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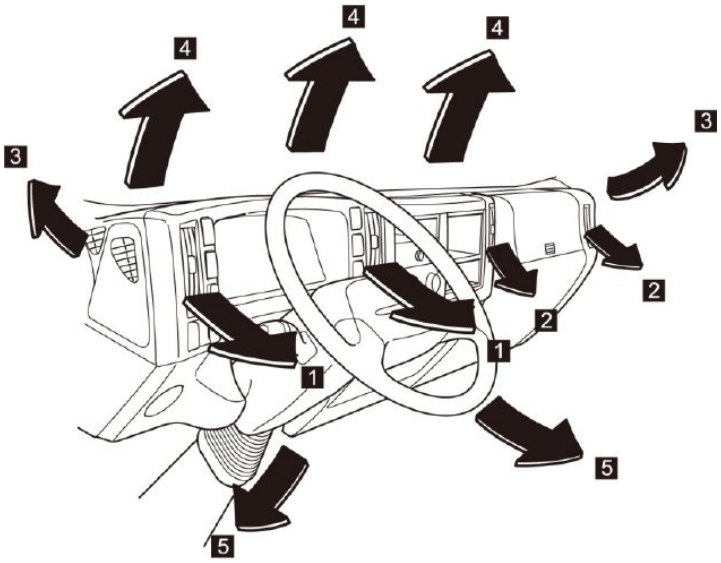
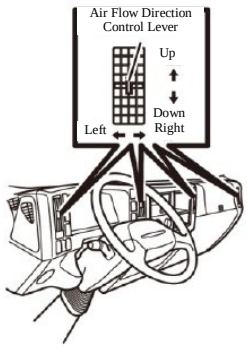
Air Outlets



No.	Air Outlets	Features
1	Driver side outlet	Air flow direction is adjustable with the tab.
2	Passenger side outlet	Air flow direction is adjustable with the tab.
3	Door windows outlet	Air is delivered towards the door window.
4	Windshield outlet	Air is delivered towards the windshield.
5	Foot outlet	Air is delivered towards the feet.

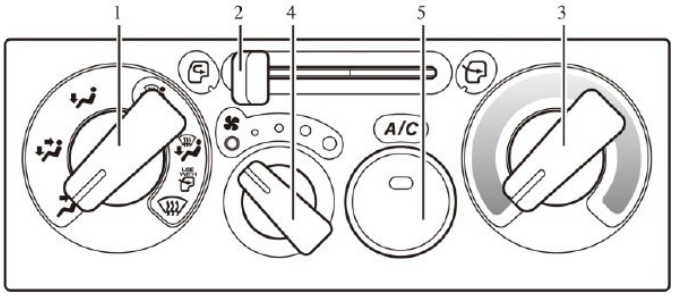
Air Flow Direction Control Lever



Use the lever to adjust the air flow direction from the outlet. To close the outlet, move the lever down.

Heater/Manual Air Conditioner

How to Use the Controls



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

No.	Name
4	Fan speed control knob
5	A/C (air conditioner) switch

1. Outlet selector knob

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

ADVICE

• The " " sign advises you to place the air source lever in the outside air ventilation position when using the“ ”, “ ”, “ ” position to defog the windshield.

2.Air flow direction control lever

Lever position	Purpose	
	Outside air ventilation	Use this position to ventilate cab interior. (This position should be normally selected.)
	Inside air recirculation	Use this position to prevent dusty or otherwise contaminated outside air from entering the cab. (such as in a tunnel or in congested traffic)

ADVICE

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

COOL (Blue color)

WARM (Red color)

3. Temperature control knob

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

4. Fan speed control knob

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

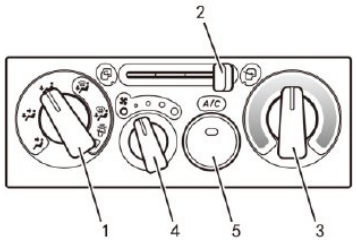
5. Air conditioner switch (A/C switch)

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.

ADVICE

- 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 prevent poor lubrication of the system's components.

Ventilation

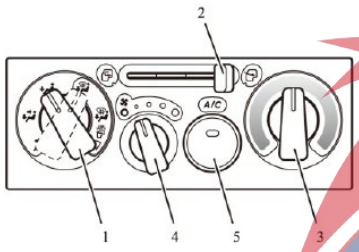


Outside Air Ventilation

Press the A/C switch (5) to the "OFF" position. Turn the outlet selector knob (1) to the preferred position. Move the air source 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



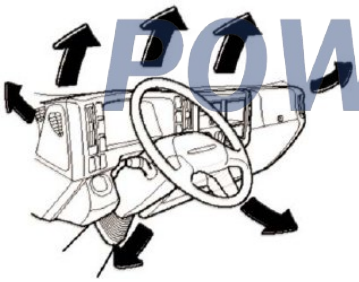
Normal Heating

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

Set the air source lever (2) to the " " position.

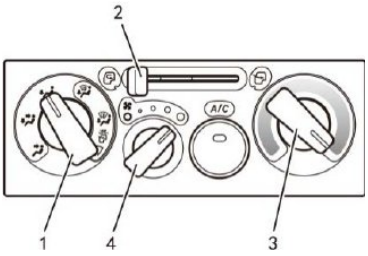
Adjust the temperature control knob (3) and the fan speed control knob (4) to the desired positions.

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



ADVICE

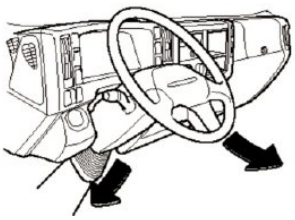
• As the heater uses the heat from the engine coolant, its heating effect is weak when the engine coolant temperature is low.



Maximum Heating

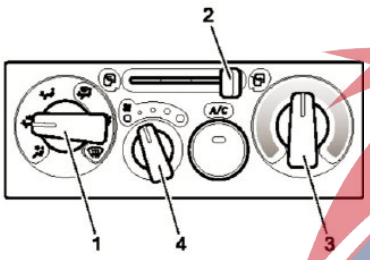
Turn the outlet selector knob (1) to the " " position, set the air source lever (2) to the " " position, and turn the temperature control knob (3) fully towards the high temperature direction.

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



ADVICE

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



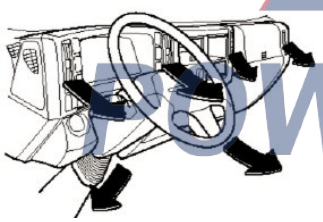
Bi-level Heating

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

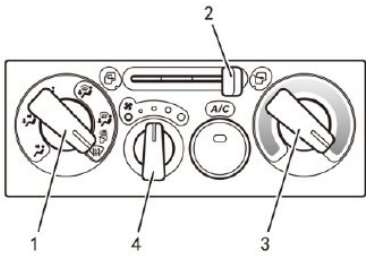
Set the air source lever (2) to the " " position.

Set the temperature control knob (3) to the middle position.

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



Defogging and Defrosting the Windshield (Heater or Air Conditioner)



Defogging

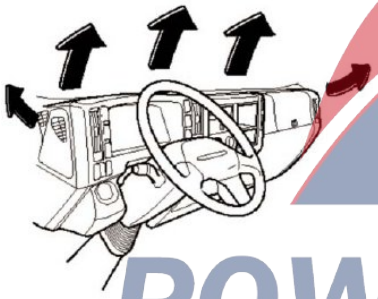
Set the outlet selector knob (1) to the "" position.

Set the air source 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.

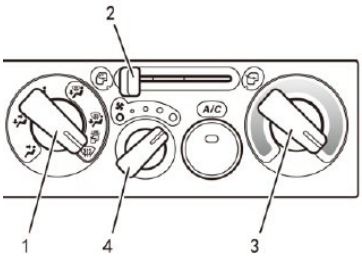
Set the fan speed control knob (4) to any speed position (not the OFF position).

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



ADVICE

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



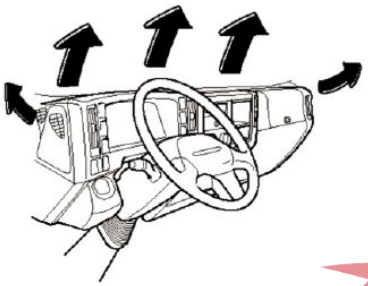
Defrosting

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

Set the air source 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.



ADVICE

• After defrosting, be certain to return the air source lever to the " " position. Failure to do so will cause the windshield to fog up, impeding forward visibility.

Cooling (Air Conditioner or Cooler)

Normal/Moderate Cooling

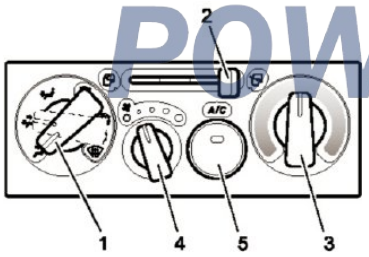
This setting is suitable for extended periods of cooling or moderate cooling.

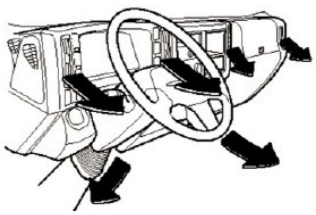
Press the A/C switch (5) to the "ON" position.

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.

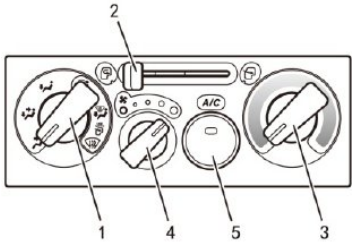
Adjust the fan speed control knob (4) as desired.





ADVICE

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



Maximum Cooling

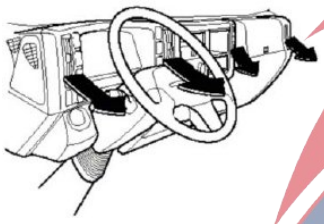
[Air conditioner]

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

Press the A/C switch (5) to the "ON" position. Move the air source lever (2) to the "" position.

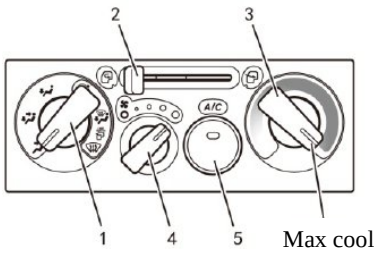
Turn the temperature control knob (3) fully towards the low-temperature direction.

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



ADVICE

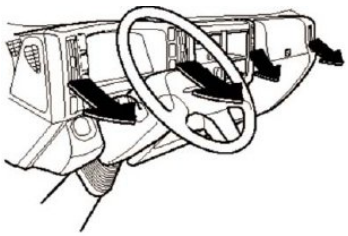
- After prolonged parking under the sun, open the windows or doors to ventilate the cab interior and release the heat before turning the air conditioning system on.
- Prolonged use of the air conditioning system in the maximum cooling setting will make the interior air become stale. Occasionally move the air source lever to the outside air ventilation position or open the windows to allow fresh air into the cab.
- During cooling operation, mist may appear coming out of the air outlets. This results from quick cooling of humid air, and does not indicate any problem.



[Cooler]

Set the outlet selector knob (1) to the "" position. Press the A/C switch (5) to the “ON” position. Move the air source lever (2) to the " " position.

Turn the temperature control knob (3) fully towards the Max cool direction. Set the fan speed control knob (4) to the maximum speed position.

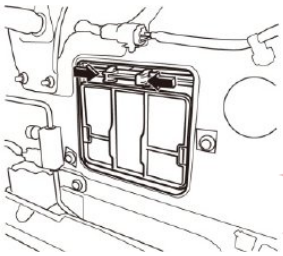


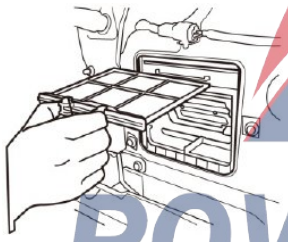
Air Conditioner Filter

When cleaning, refer to the maintenance data list.

Maintenance Data List → Refer to page 7-15

Sweeping of the Air Conditioner Filter





Remove the air filter of the inside

① Open the front lid.

Front Lid → refer to page 7-9

② Pull out the filter lock while pressing from both sides to the center.

③ Remove the filter, clear away the dust or dirt on the filter surface with a vacuum cleaner.

ADVICE

• In order to not damage the filter, avoid using hard brushes.

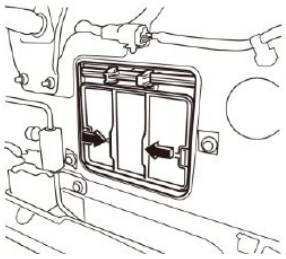
Installation of external air filter (all models)

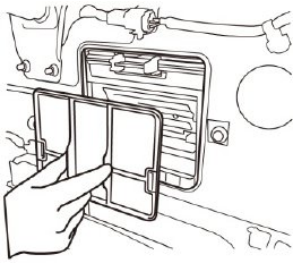
① Install according to the reverse order of disassembly.

CAUTION

• Install the filter accurately. Otherwise, there may be a click or fall off while driving, with serious consequences.

• Do not use the filter if it has not been reinstalled or if it has not been properly installed. If garbage, dust, water or snow enters the interior of the air conditioner, air conditioner malfunction may be caused.





Remove the air filter of the outside

① Pull out the filter lock while pressing from both sides to the center.

② Remove the filter, clear away the dust or dirt on the filter surface with a vacuum cleaner.

ADVICE

• In order to not damage the filter, avoid using hard brushes.

Install external air filter

① Install according to the reverse order of disassembly.

ADVICE

• Install the filter accurately. Otherwise, there may be a click or fall off while driving, with serious consequences.

• Do not use the filter if it has not been reinstalled or if it has not been properly installed. If garbage, dust, water or snow enters the interior of the air conditioner, air conditioner malfunction may be caused.

Refrigerant (amount of refrigerant)

When the amount of refrigerant is not enough, the cooling air will drop. When the refrigerant becomes less, it needs to be replenished promptly. Please go to the nearest Isuzu dealer to refill the refrigerants.

ADVICE

- Install the filter accurately. Otherwise, there may be a click or fall off while driving, with serious consequences.
- Do not use the filter if it has not been reinstalled or if it has not been properly installed. If garbage, dust, water or snow enters the interior of the air conditioner, air conditioner malfunction may be caused.

Interior Lights

Dome Light

The dome light operates regardless of the starter switch position. So that the dome light is controlled by "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.

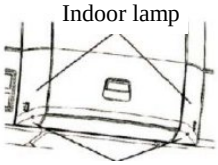
DOOR: The light turns on when any of the doors is opened, the doors are unlocked with the remote control unit, or the key is removed from the ignition switch.

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

* Only for low roof and standard roof cab

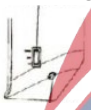
* Only for high roof cab

Indoor lamp



Outline

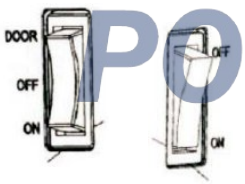
Indoor light switch



Outline light switch

Indoor light switch

* Only ON, OFF for passenger side



Driver side Passenger side

DOOR: When the door is opened or closed, the cab lamp is on or off

OFF: Has nothing to do with opened or closed door, lights off

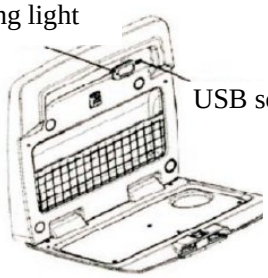
ON: Has nothing to do with opened or closed door, lights on

Outline light switch

OFF ON

USB socket and reading light

Reading light



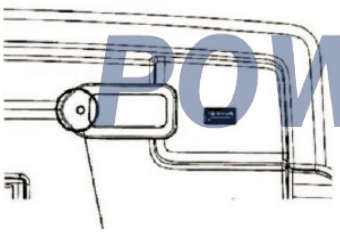
USB socket for mobile phones and other electrical equipment charging.

WARNING

- The USB socket has a rated output voltage of 5V and a current of 2A.
- When using a voltage exceeding the allowable load, the wiring may overheat and cause a fire hazard. Therefore, please use the voltage within the allowable load range.

ADVICE

- If the socket is used for a long time while the engine is stopped, the battery will run out.



The reading light switch is set at the top of the reading light

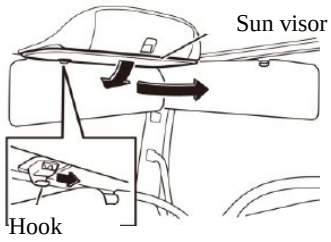
The reading light can be used when the key is turned to ACC.

Sun visor

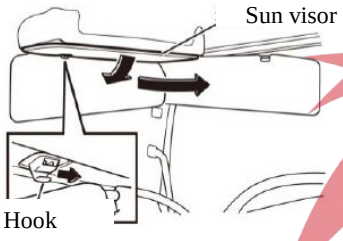
The sun visor protects your eyes in strong sunlight. Use it when sunlight is too bright. To reduce side glare, unhook the sun visor and swing it around to the side.

> CAUTION
>
> • For safety, make sure to fold up the sun visor after use.

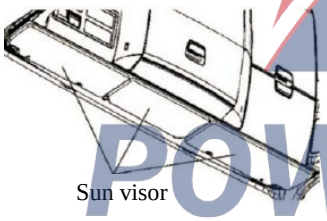
Standard roof vehicle type



High roof vehicle type

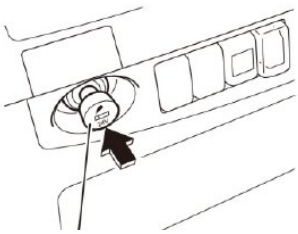


High roof vehicle type



High roof vehicle type has three in one sun visor. The central sun visor can be rotated back and forth, left and right sun visor can be rotated to the side.

Cigarette Lighter



Cigarette lighter

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

① Push the lighter in until it locks.

② When the heater element becomes hot, the lighter pops out to the original position. Pull out and use it.

WARNING

- As there is a burn hazard, do not touch the heater element when using the cigarette lighter.
- 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.
- Do not bend the cigarette lighter. A bent lighter does not function properly and is dangerous.

CAUTION

- To substitute the cigarette lighter socket for an accessory socket, consult the nearest Isuzu Dealer.
- If the cigarette lighter socket was used as an accessory socket by necessity, the inside of socket may be deformed. When the cigarette lighter is used with the deformed inside, it may cause failures such as that the red-hot cigarette lighter pops out or it does not come out as it is pressed in.
- To use it once again as the cigarette lighter changing from the accessory socket, or to replace the broken cigarette lighter, use an Isuzu genuine part suitable for the vehicle. Do not use other cigarette lighters.
- When cleaning the cigarette lighter, do not use too much force. It may cause a deformation.
- Remove ashes and dirt inside the cigarette lighter socket and on the heater portion of cigarette lighter.

ADVICE

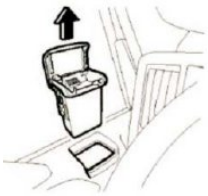
- Do not use the cigarette lighter while the engine is not in operation. As it consumes a lot of electricity, doing so can cause a dead battery.

Ashtray

WARNING

- After use, the lid of the ashtray must be closed. Otherwise, the no extinguished cigarette butts may ignite the other butts and cause a fire.
- Do not stack cigarette butts too much in the ashtray. Do not put flammable materials.
- Matches, cigarette butts put out and then put in ashtray.
- Do not throw kindled cigarette or cigarette butts out the window. Because it not only pollutes the road and its surroundings, it may also cause a fire if the kindled cigarette or cigarette butts is thrown away.

Driver's seat / passenger seat against the side of the door

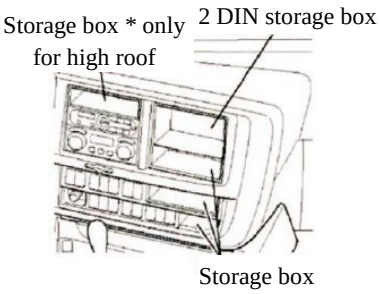


Open the lid and use.

Use the extinguishing parts to extinguish cigarettes with fire.

When cleaning the ashtray, holding the ashtray cover, pull up the ashtray can be removed.

Small Article Storage Pocket

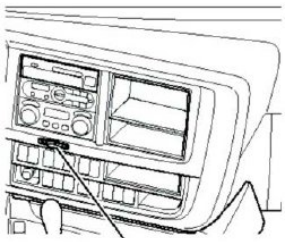


It is used to store small articles.

CAUTION

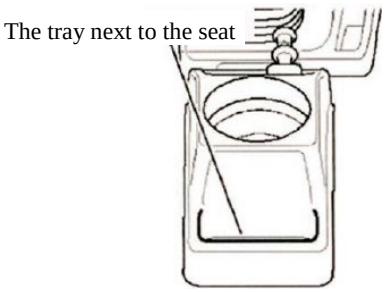
• Do not leave eyeglasses or lighters inside the cab. Lighters may explode and plastic lenses or frames may deform or crack if the interior temperature becomes very hot.

Card Holder



It is used to store small articles.

Seating Side Tray



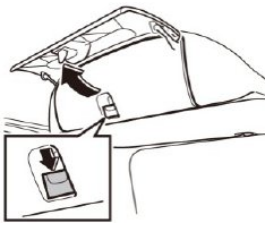
It is used to store small articles.

CAUTION

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

Front Storage Box ★

Standard roof vehicle type



Open it by holding the handle. It is used to store small articles.

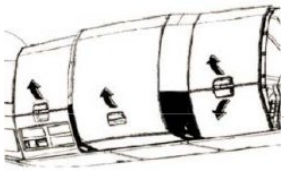
CAUTION

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

Low roof vehicle type

For low roof vehicle type, it refers to the storage box.

High roof vehicle type

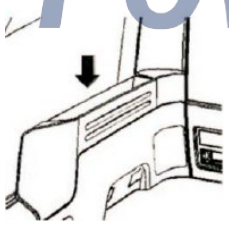


Open while pulling the handle.

Used as a storage bin.

CAUTION

• When driving, do not leave items on open place near the storage bin or open the storage compartment cover. Such behavior is dangerous during driving.

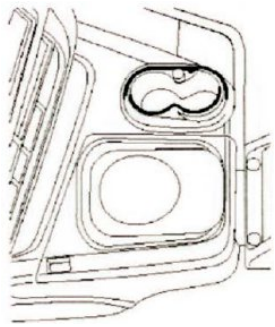


The sider of the ceiling is a storage box that is used to store small articles.

CAUTION

• Do not leave objects on open place. It is dangerous to store items on openning place.

Cup Holder

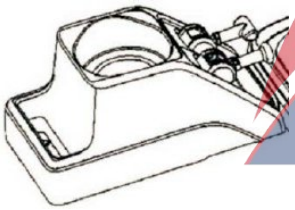


It is used to place canned drinks or drink bottles.

CAUTION

- Do not place a too-full in the cup holder. Spills could cause damage to the radio or 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.

Water Bottle Holder

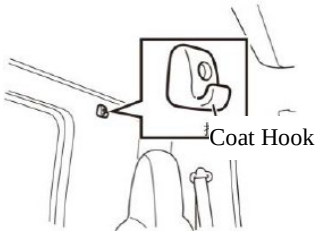


It is used to place water bottles and cups, etc.

