear wheel nuts	
specification	Tightening torque	Quantity	Tightening torque	Quantity
Single tire	140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6	140 - 200 N·m (14 - 20 kgf·m/ 101 - 145 lb·ft)	6
Dual tire	450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5 or 6	450 - 550 N·m (45 - 55 kgf·m/ 325 - 398 lb·ft)	5 or 6

Single Tire

Turn the wheel nuts in the tightening direction to the specified torque.

Retightening of nuts on left rear dual-tire wheel



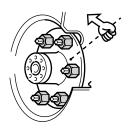


Dual Tire

1. Of the nuts on the wheel bolts, loosen the outer wheel nuts.

2. Tighten the inner wheel nuts of the same wheel to the specified torque.

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3. Next, tighten the outer wheel nuts to the specified torque.

MARNING

 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.

A 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 V

The spare tire is used when one of the tires cannot be used or for tire rotation.



- 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.

Spare Tire Inspection

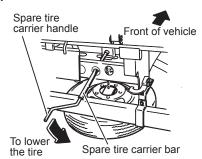
- 1. Check that the spare tire is not loose by strongly pushing it with your foot or other body parts.
- If the tire is loose, fasten it again after checking that there are no defects in the bracket or hanger plate. If the tire is still loose, contact the nearest Isuzu Dealer before driving the vehicle.

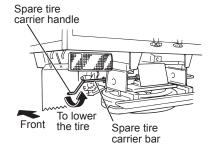
SERVICE AND MAINTENANCE

Removal

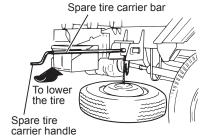
Assemble the spare tire carrier bar and the handle together, insert the bar into the hole in the carrier, and turn the handle counterclockwise to lower the spare tire.

Spare tire stored at rear of frame





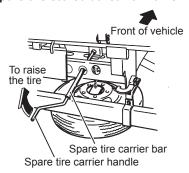
Spare tire stored at side of frame

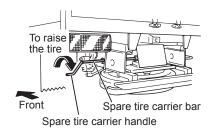


Storage

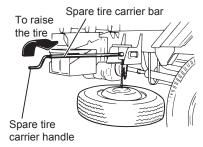
- With the convex side of the disc wheel facing upward, firmly fit the pawls of the carrier hanger plate.
- 2. Check that the chain is not twisted.
- 3. Assemble the spare tire carrier bar and the handle, insert the bar into the hole in the carrier, and turn the handle clockwise to wind up the chain holding the spare tire. Be careful not to twist the chain while winding it up. Install the carrier so that it will be perpendicular to the hanger plate.

Spare tire stored at rear of frame





Spare tire stored at side of frame



- 4. After winding the chain up, secure the tire by tightening the spare tire carrier bar to 196 N (20 kgf/44 lb) or more. After securing the tire, remove the bar without turning it in reverse.
- 5. After the spare tire is installed, check that it is not loose by strongly pushing it with your foot or other body parts. If the tire is loose, fasten it again after checking that there are no defects in the bracket or hanger plate. If the tire is still loose, contact the nearest Isuzu Dealer before driving the vehicle.

SERVICE AND MAINTENANCE

Air Pressure

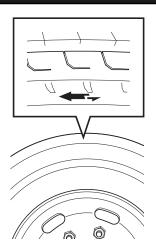
Check the air pressure of the spare tire using a tire air pressure gauge at the intervals specified in the Maintenance Schedule.

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

Directional Tires V



Your vehicle may be equipped with special tires whose direction of rotation is specified. A tire of this type has a set of arrows on the sidewall. The larger arrow shows the direction of rotation for forward movement of the vehicle. When installing the wheel assembly consisting of a tire of this type and a disc wheel, install the assembly so that the larger arrow points in the direction of rotation when the vehicle moves forward.

A CAUTION

 Before installing a directional tire, make sure that the arrows point in the direction of rotation when the vehicle moves forward.

NOTE

• If the tread depth is 5 mm (0.20 in) or less when measured, it is possible to install the assembly so that the smaller arrow points in the direction of rotation when the vehicle moves forward. The tread depth can be checked with a depth gauge in either of the two center grooves among the four.

Clutch M/T



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

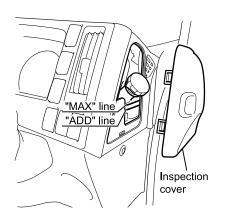
- When refilling the tank with clutch fluid, be careful not to let dust or water enter the tank. Dust or water can impair clutch operation.
- Be careful not to spill clutch fluid on a painted surface or let it come in contact
 with your skin. Should the fluid be spilled on a painted surface or come in
 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 might be a problem in the clutch system or the brake system, or brake pads 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 7-179

SERVICE AND MAINTENANCE



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.



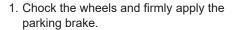
- Before refilling the tank, clean the area around the cap and fill clutch fluid from a clean container. Foreign objects getting in the tank will lead to a clutch system failure.
- Clutch fluid melts paintwork and vehicle component materials such as plastic, vinyl and rubber. It is also highly corrosive 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

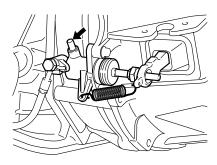
Change the clutch fluid according to the Maintenance Schedule using the specified fluid. Since a clutch fluid change requires operation of the related components, have this service performed by your Isuzu Dealer.

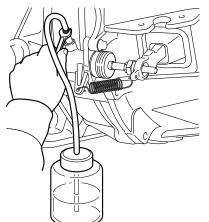
Bleeding the Clutch Hydraulic System

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.



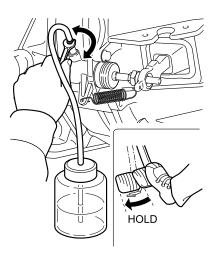
- 2. Check the level of the clutch fluid in the clutch fluid tank and add fluid as required.
- Detach the rubber cap from the bleeder screw on the clutch slave cylinder. Wipe the bleeder screw clean.





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.

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- 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.
- 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.

A CAUTION

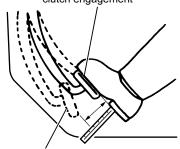
 While bleeding, ensure that the fluid level in the clutch fluid tank is not below the "ADD" line.

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.



Pedal position just before clutch engagement



Position of fully pressed pedal

Checking the Clutch Pedal

 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		
Manual adjustment type*	15 - 25 mm (0.59 - 0.98 in)	
Automatic adjustment type*	5 - 15 mm (0.20 - 0.59 in)	

- *: The clutch slave cylinder with an adjust nut and a lock nut is manual adjustment type. The clutch slave cylinder without those nuts is automatic adjustment type.
 - Make sure that the parking brake lever is pulled completely. Start and run the engine at idle and then press the clutch pedal fully.
 - 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.

SERVICE AND MAINTENANCE

Transmission Oil

Change the transmission oil according to the Maintenance Schedule.

If your vehicle is equipped with Smoother, you should follow the special procedures for level checking and changing of the Smoother clutch oil.

Maintenance Schedule

→ Refer to page 7-173

Smoother Clutch Oil SA

→ Refer to page 7-125



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] Liter (US gal./ Imp gal .)		
		Without PTO	With PTO	
MYY5A	5 speeds	2.8 (0.74/ 0.62)	3.1 (0.82/ 0.68)	
MYY5T	5 speeds	2.8 (0.74/ 0.62)	3.1 (0.82/ 0.68)	
MYY6S	6 speeds	3.5 (0.92/ 0.77)	3.8 (1.00/ 0.84)	
MZZ6F	6 speeds	4.4 (1.16/ 0.97)	5.3 (1.40/ 1.17)	

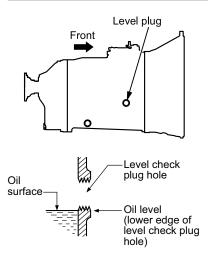


NOTE

• The transmission model is indicated by option code on the ID plate.

Option Codes → Refer to page 1-5

Checking the Oil Level



- 1. Remove the oil level plug.
- 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.

 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

39 N·m (4.0 kgf·m/29 lb·ft)

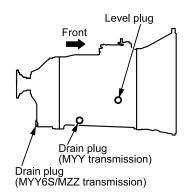


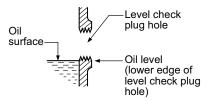
ADVICE

- Any dirt on the plug should be wiped off before installing it.
- For transmissions with aluminum casing, be especially 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.

SERVICE AND MAINTENANCE

Changing the Oil





- 1. Place a container under the drain plug(s) to receive oil.
- Remove both oil level plug and drain plug(s) to discharge the oil into the container.
- 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

39 N·m (4.0 kgf·m/29 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.
- 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

39 N·m (4.0 kgf·m/29 lb·ft)



ADVICE

 Any dirt on the plug should be wiped off before installing it.



ADVICE

• For transmissions with aluminum casing, be especially 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.

Smoother Clutch Oil SA

Your vehicle, if equipped with a Smoother system, needs a change of Smoother clutch oil in addition to transmission oil.

Check and change the Smoother clutch oil at intervals specified by the Maintenance Schedule.



ADVICE

- Both quality and quantity of oil are important factors that have a significant influence on the performance and durability of Smoother. Be sure to use only the Isuzu recommended oil for replenishment, and observe the specified oil level.
 - Too much oil will cause oil leaks.
 - Too little oil will cause malfunction of the system.
- Before checking the Smoother clutch oil level, thoroughly clean the dipstick
 and the area around it to prevent dust or other foreign matter from entering
 the system. Failure to do so may cause a fault in the transmission. Clean the
 dipstick before installing it as well.
- Do not let engine coolant, water or other oils mix with the Smoother clutch oil.
 Otherwise, degraded performance and faulty operation of the system would result.

Maintenance Schedule

→ Refer to page 7-173

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179

Transmission Oil \rightarrow Refer to page 7-122

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Checking the Oil Level

A CAUTION

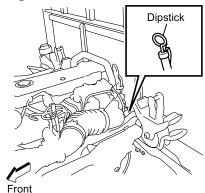
• Be extremely careful not to burn yourself when checking the oil level if the engine temperature is high. Protect yourself with gloves, etc.

w D

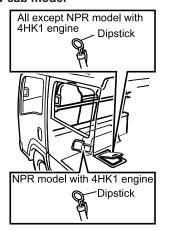
ADVICE

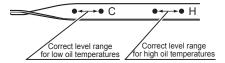
- When the dipstick is in the "C (Cold)" range, it is a sign that the Smoother clutch oil must be replaced and repairs made at your Isuzu dealer that has the required equipment to do so.
 - When adjusting the oil level, do so after having warmed the vehicle with the dipstick in the "H (Hot)" range.
- In order to avoid excessively low oil levels, have your vehicle inspected and oil replenished at your Isuzu dealer.
 - Park the vehicle on level ground, place the gearshift lever in the "N" position and firmly apply the parking brake.
 - 2. Start the engine.

Single cab model



Crew cab model





- 3. Pull out the dipstick and wipe it with a clean cloth.
- 4. Reinsert the dipstick into position and then, while the engine is running at idle, pull out the dipstick slowly and check whether the oil level is within the "C" marked range on the dipstick when the oil temperature is low, or within the "H" marked range when the oil temperature is high.
- 5. If the oil level is too low, add oil as necessary.
- 6. After checking, insert the dipstick fully into position.
- 7. Drive the vehicle once and check the oil level with the dipstick again.

Mark on dipstick	Smoother clutch oil temperature
C (Cold)	About 20 - 30°C (68 - 86°F)
H (Hot)	About 70 - 80°C (158 - 176°F)

SERVICE AND MAINTENANCE

Changing the Oil

Changing the Smoother Clutch Oil

Change the Smoother clutch oil according to the Maintenance Schedule.

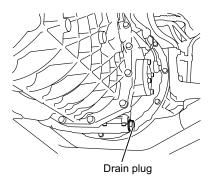
Maintenance Schedule

→ Refer to page 7-173



ADVICE

- After changing the Smoother clutch oil, check that the oil level is correct by following the instructions in the preceding "Checking the Oil Level" section.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.



- 1. Place a container beneath the drain plug.
- 2. Tilt the cab.

Tilting the Cab V

→ Refer to page 7-12

- 3. Pull out the dipstick.
- 4. Remove the drain plug and gasket to discharge the oil into the container.

\triangle

CAUTION

 Hot fluid can cause severe skin burns. Allow the transmission to cool before draining the Smoother clutch oil.



ADVICE

· Do not reuse the gasket.



NOTE

- Smoother clutch oil cannot be completely drained because a certain amount remains in the fluid coupling and hydraulic circuits.
- 5. Install the drain plug by tightening it to the specified torque.

Drain plug tightening torque

29 - 49 N·m (3.0 - 5.0 kgf·m/22 - 36 lb·ft)

- 6. Fill the clutch with new oil through the dipstick guide tube.
- 7. Check the oil level according to the "Checking the Oil Level" section.

Checking the Oil Level

→ Refer to page 7-126

SERVICE AND MAINTENANCE

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.