CAUTION

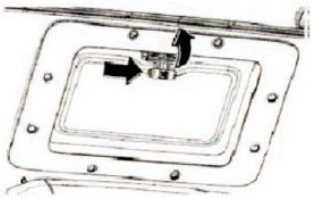
- Do not tilt the cab with a filled cup in the cup holder.

Coat Hook



It is used to hang clothing.

Roof Vent



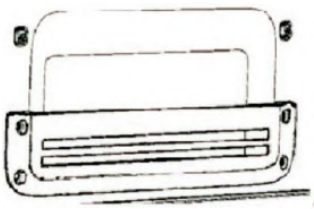
To operate the roof vent to ventilate, press the its lock and push it upwards.

To close the roof vent, press the latch release handle and pull it down.

CAUTION

- Be careful not to hurt your hands when open and close.
- Check whether the switch is locked after open and close.
- If it is not locked or closed, may occur water leakage and the wind enter.

Rear Storage Box

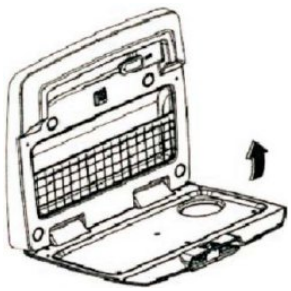


It is used to place magazines, newspapers and other items.

CAUTION

- Dragging the storage board is a dangerous activity. Avoid pulling the storage board.

Small Table Board



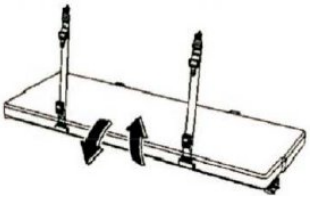
It can be used to store small articles.

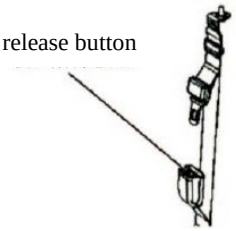
Small table board load: l Kg

CAUTION

- It’s dangerous to hang items on the small table board. Please do not hang items on the small table board.
- Please fold the small table board and close it when driving, so as to prevent the articles placed on the board from falling.

Upper Sleeper





Lock and release button

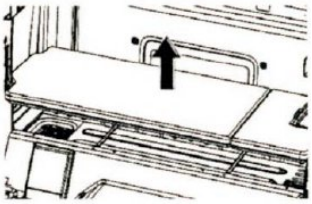
Please loosen the safety belt lock befor use.

When not in use, rise the sleeper and lock the safety belt.

CAUTION

- When disengaging the safety belts, you need also some support to prevent the sleeper from falling suddenly.
- Do not sit on the sleeper while driving, which is dangerous.
- Do not jump on the sleeper.
- When driving, make sure the sleeper is in folding up condition.
- When locking the safety belts, it locked after hearing the "click". Make sure the two safety belts are locked.

Lower Sleeper

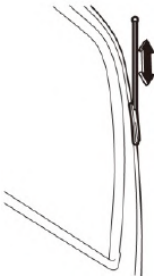


The part below the sleeper is used as a storage box.

CAUTION

- Do not sit on the sleeper while driving, which is dangerous.
- Do not jump on the sleeper.

Antenna



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

CAUTION

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

NOTE

[Radio reception]

• As the position of the antenna changes with the movement of the vehicle, the strength of the radio waves also changes. Therefore, the best radio state may not be maintained due to obstacles, trams, traffic lights, etc. in some cases.

• Compared with AM radio, FM sound quality is better, although it can play stereo radio, but due to the nature of the FM radio wave, sometimes moving in the light of the best radio state cannot be maintained.

- The directness of FM signal transmission

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.

- Sound loss

As FM signals are more strongly directional than AM signals, they are blocked easily by large objects such as mountains and buildings. Their reception area is much narrower than AM signals.

FM signals are reflected easily by objects, so when driving through urban 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.


POWERSTAR

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• On the Road	6-1
• Cautions for Parking	6-11
• Cautions for Driving in Hot Regions	6-12
• Cautions for Driving in Cold Regions	6-13
• Using Tire Chains	6-18

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

You must take enough breaks during long journeys.

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.

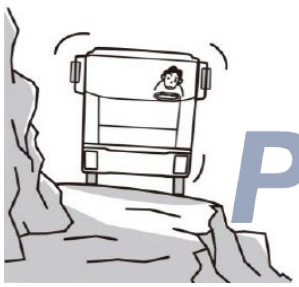
• Do not put your foot on the clutch pedal except when using the gearshift lever. Doing so would cause premature clutch wear.

• 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 or fall off, 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.

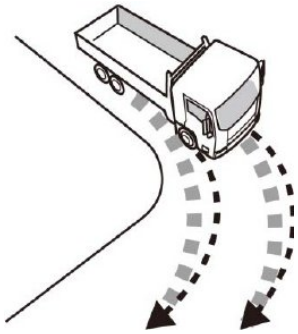
• Avoid scraping the tire sidewalls against curbstones or driving over dips and protrusions in the road surface.

• You could damage the tires, resulting in a blowout or a flat tire.



Narrow or Congested Roads

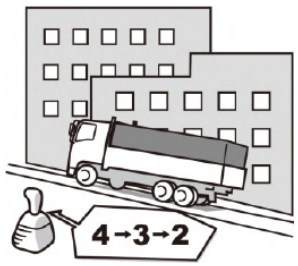
When passing or overtaking a vehicle on a narrow mountain road, or on a narrow or congested urban road, pay careful attention to obstacles on either side and to the condition of the shoulder of the road.



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

Use the mirrors to confirm safety.

Driving Uphill or Downhill



Uphill

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

Downhill

• Be careful not to drive too fast on a downhill road.

• Use the same gear(s) that you used to drive up the hill. Also, use the exhaust brake in order to avoid going too fast.

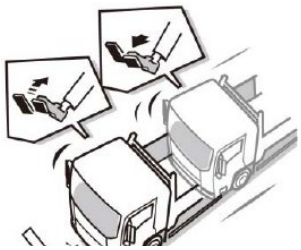
• Do not let the engine overrun.

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.

Braking



Park the vehicle

Your vehicle has full-air brakes for strong braking force with only a light pressure on the brake pedal. Do not press the brake pedal hard except in the event of an emergency.

① Braking distances vary according to the vehicle speed and road conditions. First, slow down sufficiently using the engine brake, the exhaust brake.

② Press the brake pedal and keep it pressed toward the point at which you want the vehicle to stop.

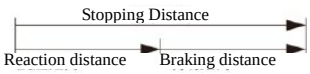
③ Ease off the brake pedal.

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.

Park the vehicle

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 outlet selector knob in the "" or "" position. Place the air source lever in the outside-air position. Also, use commercially available anti-fog 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.

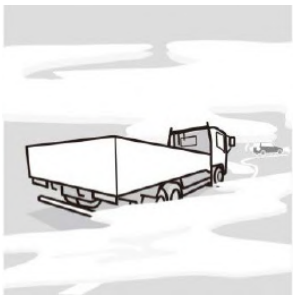
NOTE

• 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 (if equipped) 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.

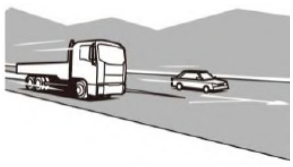
Highways

1. Speeds on highways are higher than those on regular roads, so there is more danger. Also, a breakdown on a highway represents a hazard to other vehicles and can cause an accident. Concentrate on safe driving. Remember to perform daily pre-operation inspections and use highway driving techniques.

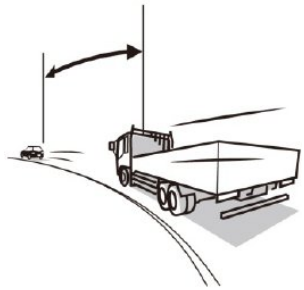
When performing daily pre-operation inspections, perform the checks shown in the table on the left with particularly great care.

Tire	• 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.

Routine Inspection (before Driving) → Refer to page 7-33



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



3. Your sense of how fast you are traveling becomes distorted on long highway drives. Constantly keep an eye on the speedometer, and maintain a suitable headway distance. For example, it should maintain 80m vehicle spacing when the travel speed is 80km/h.

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

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

NOTE

[Brake fade]

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

6. When you wish to turn off a highway, use the turn signal 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.

7. Please slow down as you approach a curve.

Driving on Snowy or Frozen Roads

Snowy and frozen roads are extremely slippery. You should control the speed, and operate brakes and steering wheel carefully.

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.

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 6-14

Driving on Snowy or Frozen Roads (Fenders)

Pay Attention to the Way the Steering Wheel Turns and Feels

CAUTION

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

Check the Brakes from Time to Time

CAUTION

• When the vehicle is driven or parked on a snowy surface, ice can form on the brakes, decreasing from 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 of 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)

Please use a low gear and keep it at a constant speed at the time of driving on unpaved or muddy roads.

If the vehicle gets stuck in mud, pressing the accelerator pedal more than necessary will simply dig the vehicle deeper into the mud and make it harder to extricate. Either put stones, tree branches or blankets under the tires to gain traction, or repeatedly drive forward and backward to use the vehicle's momentum to extricate it.

When you cannot avoid driving through deep mud, using tire chains is an effective way to avoid getting stuck.

ADVICE

• When driving in sand or mud, avoid hard braking, sudden acceleration and sharp turns of the steering wheel. Such actions could get the vehicle stuck and make it impossible to extricate.

• After driving through deep mud, any mud stuck to the vehicle can harm the steering, brakes and powertrain. Wash the vehicle and remove all mud and other incrustation.

Exterior Maintenance→ Refer to page 7-125

Cautions for Parking

Parking in Cold Regions

Start the engine in cold regions

The engine must be preheated up before starting. When the engine is difficult to ignite, please wait for a while until the battery resumes and start the engine after it is fully warmed up.

In cold days → Refer to page 4-6

Parking in cold regions

Please select the appropriate parking place to prevent the vehicle direct exposure in the snow.

In addition, to drive the vehicle into the garage, you should make the vehicle head inward, and place the vehicle in ventilated place as far as possible.

CAUTION

• When there is a risk that the parking brake will freeze in a cold region, 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 before bringing the vehicle to a halt; and apply the parking brake.

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:

• Please use a suitable concentration of coolant to prevent the engine from burning out due to overheating.

CAUTION

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

Engine Coolant→Refer to 7-56

• 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.

Cleaning → Refer to page 7-131

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.

Battery→Refer to 7-118

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 7-56
Windshield Washer Fluid → Refer to page 7-113
Battery→ Refer to page 7-118
Engine Oil → Refer to page 7-38
Using Tire Chains → Refer to page 6-18
Winter Tires → Refer to page 6-16

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 your Isuzu Dealer inspect the thermostat.

• If you park in a place where there is a lot of snowfall, snow accumulating around the vehicle could limit ventilation. Running the engine with the vehicle in such a situation could cause exhaust gases to enter into the cab, resulting in carbon monoxide poisoning. Take preventive action by, for example, clearing the snow around the vehicle.

Fuel→ Refer to page 6-14

Using the Engine Coolant

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

Changing the Engine Coolant→ Refer to page 7-59
Use of Long Life Coolant→ Refer to page 7-57

Fuel

CAUTION

• Use of fuel other than ultra-low sulfur diesel or low-sulfur diesel will cause adverse effects on the engine and exhaust gas purifier (urea SCR) and may cause malfunctions. If you accidentally put the wrong fuel in the tank, drain it all out. Starting the engine with the wrong fuel in the tank could result in a fire or engine damage.

• Using diesel fuel other than low-sulfur diesel fuel could prevent the vehicle from complying with local legal requirements.

• Open the fuel tank filler cap slowly. If you open it quickly, fuel may spurt out.

ADVICE

• Be sure to use ultra-low sulfur diesel or low-sulfur diesel as fuel.

Be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower). If you supply the vehicle with poor-quality fuel, water-removing additive or other additive, gasoline, kerosene or alcohol-based fuel, it could harm the fuel filter, prevent proper movement of fuel-lubricated parts in the injectors and adversely affect the engine and PM catalytic converter possibly resulting in a breakdown.

NOTE

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

• The above table is for reference only. The actual situation is somewhat different from this, so it may freeze in the case of approaching the temperature in the table.

• When driving to a cold region, put just enough fuel to reach the colder region 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

About urea solution (equivalent to AdBlue @)

ADVICE

• The freezing temperature of the urea (AdBlue®) is -11 °C. The urea SCR system has the heating function based on the engine coolant, so the engine can still be started even with the urea (AdBlue®) freeze.

CAUTION

• Do not use blowtorches or heaters to heat the urea tank.

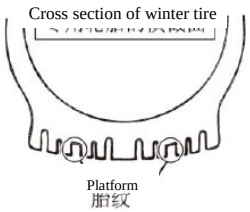
Operation of Urea (AdBlue®)→ Refer to page 2-36
Whether to Use the Specified Urea (AdBlue®)→ Refer to page 2-36
Filling of Urea (AdBlue®)→ Refer to page 2-37
Urea Tank → Refer to page 3-9
When the Urea (AdBlue®) is Exhausted→ Refer to page 8-16

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 outside 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. Wipe the water away.

Winter Tires



A winter tire has reached its wear limit when the tread grooves have worn to half of the depth of the new tire. At this time, platforms indicating that the tire can no longer give adequate performance on snow become visible in the grooves. Replace the tire with a new one.

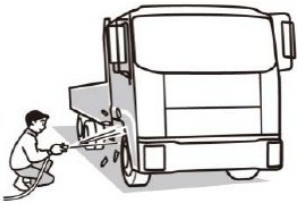
CAUTION

• Avoid sharp turns of the steering wheel and hard braking. Use the engine brake to decelerate. When applying the brakes on snowy or frozen road, lightly press the pedal several times rather than giving it one hard press. A single hard press of the pedal would be dangerous because it could cause the vehicle to slip or skid.

• Avoid driving at high speeds on a dry road with winter tires.

• Comply with local legal requirements when using winter tires.

Cleaning the Vehicle After Driving on Snowy Roads



CAUTION

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

• After washing the vehicle, wipe the door openings dry.

ADVICE

• On antilock brake system (ABS) equipped model, the vehicle speed sensors are fitted on the wheels. When removing snow, ice and other incrustation, take great care not to damage the components.

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

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.

• 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 dual tires, use dual tire chains. 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.

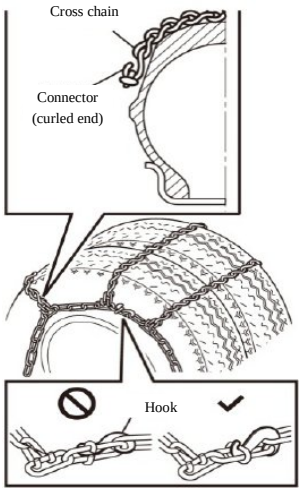
• The sidewalls of radial tires are prone to damage by tire chains. Be sure to use tire chains that are designed for radial tires, or use winter tires.

• 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 and avoid driving on surfaces other than snowy or frozen roads.

• For fitting and handling of tire chains, refer to the instruction manual attached to the tire chains.

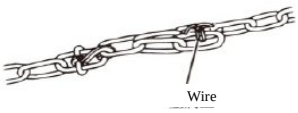
How to Fit a Tire Chain



① Making sure the tire chain is not twisted, place it on the tire such that the curled ends are on the outside (the side that will make contact with the ground).

② Pull both ends of the tire chain as far as possible. Couple the inner hooks first, and then couple the outer hooks.

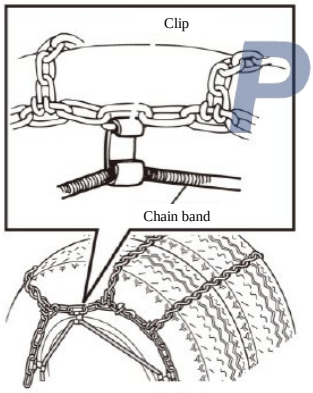
③ The hook should be connected such that it is flat against the tire side face. Also, confirm that there is no twisting or bending in the chain.



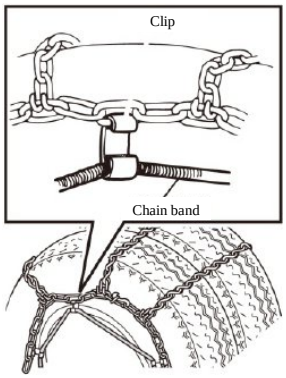
④ Retain any excess portion of chain with wire so it does not hit the vehicle's body or brake pipes.

⑤ Hook the clips over the chain band (with the clips pointing outward) such that the clips are evenly positioned around the band.

⑥ After fitting the tire chains and driving for a while, check whether the chains are loose or they have come unfastened.



How to Remove a Tire Chain



① Remove the chain band and wires, and undo the outer hook first.

② Move the vehicle and remove the chain.


POWERSTAR


POWERSTAR

BEFORE SERVICE AND MAINTENANCE	7-1
SERVICE INFORMATION	7-14
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ENGINE-RELATED SERVICE AND MAINTENANCE	7-36
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Preparation for Inspection

Here was summarized the simple inspection and maintenance. If you want to know the details of inspection and maintenance, please refer to the appendix "Maintenance Manual", and consult your ISUZU Supplier.

Routine Inspection (before Driving)→ Refer to page 7-33
List of Regular Inspection and Preparation → Refer to page 7-17
List of Parts to be Replaced Regularly → Refer to page 7-18

Precautions for Inspection and Adjustment

WARNING

- Select a place with a solid and level surface to perform the checking and maintenance work. Make sure to chock the wheels. It would be very dangerous if the vehicle started to move.
- Pull the parking brake lever firmly and put the transmission in neutral. Make sure the gearshift lever is in "N".
- Make sure to turn off the engine and remove the key from the ignition switch before performing any checks.
- When performing work on the electrical system, be sure to disconnect the negative battery cable.
- Refer to " The usage of jack " to operate the jack.
- Do not perform work near an open flame or other heat sources.
- 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.
- When changing each types of oil and oil filter parts, please work in the state of the oil has been cooled down.
- Operating at high temperatures can cause burns.
- When preparing the oil circuit and fuel filter, remove the fuel tank filler cap. The fuel system is a pressure relief system , without relieve pressure can cause fuel spills and may ignite the fire.
- Do not let the engine run in poorly ventilated garages or sheds. This could cause carbon monoxide poisoning.

Handling the Jack →refer to page 7-5

NOTE

- Use only appropriate tools.
- Do not leave the removed parts or tools in the engine compartment. They could damage the equipment if caught in the belts or other moving components.
- Dirty water, dirt and other impurities seriously impair the effectiveness of the oil, grease and fluids, and damage 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.
- After the operation is finished, check whether the parts are normal.

Discarded Parts, Oils and Other Liquids

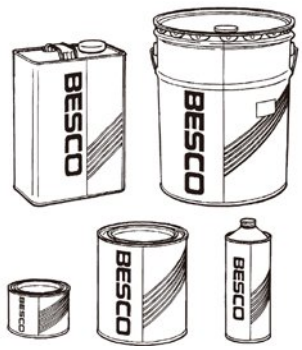
NOTE

- Abandoned parts and discarded waste oil can adversely affect the living environment. The corresponding treatment is not easy, so please go to Isuzu dealer to check and replacement

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



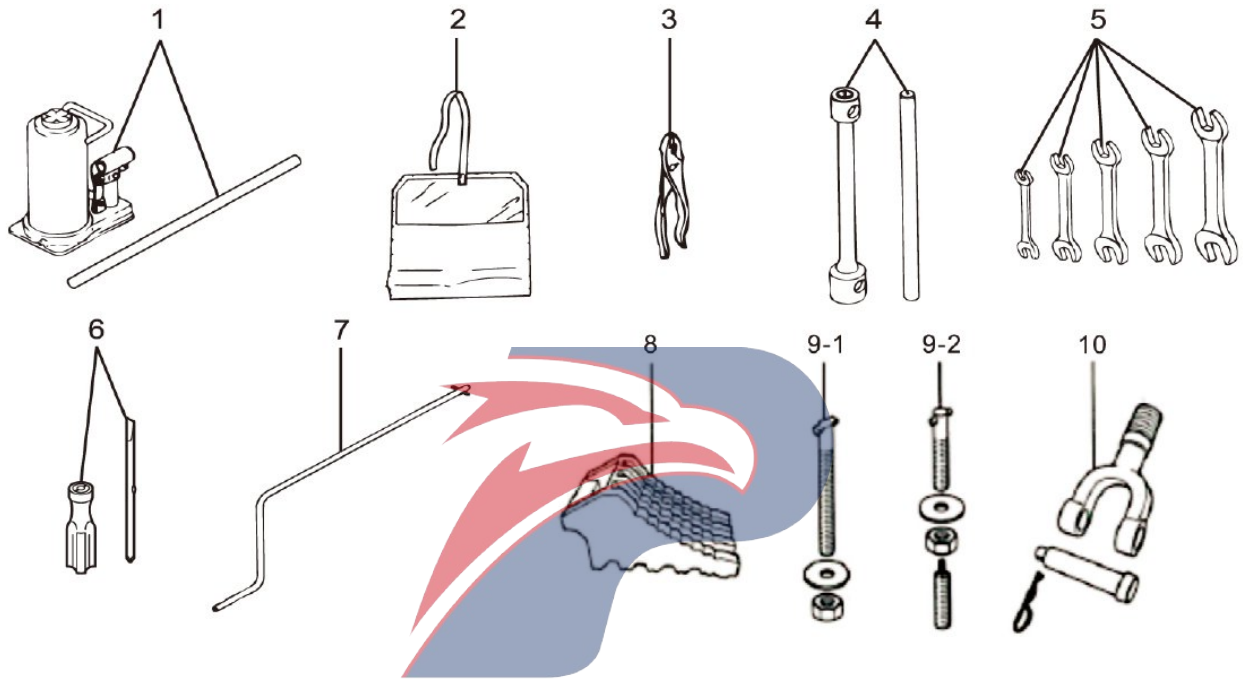
Periodically replenishing and changing the oil and grease is extremely important for maintaining your vehicle's performance and preventing malfunctions.

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

Tools

The vehicle is equipped with common tools for routine inspection and maintenance. If the need for vehicle decomposition, assembly, adjustment of the special requirements. Please contact the ISUZU Supplier.

Tool Name



1	Oil jack and handle
2	Tool bag
3	Pliers
4	Socket wrench and handle
5	Wrenches (10×12) (14×17) (19×22) (24×27)
6	Screwdriver (Phillips head/flat head interchangeable type) 1piece
7	Spare tire carrier handle
8	Stop wedge 2 pieces
9-1	Lock bolt C * G.E models: 3 groups Other models: 4 groups
9-2	Lock bolt C*G.E models front and rear axles right side: 1 group
10	Traction hook (traction hook body, clamp pin, spring pin)

NOTE

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

Jack

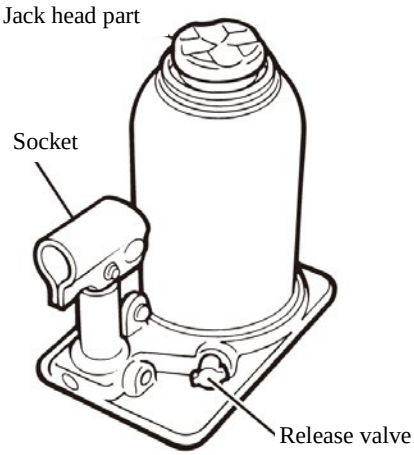
Use a jack to lift the vehicle when changing tires.