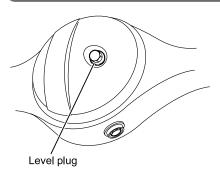
ADVICE

- 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.

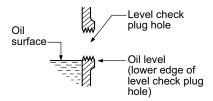
Maintenance Schedule

→ 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.

Plug tightening torque

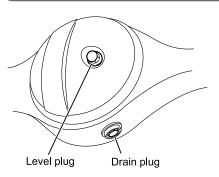
78.4 N·m (8.0 kgf·m/57.8 lb·ft)

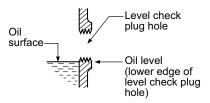


ADVICE

 Any dirt on the plug should be wiped off before installing it.

Changing the Oil





- 1. Place a container under the drain plug to receive oil.
- Remove the plugs indicated in the figure to discharge the oil into the container.
- 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.

Plug tightening torque

78.4 N·m (8.0 kgf·m/57.8 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.

Plug tightening torque

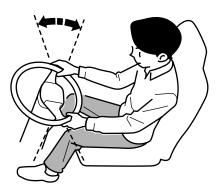
78.4 N·m (8.0 kgf·m/57.8 lb·ft)

Quantity of rear axle differential gear oil to be changed

Specifications	Oil quantity [Reference value]
φ220 mm final drive	2.4 liters (0.63 US gal./ 0.53 lmp gal.)
φ292 mm final drive	3.0 liters (0.79 US gal./ 0.66 lmp gal.)
φ320 mm final drive (hydraulic brake models)	4.3 liters (1.14 US gal./ 0.95 lmp gal.)
φ320 mm final drive (full-air brake models)	4.4 liters (1.16 US gal./ 0.97 lmp gal.)

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.

A 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.

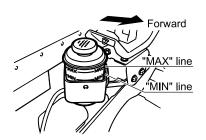
Power Steering Fluid

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.

Rear Inspection Hatches (Crew Cab Model) → Refer to page 7-11



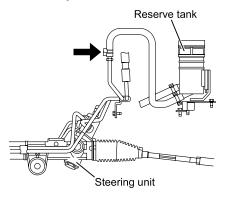
CAUTION

- 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.

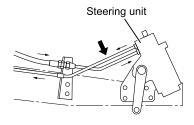
SERVICE AND MAINTENANCE

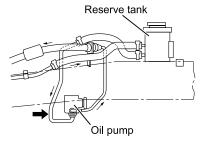
Changing the Power Steering Fluid

Rack and pinion



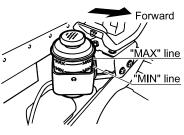
Recirculating balls

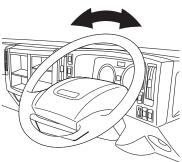




Draining

- 1. Apply the parking brake firmly and chock the rear wheels.
- 2. Firmly apply the head of the jack to the jacking point.
- 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.
- 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 reserve 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. I ower 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

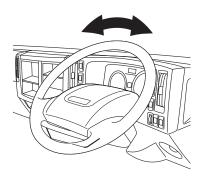
· While refilling the system, keep the reserve tank full of the fluid by making additions as necessary to prevent air from getting into the hydraulic system.

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.

SERVICE AND MAINTENANCE



- 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).
- Check the level of the fluid in the reservoir and also check the joints for fluid leaks.
- 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

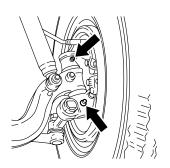
The type (characteristics) of the grease specified for use with a chassis component differs from that of the grease specified for use with another component. Be sure to use only the specified grease for each component and perform greasing according to the Maintenance Schedule.

Maintenance Schedule

→ Refer to page 7-173

Recommended Fluids, Lubricants and Diesel Fuels → Refer to page 7-179

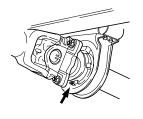
King pins (left and right)



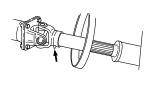
2 points each

Rigid axle suspension

Propeller shaft center bearing

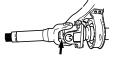


Propeller shaft splines



Propeller shaft universal joint



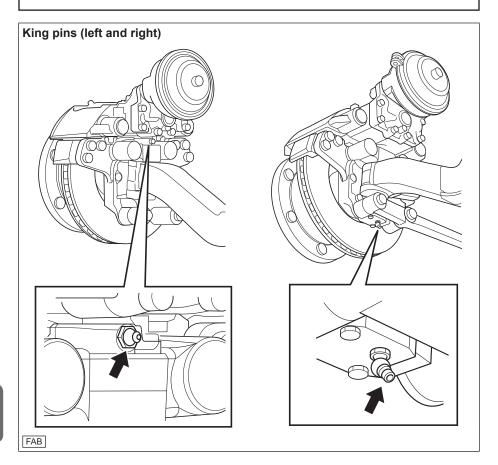


Single-piece propeller shaft: 2 points; Two-piece propeller shaft: 3 points

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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.



SERVICE AND MAINTENANCE

OTHER SERVICE AND MAINTENANCE

Handling the Jack	7-140
Windshield Washer Fluid	7-145
Windshield Wiper Blades	7-146
Headlights and Turn Signal Lights	7-149
Handling the Battery	7-150
Air Conditioning Filters	7-157
Refrigerant	7-161
• Tool Box V	7-161

SERVICE AND MAINTENANCE

Handling the Jack

MARNING

- 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

 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

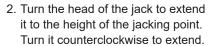
→ Refer to page 7-142

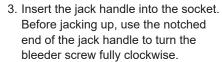
Rear Wheel Jacking Points

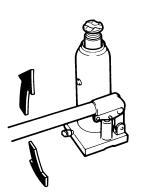
→ Refer to page 7-143

Jacking When a Front Tire Is Flat

→ Refer to page 7-144





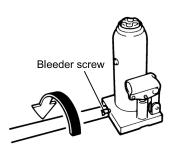


Bleeder screw

- 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.



SERVICE AND MAINTENANCE



Lowering the Vehicle

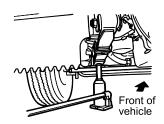
- 1. Line up the jack handle end notch with the bleeder screw.
- 2. Slowly turn the bleeder screw counterclockwise to lower the vehicle.



ADVICE

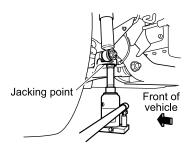
- Do not turn the bleeder screw counterclockwise more than two turns. Doing so may result in leakage of liquid from inside the jack.
- When the vehicle has been fully lowered, turn the bleeder screw as far as it will go in the clockwise direction.
- 4. Turn the jack head fully clockwise.

Front Wheel Jacking Points



All Except Model with Independent Front Suspension

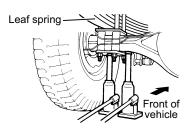
Apply the jack to the leaf spring.



Model with Independent Front Suspension

Apply the jack to the jacking point behind the lower link.

Rear Wheel Jacking Points



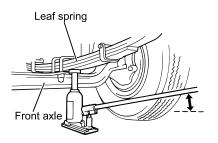
Apply the jack to the bottom of the leaf spring or axle case.

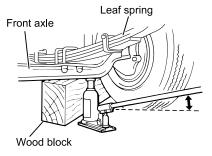
SERVICE AND MAINTENANCE

Jacking When a Front Tire Is Flat

MARNING

- · 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.
- Lower the jack slightly to confirm whether the front axle is being supported securely by the wood block. If so, continue lowering the jack.
- Next, move the jack to the specified jacking point and jack up the vehicle to the necessary height for wheel removal.

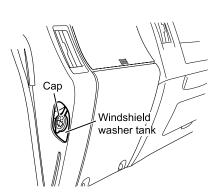
Front Wheel Jacking Points

→ Refer to page 7-142

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

- The windshield washer fluid tank is located under the instrument panel on the passenger side.
- Open the cap and fill the tank with windshield washer fluid to the opening.



- 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.

SERVICE AND MAINTENANCE

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.



• Clear ice or packed snow from the wiper blades before using the wipers.

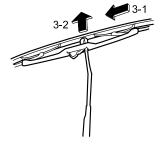
Windshield Wiper Blade Replacement

Wiper blade 2-1

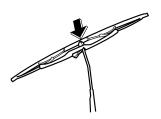
Wiper arm

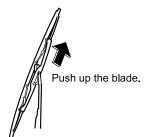
Removal

- 1. Pull the wiper arm up to the vertical position.
- 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.





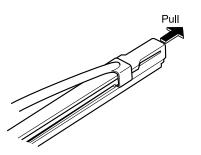
Installation

- 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.

- 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.

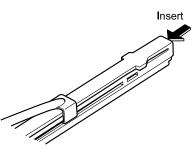
SERVICE AND MAINTENANCE

Replacement of Wiper Rubber Insert



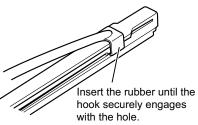
Removal

- 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.



- 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.

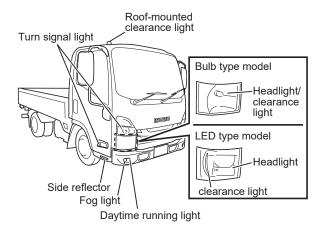
Headlights and Turn Signal Lights

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.

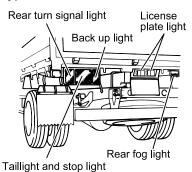
When the Bulb Does not Come On

→ Refer to page 8-29

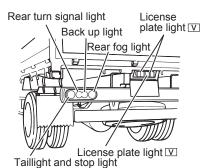
Front



Rear VIN type 1 model



VIN type 2 model



SERVICE AND MAINTENANCE

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.

MARNING

- · Always stop the engine whenever the battery is to be inspected.
- Dilute sulfuric acid is used as the battery fluid. Special care must be taken to ensure that this fluid does not come into contact with skin, clothing, or metal surfaces.
- When disconnecting cables, turn the starter switch to the "LOCK" position, wait
 at least 3 minutes (models with SCR) or 1 minute (models without SCR), and
 then disconnect the cables starting with the negative cable from the terminals.
 If the negative cable is disconnected within 3 minutes (models with SCR) or
 1 minute (models without SCR), the engine control module may malfunction.
 When reconnecting them, the negative cable should be reconnected last.

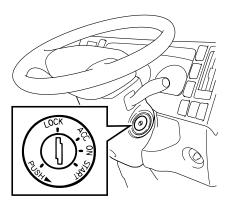


ADVICE

- 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 3 minutes (models with SCR) or 1 minute (models without SCR), and then disconnect the negative cable from the negative terminal. If the negative cable is disconnected within 3 minutes (models with SCR) or 1 minute (models without SCR), 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

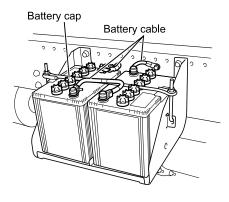
When the battery is to be removed, turn the starter switch to the "LOCK" position, wait at least 3 minutes (models with SCR) or 1 minute (models without SCR), and then disconnect the cables starting with the negative cable from the terminals. If the battery cable remains connected to the negative terminal, 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.

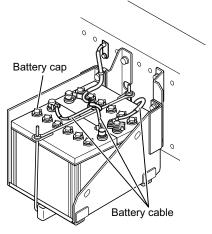
SERVICE AND MAINTENANCE



CAUTION

If the negative cable is disconnected from the negative terminal on the battery
within 3 minutes (models with SCR) or 1 minute (models without SCR) after
turning the starter switch to the "LOCK" position, the engine control module may
malfunction.





Charging the Battery

- 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.
- Battery cables must always be disconnected when performing quick charging.
 Failure to observe this precaution can result in generator burnout.



• 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

- 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.



NOTE

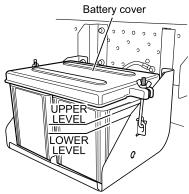
In models with electronic stability control (ESC), the ESC warning light may turn
on when the battery cables are disconnected or the battery voltage is low. The
ESC function turns off while the ESC warning light is on, but the ESC warning
light will turn off by driving the vehicle normally for a while, then the ESC
function will resume. If the ESC warning light remains on even after driving for a
while, contact the nearest Isuzu Dealer.

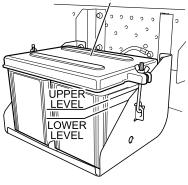
Using the Battery as a Direct Power Source

The battery should not be used as a direct source of 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





10 to 15mm (0.39 to 0.59in) Battery plates

All Except NLR Crew Cab Model

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

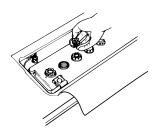
If the quantity of battery fluid inside the battery is insufficient, remove the cover and cap, and then add distilled water until the surface is close to the "UPPER LEVEL" line or in a range between 10 and 15 mm (0.39 to 0.59 inches) from the top of the battery plates. When you have finished adding the distilled water, securely install the cap and battery cover.



- 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 inspection hatch



NLR Crew Cab Model (Euro Vb+ Only)

Open the battery inspection hatch located under the left side of the rear seat to check the battery fluid level.

Daily Check

Remove the cap and look inside. The level of fluid is sufficient if the surface is just below the opening.