Handling the Jack

WARNING

- Choose a flat and hard floor to use jack. When the floor is tilted or soft, jack may tilt or slide causing accidents.
- Use a handbrake and secure the wheel. If only handbrake is used, the vehicle may move when lifting the rear wheel.
- When using jack, do not leave any person in the car or leave anything behind.
- When using the jacks, wipe off the dirt and grease on the jack and jack support points. Dirt can cause jack to slip and vehicles to fall, which is very dangerous.
- When using a jack, stop the engine and set the ignition switch to "LOCK".
- Do not open the door or start the engine when using the jack. Jack may be displaced due to vibration. In addition, do not stretch out the head to observe or drill into the bottom of the body.
- When using the jack, be sure to support the car body with the jack bracket when entering under the vehicle .
- Do not place the spare tire removed near the jack under the car body to prevent danger when the jack is displaced.

Operation of jack

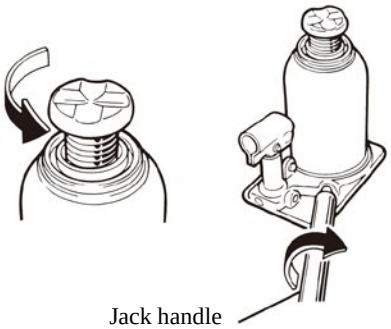


How to raise (jacked up)

① Place the jack just below the support point.

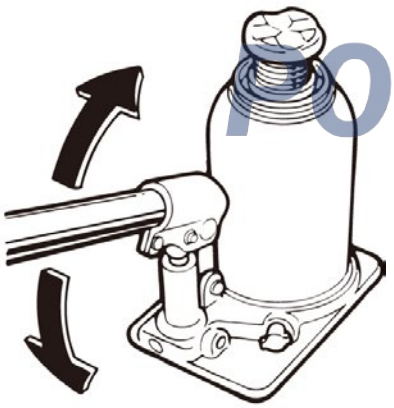
The ground where the jack is located should be flat and hard.

Support point → Refer to page 7-7



② Rotate jack head to accommodate the height of the support point. Turn left to rise.

③ Use the recessed part of the jack handle to right-screwed the insurance valve completely.



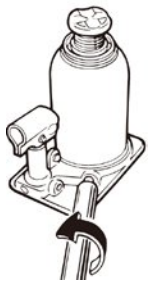
④ The joystick into the mouth of the sleeve, gently move the joystick up and down to make it a little raise.

⑤ Make sure it is aligned with the support point and then start to lift.

How to fall

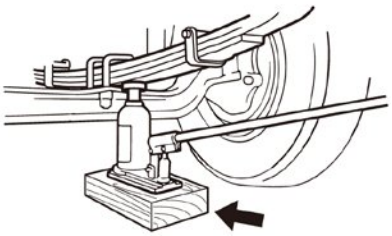
ADVICE

- When lowering the vehicle, do not stop the jack suddenly. This may result in damage to the jack.



① Align the recessed part of the jack handle with the safety valve.
② Turn the joystick to the left to lower the jack.
③ After the jack is completely fall, right-screwed the safety valve fully.
④ Screw the jack head fully to the right side.

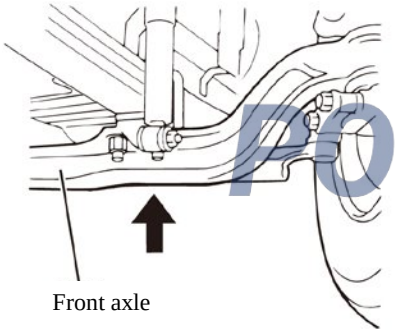
Support point



NOTE

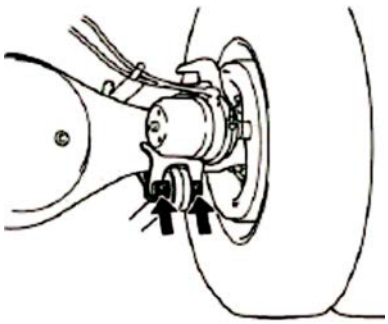
- When the jack stroke is not enough, lay as wide and thick wood under the jack as possible.
- Depending on the condition of the vehicle (flat tire, etc.), the jack may not be able to reach into the front axle.

The support point when front wheel was flat tire →Refer to page 7-8



[Front wheel]
Place the jack under the spring plate of the front axle

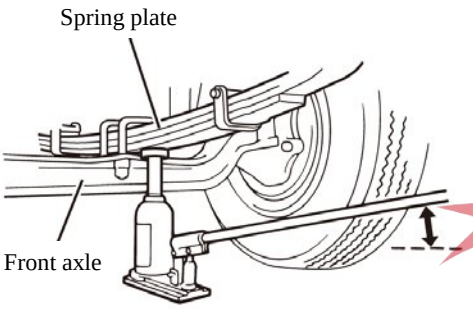
[Rear wheel]

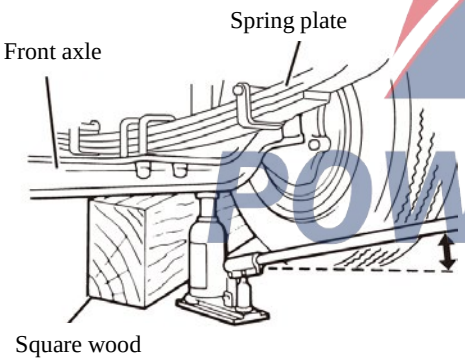


The support point when front wheel was flat tire

WARNING

- To place the jack in the position closest to the front axle.
- Square wood used for lifting stability, should be as wide as possible.
- The underside of the spring plate is curved so take full care when using the jack. Once the jack displacement will be pressed down by the vehicle, very dangerous.





The jack can not be used as commonly used support point. Square wood and other objects should be used according to the following methods..

① Stop wedges should be used for both front and rear of the rear wheel tire.

② Place the jack under the spring plate in the front of the front axle, and then begin to rise.

③ Place the square wood under the front axle.

④ Lower the jack slightly, and put down the jack before confirming the square wood firmly supports the front axle.

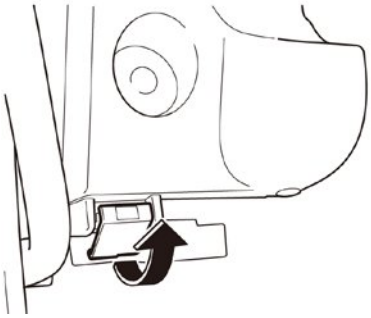
⑤ Place the jack at the support point, and raise it to the height where the tire can be removed.

Support point → Refer to page 7-7

Hood

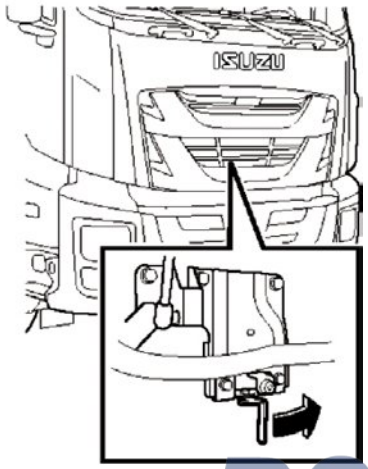
Open the front lid to inspect, supplement or replace the oil and fluid.

To Open



CAUTION

- Do not pull the lever while driving. This is extremely dangerous, because opening the front lid while driving blocks your view.
- When opening the front lid, make sure to place the ignition switch in the "LOCK" position. Otherwise, your hand could be caught in the windshield wiper link and injured.



① Pull the handle at the bottom right of the dashboard.

② Put hand into the radiator grille, move the lock lever in the middle of the front lid to the right , release the front lid lock.

③ Open the front lid completely.

To Close

Press on the lock locations at the lower portion of the front lid with the palm of your hand to securely lock the lid. Confirm that the front lid is firmly locked.

Tilting the Cab

Upturn the car headstock to inspect, supplement or replace the oil and fluid.

WARNING

- When the car headstock stops halfway, do not enter below. The front may drop down.
- Do not stretch body of yourself to under the car headstock when the car headstock upturn, otherwise may be pinched.

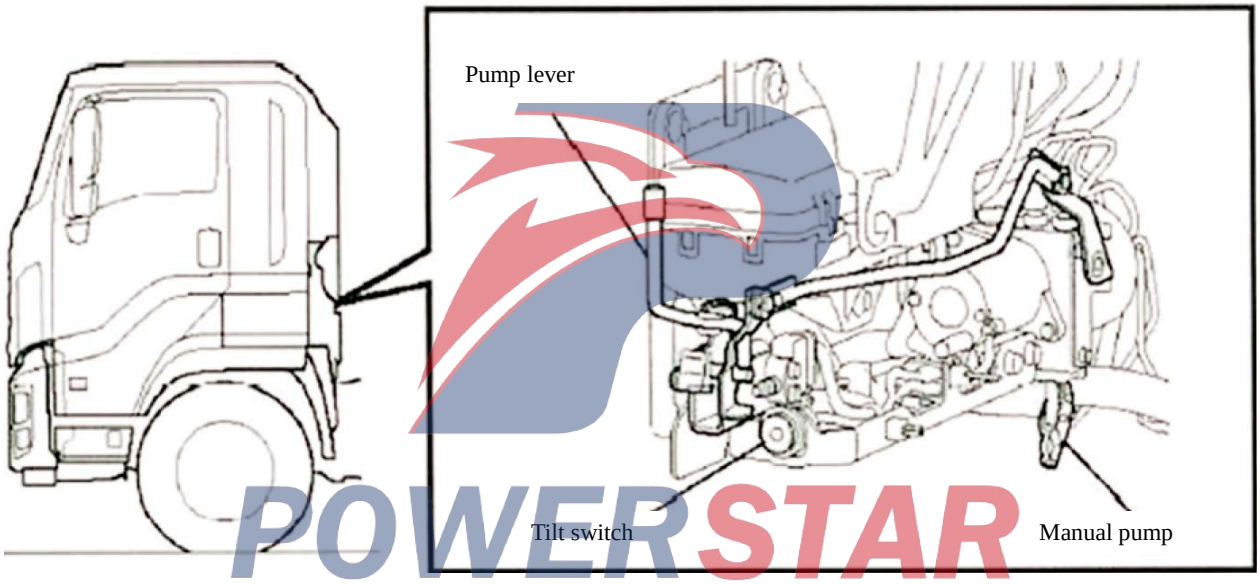
CAUTION

- Tilt the cab only on a level surface.
- Make sure that the handbrake is available, the shift lever is in neutral, and use the stop wedge to secure the wheel.
- When tilting the cab, close the left and right doors securely. You should avoid opening or closing the doors when the cab is tilting.
- 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 shut after closing it.
- Confirm that people are not near the vehicle or inside the cab when tilting the cab.
- The muffler and exhaust pipe will be very hot immediately after driving. Use all due caution to avoid accidentally touching these when doing a cab tilt operation.
- Tilt the cab only with the engine turned off.
- Open the front lid completely. If the front lid is not fully opened during upturning the car headstock, it may be damaged.
- Make sure everything has been removed from the roof rack.

ADVICE

- 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.)
- Do not tilt the cab when objects are placed on or in the instrument panel, seats, cup holders or on floor.
- Remove any ice or snow accumulating on the top of the bumper before tilting the cab. Failure to do so could damage the bumper, lights or other vehicle components.
- In the absence of an emergency, do not halfway stop upturning the headstock . This may cause the turning structure to malfunction.

The name of each part



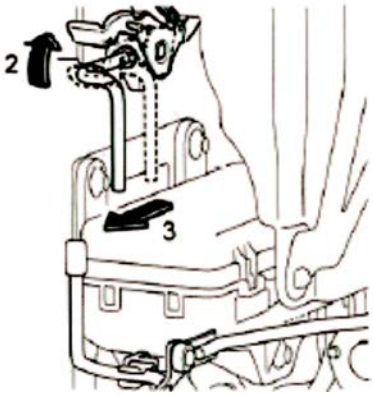
To Tilt the Cab Up

CAUTION

- Tilt the cab only with the engine turned off.

CAUTION

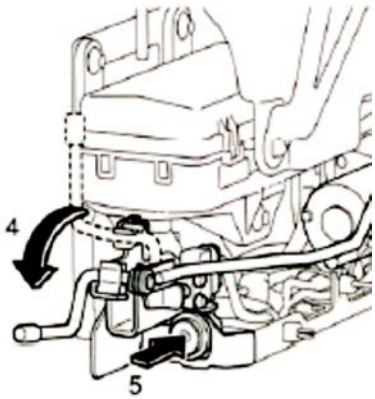
- The electric upturning machine will not work when the shift lever is in the other locations out of the neutral gear or the front lid is closed.



① Open the front lid completely.

② Pull up the hook.

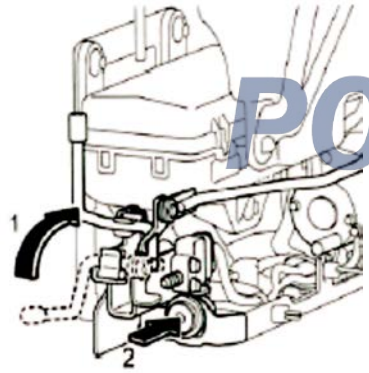
③ Pull the lock lever with your right hand and turn down the tilt lock lever by pulling it toward you with your left hand to release the cab lock. A buzzer will sound. The cab will rise slightly at this time.



④ Set the pump lever in the "tilt up" position

⑤ Hold the tilt switch pressed until the cab stops rising. When the cab is fully tilted, the buzzer will stop.

Lowering the Cab



① Set the pump lever in the "lower (drive)" position. A buzzer will sound.

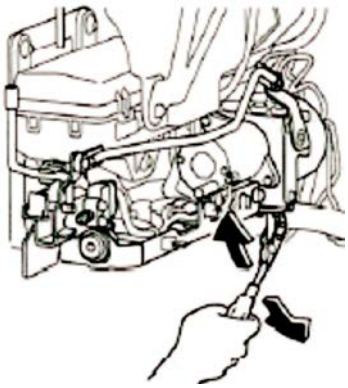
② Press the tilt switch until the cab has been lowered completely. You no longer hear the motor operating, release the switch.

③ Close the front lid.

The measures when the car headstock upturning is fault

WARNING

- If you find anything abnormal about the buzzer tone, the tilt motor or the pump, contact the ISUZU Supplier.



The electrically driven hydraulic cab tilt system will not operate when the battery is dead, or the tilt motor or pump is faulty. In this case, please completely open the front lid. Because the upturn switch can not be used, insert the screwdriver into the manual pump and shake up and down to raise (or lower) the headstock of the car. Handle the pump lever as you would normally.

Service Information

- Maintenance Data List 7-15
- Curb Benchmark Value List 7-16
- List of Regular Inspection and Preparation 7-17
- List of Parts to be Replaced Regularly 7-18

Maintenance Data List

Description		Reference page
Curb benchmark value list		7-16
List of regular inspection and preparation (inspection period)		7-17
List of parts to be replaced regularly (replace period)	Oil & fluid (recommended brand, capacity)	7-18
	Filter class	7-20
	Rubber parts, etc.	7-20
	Window cleaner	7-21
	Others	7-22
	Oil	7-23

ADVICE

- The oil (engine oil), fluid (battery fluid, cooling water) that perform functions such as lubrication, cooling and rust prevention will gradually decrease during use or deteriorate due to contamination, which will degrade the performance of various parts of the vehicle or cause a malfunction (Burned, bad operation). In addition, rubber-containing parts deteriorate after aging and are easily broken; waterproof, dust-proof parts sheaths are also susceptible to cracking. To ensure the function, performance and safety of the vehicle, please comply with the replacement cycle (depending on the distance and time [month, year], the first come first) to check, supplement, replace.

Curb Benchmark Value List

Description	Standard value [reference value]	Reference page
Fan belt deflection	Reference text	7-52
Engine idle speed	450～500r/min	
Steering wheel displacememt	20～50mm	
Clutch pedal displacement	40～60mm	7-102
Tire pressure	Reference text	7-74
Tire groove remaining depth	1.6mm or more at normally driving 3.2mm or more at high speed driving	7-75
Hub nut tightening torque	550～600N·m(supply oil)	7-86
Manual Transmission horizontal drain cock tightening torque	60N.m	7-106

List of Regular Inspection and Preparation

Here was summarized the simple inspection and maintenance. The details of inspection and maintenance, please refer to the appendix "Maintenance Manual", and consult your ISUZU Supplier.

Parts	Items	Inspection period	Reference page
Power steering	Oil spills and oil	Every 3 months	7-110
	Power steering fluid filter status	Every 100,000km (or 1 year)	7-111
Brake pedal	Displacement, stampede and the gap between the floor	Every 3 months	7-69
Parking brake structure	Control lever travel	Every 3 months	7-70
Brake drum and brake shoe	Clearance between brake drum and lining	Every 3 months	7-71
Wheel hub	Tire condition	Every 3 months	7-72
	Wheel nuts and hub bolts loose condition	Every 3 months	7-87
Clutch	Pedal displacement, as well as stampede and floor space between	Every 3 months	7-102
	Effect	Every 3 months	7-102
	Fluid volume	Every 3 months	7-105
Transmission	Oil spills and oil	Every 3 months	7-105
Differential	Oil spills and oil	Every 3 months	7-108
Battery	Terminal connection status	Every 3 months	7-118
Engine body	Low-speed and accelerated state	Every 3 months	7-37
	Air filter status	Every 3 months	7-47
Lubrication device	Oil spill	Every 3 months	7-38
Fuel device	Fuel pre-cleaner status	Every 3 months	7-98
Cooling device	Fan belt loose condition and damage	Every 3 months	7-52
	Water Leak	Each year	7-58
Exhaust pipe	Loose and damaged installation	Every 3 months	7-64
Air compressor	Air tank condensate	Every 3 months	7-90
Others	Various parts of the chassis for oil status	Every 3 months	7-23

List of Parts to be Replaced Regularly

ADVICE

- When the replacement cycle at the same time with use of time and travel distance as a condition, should be carried out on the first come first served basis.

ADVICE

- The described amount of oil is the standard when replacing. After changing the oil, please check whether the lubricating oil reaches the specified position.

Model	Replacement period	Capacity [Reference]	Brand	Remarks	Reference page
Engine oil					
6UZ1	Each 20000km*1	31L	• Qingling original (BESCO CLEAN -30, etc.)	Contains main filter and auxiliary filter capacity.	7-41
6WG1		29L			

*1: When the new car travels 1,000km

Model		Replacement period	Capacity [Reference]	Brand	Remarks	Reference page
Transmission oil						
ZF8/16 segment		The replacement period is determined by the brand of oil	15.4L for the first time, 12.4L for maintenance (+ 0.5L with PT0)	ZF-Ecofluidm		7-106
Differential oil						
17.5〃HT	Rear/Front	Every 50,000km (or 1 year) * 1	18L	G15 grade BESC0 gear oil SH90 • BESC0 gear oil SH140 • BESC0 gear oil SH80W-90 • BESC0 gear oil • LSD(With LSD vehicles)	Oil is the standard amount of oil change. Please confirm that the oil is added to the injection hole.	7-108
	after later		12L			
18.5〃H			13L			
Power steering fluid						
C※R·2 C※R·2		Every 100,000km(or 1 year)*2	6L	• BESCO ATF III • BESCO ATF II • BESC0 power steering fluid (for large vehicles)		7-110
CYH			7.5L			
Clutch oil ◎						
All models		Each year	0.25L	BESC0 super clutch oil(D0T3)	Remember here not to replenish the oil, but the total capacity of the fuel tank, the main cylinder, clutch booster (excluding pipe content)	7-105
Hydraulic Flipper						
All models		Every 2 years	0.63L	BESCO Tiltup oil	Not here to remember that the amount of oil, but the total capacity of the pipeline.	

* 1: When driving a new car for 1,000km

* 2: When the new car travels 5,000km

◎: Need to be decomposed operating when replacing, please contact the ISUZU Supplier.

Model	Replacement period	Capacity [Reference]	Brand	Remarks	Reference page
Engine coolant					
6UZ1 6WG1	Concentration 50%: every 600,000km (or 3 years)	44L	BESCO LLC Supertype E or BESCO LLC Super type AS	Concentration 50%	7-56

Filter

Item	Replacement period	Reference page
Engine oil filtercore	Every 20,000km	7-43
Fuel filter element	Every 40,000km	7-62
Fuel pre-cleaner filter core		7-98
Air filter	After cleaning 6 times or annually	7-47
Urea filter	Every 150,000km (or 1 year)	7-65
Air conditioner filter	Clean every 1 month	5-11

Rubber parts, etc.

Item	Replacement period	Remarks
Power steering hose	Every 4 years	
Power steering internal rubber parts	Every 4 years	
Handbrake, brake valve	Every 2 years	
Brake hose	Every 2 years	
Expander	Every 3 years	Or renovate the engine every 3 years
Brake room partitions and rubber parts	Every 2 years	Does not include "piggyback" section
Brake room spring chamber part (piggyback)	Every 3 years	
Relay valve, quick relay valve rubber parts	Every 2 years	Only "hand brake " part
ABS modulation tube	Every 2 years	
Brake valve	Every 10 years	
Relay valve front or rubber parts	Every 10 years	Except "handbrake" section
Relay valve back or rubber parts	Every 10 years	Except "handbrake" section
Air dryer desiccant, filters and rubber parts	Every 100,000km (or 1 year)	
Air handling unit of the rubber parts	Every 2 years	
Barometer with a soft tube	Every4 years	
Air compressor with soft hose	Every 2 years	
Gasoline hose	Every 4 years	

Windshield Washer Fluid

Mixture ratio of windshield washer fluid

Capacity [Reference]	Period	Tap water	Windshield washer fluid	Freezing point	Reference page
4.5L	General	2	1	About -10℃	7-113
	Winter	1	1	About -20℃	
	Cold	0	Use stock solution	About -50℃	

Others

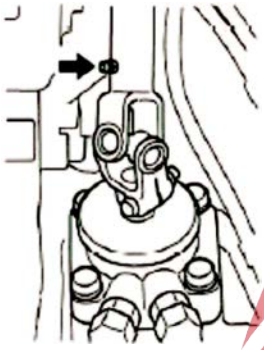
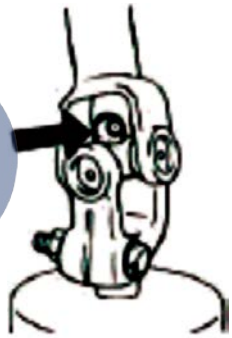
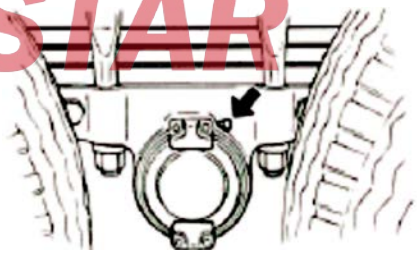
Item	Replacement period	Remarks
Parking signal light switch	Every 2 years	
Urea injection unit (urea SCR system)	Every 750, 000km	
NOx Sensor (urea SCR system)	Every750,000km (or 7 years)	

Lubricant

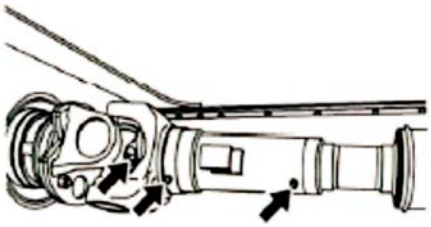
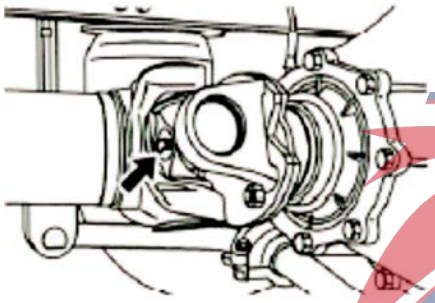
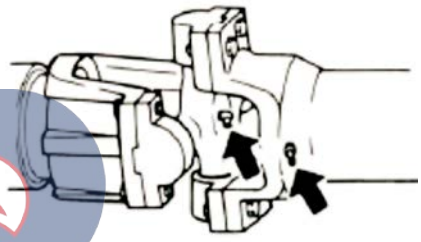
ADVICE

- Different parts require different lubricant types (properties). BESCOL-3 2, BESCOASL-3 2 Lubricants (general purpose lubricants) are available for normal oil demand while BESCO chassis lubricants (chassis lubricants) are only available for use. Please confirm all parts of the recommended oil, select the appropriate lubricant.

After driving every 5,000km, add <BESCOL-2-ASL-2 Lubricant, BESCO Chassis Lubricant> to the following locations.

Steering shaft〈BESCOL-2·ASL-2 Lubricant〉  [Under the headstock] 1 place, upturning the headstock to carry out	Steering shaft〈BESCOL-2·ASL-2 Lubricant〉  [Under the headstock] 1 place
Rear Suspension <BESCO Chassis Lubricant>  [Spring pad] Around for 4 places Fully coated on the spring weared surface.	Steering shaft <BESCO L-2.AS L-2 Lubricant>  [Balance shaft part] left and right 2 places

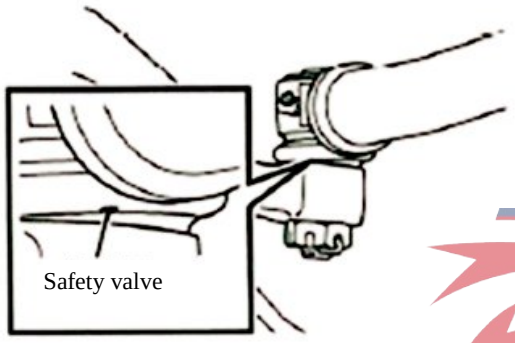
After driving every 5,000km, add <BESCOL-3 2, BESCO AS L-3 2 Lubricants> to the following locations.

Propeller shaft  [Transmission universal joint]	Propeller shaft  [Universal joint] [Pipeline] Propeller shaft without lubricant nozzle No grease required.
Propeller shaft  [Differential Universal Joint]	Propeller shaft  [Between the 2 rear axis] universal joint and pipeline

After driving every 25,000 km (or 6 months) of travel, add <BESCO L-2 AS L-2 Lubricants, BESCO Chassis Lubricants> to the following locations.

ADVICE

- Avoid mixing with other brands (chassis lubricants). Be sure to use recommended oil for each section. Using the chassis lubricant in a non-specified location may damage the bearings.
- When filling the propeller shaft universal joint, pay special attention to fill the oil until the grease overflows the four oil seals on the needle roller bearings. After oiling, please dry the overflowed lubricating oil.

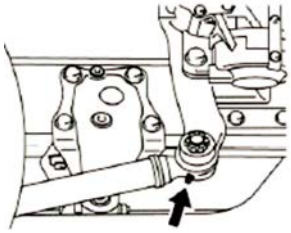


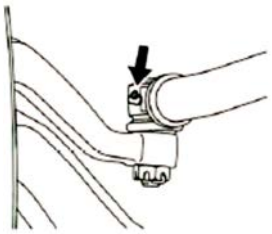
CAUTION

- When filling the steering column and tie rod, supplement lubricate oil till spill out safety valve. If there is oil spilling at others places out of the safety valve, check with your ISUZU Supplier.

Steering the vertical pull rod

<BESCOL-2 AS L-2 Lubricant>

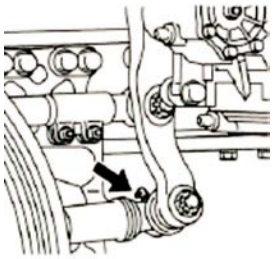


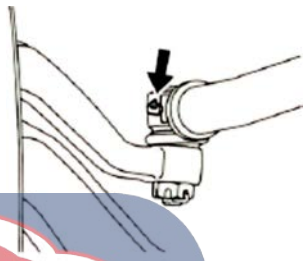


front and rear 2 places (C*E* type vehicle)

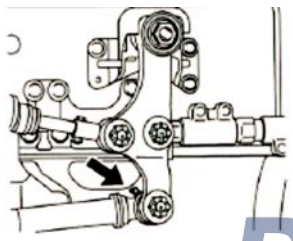
Steering lever

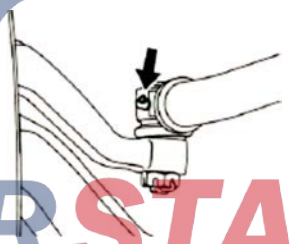
<BESCO L-2 AS L-2 Lubricant>





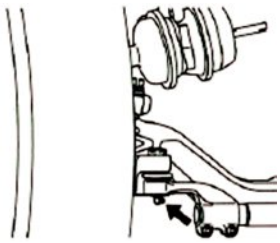
Front and front axles 2 places (CYH type vehicle)



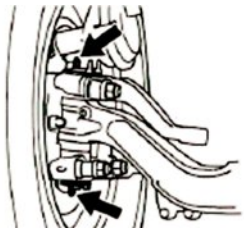
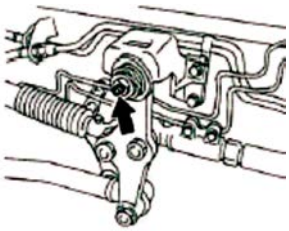


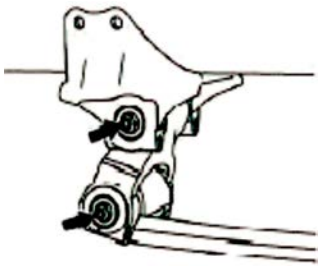
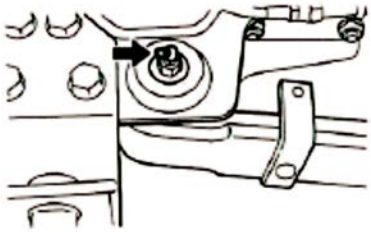
Front and rear axles 2 places (CYH type vehicle)

Pull lever
<BESCO L-2 AS L-2 Lubricant>

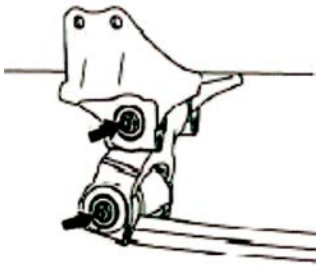
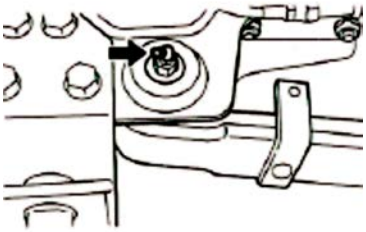


Left and right 2 places (front 1-axle vehicle) Left and right 2 places (front 2-axle vehicle)

Main pin <BESCO L-2 AS L-2 Lubricant> 
Steering link arm <BESCO L-2 AS L-2 Lubricant>  (C※H type vehicle)

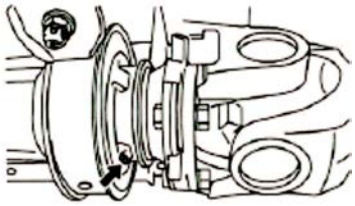
Front suspension <BESCO chassis lubricants> 	Front suspension <BESCO chassis lubricants> 

After driving every 25,000km, add <BESCO Chassis Lubricant> to the following locations.

Front suspension <BESCO chassis lubricants>  left and right 2 places <CXR、EXR type vehicle >	Front suspension <BESCO chassis lubricants>  left and right 2 places <CXR、EXR type vehicle >

After driving every 50,000km (or 1 year), add <BESCO-3·2Lubricant, BESCOASL-3.2Lubricant> to the following locations.

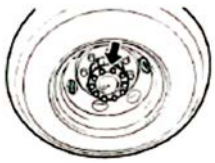
Propeller shaft center bearing★



Left and right 2 places(CXR, EXR type vehicle)

Need to disassemble when replacement of hub bearing lubricant, please contact the ISUZU Supplier.

Propeller shaft center bearing★

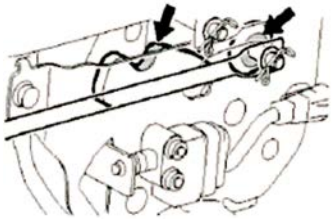


	Item	Capacity	Remarks
Front wheel	ISO10	805g	Capacity is each round of the requ□red amount of oil
Rear wheel	ISO10	1,820g	

After driving every 25,000km (or 1 year), add <BESCO-2·ASL-2 Lubricant> to the following locations.

ADVICE

- Before filling the lubricant, please clean the dirt.

Headstock locking assembly  Left side 2 places Sliding places also need oiling	
Headstock mounting pad frame  Left and right each 2 places	

Routine Inspection

- Routine Inspection (before Driving) 7-33
- Inspect the Abnormal Part Found in the Last Driving 7-35

Routine Inspection (before Driving)

Routine inspection is the driver's obligation specified by the Road Transport Vehicle Act. Before driving, please do a routine check, to ensure that there is no abnormality. In order to ensure driving safety and comfort, please take a good view of the distance traveled, operating status and other conditions. And in accordance with the inspection period and the situation of inspection to be prepared. If an abnormality is found after the inspection or if there was any abnormality during the last previou and the previous day's operation, repair it at ISUZU dealer to restore drivable condition.

Routine Inspection (before Driving)

[1. Inspection of abnormal parts found in the last driving]

Item	Reference page
Inspection of abnormal parts found in the last driving	7-35

[2. Open the front lid and upturn the headstock]

Item	Reference page
Engine oil volume *1	7-38
Fan belt elastic, damage *1	7-52
Detergent liquid volume *1	7-113

[3. Seating in the driver's seat]

Item	Reference page
Engine ignition status, whether there is abnormal sound	7-37
Brake pedal travel (shift)	7-69
Brake valve exhaust sound	7-69
Air pressure rises situation	7-91
Parking brake travel	7-70
Detergent spray state, wiper wipe situation * 1	7-113, 7-115

[4. Take 1 lap around the car]

Item	Reference page
Lighting lamps, switches, dirt, damage	7-117
Battery fluid volume * 1	7-120
Coolent quantity * 1	7-58
Air tank condensation water (drainage)	7-90
Air dryer function * 2	7-96

[5. Check the tires]

Item	Reference page
Tire pressure	7-73
Cracked, damaged	7-75
Abnormal wear	7-75
Tire trench groove depth * 1	7-75
Spoke plate wheel mounting state	7-77

[6. Test drive]

Item	Reference page
Whether brake is flexible	7-69
Low-speed and accelerated state	7-37
Clutch effect * 2	7-102

*1: The appropriate period for carrying out these inspection items is determined on the basis of factors such as the distance traveled and the condition at the time of operation.

*2: These are the inspection items recommended by QingLing Motors.

Inspect the Abnormal Part Found in the Last Driving

Please check the abnormal parts found in the previous day or the last driving. Repair it at ISUZU supplier to restore drivable condition.

ENGINE-RELATED SERVICE AND MAINTENANCE

• Engine Conditions	7-37
• Engine Oil	7-38
• Engine Oil Filter	7-43
• Engine Oil Separator Filter Core	7-46
• Air Cleaner	7-47
• Fan Belt	7-51
• Air Conditioner Compressor Belt ★	7-55
• Engine Coolant	7-56
• Fuel Filter	7-62
• Exhaust Pipe	7-64
• Urea Filter	7-65

Engine Conditions

Maintenance Data List → Refer to page 7-15

Inspect the engine ignition status, abnormal sound

Turn the ignition switch to start the engine.
Check that the engine starts quickly with no abnormal noises.

Engine Starting Method → Refer to page 4-4

Inspect the Condition of the Engine at Low Speeds and during Acceleration

① Turn the ignition switch to start the engine, and run it to warm up.

Engine Starting Method → Refer to page 4-4

② Check that the engine is running at a speed within the standard idle speed range. Note, however, that this excludes the following condition:

- When the engine coolant temperature is low

Idling Control Knob → Refer to page 4-64

③ Drive the vehicle, making sure the accelerator pedal does not stick when gradually accelerating, the engine speed rises smoothly and the engine does not knock.

Engine Oil

Engine oil is used to cool the interior of the engine and flush the rubbish inside the engine. The engine oil on the engine performance and life expectancy, fuel consumption rate has a huge impact, it is recommended to use the recommended engine oil.

Maintenance Data List → Refer to page 7-15

ADVICE

- Engine oil is used for lubrication and cooling inside the engine. During operation, evaporation, emission and combustion may cause the engine oil to deteriorate or reduce. If it is used without supplemented or replaced, it may cause the engine to be burned down and damaged. The situation also differs in various conditions of use. When the engine oil is deteriorated or reduced before the specified period, please supplement or replace.
- Fuel will gradually mix in the engine oil, resulting in reduced engine oil composition. Be sure to change the engine oil within the specified period.

Engine oil inspection

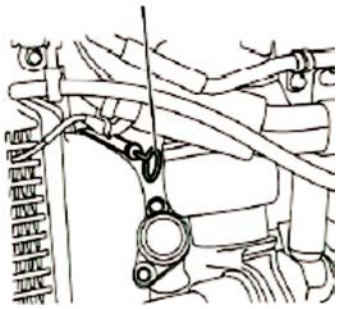
ADVICE

- If the engine oil level is above the "MAX" mark on the oil dipstick, the engine may break down.

NOTE

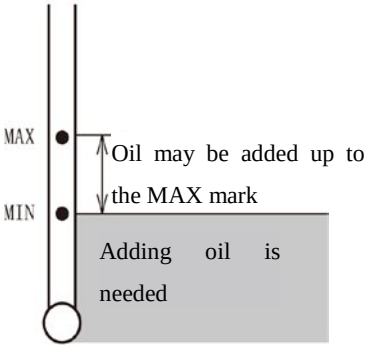
- Perform all engine oil level checks on a level surface before starting the engine.
- The oil level cannot be checked correctly when the engine is running.
- When the engine has been run, wait for 20 to 30 minutes after stopping the engine and then check the oil level.

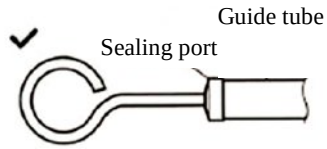
Oil dipstick

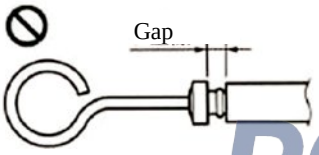


Open the front lid and check the engine oil level with the oil dipstick. The engine oil level is normal between "MAX" and "MIN". Also, check engine oil for leaks.

Front Lid → Refer to page 7-9







① Withdraw the oil dipstick, and wipe off any oil adhering to it.

② Reinsert the oil dipstick fully and then gently remove it. If the oil level is between the "MAX" and "MIN" marks, the oil is at the correct level.

③ If the oil level is low, replenish the oil to "MAX" level.

④ After checking the oil level, reinsert the oil dipstick fully.

NOTE

- When inserting the oil dipstick, be careful not to bend it. This may cause the oil dipstick to deform.
- Insert the oil dipstick until the sealing port fits the guide tube. If there is a gap, it may lead water into engine , causing malfunction.

Add the Engine Oil

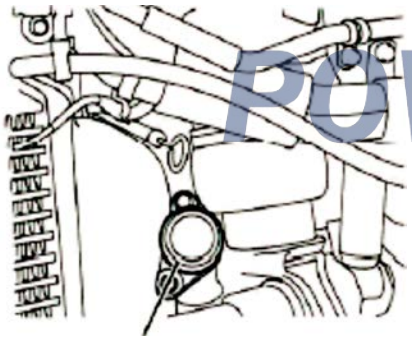
WARNING

- When adding oil, be careful not to spill any, but keep a workshop rag handy just in case there are any spills. If any oil should spill onto the engine, carefully wipe it away. If this precaution is not taken, the spilled oil could ignite and a fire could spread.
- Do not leave flammable items, such as rags or gloves, in the engine compartment. They could cause a fire.

ADVICE

- Prevent dirt from entering the filler port when adding oil. If foreign matter were to become mixed with the oil, it could damage the engine.
- If you replenish the oil to above "MAX" on the oil dipstick, the engine is liable to malfunction, so be sure to check the oil level using the oil dipstick.

When the engine oil level is near "MIN", remove the bonnet , then remove the oil dipstick and supplement the engine oil. After completion, please cover the bonnet securely, plug the oil dipstick good.

Hood	Inside engine compartment
	Oil filler port lid 
Oil filler port lid	2 places in front and rear (C*E* type vehicle)

Replace the Engine Oil

WARNING

- When adding oil, be careful not to spill any, but keep a workshop rag handy just in case there are any spills. If any oil should spill onto the engine, carefully wipe it away. If this precaution is not taken, the spilled oil could ignite and a fire could spread.
- Do not leave flammable items, such as rags or gloves, in the engine compartment. They could cause a fire. At the same time, please do not leave the tools and other items inside the engine compartment .
- The engine oil is hot after driving, so when changing the oil after driving, be careful not to be scalded.

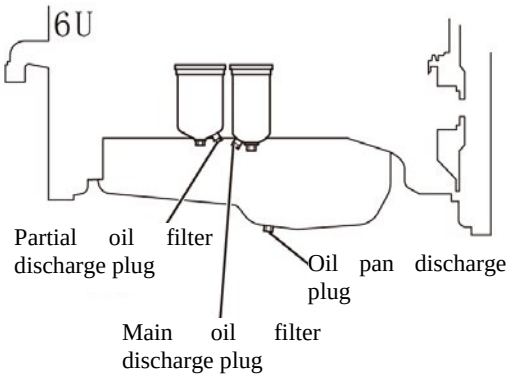
ADVICE

- When replacing the engine oil, replace the oil filter at the same time.
- Do not make the engine run idle violently, which can lead to engine failure.
- If you replenish the oil to above "MAX" on the oil dipstick, the engine is liable to malfunction, so be sure to check the oil level using the oil dipstick.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

Replace the Engine Oil

Oil Change Interval

Replace the engine oil according to the Maintenance Schedule.



Replace the Engine Oil

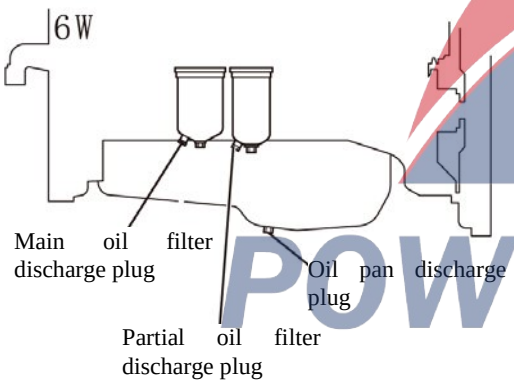
1. Clean around the oil filler cap so that foreign matter does not enter. Remove the oil filler cap.
2. Place a container to receive the oil beneath the oil pan and the oil filter.

   Remove the following discharge plugs to discharge the engine oil:

- Oil pan
- Main oil filter
- Partial oil filter

NOTE

- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.



3. After tightening each discharge plug to the specified tightening torque, withdraw the oil dipstick, and carefully fill with the specified engine oil via the oil filler port.

Engine Oil Filter

Engine oil filter, used to remove the dirt mixed with oil and garbage. Oil filter on the engine performance and life expectancy, fuel consumption rate has a huge impact, it is recommended to use Qingling original parts.

Maintenance Data List → Refer to page 7-15

ADVICE

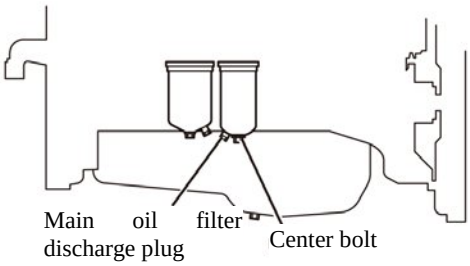
- When replacing, it is recommended to use Qingling original oil filter. Using other products may cause malfunction.
- Please exchange oil filters and engine oil at the same time.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

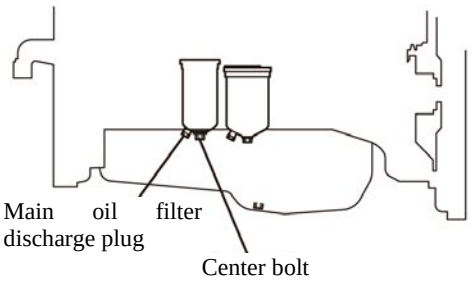
Replace the Oil Filter

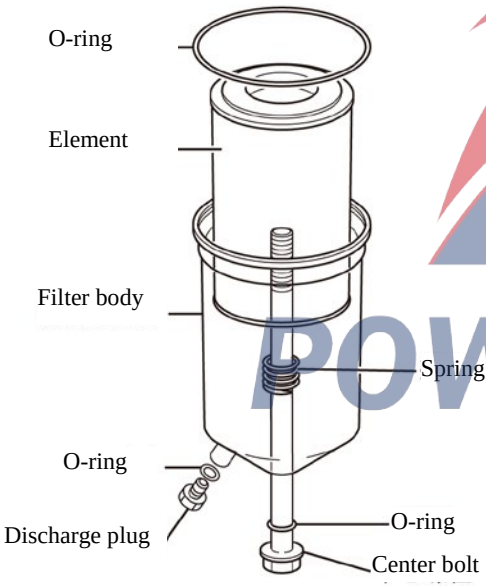
ADVICE

- When installing the filter body, hold it down to prevent it from turning, and tighten the center bolt. If the filter body turns, the O-ring may become damaged, resulting in oil leakage.
- After changing the oil filter, operate the engine to check that there are no leaks around the filter.

Replace the Oil Filter







Main Oil Filter

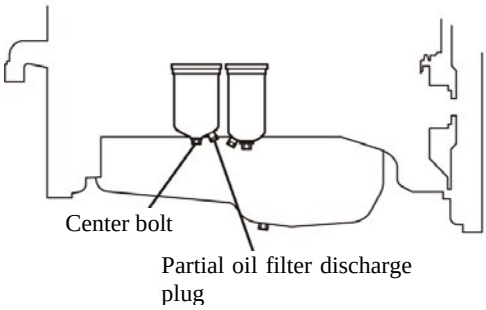
1. Remove the oil filler cap. Remove the oil filter discharge plug to discharge the oil into the container.
2. Loosen the center bolt, and remove the element together with the filter body.
3. Wash the inside of the filter body, and install a new element. Also, replace the O-rings.
4. Tighten the discharge plug and the center bolt to the specified torque.