Filling Battery Fluid

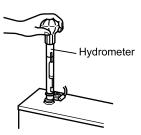
If the battery fluid level is too low, add distilled water until the surface is between 10 and 15 mm (0.39 to 0.59 inches) from the top of the battery plates.



- 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.

SERVICE AND MAINTENANCE

Checking the Specific Gravity of Battery Fluid



 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



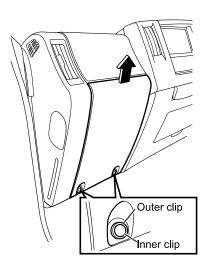
- 1. Check the terminals for looseness and corrosion.
- If a terminal is found to be corroded and coated in white powder, wash this away with warm water and then wipe fully dry. Excessively corroded terminals should be polished using a wire brush or sandpaper.
- When you have finished cleaning the terminals, 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

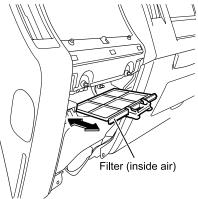
→ Refer to page 8-13

Air Conditioning Filters



Removing the Inside Air Filter (NLR/ NMR Models)

- 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.

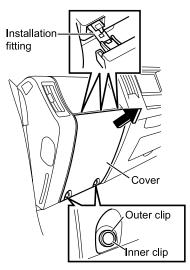


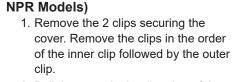
3. Remove the filter. Use a vacuum cleaner or the like to clean dust and dirt from its surface.



- Avoid interference with electric harnesses when removing the filter.
- In order to avoid filter damage, hard brushes should not be used for filter cleaning.

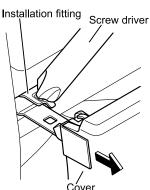
SERVICE AND MAINTENANCE





2. Pull the cover in the direction of the arrow so that the installation fittings (3 in total) can be seen.

Removing the Inside Air Filter (NNR/

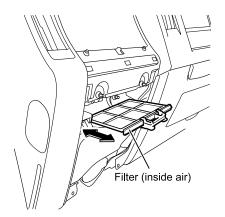


While pressing on the installation fitting with a screwdriver, pull the cover forward to unlock the fittings and remove the cover.



- Unlock by pressing the installation fittings while keeping the cover and instrument panel level.
- Unlock the fittings one at a time.

SERVICE AND MAINTENANCE



 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.

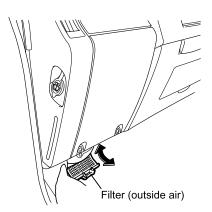
Installing the Inside Air Filter

1. Install the filter in the reverse order to removal.



- Ensure that the filter is returned securely to its original position. Failure to observe this precaution can lead to rattling during travel.
- The vehicle must not be used with the filter removed or incorrectly installed.
 Failure to observe this precaution can lead to air conditioning system damage as a result of dust, dirt and the like entering the system.

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Removing the Outside Air Filter

- 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.



- Ensure that the filter is returned securely to its original position. Failure to observe this precaution can lead to rattling during travel.
- The vehicle must not be used with the filter removed or incorrectly installed.
 Failure to observe this precaution can lead to air conditioning system damage as a result of dust, dirt, 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 HFC-134a (R-134a) in the air conditioning system. No other type of refrigerant can be used. In order to protect the environment, care must be taken to ensure that refrigerant gas is never released into open air. When refrigerant must be replaced, therefore, please contact your Isuzu Dealer or other service facility equipped with a gas recovery installation system.

Tool Box 🔻



Check that it is not loose and it is firmly installed. If it is loose, there is the risk
that the tool box may become detached by vibration from the vehicle while
driving.

Tool Box Inspection

Check the tool box mounting portion for any damage, and check that it is firmly installed. If it is loose or damaged, contact the nearest Isuzu Dealer before driving the vehicle.

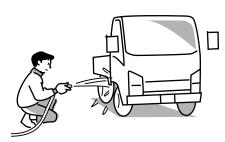
SERVICE AND MAINTENANCE

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.
- 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.
- After washing away all remaining detergent, use a shammy or other clean cloth to fully remove all moisture and water droplets.

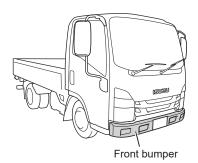
A CAUTION

- 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, highpressure 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.



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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.



 Wax must not be applied to the windshield. Failure to observe this precaution can result in irregular reflection of light, impairing your view.



- 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.



- 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.

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A CAUTION

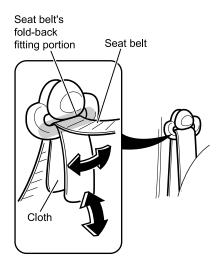
- The interior of the vehicle must never be cleaned using acidic or alkaline solvents, or petroleum ether, gasoline, and other organic solvents. Failure to observe this precaution can result in discoloration and staining. It should be noted that certain types of cleaning products contain these compounds. 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.

AUTION

- 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

- Fold a piece of cotton cloth, absorbent gauze, or the like of approximately 50 mm (2 in) in width into a rectangle.
- Mix one part neutral detergent into approximately twenty parts warm water.
- 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.
- 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.

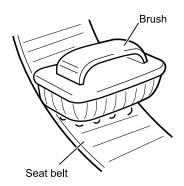


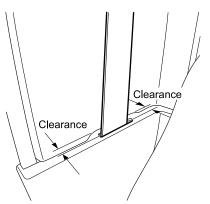
ADVICE

 Avoid using anything like a tool to pass the cloth through the foldback fitting portion or try to remove stubborn dirt. Using such an object can result in plastic parts or seat belt webbing damage.

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SERVICE AND MAINTENANCE





Cleaning a Belt Webbing

- Fully extract the belt and examine for any difference in color between the front and back surfaces.
- Mix one part neutral detergent into approximately twenty parts warm water.
- 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 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.

SERVICE AND MAINTENANCE

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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, adjust, repair, or replace as necessary
- A: Adjust
- R: Replace
- T: Tighten to the specified torque
- L: Lubricate



ADVICE

- When inspecting the items listed below, also inspect the routine inspection items as well.
- *: Your vehicle needs to be maintained more often if it is driven in severe conditions.

Maintenance schedule for severecondition operations

→ Refer to page 7-178

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SERVICE AND MAINTENANCE

Maintenance Schedule: NQR90 Model (No. 1)

- I: Inspect then clean, adjust, repair, or replace as necessary A: Adjust R: Replace
- T: Tighten to the specified torque L: Lubricate

Service interval	km	11,250	22,500	33,750	45,000	
	miles	7,000	14,000	21,000	28,000	
* ** Engine oil		-	R	-	R	
* ** Engine oil filter		-	R	-	R	
Fuel filter element		-	-	-	R	
* Air cleaner element		ı	ı	ı	R	
Idle speed and acceleration		-	1	-	1	
Valve clearance		-	-	-	ı	
Looseness in or damage to fuel tank cap	and fuel line	-	-	-	1	
Drive belt tension and damage		ı	ı	I	I	
Engine coolant						
* Damage to or looseness of the exhaust p brake, exhaust throttle, silencer, and the	oipe, exhaust ir mountings	-	ı	-	I	
Damage to air intake ducts and hoses						
M/T Clutch fluid		ı	ı	1	R	
M/T Clutch pedal stroke and free play						
* Transmission oil		ı	ı	- 1	R	
* SA Smoother clutch oil		1	ı	1	R	
Gear control mechanism looseness		-	-	-	ı	
Gear control cable		-	Α	-	Α	
* Propeller shaft, universal joints and slidi	ng sleeves	-	L	-	L	
Propeller shaft center bearing		-	L	-	L	
* Differential gear oil		1	ı	I	R	
* King pin		L	L	L	L	
Oil leaks from power steering system		ı	I	1	1	
Power steering fluid		-	-	-	R	
Power steering hose		-	-	-	R	
Looseness in connection between knuckleaxle	e and front	1	1	1	1	
Looseness in or damage to steering mech	anism	-	-	-	I	

^{*} Your vehicle needs to be maintained more often if it is driven in severe conditions.

^{**} For vehicles that are not driven at average speeds of 30 km/h (19 MPH) or less and for models without PTO, replace every 30,000 km (18,000 miles).

	56,250	67,500	78,750	90,000	101,250	Odometer reading or months,
	35,000	42,000	49,000	56,000	63,000	whichever comes first
	-	R	-	R	-	or every 14 months
	-	R	-	R	-	or every 14 months
	-	-	-	R	-	or every 14 months
	I	I	I	R	I	or every 28 months
	-	1	-	1	-	or every 14 months
	-	-	-	1	-	or every 12 months
	-	-	-	1	-	or every 28 months
	I	1	I	1	1	or every 7 months
	Every 24 mo		ery 12 months n Isuzu recom		ant is used)	
	-	I	-	1	-	or every 14 months
	Eve	ry 30,000 km	(18,000 miles)	or 12 month	s: I	
	1	1	1	R	1	or every 28 months
-	Ev	ery 5,000 km	(3,000 miles)	or 3 months:	1	
	1	1	1	R	1	or every 24 months
	1	1	1	R	1	or every 24 months
		-	-	1	-	or every 21 months
	-	Α	-	Α	-	or every 14 months
	-	L	-	L	-	or every 7 months
	-	L	-	L	-	or every 7 months
	1	1	1	R	1	or every 28 months
	L	L	L	L	L	or every 7 months
	I	I	1	I	I	or every 7 months
	-	-	-	R	-	or every 28 months
	-	-	-	R	-	or every 28 months
	1	I	Γ	I	1	or every 7 months
	_	_	_	1	_	or every 28 months

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Maintenance Schedule: NQR90 Model (No. 2)

- I: Inspect then clean, adjust, repair, or replace as necessary A: Adjust R: Replace
- T: Tighten to the specified torque L: Lubricate

Service interval	km	11,250	22,500	33,750	45,000	
	miles	7,000	14,000	21,000	28,000	
Wheel alignment		-	-	-	I	
* Disc brake pad and disc wear		1	I	I	I	
Looseness in or damage to brake hose connect	ctions	1	1	1	I	
Leaf spring damage		1	I	I	I	
Looseness in or damage to suspension mount	ting	1	1	1	1	
Shock absorber oil leaks		1	I	I	I	
Shock absorber mounting looseness		1	1	I	I	
Wheel nuts and wheel bolts		Т	Т	Т	Т	
Disc wheel damage		1	1	1	1	
Wheel hub bearing grease (rear axle only)		-	-	-	R	
Tire air pressure and damage		I	1	1	I	
Battery fluid specific gravity		1	I	I	I	
AdBlue [®] filter						
Inspection of lights, horn, windshield wiper, ar	nd washer	1	I	I	I	
Inspection of nuts and bolts on chassis and bo	ody	-	-	-	I	
* Air compressor air cleaner element		1	R	I	R	
Air compressor, governor and unloader valve	functions	-	-	-	1	
Brake system air tanks, air valves, hoses, pipe leaks	s for air	1	ı	ı	I	
Air tanks		L	1	1	1	
Function of brake chambers		-	-	-	I	
Air dryer filter		1	1	1	R	
Exhaust pressure check or filter cleaning		-	-	-	-	
Differential pressure sensor rubber element						
* Looseness in or damage to power steering symounting	ystem	1	ı	ı	I	
Steering wheel free play		1	1	1	1	
Steering mechanism functionality		1	I	I	I	

^{*} Your vehicle needs to be maintained more often if it is driven in severe conditions.

	56,250	67,500	78,750	90,000	101,250	Odometer reading or months, whichever comes first
	35,000	42,000	49,000	56,000	63,000	
	-	-	-	ı	-	or every 28 months
	ı	I	I	I	I	or every 7 months
	I	I	1	I	1	or every 7 months
	I	I	1	I	1	or every 7 months
	1	- 1	1	1	1	or every 7 months
	I	I	1	I	1	or every 7 months
	1	1	1	1	1	or every 7 months
	Т	Т	Т	Т	Т	or every 7 months
	1	I	1	I	1	or every 7 months
	-	-	-	R	-	or every 28 months
	1	1	1	1	1	or every 7 months
	I	I	I	I	I	or every 7 months
		Every 200,0	00 km (124,00	00 miles): R		
	I	I	I	I	I	or every 7 months
_	-	-	-	I	-	or every 28 months
	ı	R	ı	R	I	or every 14 months
	-	-	-	I	-	or every 14 months
	I	I	I	I	1	or every 7 months
	1	1	1	1	1	or every 7 months
	-	-	-	I	-	or every 28 months
	1	1	1	R	1	or every 28 months
	-	-	-	-	I	or every 12 months
		Every 40,0	00 km (24,000	miles): R		or every 12 months
	I	I	I	I	1	or every 7 months
	1	I I	1	I	1	or every 7 months
	I	I	1	I	1	or every 7 months

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SERVICE AND MAINTENANCE

Maintenance schedule for severe-condition operations (NQR90 Model)

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		Co	onditi	on	
* Engine oil	Replace every 10,000 km (6,000 miles)			С		A+D
* Engine oil filter	Replace every 10,000 km (6,000 miles)			С		A+D
Air cleaner element	Inspect every 5,000 km (3,000 miles) Replace every 20,000 km (12,000 miles)			С		
Air compressor air cleaner element	Replace every 10,000 km (6,000 miles)			С		
Damage to or looseness of the exhaust pipe, exhaust brake, exhaust throttle, silencer, and their mountings	Inspect every 10,000 km (6,000 miles)	A	В		D	
Transmission oil	Replace every 20,000 km (12,000 miles)		В	С		
SA Smoother clutch oil	Replace every 20,000 km (12,000 miles)		В	С		
Propeller shaft universal joints and sliding sleeves	Grease every 10,000 km (6,000 miles)		В			
Differential gear oil	Replace every 20,000 km (12,000 miles)		В			
King pin	Grease every 5,000 km (3,000 miles)		В	С	D	
Looseness in or damage to power steering system mounting	Inspect every 5,000 km (3,000 miles)		В			
Disc brake pad and disc wear	Inspect every 5,000 km (3,000 miles)	Α	В	С		

^{*} For vehicles that are not driven at average speeds of 30 km/h (19 MPH) or less and for models without PTO, replace every 15,000 km (9,000 miles).