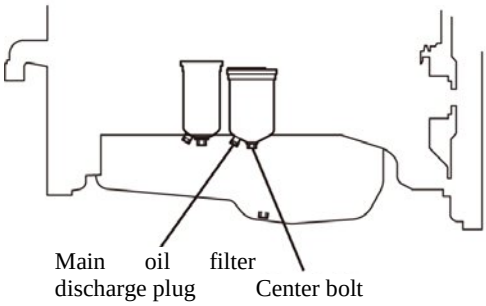
Center bolt tightening torque
45 - 55 N·m (4.6 - 5.6 kgf·m/33 - 41 lb·ft)

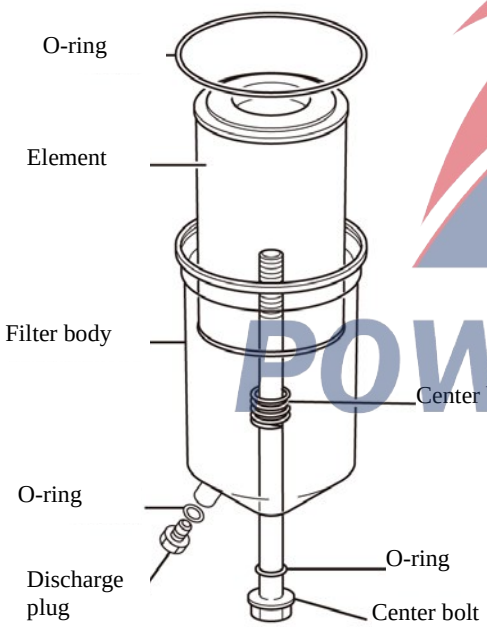
Main oil filter discharge plug tightening torque
40 - 50 N·m (4.1 - 5.1 kgf·m/30 - 37 lb·ft)

ADVICE

- When installing the filter body, hold it down to prevent it from turning, and tighten the center bolt. If the filter body turns, the O-ring may become damaged, resulting in oil leakage.
- After changing the oil filter, operate the engine to check that there are no leaks around the filter.







Partial Oil Filter

1. Remove the oil filler cap. Remove the oil filter discharge plug to discharge the oil into the container.
2. Loosen the center bolt, and remove the element together with the filter body.
3. Wash the inside of the filter body, and install a new element. Also, replace the O-rings.
4. Tighten the discharge plug and the center bolt to the specified torque.

Center bolt tightening torque
95 - 105 N·m (9.7 - 10.7 kgf·m/70 - 77 lb·ft)

Partial oil filter discharge plug tightening torque
25 - 35 N·m (2.6 - 3.6 kgf·m/19 - 26 lb·ft)

ADVICE

- When installing the filter body, hold it down to prevent it from turning, and tighten the center bolt. If the filter body turns, the O-ring may become damaged, resulting in oil leakage.
- After changing the oil filter, operate the engine to check that there are no leaks around the filter.

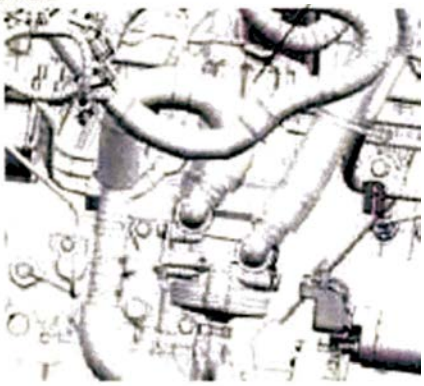
Engine Oil Separator Filter Element

Engine oil separator filter, used to remove dirt and garbage mixed with oil. Separator filter on the engine performance and life expectancy, fuel consumption rate has a huge impact, it is recommended to use Qingling original parts.

Maintenance Data List → Refer to page 7-15

Replace the Engine Oil Separator Filter Element

6WG1 Bonnet



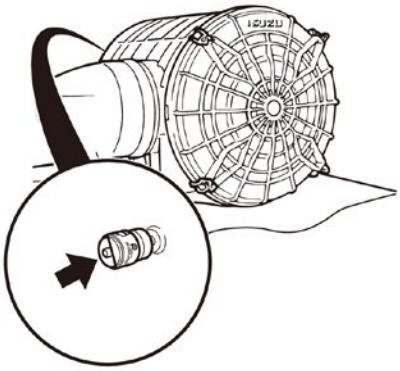
① Open the bonnet, remove the filter element.
② Install a new filter. Please also change the O ring.
③ Stuck bonnet.
④ Install in reverse order of disassembly.

Air Cleaner

Air filter is used to remove the garbage in air which into inside chamber , keep the air clean. Air filter on the engine performance and life expectancy, fuel consumption rate has a huge impact, it is recommended to use Qingling original parts.

Maintenance data list → Refer to page 7-15

Inspect the Air Cleaner

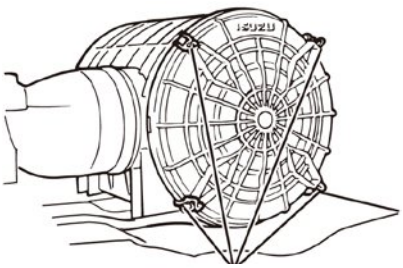


Check the signal part of the indicator to see if it is red. If it is transparent, the air cleaner is satisfactory. If it is red, the air cleaner must be cleaned.

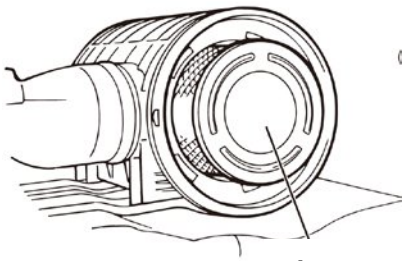
Clean and Replace the Air Cleaner

ADVICE

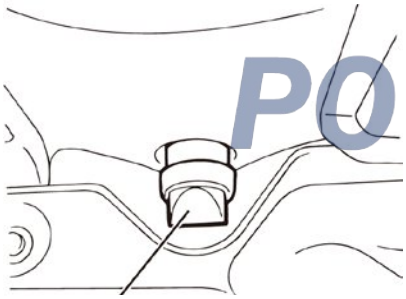
- After cleaning or replacing the filter, be sure to press the reset button on the top of the indicator to redisplay the signal as "transparent."



Clip



Element



Drain valve

① Tilt the cab.

Tilting the Cab → Refer to page 7-10

② Release the clips fixing the air cleaner cover, and remove the cover.

③ Remove the air cleaner element.

④ Remove the dirt that has accumulated on the air cleaner cover and the air cleaner body.

⑤ Clean the drain valve at the bottom of the air cleaner.

⑥ Clean the air cleaner element.

ADVICE

- Do not hit or strike the element, as this might damage it.

Choose one of the following cleaning methods depending on how the element has become dirty.

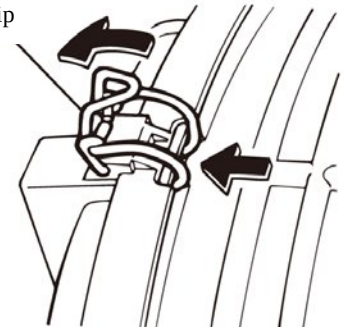
a. When dry dust has adhered to the element
   1. While turning the element, blow compressed air from the inside at no more than 690 kPa (7.0 kgf/cm²/100 psi) in order to remove any dust.
   2. Check to see if the element has become damaged or become thin in spots.

b. When the element has become blackened by oily smoke or soot
   1. Soak the element in a mixture of water and neutral detergent for about 20 minutes.
   2. Rinse the element off well in clean water.
   3. After cleaning, let the element dry naturally in a well-ventilated location.

NOTE

- Air drying will take 2 or 3 days. We recommend using a spare genuine element.

Clip

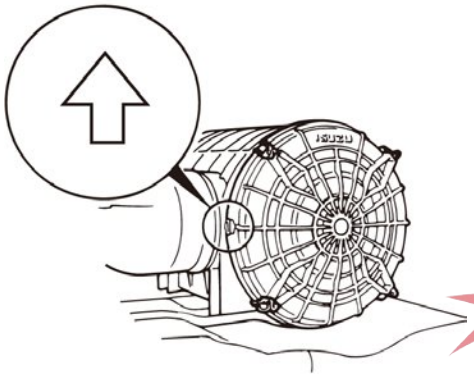


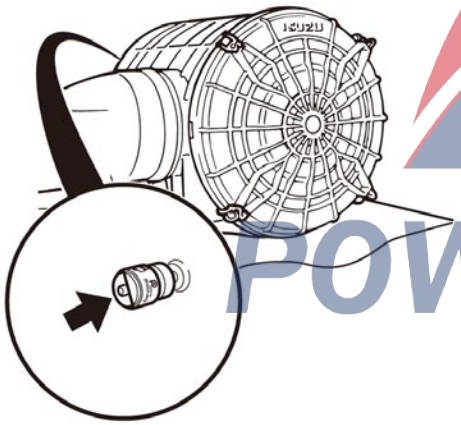
⑦ Install the element.

⑧ Install the air cleaner cover, and securely lock the clips.

NOTE

- Install the cover with its "ISUZU" mark facing upward and with the notches at both sides aligned with those on the case.





⑨ After cleaning the element, push the button at the end of the indicator to reset the signal.

Fan Belt

Fan belts are used to deliver engine power to power-related auxiliary machinery, thus starting the various agencies. When replacing the fan belt. We recommend Qingling original parts.

Maintenance Data List → Refer to page 7-15

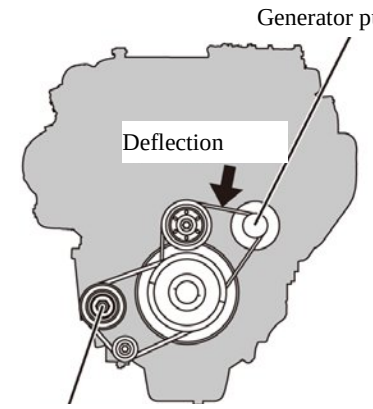
CAUTION

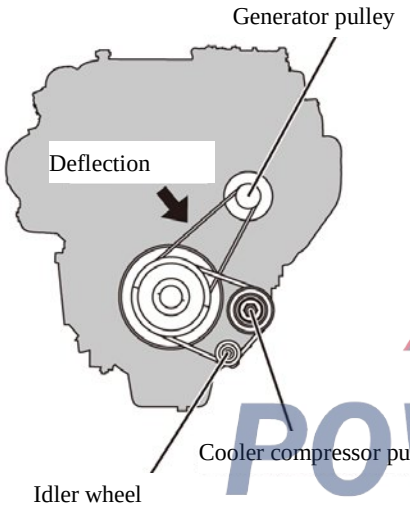
- The V-ribbed fan belt used in your engine requires the tension be adjusted more accurately than is required with conventional V-belts. Inappropriate tension could cause the belt to make noise or break. When the fan belt is damaged, electricity is not properly generated and becomes a cause of overheating. You must check the tension of the fan belt carefully.
- To accurately check fan belt tension, use a sonic wave tension gauge, which will show you whether the belt's vibration frequency (representing the belt tension) is as listed below.
- Ask about the sonic wave tension gauge at your ISUZU Supplier.

[Caution when adjusting the fan belt]

- When the new belt is installed, the belt is stretched in its original state. In addition, when installing or reinstalling a new belt, the belt should be adjusted according to the following steps, so as to adapt to the groove.
- Align the belt as specified and adjust the belt tension.
- Start up the engine and allow it to idle for about 5 minutes to keep the belt tension even between the pulleys.
- Stop the engine and adjust the belt tension again to the standard value.

Inspect the Fan Belt



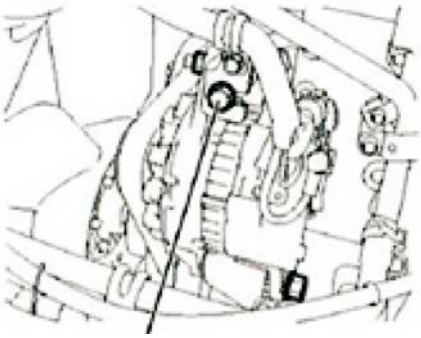


Press the center of the span between pulleys (see the figure) of the belt with a force of 98 N (10.0 kgf/22 lb) and check the amount of deflection. The amount of deflection must fall within the standard value range indicated below. Otherwise, adjust the tension or replace the belt.

When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 2 or 3 times and calculate the average value. The average value must be within the standard value range indicated below. Otherwise, adjust the tension.

	Fan belt	Standard value	
		Amount of deflection	Vibration frequency
6U	New belt	6 - 7 mm (0.24 - 0.28 in)	178 - 198 Hz
	When reused	8 - 9 mm (0.31 - 0.35 in)	151 - 163 Hz
6W	New belt	11 - 13 mm	93 - 104 Hz
	L	15 - 17 mm	79 - 86 Hz

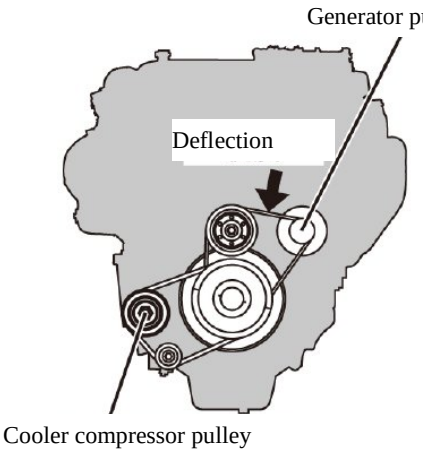
Adjust the Fan Belt



Adjusting bolt

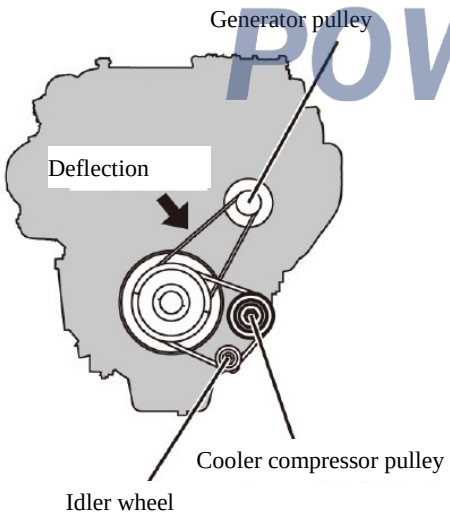
6UZ1 type engine vehicle

1. Loosen the mounting bolts and nuts at the top and bottom of the generator.
2. Turn the adjusting bolt until the belt tension is within the standard value range.
3. After adjustment, firmly tighten the loosened bolt and nuts.



Check to see if the deflection of the belt is within the standard value when its center part between the generator pulley and the idler pulley is pressed with a force of approx. **98 N** (10.0 kgf/**22 lb**).

When inspecting by vibration frequency, place and hold the sensor mike surface parallel to the belt 10 mm (0.39 in) from the center of the span between pulleys (indicated by the arrow) and tap the belt with a handle of screwdriver etc. to make the belt vibrated and measure the value. Measure the value 2 or 3 times and calculate the average value. The average value must be within the standard value range indicated below. Otherwise, adjust the tension.



Fan belt	Standard value	
	Amount of deflection	Vibration frequency
New belt	6 - 7 mm (0.24 - 0.28 in)	178 - 198 Hz
When reused	8 - 9 mm (0.31 - 0.35 in)	151 - 163 Hz

ADVICE

- When installing the pulley with wearing the belt completely, ensure that the pulley engages all the grooves on the belt.

The original state

Turn over

NOTE

- When passing the belt between the air deflector cutout and the fan, turning the belt upside down (with the grooves facing outwards) will prevent it from hanging around parts and reduce the difficulty of installation.
- After wearing the belt, return the belt to its original position (groove inward).

Air Conditioner Compressor Belt ★

If the air conditioning compressor belt loose, or weaken the cooling effect. It is important to check the belt tension to ensure that the cab interior is properly cooled.

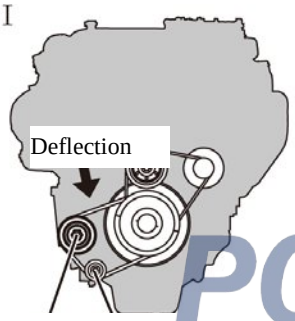
Inspect the compressor belt

When pressing the intermediate position between the pulleys with a force of about 98 N (10.0 kgf / 22 lb), check that the belt deflection is within the standard value.

When checked by vibration frequency, make the sensor microphone surface parallel to the 10 mm (0.39 inch) belt at the center of the span (shown by the arrow) between the pulleys and tap the belt with a screwdriver handle and make it vibrate and measure the belt deflection . Measure this value 2 or 3 times and calculate the average value. The average must be within the standard values as described below. Otherwise, adjust the tension.

	Fan belt	Standard value	
		Deflection	Vibration frequency
6U	New belt	6 - 7mm (0.24 - 0.28 inch)	178 - 198 Hz
	When reused	8 - 9mm (0.31 - 0.35 inch)	151 - 163 Hz
6W	New belt	11 - 13mm	93 - 104 Hz
	L	15 - 17mm	79 - 86 Hz

6UZI



Air-conditioning compressor

Idler

Adjustment

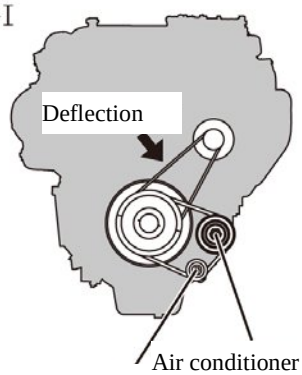
1 Loosen the idler lock nut.

2. Use adjustment bolt to adjust the belt tension .

3. After adjustment, tighten the lock nut.

Tightening torque
31 - 47 N m (3.2 - 4.8 kg m / 23 - 35 lb ft)

6WGI



Air conditioner compressor belt

Idler

Engine Coolant

The coolant is not just water, but tap water and longevity refrigerants (BESCO LLC Super type E or BESCO LLC Super type AS) are mixed in the proper proportions. The combustion and friction inside the engine will generate heat, the role of coolant is to cool the heat.

Maintenance Data List → Refer to page 7-15

WARNING

- Check, replenish or change the engine coolant only after the engine has sufficiently cooled down.
- Do not loosen or remove the sub-tank cap when the engine coolant is still hot. Hot vapor or boiling water may burst out and cause a burn. Cover the cap with a cloth, etc. and remove it gradually after the engine is fully cooled down and the temperature of the engine coolant becomes low.
- When it is really necessary to remove the radiator tank or the bonnet, wait for the coolant to cool down to the correct temperature (80 °C) and cover the bonnet with thick cloth then loosen slowly.
- Engine coolant is toxic and must not be ingested. If the engine coolant is mistakenly ingested, immediately vomit it and seek prompt medical attention.
- If the engine coolant gets in your eyes, rinse it off immediately with a large amount of water for 15 minutes or longer. Also, if still abnormality such as irritation is felt, seek medical attention.
- If the engine coolant gets on your skin, rinse it off using a soap with a large amount of water. Also, if abnormality is seen, seek medical attention.
- Engine coolant is flammable, and therefore, it must be kept away from flames and other heat sources. Engine coolant also could ignite if it comes in contact with a hot surface, such as the exhaust manifold. Exercise caution to prevent this from happening.

ADVICE

- Replace the engine coolant periodically.
- If the engine coolant is not replaced periodically, the degradation of the engine coolant may cause rust, water leakage, clogging of the radiator or heater core, and urea SCR system failure.

NOTE

[Coolant]

- Engine coolant is fluid which is made by mixing coolant (BESCO LLC Super type E or BESCO LLC Super type AS) and water at an appropriate concentration.

Use of Long Life 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 (LLC) and water to be at 50% concentration.

WARNING

- Coolant is toxic and must not be ingested. If the coolant is mistakenly ingested, immediately vomit it and seek prompt medical attention.
- If the coolant gets in your eyes, rinse it off immediately with a large amount of water for 15 minutes or longer. Also, if still abnormality such as irritation is felt, seek medical attention.
- If the coolant gets on your skin, rinse it off using a soap with a large amount of water. Also, if abnormality is seen, seek medical attention.
- For storage, close the cap securely and keep it in a place inaccessible to children.
- Coolant is flammable, and therefore, it must be kept away from flames and other heat sources. Coolant also could ignite if it comes in contact with a hot surface, such as the exhaust manifold. Exercise caution to prevent this from happening.

CAUTION

- Use only an Isuzu recommended coolant BESCO LLC Super type E or Besco LLC Super type AS.
- Using non-QingLing designated types of long-life refrigerants may damage the engine, radiator, heater core and urea SCR system.

ADVICE

- At delivery, the concentration in the cold area (cold area specifications) is 50%.
- Water mixed with longevity refrigerant must be tap water (soft water) and never use well water or river water.
- Do not use the coolant at any coolant concentration other than that specified. If the coolant concentration is 60% or higher, overheating is likely to occur, while if it is 30% or lower, anti-corrosion function is not provided sufficiently.
- Using coolant at any coolant concentration other than that specified may reduce anti-freezing performance, and engine coolant may freeze.
- Please adjust the concentration depending on the circumstances.
- If the engine coolant decreases rapidly, go immediately to the ISUZU Supplier for a check or repair.

Check the Engine Coolant Level

When the engine is cold, checking the level of engine coolant in the radiator sub-tank. The level should be between the "MAX" and "MIN" lines. If the engine coolant level is lower than the "MIN" line, replenish it by filling up to the "MAX" line. Check to make sure there are no leaks from the radiator or radiator hoses. Check for fluid or stains on the ground showing leaks where the vehicle is parked. Also, inspect the radiator hose for a crack and damage. When a water leakage or damage is found on the hose, contact the ISUZU Supplier.

CAUTION

- If you continue running the engine while the warning lamp is on, or when engine coolant is leaking, the engine is liable to seize.

NOTE

- There is no need to remove the bonnet of the radiator energy tank.

Add Engine Coolant

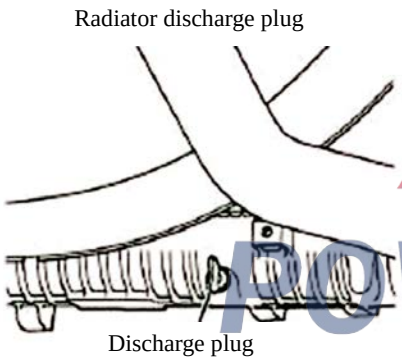
When coolant in the radiator tank is not enough , open the bonnet and add the mixed solution of tap water and longevity refrigerant BESCO LLC Super Type E AS. Following this, tighten the cap securely.

ADVICE

- When the radiator tank is empty, refill the coolant in the order described in "Water Adding Method".
- If the level of engine coolant changes rapidly, have your vehicle inspected at the ISUZU Supplier.

Coolant Adding Method → Refer to page 7-61

Change the Engine Coolant



Change the coolant. Radiator, intercooler, radiator tank bonnet and cooling water circuit should be cleaned at the same time.

Coolant change can be carried out in the following order. However, we still recommend to go to Isuzu supplier.

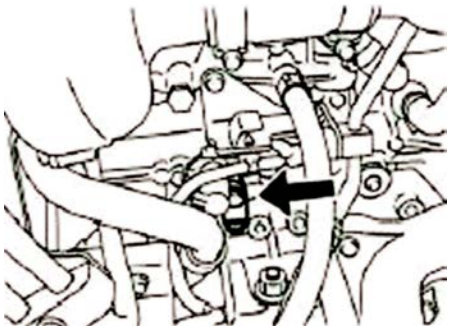
Clean the Intercooler Core → Refer to page 7-131

CAUTION

- Do not start the engine when engine coolant has been drained from the radiator. This could cause the engine to seize up.
- When changing the coolant, follow the sequence. If the operation sequence is wrong, it may cause air to remain in the coolant channel, causing the engine to overheat.

ADVICE

- Discard and dispose of drained coolant as specified.
- Using a non-specified type of longevity refrigerant may shorten the life of the engine due to corrosion or the like.
- Tighten the drain bolts by hand. Do not use pliers and other tools, which can cause damage.



Oil cooler drain cock tightening torque
13-23N·m{l.3-2.3kgf·m}

Cleaning the Engine Coolant Passages

① Refill the sub-tank with tap water to the "MAX" line.

② Check and clean the sub-tank cap. Replace the cap if there is anything abnormal with it.

③ Close the cap of the sub-tank.

④ Start the engine and let it idle for 20 minutes. Stop the engine, wait until it cools down, and then drain out the water.

Filling the Cooling System

① Confirm that the engine has fully cooled down before starting work.

② Check whether the radiator and the each of the engine coolant drain bolts is plugged firmly.

③ Fill liquid to the radiator tank until the engine coolant level rises to the tank port.

CAUTION

- Refill with engine coolant slowly to avoid air being mixed in.

④ Squeeze the radiator upper hose two or three times. If this action results in air being discharged from the hose and the level of engine coolant goes down, add engine coolant up to the "MAX" line of the sub-tank. Repeat until the level of the engine coolant no longer decreases.

⑤ Close the cap of the sub-tank.

⑥ Fill engine coolant to the radiator tank until the liquid level rises to the “MAX” mark line.

⑦ Start the engine, let it idle for 5 minutes or more and then stop the engine.

⑧ After making sure that the engine coolant is no longer hot. If the engine coolant level has decreased, replenish with engine coolant up to the “MAX” line of the sub-tank. When radiator tank is empty, add coolant until liquid level rises to can port. When the coolant level drops rapidly, please check if the radiator hose and the radiator energy hose leakage, if there is liquid marks on the parking ground. If there is leakage, please contact the ISUZU Supplier.

⑨ Start the engine, turn off the air conditioning. Warm up at 2,000 r / min until the water level indicator reaches the center. In addition, check if the thermostat is open by the following method.

- Check if the thermostat is open or not by checking whether the upper hose and lower hose are hot.
- If the vehicle is equipped with a heater, turn the temperature control knob to the "HOT" position and make sure that hot air comes out.

⑩ Let the engine idle for 5 minutes and then stop the engine.

⑪ After making sure that the engine coolant is no longer hot, check the engine coolant level. If the engine coolant level has decreased, replenish with engine coolant up to the "MAX" line of the sub-tank. When radiator tank is empty, add coolant until liquid level rises to tank port.

Repeat steps ⑨ through ⑪ until the engine coolant level is no longer declining.

⑫ Check the engine coolant level of the sub-tank the next morning. If the fluid level drops, add coolant to the radiator tank to the "MAX" mark line and tighten the radiator tank bonnet.

⑬ Cover the lid of radiator bonnet.

Fuel Filter

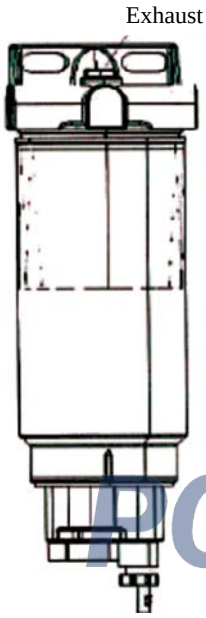
Fuel filter used to filter out the garbage in the fuel, 7JC grade. Fuel filter on the engine performance and life expectancy, fuel consumption rate has a huge impact, it is recommended to use Qingling original parts.

Maintenance Data List→ Refer to page 7-15

ADVICE

- If it is not release the water, icing or other phenomena will damage the vehicle.

Draining Water from the Fuel Filter



① Place the tray under the fuel filter and install a transparent hose and other parts (inner diameter 6mm) on the drain bolts.

② Relax drainage bolts.

③ Remove the exhaust bolts cap, relax the exhaust bolts. Discharge water and sediments from the fuel filter through the drain bolts.

ADVICE

- Do not relax the drain bolts too much. Otherwise the discharge plug may fall off.

④ Check the water and sediments emissions status. Tighten the exhaust bolts.

⑤ Tighten the drain bolts, remove the hose.

⑥ Drain water in chassis fuel pre-cleaner.

Drainage water of the fuel pre-cleaner → Refer to page 7-99

⑦ Discharge air in separator.

Exhaust method → Refer to page 8-13

Replace the Fuel Filter

WARNING

- Do not over-tighten the bolts. Doing so may damage the gasket, resulting in fuel leaks and fire.
- After replacing, start the engine and check if fuel leaks around the oil filter. Fuel leaks may cause a fire.

ADVICE

- Discard and dispose of the removed filter cartridge as specified.

① Refer to "Oil Filter Drainage" to discharge the fuel in the oil filter.

② Loosen the cover bolts, remove the top cover, remove the filter.

③ Clean the main body of the oil filter, install a new filter.

Please change gasket parts at the same time.

④ Discharge air inside filter.

Exhaust method → Refer to page 8-13

Exhaust Pipe

The exhaust pipe is used to completely send the exhaust gas from the engine to the urea SCR system, which has the function of silencing and cooling the exhaust gas. Due to exhaust pipe corrosion or damage, deterioration of the silencer, non-urea SCR system exhaust gas may be discharged to the atmosphere, please check regularly.

Check Exhaust Pipe

Exhaust pipe and fixture inspection is flawed, whether there is damage and corrosion caused by holes and cracks. If abnormal, must be repaired, replaced. Please contact the ISUZU Supplier.

ADVICE

- Wash well after driving on the coast or on roads covered with antifreeze. If you do not wash and continue to use, it may lead to early corrosion of the exhaust pipe.

Urea Filter

Urea filter used to filter out rubbish. When replacing the urea filter, we recommend Qingling original parts.

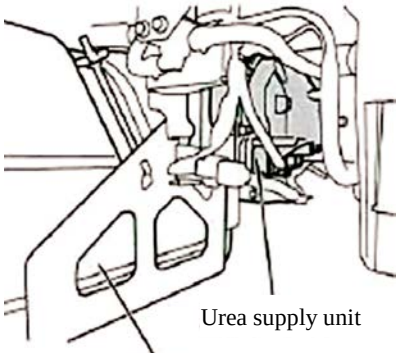
Maintenance Data List → Refer to page 7-15

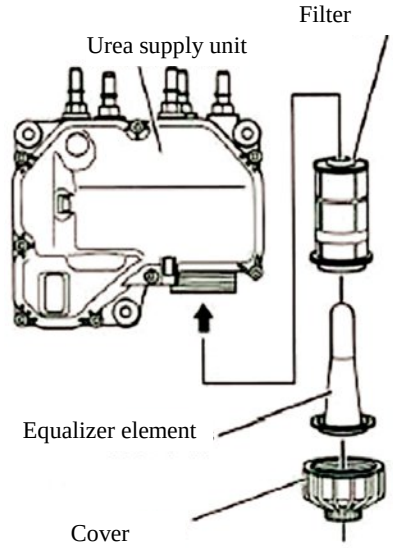
Replace the Urea Filter

ADVICE

- The urea SCR system will continue to operate for about 1 minute after the ignition switch is turned to the "LOCK" position. Please wait for more than 3 minutes before checking or repairing.
- Emissions of urea (AdBlue®) can not be reused. Reuse may cause urea SCR system failure.
- Dispose of the urea (AdBlue®) as specified.
- Wipe the foreign body with a clean cloth. Do not use tools such as hair dryer. Hair-blowing may contaminate the urea solution piping with foreign matter, which may cause urea SCR system failure.

Operation of Urea (AdBlue®) → Refer to page 2-36
Discard the Urea (AdBlue®) → Refer to page 2-38





Replacement method

① Set the ignition switch to "LOCK" and wait for more than 3 minutes until the urea supply unit stops working.

② Place the tray under the urea supply unit, loosen the cover, and remove the filter element and the equalizer.

③ install a new filter and equalizer components.

④ Tighten the cover.

Tightening torque for urea filter cover
20-25N·m{2.0-2.5kgfm}

CHASSIS-RELATED SERVICE AND MAINTENANCE

- Parking Brake 7-68
- Hand Brake 7-69
- Brake Drum 7-70
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- Differential Gear Oil 7-104
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Parking Brake

Check the Braking Performance

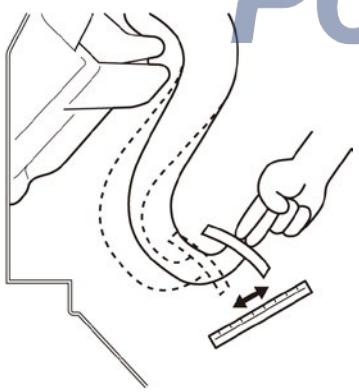
Step on the brake pedal and check to see if the play in the pedal is correct and also check that the pedal operates smoothly without abnormal sticking. Release the brake pedal after stepping on it to check that an air release sound comes from the exhaust hole at the brake valve and the pedal fully returns to the free position.

Pedal displacement distance	
Gently press the brake pedal to feel the resistance, this time the front of the pedal displacement distance.	11.0-19.0mm

Check Whether the Brake is Flexible

CAUTION

- Brake performance check should be performed on a wide road with good visibility while paying adequate attention to the traffic behind and the surroundings.



Run the vehicle slowly on a dry road and apply the brakes. Check that the vehicle brakes fully and effectively and does not pull on one side.

Handbrake

The handbrake is used to stop the vehicle temporarily parking and lock the tire. If abnormal, please contact the ISUZU Supplier.

Maintenance Data List → Refer to page 7-15

Check the Travel of Control Handle

Releasing knob 	Stop at a flat, solid location on the ground and use a stop wedge to secure the vehicle. When the parking brake lever is completely reset and the handbrake is lightly pulled in the released state, gently turn the handle body to ensure that it is actually locked in the parking position, and check whether the air exhaust sound.

Brake Drum

The space between the pad and brake drum is automatically adjusted.

When the brake pad wears, which may increase the space between the pad and brake drum, the brake flexibility will be reduced. In case of any abnormality, please contact the ISUZU Supplier.

Maintenance Data List → Refer to page 7-15

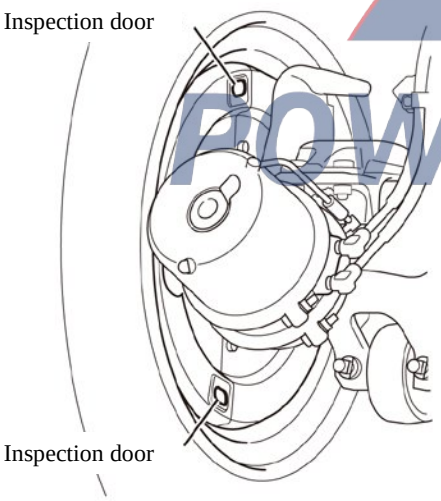
WARNING

- Do not continue driving after the brake pads have been used for too long. This may result in damage to the brakes or a reduction in brake flexibility and is very dangerous.
- If the brake drum and liner clearance is too large, it may lead to brake unresponsive; if the clearance is too small, may result in overheating, brake efficiency, or even fire. This is very dangerous.

Check the Drum-to-Pad Gap

NOTE

- When the gasket clearance is outside the standard range, check with your ISUZU Supplier.



The gap between the drum and brake linings is adjusted automatically.

Periodically check the gap using the following method.

① Park the vehicle on a level and flat ground surface, prevent the vehicle from moving by applying chocks to the front and back of the wheels, and release the parking brake completely.

② Remove the rubber plug from the inspection hole in the brake dust cover.

③ Insert a feeler gauge through the inspection hole in between the brake drum and brake lining to check that the gap is up to the specification indicated below.

Standard value
Clearance between the drum and the lining must be no more than 1.3 mm. No dragging is allowed (When the temperature of the drum is about the same as the outside temperature).

Tire

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 hinder the other traffic, but it may also lead to a serious accident. We strongly recommend that you check the wheels and tires and maintain them in satisfactory condition.

Maintenance Data List → Refer to page 7-15

WARNING

- If you find anything abnormal in the wheel bolts, wheel nuts or disc wheels when you check them, avoid driving the vehicle, and contact the ISUZU Supplier 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.

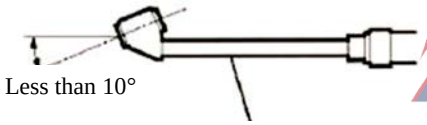
Air Pressure

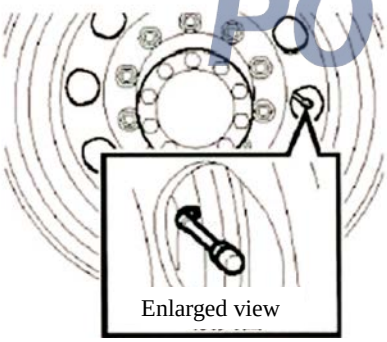
WARNING

- Insufficiently inflated or worn-out tires are highly dangerous as they easily skid and can even burst. Should they burst, the tires may burn and this could cause a fire in the vehicle.
- If you drive on under-inflated or flat tires, the wheel bolts will be placed under excessive stress. Under this condition, the bolts may break and the wheel may come off the vehicle, possibly causing an accident.

CAUTION

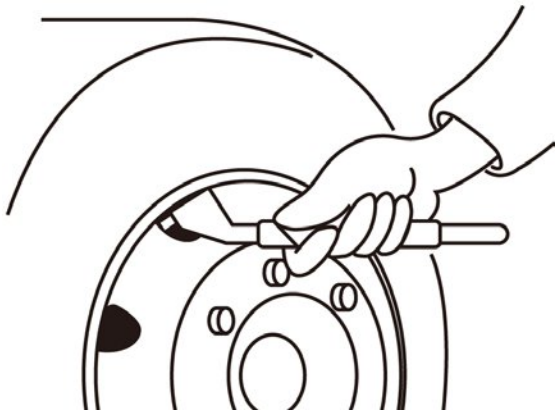
- Over-inflated tires result in a harsh ride and are likely to cause damage to the cargo. Under-inflated tires build up heat and could burst. Always keep the tires of your vehicle adjusted at the standard air pressures.
- If non-Qingling original expansion valve is used and driving in this condition, the valve may be damaged. Valve damage will lead to air leakage, please remove the valve before driving.
- When checking and measuring the air pressure or inflating the inner tire, check if the expansion valve is loose. This can cause air leaks. After working, check whether the expansion valve is loose.





NOTE

- The air pump is positioned close to the tire and punching hole smaller. To check or measure tire pressure or inflate, the air pressure gauge must face the air pump. Especially when inspecting and measuring double-tire internal tire pressure and inflation, due to barometer of general angle (the end bending about 20°) can not guarantee the air tightness between it and the pump, we recommend using a barometer of straight line type (the end bending less than 10 °).
- The pressure inside and outside the tire should be the same.
- Install expansion valve to check and measure double-tire tube pressure or inflation. In addition, if the expansion valve used is Qingling original parts, you can driving in the installed state.



Use a barometer to measure the pressure of the tire (including the spare tire). If poor pressure, please adjust to standard pressure. Before driving, check the tire cooling state, measuring air pressure or inflation (driving will make pressure increased by about 10%).

After check and measure the pressure or inflation, be sure to cover the valve cover. There is a label on the door to the driver side.The standard pressure of the tire (including the pressure of the non-standard tire) is recorded on the label.

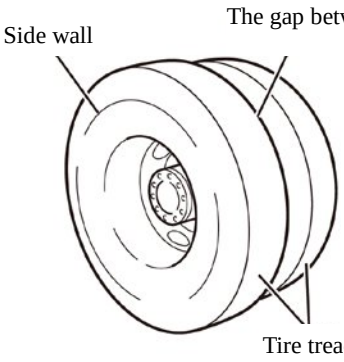
Universal for front and rear wheels

Tire size	Standard pressure kPa
12R22.5-16PR	830
12R22.5-18PR	930
315/80R22.5-16PR	760
315/80R22.5-18PR	830
315/80R22.5-20PR	900

Check the Tire Crack and Damage

ADVICE

- Do not use cracked or damaged tires. This can cause a flat tire and it is very dangerous.



Check the tire ground surface and the side wall whether cracked, damaged, unbalanced friction. Check whether there is a metal sheet in the ditch, nails, between the two wheels are embedded with stones.

Check the Depth of the Tire Groove and Abnormal Wear and Tear

WARNING

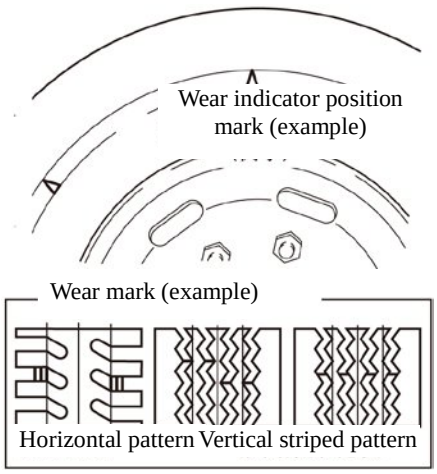
- Damaged tires are easy to flat tire or explode while driving, and are dangerous.

CAUTION

- Inadequate depth of the tire groove may cause slippery when traveling at high speeds.

NOTE

- Slip refers to the phenomenon that the wheel leaves from the ground, and steering wheel and brake are out of control when running at full speed on sekisui road.



Check whether the indicator shows wear of the tire grounding surface (wear indicator) and use a depth sounder to check whether the tire groove depth on the grounding surface is within the standard value.

Replace the tire of indicated wear on the wear indicator.

And check whether the unbalanced wear and tear and other abnormal wear and tear.

Tire trench depth	
Driving on the regular road	0.06in or above
Driving on the highway	0.13in or above

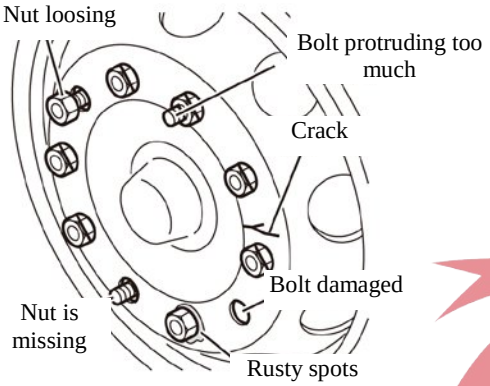
Check the Long-term Used Tire

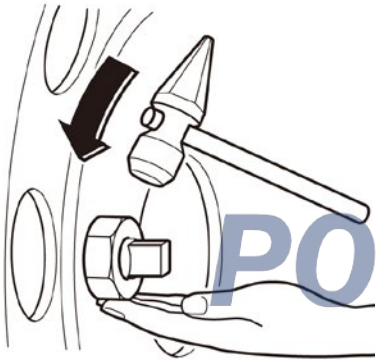
Tires are rubber products that will age slowly in long-term of use. (Spare tires and the other storage tires installed on the wheel hub are also the same). After using for 5 to 7 years, if continue to use it, please accept be inspected to ensure driving safety.

Check the Spoke Plate Wheel Installation

WARNING

- Do not continue driving within any abnormalities such as hub bolts, hub nuts, spoke plate wheels, etc., and contact a Qingling distributor immediately. Continued driving will cause the wheels to fall off and other accidents.





Observing

Observe the installation of spoke plate wheels .

① Check whether the hub bolts and hub nuts are installed completly.

② Check whether there are rust-free liquid on spoke plate wheels, wheel hub bolts and hub nuts, whether spoke plate wheels is with cracking and damage.

③ Check length of the hub bolt protruding from the the hub nut. Check whether the protruding length is the same, different tire protruding length is the same.

Check with a checking hammer and hammer

Hold the wheel hub nut with your finger and tap the nut in the tightening direction with a checking hammer or hammer.

ADVICE

- The tightening direction is as indicated by the hub bolt markings. Right thread is R mark.

Feel whether the vibration of your fingertips is different from other nuts, and listen to the sound is turbid.

Tire Rotation

Tire wear may differ in different installation locations. The tire locations should be exchanged regularly to balance wear and prolong life.

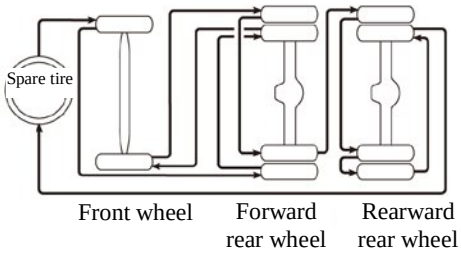
WARNING

- 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 broken down under an excessive load.
- Be sure to check the wheel bolts, wheel nuts and disc wheel for any abnormality whenever the disc wheel is removed.
- If you find any abnormal condition on the wheel bolts, wheel nuts or disc wheel, do not continue to use the wheel. Contact the ISUZU Supplier as soon as possible. Continued driving will cause the wheels to fall off and other accidents.
- After installing the spoke wheel, the initial run-in will reduce its clamping force. After installation, should tighten wheel hub nut after each 50-100 km running .

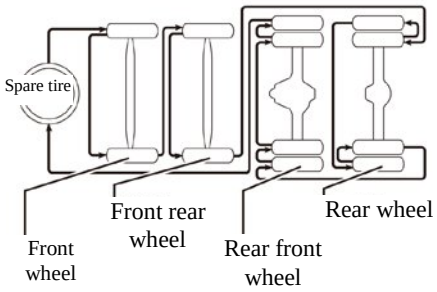
Retightening Wheel Nuts (ISO 10-bolt Wheels) → Refer to page 7-86

Double rear axles vehicle

(Front and rear tires the same size)

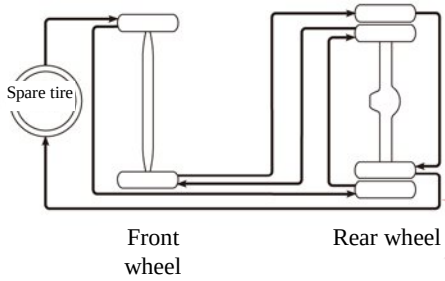


Low floor 4-axle vehicle



Double axles vehicle

(Front and rear tires the same size)



Outer di□□eter differ□nce	
Standard vehicle	Radial tire
	Within 8mm

Coaxial must use the same type of tire. Coaxial use of different types of tires will cause the steering wheel out of control when braking, body shaking around.

The new tire is prone to wear and tear, the front tire should be installed in accordance with the 2 in 1 group.

When double tires with outer diameter difference is installed, the smaller one is on the inside.

Double tires outside diameter difference should be in the above table range. Exceeding this range will accelerate tire wear.

Tire Replacement (ISO 10-bolt Wheels)

When replacing steel wheels, aluminum wheels, wheel bolts, or wheel nuts, use of Isuzu genuine parts is recommended.

Change Aluminum Wheels and Steel Wheels

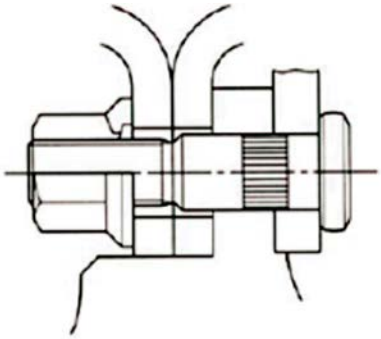
Steel wheels and aluminum wheels need their specific wheel bolts for installation. For both dedicated wheel bolts for steel wheels and aluminum wheels, they are distinguished for use on front wheels and rear wheels. When changing aluminum wheels to steel wheels or vice versa, replace wheel bolts with those designed exclusively for the specific wheel type.