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 the years.

Top up the lubricants in accordance with the Maintenance Schedule specified for your vehicle. Use the 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 the Isuzu genuine or Isuzu recommended lubricants listed below.

Also, select the viscosity appropriate for the temperature at which your vehicle operates.

Engine Oil and Gear Oil Viscosity → Refer to page 7-182

LUBRICATION	GRADE					
LUBRICATION	API	ACEA	JASO	OTHER		
* Diesel engine crankcase, with DPD (Low ash oil)	CK-4	E6 E9 E6/E9	DH-2	BESCO CLEAN (5W-30) (ISUZU)		
Diesel engine crankcase	CH-4 CI-4	E4 E7	DH-1			
Manual transmission	CI-4 CJ-4 CK-4	E7 E9	DH-1 DH-2			
Differential	GL-5 GL-5/MT-1			BESCO GEAR SH (80W-90), (90), (140) (ISUZU) Delo Gear EP-5 (80W-90), (85W-140) (Chevron/Texaco/Caltex) Gear Oil GL-5 (80W-90), (85W-140) (Chevron/Texaco/Caltex) Tranself SYN FE (75W-90) (Elf) Delvac 1 Gear Oil (75W-90) (ExxonMobil) Mobilube S (80W-90) (ExxonMobil) Spirax S6 AXME (75W-90) (Shell) Spirax S3 AX (80W-90) (Shell) Traxium Dual 9 FE (75W-90) (Total) Traxium Axle 9 (80W-90), (85W-90), (85W-140) (Total)		

^{*:} We recommend you to use a low ash content engine oil that is suitably compatible with the DPD.



NOTE

• The oils recommended in the "Diesel engine crankcase" list can also be used for DPD-equipped vehicles. If you use a low ash content engine oil, the required distance between DPD filter cleanings may extend.

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LUBRICATION	GRADE
Smoother clutch oil	BESCO ATF III (ISUZU)
Power steering Hydro brake booster	BESCO ATF III (ISUZU) or DEXRON® VI
Center bearing Kingpins	NLGI #2 or #3 multi-purpose grease
Propeller shaft sliding yoke Universal joint	NLGI #2 multi-purpose grease containing molybdenum disulfide

COOLANT	GRADE
Engine cooling system	ISUZU ENGINEERING STANDARD - MATERIAL ISC-C73-004 (Ethylene glycol based Organic Acid Technology (OAT) Extended Life Antifreeze/Coolant and free of nitrites, amines, borates, silicates.) or equivalent.



• Use a mixture of tap water and engine coolant at the ratio of 50/50.

Preparing Engine Coolant

→ Refer to page 7-34

FLUID	MAKE	BRAND	GRADE *
Clutch and brake fluid reservoir	ISUZU	BESCO BRAKE FLUID SUPER	DOT 3
	AC Delco	Supreme 11	DOT 3

*: This material meets FMVSS 116 or SAE J1703 requirements.

DIESEL FUEL / APPLICABLE STANDARD (Sulfur content below 10 ppm)				
Deutsche Industrie Normen (DIN) Based on EN590 : 2009				
British Standards (BS)	Based on EN590 : 2009			

\triangle

CAUTION

- Be sure to use extra-low-sulfur diesel fuel (with sulfur content no higher than 10 ppm).
- If you supply the vehicle with poor-quality fuel, water-removal additive or other
 additive, gasoline, kerosene or alcohol-based fuel, it could harm the fuel filter,
 prevent proper movement of fuel-lubricated parts in the injectors and adversely
 affect engine components, possibly resulting in a breakdown. If you accidentally
 put the wrong fuel in the tank, drain it all out. Starting the engine with the wrong
 fuel in the tank could result in a fire and engine damage.
- Open the fuel tank filler cap slowly. If you open it quickly, fuel may spurt out.

Refueling Using Fuels that Contain Biodiesel Fuel (Fatty Acid Methyl Esters (FAME))

- You can use standard type diesel fuels that meet B7 EN590. A standard type diesel fuel means the fuel that contains biodiesel fuel (FAME) which meets EN14214.
- Using diesel fuels that do not meet B7 EN590, or using fuels that contain FAME which does not meet EN14214 may, in the worst case, cause a serious engine failure.
- Do not leave the diesel fuel that contains FAME unused in the vehicle for a long period of time. FAME contents may block up the fuel system, causing a serious engine failure.
- The vehicle is covered under the vehicle warranty given if the fuel that meets B7 EN590 is used. However, if the vehicle is left unused for a long period of time, the characteristics of the fuel may change, causing a vehicle failure. The vehicle warranty is not applicable in such cases.



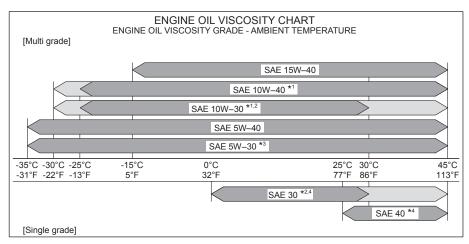
NOTE

• When changing from 0% FAME diesel to the fuel that contains FAME which meets B7 EN590, there may be a negative impact on performance when pulling away and driving in general.

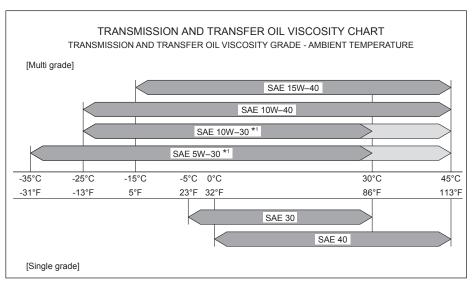
7-182 SERVICE AND MAINTENANCE

Engine Oil and Gear Oil Viscosity Charts

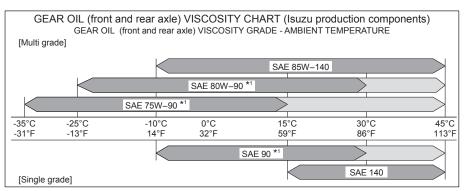
Select appropriate engine and gear oils in accordance with the tables below. It is also important to select the viscosity appropriate for the temperature at which your vehicle operates. Use the following tables for making correct selections.



- *1: When starting aids (oil pan heater, block heater, etc.) are used, grade 10W-xx oils can be used at an ambient temperature as low as -30°C (-22°F).
- *2: Use is possible at ambient temperatures of up to 45°C (113°F) in the case of Isuzu genuine oils or other recommended oils of grade xxW-30.
- *3: In the case of grade 5W-30 oil, only Isuzu genuine oil can be used.
- *4: Single grade oils are only applied to engines that conform to Euro II emission standard and other less severe emission standards.



*1: Use is possible at ambient temperatures of up to 45°C (113°F) in the case of Isuzu genuine oils of grade xxW-30.



*1: Use is possible at ambient temperatures of up to 45°C (113°F) in the case of Isuzu genuine oils or other recommended oils of grade xxW-90.

7-184 SERVICE AND MAINTENANCE

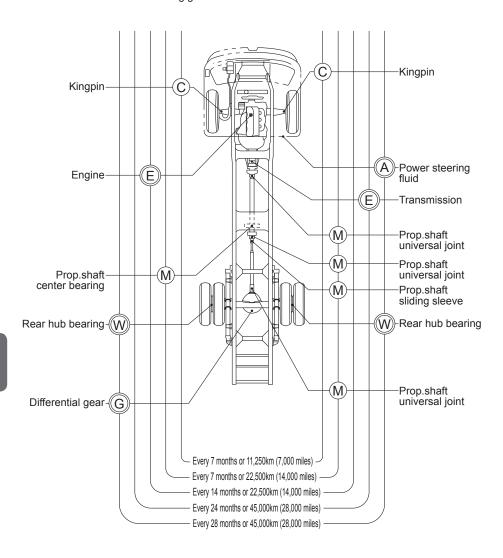
Lubrication Chart

NQR90 Model

Change

: Check and Replenish or Lubricate

E : Engine oil C : Multipurpose type grease
G : Gear oil M : MoS2 contained type grease
W : Wheel bearing grease A : Automatic transmission fluid



IN CASE OF EMERGENCY

8

Troubleshooting	8-2
When the Vehicle Breaks Down during Driving	8-8
When the Tire Goes Flat	8-9
When the Engine Stops While Driving	8-10
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When the Brakes Do not Work	8-12
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8-2 IN CASE OF EMERGENCY

Troubleshooting

Performing regular inspections and maintenance prevents damage. Be sure to perform inspections and maintenance at regular intervals. Also, quickly rectify any fault in the vehicle (even a small fault) to prevent it from becoming more serious.

If a symptom shown in the following table occurs, perform inspections and take corrective action in accordance with the table. If you are unable to perform a repair, the corrective action shown in the table does not eliminate a symptom or you cannot locate a fault, contact the nearest Isuzu Dealer.



ADVICE

IN CASE OF EMERGENCY

Symptom		Cause	Corrective action	Reference page
		Flat batteries	Recharge or replace	8-13
		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	_
	Starter doesn't	Engine oil viscosity too high	Change to oil with proper viscosity	6-20
	turn over, or is weak	Starter or electrical system is faulty	©	_
		Gearshift lever is not in the "N" position (Smoother vehicles)	Place gearshift lever in "N" position. (Smoother vehicles)	4-131
Engine doesn't start		Haven't depressed brake pedal or apply parking brake (Smoother vehicles)	Depress brake pedal or apply parking brake	4-133
	Starter turns over	No fuel	Make sure there are no fuel leaks, and then add fuel	_
		Air in the fuel system	Bleed fuel system	8-16
		Fuel filter is clogged	Replace filter	7-63
		Fuel is frozen	Warm fuel pipe with hot water or wait until it gets warmer	_
		Preheating system is faulty	0	_
		Common rail system is faulty	0	_
		Fuel system is faulty	0	_
		Engine control system faulty	0	_
		Idling speed too low	Adjust the idling speed	4-112
		Fuel filter is clogged	Replace filter	7-63
Engine starts, but		Air cleaner is clogged	Clean or replace element	7-58 7-60
immediate		Common rail system is faulty	0	
		Fuel system is faulty	0	_
		Engine control system faulty	©	_



8-4 IN CASE OF EMERGENCY

Symptom	Cause	Corrective action	Reference page
Unsteady engine	There is water or air in the fuel system	Drain water from fuel filter or bleed fuel system	7-67 8-16
	Common rail system is faulty	0	_
speed	Fuel system is faulty	0	_
	Engine control system faulty	0	_
	Engine not sufficiently warmed up	Allow engine to warm up sufficiently	4-113
	Excessive engine oil	Correct oil level	7-24
	Air cleaner clogged	Clean or replace element	7-58 7-60
White or black exhaust smoke	DPD is faulty	0	_
evilanst sillove	Common rail system is faulty		_
	Fuel system is faulty	0	_
	Engine control system faulty		_
	No engine coolant	Add engine coolant	7-38
Engine is overheating	Front of radiator is clogged with dirt	Wash clean with tap water	7-51
	Radiator cap not sufficiently tightened	Make sure it is firmly tightened	_
	Fan belt loose	Adjust the tension or replace the belt	7-55
	Engine coolant dirty	Clean the radiator interior or change engine coolant	7-40
	Fan clutch is faulty	0	_
	Radiator cap dirty or faulty	Clean or replace	7-43
	Common rail system is faulty	0	_
	Fuel system is faulty	0	_
	Engine control system faulty	0	_