Replacement of the wheel bolts requires disassembly work, so contact the ISUZU Supplier.

WARNING

- If incorrect wheel bolts are used, poor fastening can result from damages on the threads of wheel bolts or wheel nuts caused by inadequate seating and poor screw engagement due to the inappropriate length of bolts, which may cause a wheel detachment accident.
- Do not use wheel bolts for steel wheel on an aluminum wheel, and also do not use wheel bolts for front wheel on a rear wheel.
- Avoid mixed use of steel wheels and aluminum wheels.
- Do not use a disc wheel which had been used on another vehicle and has groove-like stepped wear on its mating surface with the hub, which may cause loosening in the wheel nuts.

Remove the Tire (10 bolts)



WARNING

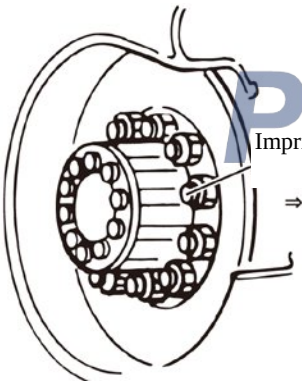
Remove the tires (10 bolts) Use jack as described in Chapter "Jack".

- Double tires are tightened with the same bolt. Loosen the bolts, both inside and outside the tire will leave the wheel. When loosening the bolts in case of only replacing the outside tires, etc., you must also ensure safety when lifting the vehicle.
- To prevent danger when the jack slips, place the removed tire or spare tire near the jack under the vehicle body.

Handling the Jack → Refer to page 7-5

NOTE

- pe and muffler that have just finished driving are very hot and do not touch them.
- Tires are heavy and take care not to injure when removing and installing.
- The left and right tires are all right-hand threads. Confirm the " " mark on the hub bolt that indicates the thread direction.
- Excessive tightening in obfuscating the direction of force will lead to bolt elongation and scratch the contact surface between the spoke wheel and the bolt.



Imprint marking on the ends of wheel bolts
⇒ R = right hand thread

① When disassembling the front tire, handbrake should be used and the rear tire should be fixed with the stop wedge. When removing the rear tire, handbrake should be used and the front tire should be secured with a stop wedge.

② The jack should be located at the support point.

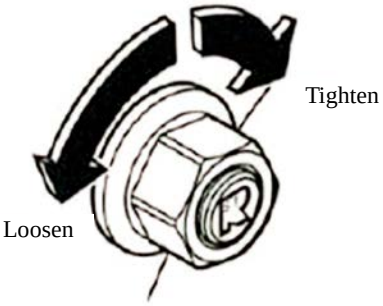
③ The height of Jacked up the vehicle body until the tire is not upturned as limited.

④ Use the special socket wrench to loosen the hub nut until the tire can rock. At this time can not remove the hub nut yet.

CAUTION

- Do not over-loosen the hub nut. This can cause damages or injuries.

⑤ Jacked up the body until the tire is fully upturned.



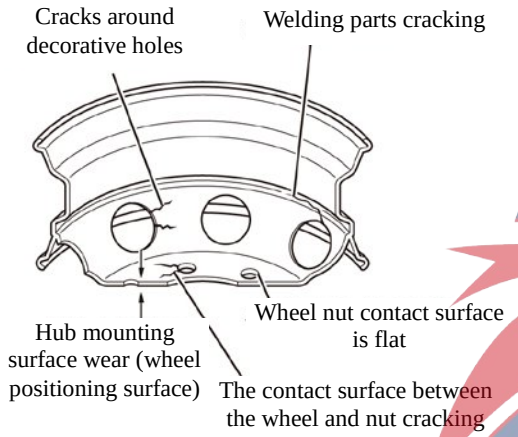
⑥ Remove the expansion valve of hub inside rear double tires.

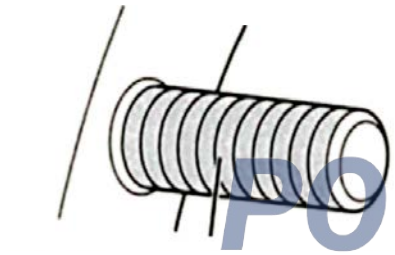
⑦ Remove all loosened hub nuts and remove the outside tire. Then remove the inside tire.

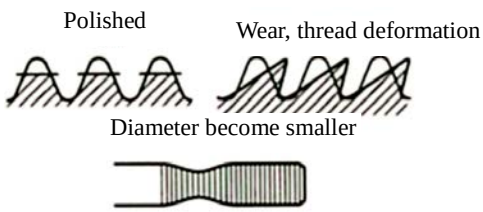
When disassembling and installing the tire, be careful not to damage the hub bolt and the mounting surface of the spoke plate wheel.

CAUTION

- Vehicles with ABS should use the same type of tire of the specified size.
- When changing tires, the tires should leave the ground. Otherwise, the proper tightening force will not be obtained, which will cause the hub nut to loosen and fall.
- Erase dirt and rust on the tire and hub mounting surfaces, hub contact surfaces, hub bolt contact surfaces. Otherwise, the proper tightening force will not be obtained, which will cause the hub nut to loosen.
- As the service life increases, the hub nut contact surface and its mounting surface with the hub will be significantly worn, which will cause the hub nut to loosen.





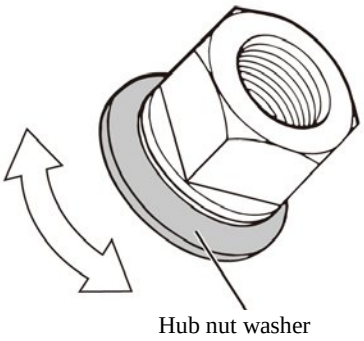


① Pay attention to the following points when checking the spoke plate wheel.

- Check for cracks or damage around the bolt holes.
- Check hub contact surface for cracks, damage or wear.
- Check for cracks or damage in the welded area
- Check the hub mounting surface and hub contact surface for wear or damage.

② Pay attention to the following points when checking the wheel hub bolts and nuts.

- Check for cracks or damage
- Check if the bolt is lengthened and there is no visible rust.
- Check for broken parts of the screw, reduced diameter, flattened threads.

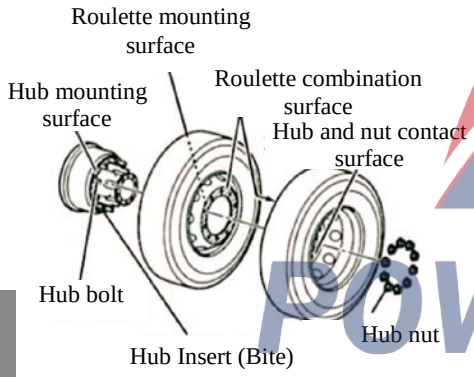

Hub nut washer

- Check that the hub nut washer rotates smoothly. If not smooth, replace the gasket.

③ Check whether the hub spoke plate wheel mounting surface is with obvious wear or damage.

CAUTION

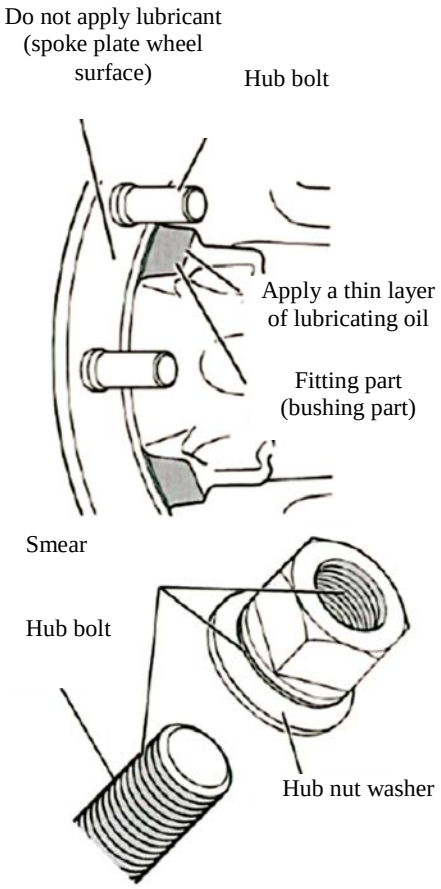
- Wipe rust and dirt, thinly coat the screws with engine oil, gear oil, or power steering oil and tighten the nut to the lower end of the bolt. If the rotation is not smooth, then the screw is abnormal.
- If any abnormalities occur, replace the hub bolts and nuts at the same time.
- When the hub bolt is broken, replace all the hub bolts and nuts on the tire.
- Replace the hub bolt will required decomposition operation. Contact your ISUZU Supplier.



④ Clean the spoke plate wheel mounting surface and the contact surface, the hub mounting surface, the hub fitting surface, the hub nut contact surface, the hub bolt, the bolt part of the wheel hub rust, dust and mud, etc.

CAUTION

- Tightening directly without removing dirt or rust can cause the nuts to loosen.



⑤ In order to prevent rust, or spoke plate wheel is fixed on the hub, should be in the hub fitting part (casing combination) thin coating of lubricant. Rusty, rust should be cleaned before applying lubricant.

Do not allow lubricant to adhere to the outer surface of the fitting.

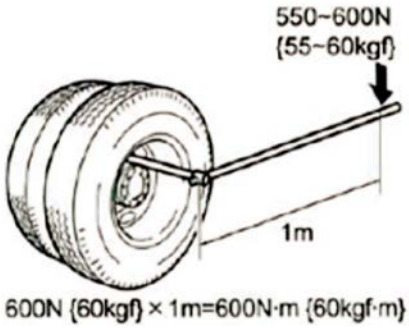
⑥ In the hub bolt and nut screw part, the nut between the hub nut and washer thinly coated with a layer of engine oil, gear oil or power steering oil.

CAUTION

- Lubricant, such as engine oil, can not be applied to the contact surface of spoke plate wheel and hub nut gasket. This can result in wear or looseness on the mating face of the hub nut.
- Do not use oil containing molybdenum disulfide. An excessive tightening torque may cause damage to hub bolts.
- Socket wrenches may generate moments that exceed the specified tightening torque. Before exceeding the specified torque may cause the hub bolt to break, check the tightening torque of the socket wrench.
- When using socket wrenches, pay full attention to the timing and tightening time of the air pressure control valve and tighten to the specified torque with a torque wrench.

The order of tighten the hub nut

10 bolts



⑦ Auxiliary plate wheel hub bolt holes aligned hub bolts. Be careful not to scratch the bolt part of the hub bolt, guide it into the hub deep along the hub fitting part (sleeve coupling part), and attach it to the tire.

When installing the rear wheel, the air valve inside and outside the tire should be shifted by 180 ° to check and measure air pressure and inflation. Twin tires are also tightened by the same hub bolt. After inserting the inner hub, take care not to let it fall off when the outer hub is installed.

⑧ Install the hub bolt and tighten temporarily until the tire is no longer shaking.

⑨ Turn the jack release valve to the left and slowly lower the vehicle.

⑩ Tighten the diagonal wheel hub bolts for twice or three times.

⑪ Finally, use a torque wrench and other tools, tightened to the required torque.

The specified tightening torque
550-600N·m(55-60kgf·m) (oil supply)

WARNING

- After installing the spoke wheel, the initial run-in will reduce its clamping force. After installation, tighten the hub nut every 50-100km.

Tighten the Hub Nut (ISO10 bolts) –→ Refer to page 7-86

ADVICE

- After changing the tires, turn the steering wheel to the left and right to confirm that they will not collide with the surrounding parts. If in doubt, consult your ISUZU Supplier.

Tighten the Hub Nut (ISO 10 bolts)

WARNING

- After installing the spoke wheel, the initial run-in will reduce its clamping force. After installation, each driving 50-100km, should use a torque wrench and other tools to tighten the wheel nuts. If the nut is still loose or there is any other abnormalities after tightening, immediately come to Isuzu supplier for inspection and preparation.

CAUTION

- The left and right tires are all right-hand threads. Confirm the " " mark on the hub bolt that indicates the thread direction.
- Insert the hub bolt wrench deep enough to tighten the hub nut to the specified torque. Use of water pipes, legs and other auxiliary will lead to over-tightening, may damage the parts.
- Over-tightening can cause the bolt to lengthen and scratch the contact surface of the bogie wheel with the bolt.
- Insufficient or excessive tightening of the hub bolts may result in breakage of the bolts and cracking of spoke plate wheels and may cause the wheels to fall of
- When changing tires, do not mix different types of tires or use tires of unspecified size, which can adversely affect safety.

NOTE

- The tightening torque of the hub nut is printed on the label on the driver's seat side door.

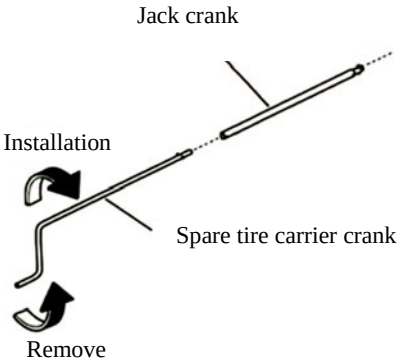
Tighten the hub nut to the specified torque.

Wheel nut tightening torque
550-600N·m(55-60kgf·m) (oil supply)

Spare Tire ★

Spare tires are used to deal with tires that can not be used or where tires are swapped.

Installation and Removal



NOTE

- For models with an air tank, use the hydraulic jack's operating lever and spare tire carrier.

Removal

Insert the spare tire carrier handle in the spare tire carrier and turn the handle counterclockwise.

Installation

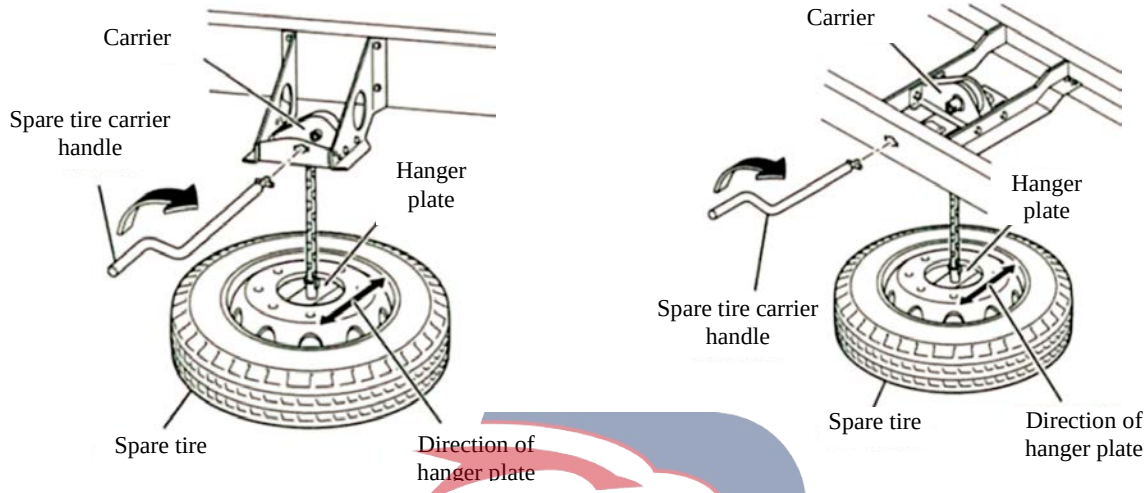
CAUTION

- If the chain is 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 you are driving due to vibrations or shocks and the tire might fall off; this is very dangerous.

① Place the tire with the convex side of the disc wheel facing up and then fit the carrier hanger plate inside the disc wheel with its claws properly engaged.

② Check that the chain is not twisted.

③ Insert the spare tire carrier handle into the carrier and turn the spare tire carrier handle clockwise to wind up the chain. Do not twist the chain while winding it up. The hanger plate should be at right angles with the carrier when the spare tire reaches the storage position.



④ After winding up the chain, additionally turn the spare tire carrier handle with a force of at least 294 N (30 kgf) to fix the tire in place. Pull out the spare tire carrier handle from the carrier without reversing it.

⑤ After storing the spare tire, check that it is not lose by strongly pushing the tire with your foot. If the tire is loose, fasten it again after checking that there are no defects in the carrier such as a bent bracket or hanger plate. If you cannot tighten the tire in the carrier, do not drive the vehicle and contact the ISUZU Supplier.

Air Tank

Compressed air for brakes and air suspension. If there is water in the air tank, it will cause the brake and the device that rely on the air pressure to work. To ensure driving safety, be sure to drain the air tank of water.

Maintenance Data List → Refer to page 7-15

Check the air tank

WARNING

- If water accumulates in the air tank, it may cause air piping to freeze, rendering the air compressor defective or the brakes malfunctioning. It is dangerous. This is especially true in winter. It may also lead to rust inside the pipe, resulting in leaks.

When there is water in the air tank, pull the pull ring of the drain cock in the lower part of the air tank to drain water.

After the drainage, check whether there’s any leaks at the drain cock.

When the air tank drains a large amount of moisture, the desiccant of the air dryer will deteriorate. Please contact Isuzu supplier to change desiccant.

Air Pressure

When the pressure is low, brake and other devices that work by air pressure will not work properly, which is very dangerous. Please always pay attention to check the activities of barometer pointer and the pressure rise time to ensure the comfort and safety driving.

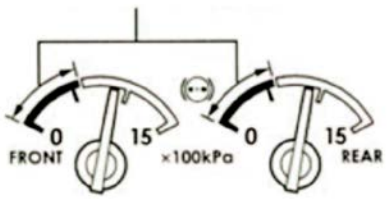
Air pressure check

WARNING

- Do not start the car when the brake warning lamp is on. Brake is not fully effective at this time, easily lead to danger.

Brake air pressure gauge

Red area (red)



Main air pressure gauge

① Check air pressure by air pressure gauge (filling state).

Brake air pressure gauge	
Normal air pressure	900～930kPa (9.2～9.5kgf/cm2)

② Check the pressure of the filling situation. Make sure the parking brake lever has been tightened, and open the drain cock under the tank to exhaust all the air in the tank.

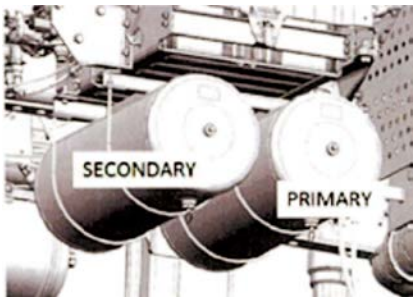
③ Calculate the time it takes for the warning lamp " " to extinguish when the engine idling starts, if it is within the range shown in the following table, it indicates normal

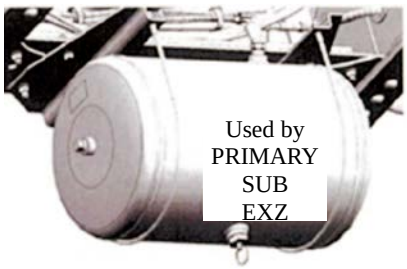
NOTE

- Even if the brake barometer reading has returned to normal, the compressor will continue to operate as long as the main barometer has not returned to normal.

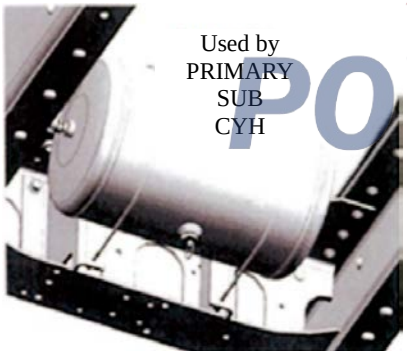
When the warning lamp goes out, it will fluctuate slightly with different temperatures. However, if the pressure can not rise, the pressure rise time is different from the above, or the difference between the two indicators of the barometer is too big, contact the ISUZU Supplier.

Air Tank





Used by PRIMARY SUB EXZ



Used by PRIMARY SUB CYH

Air tanks may contain water. Sometimes, water accumulates in the air tank, so pull the ring of the drain tap at the bottom of the air tank to drain any water. After draining any water, check to make sure that there is no air leakage from the drain cock.

If a lot of water drains from an air tank, the desiccant of the air dryer may have deteriorated. When it is necessary to replace the desiccant, ask the ISUZU Supplier to do this.

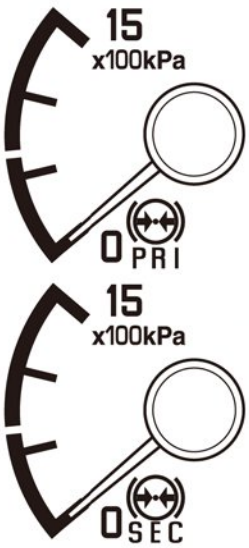
This diagram is an example. Drain water from all of the air tanks equipped in the vehicle.

WARNING

- Water collecting in the air tank may cause moisture to freeze inside the air piping, particularly in a cold climate. This is very dangerous because the air compressor may fail and sufficient braking forces may no longer be available. Water accumulation will also cause rust in the pipes, which may lead to air leakage.

Air Pressure

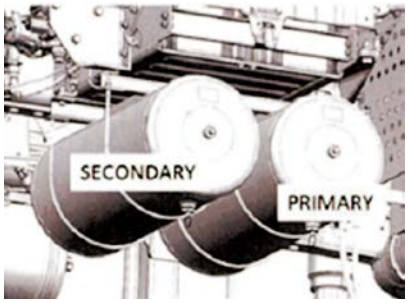
Check the Air Pressure

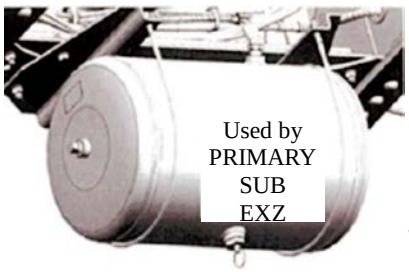


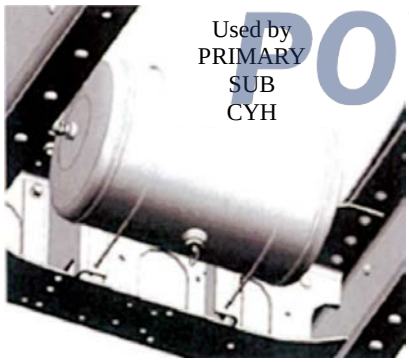
Brake air

1. Check the air pressure gauges to see that the primary and secondary air systems are charged with air to proper pressures.

Proper air pressure range
740 - 830 kPa (7.5 - 8.5 kgf/cm²/107 - 121 psi)



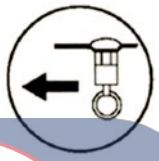




2. Next, check the rate at which the air pressure rises. After confirming that the parking brake lever is fully pulled, pull the drain tap at the bottom of the air tank to discharge all the air in the air tank.

WARNING

- Do not drive the vehicle when the warning lamp comes on. Brakes are then not fully functional, and it would be dangerous to operate the vehicle.