IN CASE OF EMERGENCY

Symptom	Cause	Corrective action	Reference page
Oil pressure is low	Improper engine oil viscosity	Change to oil with proper viscosity	6-20
	Engine oil level too low	Add engine oil	7-26
	Engine inner components are faulty		_
	Meter, indicator/warning lights or switches faulty	0	_
	Air compressor faulty	0	_
Air pressure is low	Air leaking from pipes	0	_
	Air governor faulty	0	_
	Parking brake not fully released	Make sure it is fully released	_
	Brake dragging	0	_
Not enough engine power	Clutch slipping (Manual transmission model)	Adjust clutch free play (if the clutch slave cylinder is manual adjustment type)	7-121
		(if the clutch slave cylinder is automatic adjustment type)	7-121
	Air cleaner is clogged	Clean or replace element	7-58 7-60
	Fuel filter is clogged	Replace filter	7-63
	Engine faulty	0	_
	DPD clogged	0	_
	Common rail system is faulty		_
	Fuel system is faulty	0	_
	Engine control system faulty		_
Brakes not effective	Drum-to-lining gap too large	0	_
	Air in brake fluid (Hydraulic brake models)	0	_
	Low air pressure (Full-air brake models)	Raise engine speed to supply air	_
	Brake system failure	0	



8-6 IN CASE OF EMERGENCY

Symptom	Cause	Corrective action	Reference page
Uneven braking	Unbalanced air pressure in tires	Adjust to proper air pressure	7-94
	Tire unevenly worn	Replace tire	7-103
	Unbalanced drum-to-lining gap of the wheels	0	_
	Poor wheel alignment	0	_
Exhaust brake not working	The electrical system is faulty	0	_
	Loaded too far forward	Load properly	_
Steering wheel hard to turn	Power steering fluid level too low	Add fluid	7-133
	Insufficient air in front tires	Adjust to proper inflation pressure	7-94
Excessive play in the	Wheel bolts and nuts loose	Tighten to the specified torque	7-111
	Unbalanced inflation pressure in the tires	Adjust to proper inflation pressure	7-94
steering wheel	Unbalanced tires	0	_
	Excessive steering wheel play	0	_
Poor steering wheel return	Poor lubrication in the steering mechanisms	Lubricate the mechanism	_
	Poor wheel alignment	0	_
Clutch disengages poorly	Insufficient clutch fluid	Add fluid	7-117
	Excessive clutch pedal free play	Adjust to proper level (if the clutch slave cylinder is manual adjustment type)	7-121
		(if the clutch slave cylinder is automatic adjustment type)	7-121

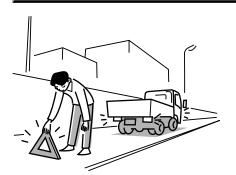
8-7

IN CASE OF EMERGENCY

Sym	nptom	Cause	Corrective action	Reference page
Loud or abnormal noises Fr	From the	Insufficient transmission oil	Add oil	7-122
	transmis- sion	Transmission inner components faulty	0	_
	From differential	Insufficient differential gear oil	Add oil	7-131
		Differential inner components faulty	0	_
	From the suspen-sion	Spring pins, shackles, or stoppers worn	©	_
	From the propeller shaft	Poor lubrication in each component	Lubricate them	7-137
		Splines or bearings worn	0	_



When the Vehicle Breaks Down during Driving



- Operate the hazard warning flasher and pull the vehicle immediately over to a safe place that doesn't 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.



[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.



 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.

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 8-15



- 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

- In manual transmission models, place the gearshift lever in the "N" position and push the vehicle to a safe place.
- In Smoother vehicles, place the gearshift lever in the "N" position, and if the shift indicator shows "N", push the vehicle to a safe place. If the shift indicator displays a shift position other than "N", place the emergency switch to "ON" and the gearshift lever into the "N" position. Then, make sure that the shift indicator displays "N" and push the vehicle to a safe place.

If the Smoother System Fails

→ Refer to page 4-147



NOTE

 For vehicles with hill start aid (HSA), cancel the HSA by pressing the HSA OFF switch.

HSA OFF Switch → Refer to page 4-151



CAUTION

- In case of emergency with manual transmission models, place the gearshift lever in "R (reverse)", "1 (1st gear)" or "2 (2nd gear)" if the starter turns over.
- Then, keep turning the starter switch with your foot off the clutch pedal to move the vehicle.

8-12

IN CASE OF EMERGENCY

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.

\triangle

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.

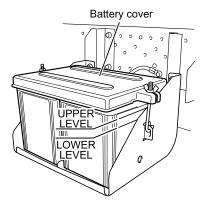
When the Battery Goes Flat

Use a jumper cable (sold separately) and the batteries of another vehicle to start the engine in this sequence.



CAUTION

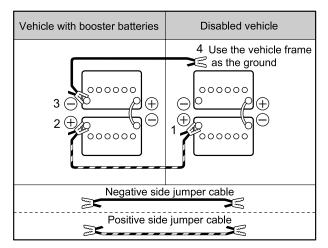
- For safety and the protection of the vehicle, don't push-start the vehicle.
- Make sure that the booster batteries in the vehicle providing the charge have the same voltage as the disabled vehicle.
- Under no circumstances should the battery's positive and negative terminals be put in contact with 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.

8-14 IN CASE OF EMERGENCY

3. Remove the battery cover and connect the jumper cables in the numbered sequence in the drawing.



- 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.

MARNING

- Check the battery fluid level before connecting the jumper cables. Usage or charging of the battery when the battery fluid is below the "LOWER LEVEL" can accelerate deterioration, and give rise to dangerous situations such as the generation of heat and may even cause an explosion. Perform the work after adding the battery fluid.
- A vehicle battery generates flammable gas that could explode. Be careful of the following to avoid creating sparks.
 - Do not connect one end of the jumper cable shown in Step 4 in the drawing directly to the battery's negative terminal. Connect the jumper cable to a metal part of the engine that is away from the battery.
 - Do not let the cable connected to the positive terminal come in contact with the cable connected to the negative terminal or the body.
 - Keep flames away from the battery.
- Use care not to become entangled in any belts when connecting the cable.



NOTE

 When it is difficult to start the engine in a cold area, first start the engine of the vehicle with the booster batteries and a few minutes after that start the engine of the disabled vehicle.

When the 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.



• Wipe off any fuel that adheres to the vehicle body or the engine compartment below the cab. This could cause a fire.

A CAUTION

• Before starting the engine, sit in the driver's seat and make sure that the gearshift lever is placed in the "N" position. Alternatively, in the case of the Smoother vehicle, make sure that the shift indicator displays "N".
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".

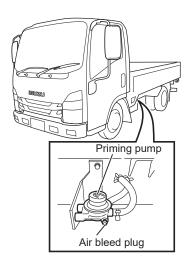
Bleeding the Fuel System

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".



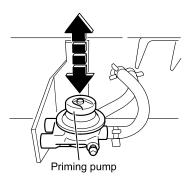


Chassis-side Priming Pump

- 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.
- Operate the priming pump up and down more than 20 times until the fuel from the air bleed plug no longer contains air bubbles.
- 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

 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.



- 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.
- 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

- 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.
- 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.)



When the Warning Light Comes On

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.)
- Abnormality in the anti-lock brake system (ABS) (the ABS warning light will also come on.)

ABS Warning Light

→ Refer to page 4-63



• 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 7-79), repair is required.
 Contact the nearest Isuzu Dealer.



• 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 7-52



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.
- When the oil level is normal and there are no oil leaks, the oil filter may be clogged.

Replace the oil filter.

 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 \rightarrow Refer to page 7-24 Changing the Engine Oil and Oil Filter \rightarrow Refer to page 7-28



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.

SRS Airbag Warning Light 🔻



The following situations indicate an abnormality in a seat belt with pretensioner and SRS airbag system.

- When the SRS airbag warning light comes on during driving.
- When the starter switch is placed in the "ON" position and the warning light does not come on.
- When the starter switch is placed in the "ON" position, the warning light comes on, but does not go out after flashing 7 times.

\triangle

CAUTION

• If there is an abnormality in seat belts with a pretensioner and the SRS airbag system, they may not work normally. Have the system checked by the nearest Isuzu Dealer.



NOTE

- It is normal for the warning light to come on, flash seven times, and then go out
 when the starter switch is placed in the "ON" position. The SRS airbag warning
 light may come on again immediately after the engine is started, but it is normal
 if it goes out after flashing seven times.
- The SRS airbag warning light may come on suddenly if the starter switch is
 placed in the "ACC" position or electrical equipment is operated, but this is not
 abnormal.

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.

HSA Indicator Light 🔻



HSA Indicator Light

∨

→ Refer to page 4-85

(Green)

ABS Warning Light



ABS Warning Light

→ Refer to page 4-63

ASR Indicator Light V

ASR

ASR Indicator Light V

→ Refer to page 4-86

IN CASE OF EMERGENCY

ESC Warning Light V



ESC Warning Light V

→ Refer to page 4-64

LDWS Warning Light 🔻



LDWS Warning Light V

→ Refer to page 4-66

Smoother Warning Light SA



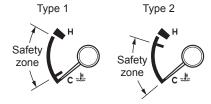
Smoother Warning Light SA

→ Refer to page 4-74

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 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 Type 1

Safety zone Safety

Type 2

zone

Engine overheat warning light (Type 1)



Engine overheat warning light (Type 2)



- Operate the hazard warning flasher and pull the vehicle immediately over to a safe place that doesn't impede traffic (shoulder, verge) and park it.
- 2. Lower the temperature of the engine for a while with the engine idling.



- Do not stop the engine immediately. Otherwise, the engine may seize.
- When the needle of the engine coolant temperature gauge returns to the middle of the safety zone, stop the engine.



IN CASE OF EMERGENCY

MARNING

- 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.

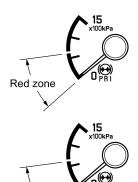
Engine Coolant \rightarrow Refer to page 7-33

Fan Belt → Refer to page 7-52 Handling the Radiator and Intercooler

→ Refer to page 7-51

When the Meter Shows an Abnormality

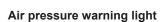
Air Pressure Gauge FAB



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 4-16



Red zone

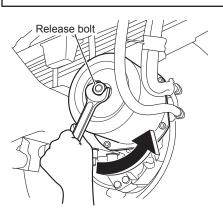


When the Wheel Parking Brake Cannot be Released FAB



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.
- Turn the mechanical release bolt counterclockwise to release the parking brake.

Bolt rotation amount (Extruded length of release bolt)

Approx. 90 mm (3.54 in)

 To return from mechanical release to normal, perform the same sequence of operations in reverse.
 Tighten the release bolt to the specified torque.

Tightening torque

343 N·m (35 kgf·m/253 lb·ft)

When the Bulb Does not Come On

- 1. Check each bulb for blowout.
- 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	
	Headlight	Halogen headlight V	Low beam	70W
			High beam	75W
		LED headlight	Low beam	LED
			High beam (halogen)	70W
Front	Fog light			70W
	Daytime running light			13W*
	Turn signal light (front)			21W (Amber)
	Clearance light Halogen headlig		ht V	5W
	_	LED headlight V		LED
	Turn signal light (side)		21W (Amber)	
	Taillight and stop light VIN1		5/21W	
	Taillight VIN2		5W	
	Stop light VIN2		21W	
Rear	Turn signal light		21W	
	Back up light		21W	
	License plate light		5W (2-light type)	
	Rear fog light			21W
Interior	Dome light		10W	
Interior	Rear dome light V		10W	
Roof	Roof-mounted clearance light V		5W	

^{*:} Only the daytime running lights use 12V bulbs.

Contact the nearest Isuzu Dealer when replacing lights that aren't listed here.

IN CASE OF EMERGENCY



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

- If the headlight and clearance light bulb is an LED specification, have the headlight and clearance light bulb replaced at an Isuzu Dealer.
- 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

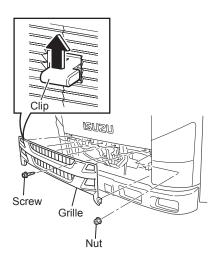
When the bulb has blown out, replace it with a bulb of the specified wattage. Be careful not to excessively tighten the screws when installing.



ADVICE

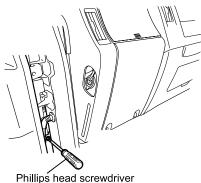
- Do not replace a bulb with other than the specified wattage. This will cause abnormal flashing, particularly for turn signal lights.
- Proper aiming of the headlights is most important to ensure sufficient illumination of the highway without blinding other motorists. When replacing headlight bulbs, have the headlight aim adjusted at your Isuzu Dealer.

Bulb Wattage → Refer to page 8-29



Models with Halogen Headlight

 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.



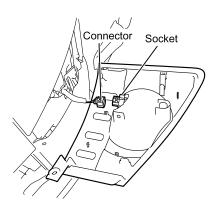
`

2. Open the front door. Use a phillips head screwdriver to remove the two screws between the door and the cab.

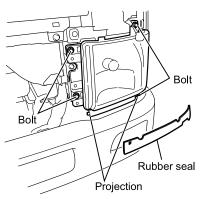


3. Tilt the turn signal light unit down toward the front of the vehicle and remove it.

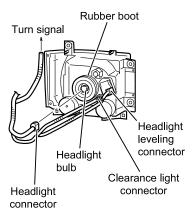
IN CASE OF EMERGENCY



4. Disconnect the connector for the turn signal light and then remove the light.

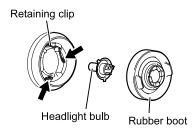


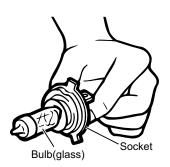
5. Disengage the rubber seals from the two projections at the bottom of the headlight. Remove the four bolts. Then disconnect the connector for the headlight, remove the clearance light unit, and disconnect the headlight leveling connector. Then remove the headlight assembly.



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.



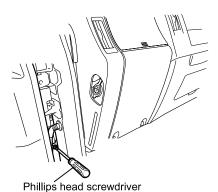


- Remove the rubber boot. Then, while pinching the left and right of the bottom part of the clip that holds the bulb in place, slide it upwards to disengage the clip.
- 7. Pull off the bulb and replace with a new one.
- 8. After replacing the bulb, install the parts in the reverse order to removal.

ADVICE

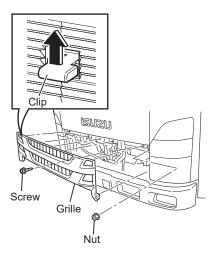
- Do not touch the glass of the bulb with your hand. Soiling the glass will cause the bulb to blow out.
- When attaching the rubber boot, press in both the outside and inside circumference of it. Make sure that the rubber boot, the headlight assembly, and the bulb are securely installed without any raised section. If the rubber boot is not firmly in place, water could get inside the headlight and lead to a breakdown.

IN CASE OF EMERGENCY

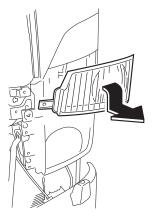


Models with LED Headlight

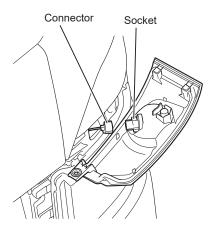
1. Open the front door. Use a phillips head screwdriver to remove the two screws between the door and the cab.



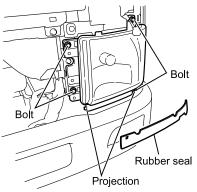
2. Remove the screw from the center of the grille. Push up on the tabs of the five clips on the upper side of the grille and pull the grille toward you to remove it. Remove the nuts for the turn signal light.



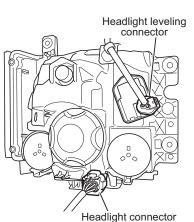
3. Tilt the turn signal light unit down toward the front of the vehicle and remove it.



4. Disconnect the connector for the turn signal light and then remove the light.



 Disengage the rubber seals from the two projections at the bottom of the headlight. Remove the four bolts. Then disconnect the headlight leveling connector. Then remove the headlight assembly.

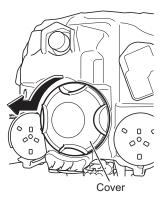


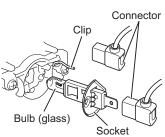
ADVICE

 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.

8-36 IN C

IN CASE OF EMERGENCY



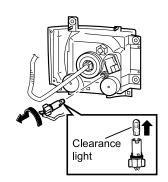


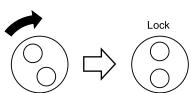
- Turn the cover counterclockwise and remove it.
- Disconnect the two connectors. Push the clip that fixes the bulb and slide it upwards. Then remove the bulb and replace it with a new one.
- 8. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - a. Install the bulb, making sure that it is mounted the right way up.
 - b. Lock the cover by turning it clockwise.

ADVICE

 If the cover is not locked securely, water could get inside the light and lead to a breakdown.

Replacing Clearance Lights and Turn Signal Lights





Replacing a Clearance Light (Models with Halogen Headlight)

1. Refer to "Replacing the Headlights" and remove the headlight assembly.

Replacing the Headlights

→ Refer to page 8-30

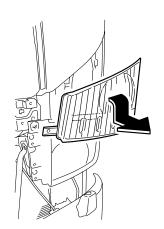
- Pull the bulb out from the clearance light socket and replace with a new one.
- 3. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - Turn the connector clockwise to lock it securely.



ADVICE

 If the socket is not locked securely, water could get inside the light and lead to a breakdown.

IN CASE OF EMERGENCY

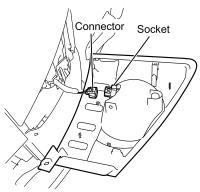


Replacing a Turn Signal Light (Type 1)

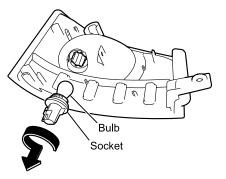
 While referring to "Replacing the Headlights", tilt the turn signal light unit down toward the front of the vehicle and remove it.

Replacing the Headlights

→ Refer to page 8-30



2. Disconnect the connector for the turn signal light and then remove the socket.

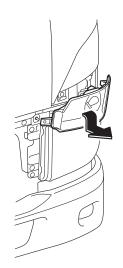


- 3. Pull off the bulb from the socket and replace with a new one.
- 4. To install the lights, perform the same sequence of operations in reverse taking care of the following point:
 - Turn the socket clockwise to securely lock it.



ADVICE

 If the socket is not locked securely, water could get inside the light and lead to a breakdown.

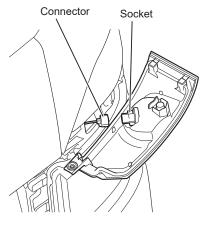


Replacing a Turn Signal Light (Type 2)

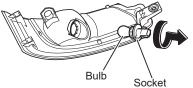
 While referring to "Replacing the Headlights", tilt the turn signal light unit down toward the front of the vehicle and remove it.

Replacing the Headlights

→ Refer to page 8-30



2. Disconnect the connector for the turn signal light and then remove the socket.



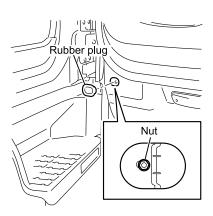
- 3. Pull off the bulb from the socket and replace with a new one.
- 4. To install the lights, perform the same sequence of operations in reverse taking care of the following point:
 - Turn the socket clockwise to securely lock it.



ADVICE

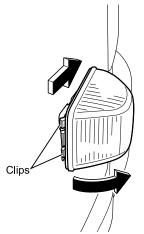
 If the socket is not locked securely, water could get inside the light and lead to a breakdown.

IN CASE OF EMERGENCY

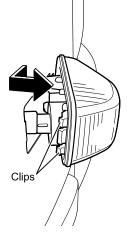


Replacing a Side Turn Signal Light

1. Open the front door, remove the rubber cap in the lower part of the door, and loosen the nut.

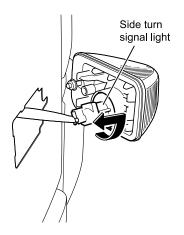


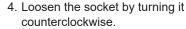
2. While sliding the side turn signal light toward the front of the vehicle, turn it to expose the rear part of the light. Disengage the clip on the side of the rear of the light from the door panel.



3. When the clip has been removed, pull the light out while sliding it out toward the rear of the vehicle.

IN CASE OF EMERGENCY



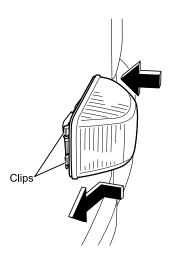


- 5. Pull the bulb out from the socket and replace with a new one.
- 6. To install the lights, perform the same sequence of operations in reverse taking care of the following points:
 - a. Turn the socket clockwise to lock securely.

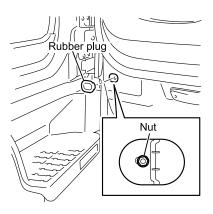


ADVICE

- 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.



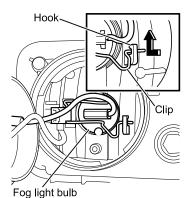
Replacing the Front Fog Light

1. Tilt and raise the cab.

Tilting the Cab V

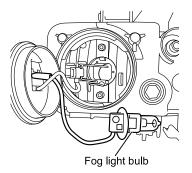
→ Refer to page 7-12

2. Turn the cover counterclockwise and pull it towards you to remove.



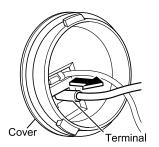
Cover

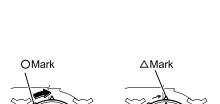
3. Slide the clips while pushing them in and remove the hook to unlock the bulb.



4. Pull out the bulb.

IN CASE OF EMERGENCY





△Mark

Remove the terminal for the bulb from the cover and replace using a new bulb.



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.
 - When installing the cover, align the \triangle mark on the cover with the \bigcirc mark on the unit. Then press down and turn clockwise. After installing, check that the \triangle mark on the cover and the \triangle mark on the unit are aligned.
 - When locking the cover, be sure that the harness will not be caught in the cover.



ADVICE

 If the cover is not locked securely, water could get inside the light and lead to a breakdown.

△Mark

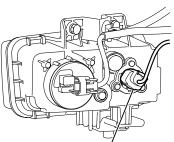
Replacing the Daytime Running Light

1. Tilt and raise the cab.

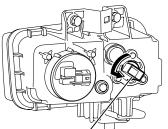
Tilting the Cab V

→ Refer to page 7-12

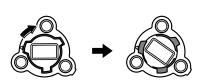
2. Disconnect the connector.



Daytime running light connector



Daytime running light bulb



3. Turn the bulb counterclockwise to pull it out. Then replace with a new bulb. When installing the bulb, push it in after aligning the positions of the 3 tabs and turn it clockwise. After installing, check that the bulb is securely locked in place.

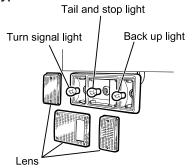


ADVICE

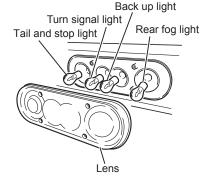
- Do not touch the glass of the bulb with your hand. Soiling the glass will cause the bulb to blow out.
- If the bulb is not locked securely, water could get inside the light and lead to a breakdown.
- 4. Insert the connector.

Replacing the Rear Turn Signal Lights, Taillights, Stop Lights, Back Up Lights and Rear Fog Lights

Type 1

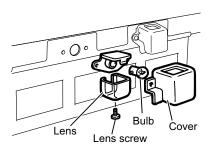


Type 2



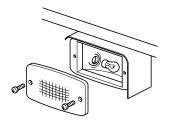
- 1. Loosen the screws and remove the lens.
- Loosen the bulb by turning it counterclockwise while pressing on it.
- 3. To install the lights, follow the removal procedure in reverse.

Replacing the License Plate Light



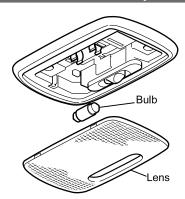
- 1. Loosen the screws and remove the cover.
- 2. Remove the lens.
- Loosen the bulb by turning it counterclockwise while pressing on it.
- 4. To install the lights, follow the removal procedure in reverse.

Replacing the Rear Fog Light



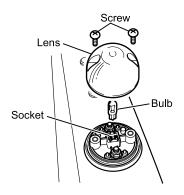
- 1. Loosen the screws and remove the lens.
- 2. Loosen the bulb by turning it counterclockwise while pressing on it.
- 3. To install the lights, follow the removal procedure in reverse.

Replacing the Dome Light



- Remove the lens and pull out the bulb
- 2. To install the lights, follow the removal procedure in reverse.

Replacing the Roof-Mounted Clearance Light V

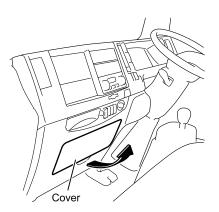


- 1. Loosen the screws and remove the lens.
- 2. Remove the bulb and replace it with a new one.
- 3. To install the lights, follow the removal procedure in reverse.

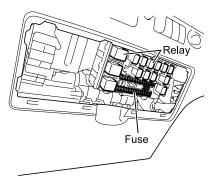
Replacing the Fuses and Relays

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



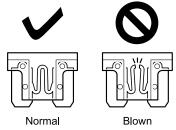
The fuses and relays are located in the lower part of the instrument panel in the center and in the left rear of the cab. The cover must be opened in order to carry out inspection and replacement. In addition, the cover of the relay box at the left rear of the cab must also be opened at this time.



Replacing Fuses

- 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.)

IN CASE OF EMERGENCY



 If the fuse appears is as shown in the right hand side of the diagram at left, the fuse is blown. Replace with a spare fuse. (Spare fuses are stored in the fuse box inside the cab.)

MARNING

- Always use fuses specified by Isuzu.
 Using fuses with a rating other than that specified, or using wire or tin foil, etc., could result in fire or damage.
- If the new fuses blow right away and the cause is unknown, contact the nearest Isuzu Dealer.
- Do not inspect or replace fuses when the starter switch is in the "ON" position or when the HSA is operating while parked or stopped.
 Doing so may lead to an accident.
- When inspecting fuses, be sure to park the vehicle on flat, level ground and apply chocks to the wheels.

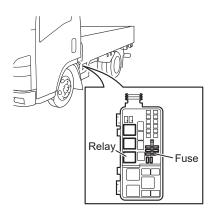
Replacing Relays

When replacing the relays, contact the nearest Isuzu Dealer.



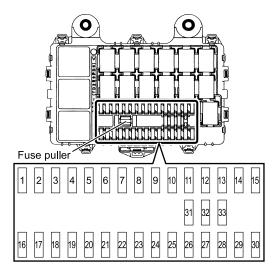
ADVICE

- It is not necessary to open or close the cover unless trouble is found.
- The relay box structure makes it difficult for water to enter. If you should spill water or a beverage on the cover, however, wipe it off before opening the cover.
- The area around the cover will get warm when the vehicle is being driven, but this is not abnormal.



Fuse and Relay Location

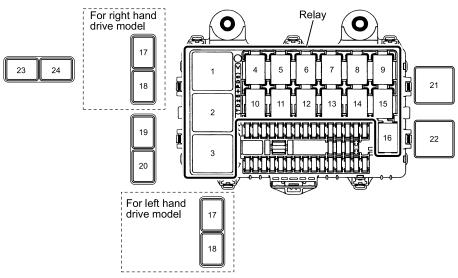
Fuse locations: cab interior



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	_

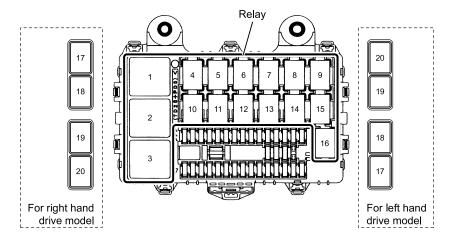
Relay locations: cab interior (Hydraulic brake model)



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
13	HEAD LAMP (LOW)

No.	Description
14	4WD
	EXHAUST BRAKE CUT
15	HEAD LAMP (HIGH)
16	TAIL LAMP
17	CHARGE (ENGINE RUN)
18	POWER WINDOW (REAR)
19	DAYTIME RUNNING LAMP
20	DAYTIME RUNNING LAMP
21	ACCESSORY
22	IGNITION MAIN
23	PTO SOLENOID, M/T
24	PTO CUT

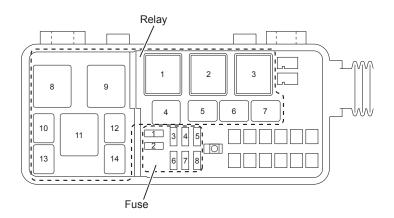
Relay locations: cab interior (Full-air brake model)



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

No.	Description
11	DOOR LOCK (UNLOCK)
12	POWER WINDOW
13	HEAD LAMP (LOW)
14	_
15	HEAD LAMP (HIGH)
16	TAIL LAMP
17	PTO SOLENOID, M/T
18	PTO CUT
19	CHARGE (ENGINE RUN)
20	POWER WINDOW (REAR)

Fuse and relay locations: cab exterior

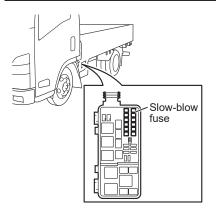


No.	Relay name
1	STARTER
2	ECM (4HK1)
3	GLOW PLUG
4	A/C COMPRESSOR
5	CONDENSER FAN
6	STARTER CUTOFF
7	MARKER LAMP
8	GEARSHIFTER (MODEL WITH SMOOTHER)
9	SCU ON (PM SENSOR)
10	BLANK
11	BLANK
12	BLANK
13	BLANK
14	BLANK

No.	Fuse name	Rating
1	MARKER LAMP	10A
2	BLANK	_
3	ECM MAIN (4HK1)	10A
4	BLANK	_
5	SCU (PM SENSOR)	10A
6	BATTERY	10A
7	A/C	10A
8	SCR (4HK1)	20A

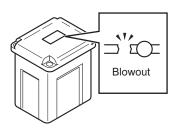
Depending on the equipment installed, or on the vehicle destination or model, fuses or relays may not be installed at the location where the fuse or relay name is shown in the table.

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.



- Always use fuses specified by Isuzu when replacing the slow-blow fuse. Using fuses with a rating other than that specified, or using wire or tin foil, etc., could result in fire or damage.
- If the new fuses blow right away and the cause is unknown, contact the nearest Isuzu Dealer.
- Do not inspect or replace fuses when the starter switch is in the "ON" position or when the HSA is operating while parked or stopped. Doing so may lead to an accident.
- When inspecting fuses, be sure to park the vehicle on flat, level ground and apply chocks to the wheels.

8-54 IN CASE OF EMERGENCY



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 doesn't 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.
- 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.
- 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.



NOTE

- For models that are equipped with anti-slip regulator (ASR), when you want to free the vehicle from mud where the tires may slip slightly by increasing the engine speed, you can press the ASR OFF switch to disable the ASR.
- For models that are equipped with electronic stability control (ESC) and the ESC OFF switch, when you want to free the vehicle from mud where the tires may slip slightly by increasing the engine speed, you can press the ESC OFF switch to disable just the anti-slip regulator (ASR).

Anti-Slip Regulator (ASR)

→ Refer to page 4-166

Electronic Stability Control (ESC)

→ Refer to page 4-170

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IN CASE OF EMERGENCY

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.

MARNING

- 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.

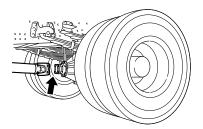
A CAUTION

- For a manual transmission model, 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 Smoother vehicles, place the gearshift lever in the "N" position and make sure the shift indicator displays "N". Tow for a maximum distance of 10 km (6.2 miles) at speeds less than 40 km/h (25 MPH).
 When the shift indicator does not indicate "N", or in situations 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).

IN CASE OF EMERGENCY



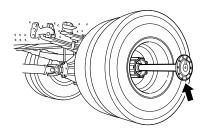
When it is possible to operate the steering wheel, the vehicle can be towed with all wheels on the ground.

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.

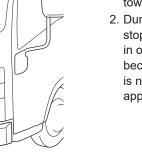
If the transmission is damaged, disconnect the propeller shaft at the rear axle flange and secure it to the frame.

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

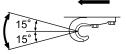


- 1. If the vehicle is towing or being towed, firmly attach a rope to the front or rear towing hook on the same side.
- During towing, carefully watch the stop lights of the towing vehicle in order to prevent the rope from becoming slack. Ensure that there is no strong shock or lateral force applied to the vehicle.

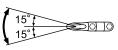
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IN CASE OF EMERGENCY

Usable range of towing rope



Usable range of towing rope



$\boxed{\Lambda}$

CAUTION

- Do not tow a vehicle at an angle of greater than 15°. This could exert too much stress on the vehicle and damage it.
- Attach a rope to the towing hook only. Attaching a rope to other part of the vehicle could damage it.
- Make sure there are no people near the towing rope and hook before towing a vehicle. If the rope snaps, people nearby could be injured.
- The towing hook is for use to tow a vehicle with about the same weight as the towing vehicle on good roads.
- When coming to channels or muddy areas, unload the vehicle. Do not use the towing hook to tow, but tow with a rope attached to the axle.
- For vehicles with hill start aid (HSA), cancel the HSA by pressing the HSA OFF switch.

 $\textbf{HSA OFF Switch} \quad \rightarrow \textbf{Refer to page 4-151}$



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	9-12

9-2 MAIN DATA

Main Data and Specifications

Engine

4JJ1 Engine Model

Specifications		
Water-cooled, overhead camshaft	, direct injec	tion engine with an inter-cooled turbocharger
Compression ratio	(to 1)	16.5
Displacement	cc (cu. in)	2,999 (183)
Firing order		1-3-4-2
Fuel injection timing (sta	itic) degree	0°
Valve clearance (Between cam and roller)	mm (in)	Both inlet 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] liters (US ga	l./ Imp gal.)	When changing oil only: 7.5 (1.98/ 1.65) When changing oil and filter: 8.2 (2.17/ 1.80)
Engine coolant capacity [Reference value] liters (US ga	l./ Imp gal.)	13.3 (3.51/ 2.93)
Preheating system		Glow plugs

4HK1 Engine Model

Specifications			
Water-cooled, overhead ca	Water-cooled, overhead camshaft, direct injection engine with an inter-cooled turbocharger		
Compression ratio	(to 1)	16.5	
Displacement	cc (cu. in)	5,193 (317)	
Firing order		1-3-4-2	
Fuel injection timing	(static) degree	0°	
Valve clearance (Between rocker arr	m end and bridge mm (in)	Both inlet and exhaust valves: 0.4 (0.016) in cold engine	
Idling speed	r/min	M/T 550 - 600, SA 625 - 675	
Fan belt tension	mm (in)/Hz	50A/60A generator New belt: 5 - 7 (0.20 - 0.28)/208 - 232 When reused: 6 - 8 (0.24 - 0.31)/178 - 190	
		80A/90A generator New belt: 5 - 7 (0.20 - 0.28)/187 - 209 When reused: 6 - 8 (0.24 - 0.31)/161 - 173	
Oil filter		Cartridge (spin on) type	
Engine oil capacity [Reference value liters	e] (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 liters	value] (US gal./ Imp gal.)	18.7 (4.94/ 4.11)	
Preheating system		Glow plugs	

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Transmission

MYY5A Model (M/T)

Specifications		
Five-speed transmission (overdrive gear for	Five-speed transmission (overdrive gear for 5th), synchromesh for 1st to 5th and reverse	
Gear ratio (to 1)	1st	5.315
	2nd	2.908
	3rd	1.558
	4th	1.000
	5th	0.721
	Reverse	5.068
Transmission oil capacity [Reference value] liters (US gal./Imp gal.)		vithout PTO: 2.8 (0.74/ 0.62) with PTO: 3.1 (0.82/ 0.68)

MYY5A Model (Smoother)

Specifications		
Five-speed transmission (overdrive ge	ar for 5th), synchro	mesh for 2nd to 5th
Gear ratio (to 1)	1st	5.315
	2nd	2.908
	3rd	1.558
	4th	1.000
	5th	0.721
	Reverse	5.068
Transmission oil capacity [Reference value] liters (US gal./Imp gal.)		vithout PTO: 2.8 (0.74/ 0.62) with PTO: 3.1 (0.82/ 0.68)
Smoother clutch oil capacity [Reference value] liters (US gal./Imp gal.)		4.95 (1.31/ 1.09)

MYY5T Model (M/T)

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.)		vithout PTO: 2.8 (0.74/ 0.62) with PTO: 3.1 (0.82/ 0.68)

MYY6S Model (M/T)

Specific	cations	
Six-speed transmission (overdrive gear for 6	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.)		vithout PTO: 3.5 (0.92/ 0.77) with PTO: 3.8 (1.00/ 0.84)

MYY6S Model (Smoother)

Specifications		
Six-speed transmission (overdrive gea	ar for 6th), synchro	mesh for 2nd to 6th
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.)		vithout PTO: 3.5 (0.92/ 0.77) with PTO: 3.8 (1.00/ 0.84)
Smoother clutch oil capacity [Reference value] liters (US gal./Imp gal.)		4.95 (1.31/ 1.09)

9-6 MAIN DATA

MZZ6F Model (M/T)

Specific	cations	
Six-speed transmission (overdrive gear for 6	th), synchromesh	for 1st to 6th and reverse
Gear ratio (to 1)	1st	6.369
	2nd	3.767
	3rd	1.966
	4th	1.355
	5th	1.000
	6th	0.782
	Reverse	6.369
Transmission oil capacity [Reference value] liters (US gal./Imp gal.)		vithout PTO: 4.4 (1.16/ 0.97) with PTO: 5.3 (1.40/ 1.17)

MZZ6F Model (Smoother)

Specifications		
Six-speed transmission (overdrive gea	ar for 6th), synchro	mesh for 2nd to 6th
Gear ratio (to 1)	1st	6.369
	2nd	3.767
	3rd	1.966
	4th	1.355
	5th	1.000
	6th	0.782
	Reverse	6.369
Transmission oil capacity [Reference value] liters (US gal./Imp gal.)		vithout PTO: 4.4 (1.16/ 0.97) with PTO: 5.3 (1.40/ 1.17)
Smoother clutch oil capacity [Reference value] liters (US gal./Imp gal.)		6.14 (1.62/ 1.35)

9-8 MAIN DATA

Service Specifications

NLR85/NMR85/NNR85/NPR85 Models

Weights		
Axle weight rating : Front	kg (lb)	NLR85: V 2,600 (5,732), V 2,900 (6,393)
		NMR85: 2,900 (6,393)
		NNR85/NPR85: 3,100 (6,840)

	Engine
Model	4JJ1
Engine oil capacity	
Engine coolant capacity	Refer to page 9-2

Transmission		
Model	NLR85/NMR85/NNR85: M/T MYY5A, SA MYY5A, M/T MYY5T	
	NPR85: M/T MYY5A, SA MYY5A, M/T MYY6S, SA MYY6S	
Transmission oil capacity	Refer to pages 9-4, 9-5	

Rear axle	
Differential gear oil capacity	Refer to page 7-131

	Fuel
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	NLR85: V 63 (16.6/13.9), V 75 (19.8/16.5), V 100 (26.4/22.0)
	NMR85: V 75 (19.8/16.5), V 100 (26.4/22.0)
	NNR85: V 63 (16.6/13.9), V 100 (26.4/22.0)
	NPR85: 100 (26.4/ 22.0)

	Clutch
Clutch pedal free play	Refer to page 7-121
The distance from the fully pressed position to the position just before the clutch engages mm (in)	

Steering		
Steering wheel free play mm (in)	10 - 50 (0.39 - 1.97)	
Power steering fluid capacity [Reference value] liters (US gal./Imp gal.)	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)	NLR85/NMR85: 3° NNR85/NPR85: 2°45'
	: King pin	(degree)	12°
Wheel hub bearing [Reference value]	grease capacity	kg (lb)	Front: 0.11 (0.24) Rear: 0.27 (0.60)

Service brakes		
Brake pedal free play	mm (in)	5 - 10 (0.20 - 0.39)
Clearance between the brake pedal and the brake pedal bracket		Refer to page 7-81

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.) × No. of units	V 65D23L (12 - 65) × 2 V 75D23L (12 - 65) × 2 V 80D26L (12 - 69) × 2
Starter	volt-kw	24 - 4.0
Generator	volt/amp.	V 24/50, V 24/80, V 24/90

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9-10 MAIN DATA

NPR75/NQR90 Model

	We	eights
Axle weight rating : Front	kg (lb)	3,100 (6,840)

	Engine
Model	4HK1
Engine oil capacity	
Engine coolant capacity	Refer to page 9-3

Tra	ansmission
Model	M/T MZZ6F, SA MZZ6F
Transmission oil capacity	Refer to page 9-6

Rear axle	
Differential gear oil capacity	Refer to page 7-131

	Fuel
Fuel tank capacity [Reference value] liters (US gal./Imp gal.)	100 (26.4/ 22.0)

	Clutch
Clutch pedal free play	Refer to page 7-121
The distance from the fully pressed position to the position just before the clutch engages mm (in)	

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MAIN DATA

Steering		
Steering wheel free play	mm (in)	10 - 50 (0.39 - 1.97)
Power steering fluid capacity [Reference value] liters (US gal./Imp gal.)		1.5 (0.40/0.33)

Wheel			
Wheel alignment	: Toe-in	mm (in)	VIN1 -2 to 2 (-0.08 to 0.08) VIN2 0 to 2 (0.00 to 0.08)
	: Camber	(degree)	VIN1 0°15′, VIN2 0°30′ ± 0°00′
	: Caster	(degree)	VIN1 2°45′, VIN2 2°45′ ± 1°00′
	: King pin	(degree)	VIN1 12°, VIN2 6°30′ ± 0°30′
Wheel hub bearing gr [Reference value]	rease capacity	kg (lb)	Front: 0.11 (0.24) Rear: 0.27 (0.60)

Service brakes		
Brake pedal free play mm (in)	HB 5 - 10 (0.20 - 0.39) FAB 10 - 18 (0.39 - 0.71)	
Clearance between the brake pedal and the brake pedal bracket	HB Refer to page 7-81	

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	V 80D26L (12 - 69) × 2 V 115E41L (12 - 110) × 2	
Starter	volt-kw	24 - 4.5	
Generator	volt/amp.	V 24/50, V 24/60, V 24/80, V 24/90	

Others

Statement of Compliance with the RE Directive (2014/53/EU)

This vehicle's keyless entry system (transmitter asm/control unit; receiver) conforms to the basic requirements of the RE Directive (2014/53/EU) and related regulations.

· Manufacturer name and address

U-SHIN LTD.

Shiba NBF Tower, 1-1-30 Shibadaimon, Minato-ku, Tokyo 105-0012 Japan

• Transmit frequency 434 MHz

Maximum radio frequency power 10 mW

• Importer name and address

MIDI Europe Srl

Via Crosaron sn, 37053 Cerea - Verona Italy

This product is in compliance with RE Directive (2014/53/EU). The full text of the EU declaration of conformity is available at the following website.

URL: http://www.u-shin-ltd.com/declaration

This vehicle's immobilizer conforms to the basic requirements of the RE Directive (2014/53/EU) and related regulations.

· Manufacturer name and address

Continental Automotive GmbH

Siemensstrasse 12 D-93055 Regensburg Germany

Transmit frequency 125 kHz

• Maximum radio frequency power 66 dBµA/m (10m)

Importer name and address

MIDI Europe Srl

Via Crosaron sn, 37053 Cerea - Verona Italy

This product is in compliance with RE Directive (2014/53/EU). The full text of the EU declaration of conformity is available at the following website.

URL: http://www.continental-automotive.com/www/automotive_de_en/contact_en.html

Statement of Compliance with the R&TTE Directive (1999/5/EC)

This vehicle's keyless entry system (transmitter asm/control unit; receiver) conforms to the basic requirements of the R&TTE Directive (1999/5/EC) and related regulations.

Statement of Compliance



DECLARATION of CONFORMITY

We, U-SHIN LTD.

Shiba NBF Tower 1-1-30 Shiba-daimon, Minato-ku, Tokyo 105-0012

declare under our sole responsibility that the product:

Product : Keyless Entry System

(TRANSMITTER ASM / CONTROL UNIT; RECEIVER)

Model/Type: Tx: ICETU2

Rx: ICERU, INERU

to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC).

The product is in conformity with the following standards:

ADIO : EN 300 220-1 V2.1.1: 2006-04 EN 300 220-2 V2.1.2: 2007-06

: EN 301 489-1 V1.8.1: 2008-04

EN 301 489-3 V1.4.1: 2002-08

SAFETY: EN 60065: 2002+Amd.1: 2006+Amd.11: 2008

((

EMC

Date : September 29, 2010

Signature: n. m.

Name: Naoki Mukai

Title : DESIGN DEPT.3 RESEACH & DEVELOPMENT DEVISION

9-14 MAIN DATA

This vehicle's immobilizer conforms to the basic requirements of the R&TTE Directive (1999/5/EC) and related regulations.

Statement of Compliance



Continental Automotive GmbH - Postfach 100 953 - 93009 Recensbur

Kolar Dagmar AQL RBG 43 Phone +49 (941) 790-6699 Fax +49 (941) 790-996699 dagmar.kolar@continental-corporation.com

Date May 27, 2011

Address:

Your message dated

Our Reference

Your reference

Declaration of Conformity in accordance with Directive 1999/5/EC (R&TTE Directive)

Manufacturer:

Continental Automotive GmbH

Siemensstrasse 12

D-93055 Regensburg Germany

Product type designation:

Intended use:

A2C53372320

Vehicle Immobilizer System

The product mentioned above complies with the essential requirements and other relevant provisions of Directive 1999/5/EC, when used for its intended purpose:

Health and safety pursuant to §3.1.a:

Applied standard(s):

EN 60950-1:2006 + A11:2009 + A1:2010

Electromagnetic compatibility pursuant to § 3.1.b:

Applied standard(s):

EN 301 489 -1: V1.8.1 (2008-04) EN 301 489 -3: V1.4.1 (2002-08)

Efficient use of spectrum pursuant to § 3.2:

Applied standard(s):

EN 300 330 -1: V1.7.1 (2010-02) EN 300 330 -2: V1.5.1 (2010-02)

The following marking applies to the above mentioned product:

 ϵ

Continental Automotive GmbH

Regensburg, 2011-05-27

Andreas Wolf
Executive Vice President
Body &Security

Continental Automotive GmbH Siemensstr. 12 93055 Regensburg

Phone +49 941 790-0 Fax +49 941 790-4999 www.continental-corporation.com Dr. Ulrich Schrey

Director CF Software Body & Security

Registered Office: Hanover Registered Court: Amtsgericht Hanover HRB 59424 General Managers: Gerard Cordonnier, Helmut Matschi, Harald Stuhlmann

For the State of Israel

This vehicle's keyless entry system (transmitter asm/control unit; receiver) conforms to the basic requirements of the Ministry of Communications (MOC) and related regulations.

Manufacturer U-SHIN LTD.

Model name Transmitter: ICETU2 Receiver: INERU

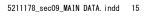
Country of manufacture Japan

· Importer name and address

Universal Trucks Israel Ltd.

9 Ha'rakevet st. Industrial area Segula, Petach-Tikva 49145, ISRAEL

- A. The usage of the device doesn't make necessary approval for radio activated operated devices
- B. The device is allowed for personal usage only.
- C. Is not allowed to replace the original antenna or to make anykind of technical modification.
 - א. השימוש במכשיר היינו על בסיס "משני" ופטור מרשיון הפעלה אלחוטי.
- ב. רק "בפעולת בזק" לשימוש עצמי של הלקוח בלבד, הציוד פטור מרשיון הפעלה אלחוטי.
- ג. אסור להחליף את האנטנה המקורית של המכשיר, ולא לעשות בו כל שינוי טכני אחר.



9-16 MAIN DATA

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.
- 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 RFtransmitting 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.

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- 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.
- 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

- For RF-transmitting equipments with output power levels above 100mW (peak), an external antenna is strongly recommended.
- The external antenna and feeder cable shall be impedance matched with a VSWR < 2.0.
- 3. The antenna should be a permanent-mount type located in the roof or the rear trunk lid. If a magnet-mount antenna is used, care should be taken to mount the antenna in the same location as a permanent-mount type.



NOTE

- Each vehicle model and body style reacts to radio frequency energy differently.
 When dealing with an unfamiliar vehicle, it is suggested that a magnetic-mount antenna be used to check the proposed antenna location for unwanted effects on the vehicle. An antenna location is a major factor in these effects.
- The best position for an antenna is on the metallic roof, preferably towards the center, but where possible with a distance of > λ/4 (λ = wavelength) from any opening, such as a sunroof or windows.

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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 > λ for transmit frequency f > 600 MHz (see Table 1).

Table 1. Approximate frequency-to-wavelength conversion

Frequency f MHz	Wavelength λ cm	λ/4 cm
50	600	150
80	375	94
150	200	50
450	66	17
600	49.5	12
900	33	8
1800	16.5	4

[Ground-plane provision]

When the antenna installation is to be carried out on a non-metallic surface

- a ground-plane-independent antenna can be fitted directly to any surface (glassfiber 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

Fre	quency 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;

front left of roof
 front right of roof
 center of roof
 left of bumper
 right of bumper

0: all location (vehicle exterior)

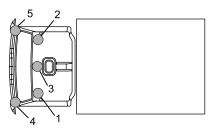


Figure 1. Drawing showing antenna installation points in the vehicle

[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.

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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).
- Excess coaxial cable shall not be coiled, as this may affect the tuning of the antenna as well as producing electrical interference.
- 3. If possible, the antenna cable should be cut to the correct length.
- 4. The cable should be routed so as to avoid sharp bends.
- 5. Safety-sensitive electronic unit (e.g. airbag and ABS systems), circuits and harnesses shall not be used for parallel wiring.
- 6. If it is necessary to cross other wiring, cross at right angles.
- 7. If an extension feeder cable is required, suitable coaxial cable shall be used and correctly terminated with good quality, low-loss connectors.



NOTE

- Fit the correct antenna connectors at each end of the feeder cable to match the equipment using either crimp or soldered connectors as appropriate.
- 8. If the antenna cable provided is too short, wherever possible the cable should be replaced by a suitable feeder cable of correct length.



NOTE

- Extending the length of the feeder cable will result in additional losses, particularly at frequencies > 800 MHz.
- 9. Ensure that the feeder cable is not strained or distorted by, for example, excessive tightening of cable ties.
- 10. When vehicle trim is replaced, make sure that the panels do not trap the feeder cable.
- 11. Additional care should be taken when installing a glass mount to the rear screen of a hatch-back type vehicle to allow opening and to prevent damage to the feeder cable.

RF-transmitting Equipment

[Mounting of RF-transmitting equipment]

- 1. Location of a RF-transmitting equipment should be selected that provides a solid mounting point which does not interfere with the vehicle operator controls and provides adequate ventilation.
- 2. RF-transmitting equipment shall not be able to be damaged or its ventilation restricted. Special care should be taken to ensure that RF-transmitting equipment can not be damaged by ingress of water.
- 3. Access to vehicle equipment in the load storage area shall not be barred, e.g. by wheel jack, fire extinguishers or spare wheel.
- 4. The connections to the RF-transmitting equipment should be easily accessible in order that the equipment may be removed for operation in transportable mode, or for repairs and servicing.
- 5. It shall not hinder the operation of airbags or other safety equipment.



NOTE

 Great care should be taken not to mount any RF-transmitting equipment, microphones or any other item in the deployment path of a Supplemental Inflatable Restraint or "Air Bag."

[Routing of RF-transmitting equipment's cables]

- 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.
- 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.

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Power Supply for RF-transmitting Equipment [General]

 A dedicated supply cable should be used for the RF-transmitting equipment installation which should be as short as possible to the battery positive and negative connections. Do not connect directly to the battery pillars, but use the battery terminals provided.



NOTE

- Connections shall not be made to any electronic control unit feeds under any circumstances. For example, avoid using cigar lighter as power sources for a RF-transmitting equipment.
- 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.
- 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.
- 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.).
- 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 incar 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.
- 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.

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[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 NLR85/NMR85/NNR85/NPR85/NPR75 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.
- The unit shall be mounted in accordance with the manufacturer's instructions.Unless environmentally protected, it should be located in a dry and well-ventilated position.

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MEMO

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