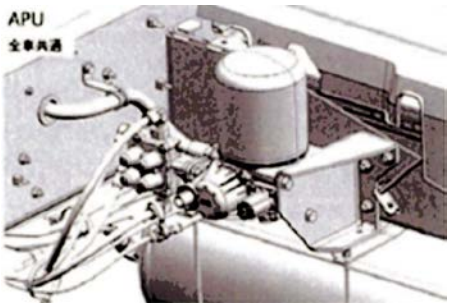


3. Start the engine and allow it to idle. The brake air systems are operating normally if elapsed time to purge the air dryer matches the chart.

Model	Time (minutes)
All models	Approximately 11

The time taken before purging of the air dryer may somewhat vary depending on the temperature and other environmental conditions. However, you should contact the ISUZU Supplier 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.

Air Dryer



Replace the desiccant according to the Maintenance Schedule. Take care to ensure that the drain port is not blocked or obstructed by foreign material.

The air dryer removes moisture that is present in the air piping of the vehicle using the inside desiccant. If a lot of water is discharged when the drain tap on the air tank is opened during the preoperation inspection, the desiccant has deteriorated and needs be changed. Have the replacement carried out by the ISUZU Supplier. Also, it is necessary to periodically replace the rubber parts inside the air dryer. Have the replacement carried out by your Isuzu Dealer.

WARNING

- Make sure to replace the air dryer.

  Using deteriorated desiccant may cause water to condense in the air tank. It may cause moisture to freeze inside the air piping, particularly in a cold climate. This is very dangerous because the air compressor may fail and sufficient braking forces may no longer be available. Water accumulation will also cause rust in the pipes, which may lead to air leakage.

Maintenance Schedule → Refer to page 7-133

Air Dryer

Air dryers are used to remove moisture from the vehicle's air piping. When replacing the dryer, it is recommended that you use Qingling original parts.

Air dryer check

WARNING

- If desiccant in the air dryer deteriorates to cause moisture in the tank to accumulate, especially in winter, it is easy to freeze water in the air piping. This will cause air compressor failure or reduced braking capacity, which is very dangerous. In addition, it may also lead to rust inside the pipe, causing leakage.

When carrying out daily (pre-use) inspection, if it is found that the amount of water drained by the drainage cock of the gas tank is large, the desiccant has been deteriorated and should be replaced. Please contact the ISUZU Supplier.

In addition, the air dryer and internal rubber components also need to be replaced on a regular basis. Please contact the ISUZU Supplier.

Air Tank → Refer to page 7-92

Fuel Pre-cleaner

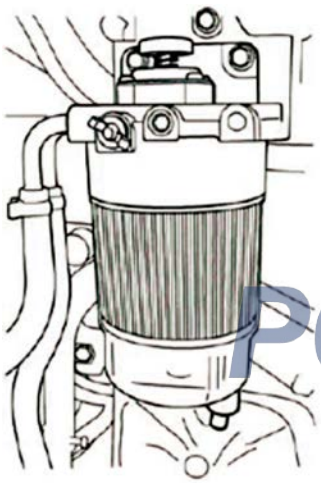
Fuel pre-cleaner is used to filter the garbage, water and other impurities in the fuel. Fuel pre-cleaner has a greater impact on the engine performance and life, thus it is recommended to use Qingling original fuel pre-cleaner.

Maintenance Data List → Refer to page 7-15

Fuel Pre-cleaner

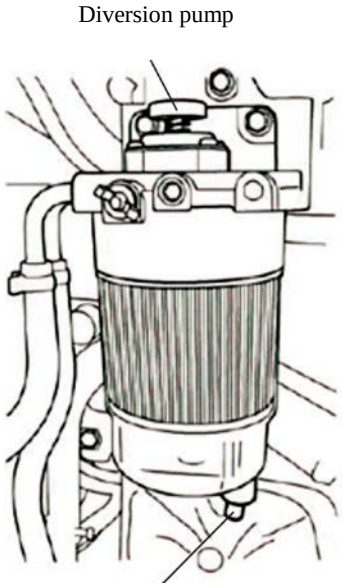
WARNING

- After installation, start the engine and check if fuel leaks around the pre-cleaner. Fuel leaks may cause a fire.



Check the fuel pre-cleaner, if the contamination is serious, please replace it.

Fuel Pre-cleaner Drain



① Place the tray under the fuel pre-cleaner and install a transparent hose and other parts (ID 8mm) on the drain piston.

② Open the drain piston.

③ Hand pump up and down the activities of 10 to 20 times. Discharge piston from the water within the pre-filter water and sediment.

④ Check the water and sediment emissions, and plug the vent plug.

⑤ Remove the hose, once again let the diversion pump up and down activities several times.

⑥ Check if there is fuel leakage at the drain piston.

⑦ Engine side of the fuel filter drainage work.

Fuel Filter Drain → Refer to page 7-62

⑧ Discharge air filter inside the fuel filter.

Exhaust Method→ Refer to page 8-13

⑨ After starting the engine, make sure the "Fuel Filter (Drain)" prompt on the multimedia display has disappeared.

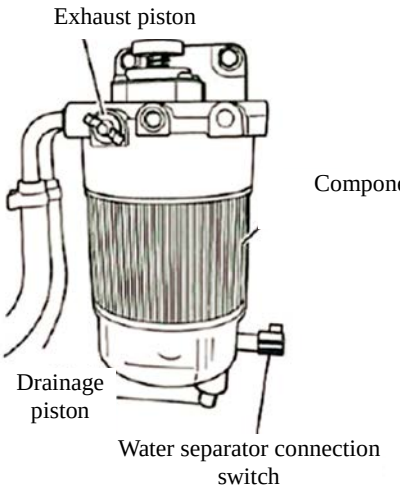
Fuel Pre-cleaner Replacement

WARNING

- When installing the cartridge, be careful not to catch the O-ring in it. Inadvertently holding a O-ring in place can cause fuel leaks and fire.

ADVICE

- When replacing the filter, please also replace the package.
- Discard and dispose of the replaced filter as specified.



① Remove the water separator connection switch.

② Place the tray under the fuel pre-cleaner, and install a transparent hose and other parts (ID 8mm) on the drain piston.

③ open the drain piston.

ADVICE

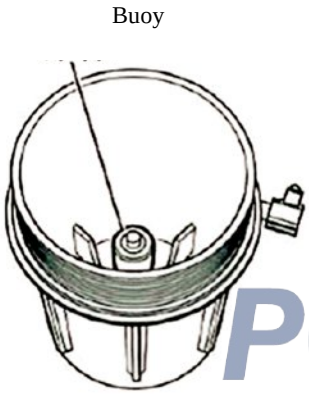
- Do not loosen the drain piston too much. Otherwise th□ d□scharge piston may fall o□f.

④ Open the exhaust piston. The drain piston discharges the fuel in the filter.

⑤ Check the fuel emissions, and plug the vent plug.

⑥ Remove the hose from the drain piston.

⑦ Use a tool (wrenches, etc.: 27mm) to loosen the hexagonal part of the bottom of the filter counter-clockwise and then remove the filter.

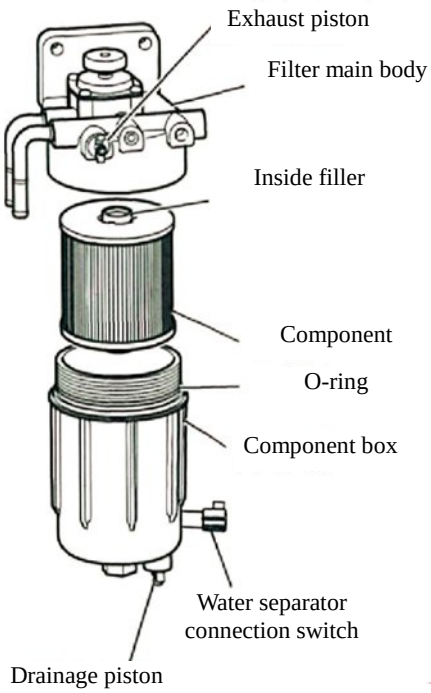


ADVICE

- Make sure the buoy on the bottom of the filter box is free to move.
- Open the water separator connection switch and invert the filter so that the multimedia monitor shows "Fuel filter (drain)".
- If foreign matter is found on the bottom of the filter, clear it.

⑧ Pull the filter cartridge down and remove the O-ring.

If you find foreign body accumulation inside the filter body, wipe it with a clean cloth.



ADVICE

- Wipe the foreign body with a clean cloth. Do not use tools such as hair dryer. Using a blower to blow foreign objects into the fuel rail may cause engine malfunction.

⑨ Take care not to damage the parts. Carefully attach the new o-ring to the screw.

⑩ Apply a thin layer of clean light oil to the package of the new filter and insert it completely in the filter body.

ADVICE

- Be careful not to allow foreign objects to enter the horizontal holes (4 places) in the inner package.

⑪ Apply a light, clean, light oil to the O-ring of the filter element and screw it fully clockwise into the filter body. If the cartridge can not be fully inserted into the filter body, the filter insert is not sufficiently inserted. Insert the filter cartridge again while rotating it.

⑫ Install the filter.

The required torque to tighten the filter cartridge
28～32N·m(2.9～3.3kgf·m)

⑬ Tighten the drain piston and connect the water separator connection switch.

⑭ Remove the air from the filter.

Exhaust Method → Refer to page 8-13

WARNING

- After replacing the engine, start the engine to check whether fuel is leaking around the oil filter. Fuel leaks may cause a fire.

Clutch ★

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 there is too much free play, the clutch disengages poorly, making gearshifts difficult.

Maintenance Data List → Refer to page 7-15

Check the Clutch

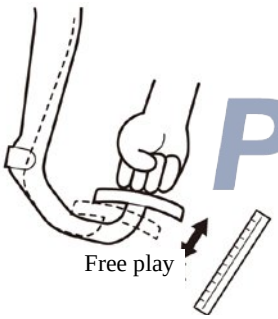
Inspect whether an abnormal sound is heard or the clutch pedal is abnormally heavy when the clutch pedal is depressed while the engine is idling. If an abnormal sound is heard or the clutch pedal operation is heavy with the sufficient air pressure supplied, provide lubrication. Also, check whether the gearshift lever can be placed in the 1st or reverse position easily.

Lubricant→ Refer to page 7-23

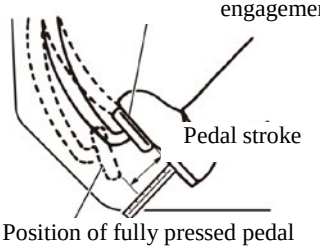
CAUTION

- Release the clutch pedal carefully to prevent the vehicle from starting too suddenly.

Check also that the clutch engages smoothly without any slip when the vehicle starts to move slowly.



Pedal position just before clutch engagement



Position of fully pressed pedal

Checking the Clutch Pedal Free Play

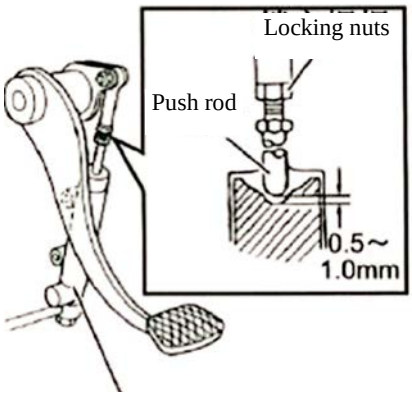
Lightly press the clutch pedal by hand until you feel a slight resistance. The distance of the pedal movement to this point is the free play.

Checking the Clutch Pedal Stroke

① Make sure that the parking brake lever is pulled completely. Start and run the engine at idle and then press the clutch pedal fully.

② Move the gearshift lever to the 1st position and then release the pedal slowly. The clutch pedal is normal if the pedal stroke from the fully pressed position to the position just before the clutch engages is 50 mm or more.

Checking items	Standard value [Reference value]
Clutch pedal free play	40～60mm
Step on the end of the clutch pedal and the clutch just connected to the distance between the clutch pedal	1.97in or above



Main oil cylinder

① Check the clutch pedal free play. If the free play of the clutch pedal still does not reach the standard value, follow the steps below to continue the adjustment.

② Remove the clutch pedal return spring.

③ Loosen the lock nut of the main cylinder push rod.

④ Turn the push rod until it contacts the piston.

⑤ Then from this position reverse rotation 2/5 ~ 4/5 laps. At this point the top of the plunger and the gap between the piston is 0.5 ~ 1.0mm.

⑥ Tighten the lock nut and install the return spring.

⑦ Locking nut tightening torque 19.6 ± 5N.m.

Clutch Fluid

The clutch oil controls the clutch booster, which connects and disconnects the clutch according to the oil pressure. It is recommended that you use the recommended oil type when changing.

Maintenance Data List→ Refer to page 7-15

CAUTION

- 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 and 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.
- Be careful not to spill clutch fluid on a painted surface or let it come in contact with your skin. If this happens, quickly wipe it away.
- Clutch fluid readily absorbs moisture. Close the cap of the container tightly when storing it.
- If clutch fluid decreases too rapidly, there might be a problem in the clutch system or the clutch disc might be worn beyond safe limits. Have your vehicle inspected by the ISUZU Supplier immediately.

Check Clutch Fluid

Check the clutch fluid tank behind the front lid for the fluid level. It should normally be between the "MAX" and "MIN" lines. If it is below the "MIN" line, replenish the clutch fluid with the recommended type.

Front Lid→ Refer to page 7-9

Add Clutch Fluid

CAUTION

- Before refilling the tank, clean the area around the cap and fill clutch fluid from a clean container. Foreign objects getting in the tank will lead to a clutch system failure.
- When adding, be careful not to mix impurities or water into the tank. Failure to do so may result in clutch failure.

Open the front lid, remove the clutch oil tank cover, add oil until the MAX line position.

Manual Transmission Oil

The transmission is a device that transmits engine power. Manual transmission oil can be used to lubricate the interior of the manual transmission and protect the internal gears. In addition, it can prevent gear wear and aging. It is recommended that you use the recommended oil type when changing.

Maintenance Data List → Refer to page 7-15

Check Transmission Oil

ADVICE

- Be sure to clean the piston before installing it.

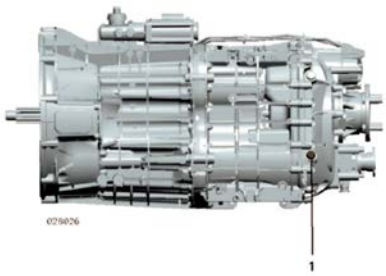
Remove the horizontal piston and confirm the transmission oil level. If the level of oil near the piston hole, indicating level oil moderate . Also check the transmission oil for leaks.

Change Transmission Oil

ADVICE

- Be sure to clean the piston first and then install it.
- The transmission is an aluminum case as a whole, so be careful not to use excessive force when installing horizontal pistons. Exceeding the specified torque when tightening the screw may result in damage to the screw.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.
- Lubricants and cleaning fluids are strictly prohibited from entering the soil, groundwater and drainage systems. Collect the lubricant in a suitable container and dispose of it in accordance with the relevant regulations of the environmental protection department.

Discharge oil



Magnetic discharge oil plug (1), tightening torque = 60Nm

Note

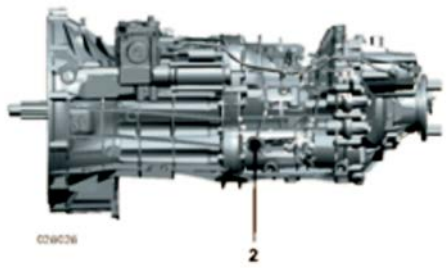
In case of the same city, the vehicle should be put on the oil after a long distance running, and the oil temperature of the transmission is higher and the viscosity is lower at this moment.

CAUTION

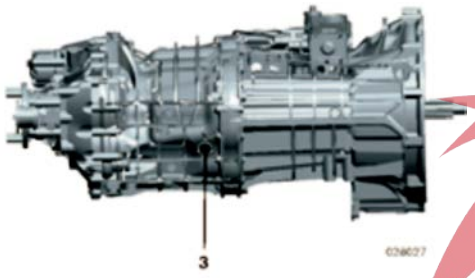
- Touching hot gearbox and oil may cause burns.

Loosen the discharge plug and collect the released oil in a suitable container. Clean the magnetic discharge oil plug (1), replace the seal and tighten to the specified torque.

Refuel



Refueling port (2) and oil overflow position, tightening torque = 60Nm



Refueling port (3) and oil overflow position, tightening torque = 60Nm

Oil hole refueling

- Correct refueling is when the oil level reaches the lower edge of the fill hole or oil spills.

Check the oil level

> ⚠ WARNING
>
> - Too much oil in the transmission can cause damage to the transmission and risk of accidents.

Periodically check transmission oil level:

- The vehicle must be parked horizontally when checking the oil level.
- Do not check the fuel level immediately after the vehicle has traveled long distances (this can lead to erroneous results).
- Check the oil level until the oil is cooled (40 ℃).
- Unscrew the fuel filler plug to check the oil level.
- If it is found that the oil level is lower than the lower edge of the filler hole, refuel oil until overflow.

> ⚠ CAUTION
>
> - Check the transmission for oil leakage every time the oil level is checked.

The clutch with the clutch control section of the period of fuel and oil level check refueling and check the oil level in the same way, but depending on the power take-off model, the amount of fuel will increase by nearly 0.5L.

Differential Oil

The differential is a device that transmits power to the tire. Differential oil can be used to lubricate the interior of the differential and protect the internal gear.

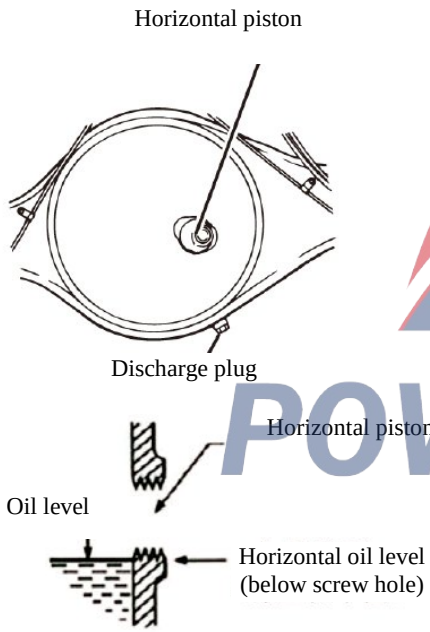
In addition, it can prevent gear wear and aging. It is recommended that you use the recommended oil type when changing.

Maintenance Data List→ Refer to page 7-15

Check Differential Oil

ADVICE

- Be sure to clean the piston before installing it.



① Remove the horizontal piston

② Check if the oil reaches the bottom of horizontal piston hole.

- If oil is found to be insufficient, add oil from the horizontal piston hole.

③ Install the horizontal piston with the specified torque. At the same time, please check whether the oil leaks.

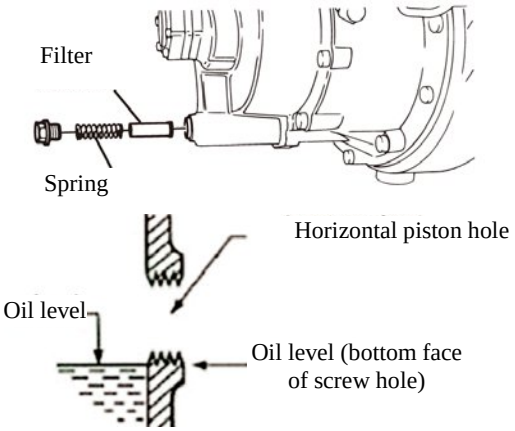
Torque required to tighten the piston	
4 angle piston	29～59Nm (3～6kgfm)
6 angle piston	49～88Nm (5～9kgfm)

Replace the Differential Oil

ADVICE

- Be sure to clean the piston first and then install it.
- Drained oil must be disposed of in a method conforming to the regulatory requirements in your country.

CZY type vehicle(17.5〃HT）



① Remove both level plug and discharge plug(s) to discharge the oil into the container.

Remove the oil filter plug of the C ※ Z Y-type (17.5〃HT) front and rear axles and remove the oil filter.Wash the oil pre-cleaner with light oil, dry it, then reinstall it and tighten the oil pre-cleaner plug.

② After installing the discharge plug, refill the rear axle case with new oil through the level plug hole and up to the lower edge of the hole.

Remove the filler plugs on the center wheel shaft elements of the C * Z * Y (16.5 "HT), C * Z * Y (14.5" HT) (14.5 "HT) About 0.5L oil injection.

③ After filling, please confirm that the oil level has been added to the level plug hole.

④ Install liquid level plug.

Torque required to tighten the piston	
4 angle piston	29～59N·m (3～6kgf·m)
6 angle piston	49～88N·m (5～9kgf·m)

Power Steering Fluid

Power steering fluid is oil that helps smooth steering. To replace the power steering fluid, it is recommended to use the recommended oil.

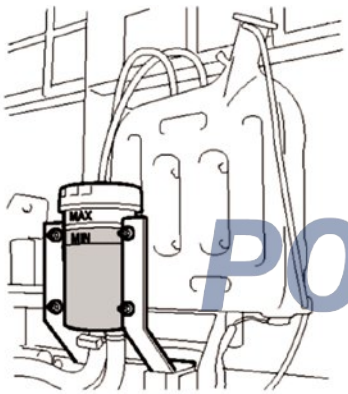
Maintenance Data List → Refer to page 7-15

CAUTION

- Do not mix other types of oil in the power steering fluid as this can cause chemical changes and cause malfunctions.
- Be careful not to allow the power steering fluid to adhere to painted surfaces or skin. If you accidentally stick to the power steering fluid or power steering fluid spilled, wipe as soon as possible.
- If the power steering fluid is significantly reduced, immediately check with your Isuzu dealer.

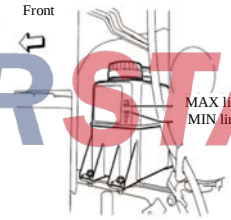
Check the Power Steering Fluid

Except CYH type



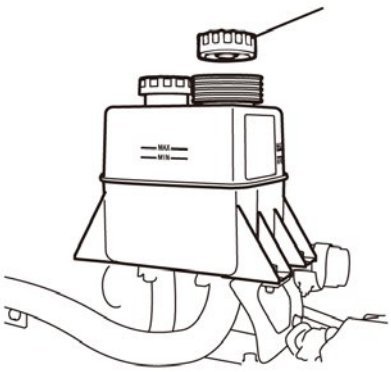
The fluid level should be between the "MAX" and "MIN" lines on the fluid tank. If the level is low, replenish the fluid up to the "MAX" line using Isuzu's recommended power steering fluid. In addition, check if there is any leakage of power steering fluid.

CYH type



Power steering fluid replenishment

Cover



ADVICE

- When refilling the power steering fluid, clean the bonnet and use a clean refill container.Foreign matter in the steering fluid might cause failure of the power steering system.

Remove the supply bonnet to supplement the power steering fluid and add until the "MAX" line.

Power Steering Fluid Filter

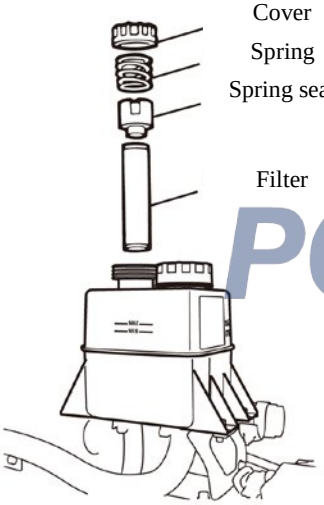
The purpose of the power steering fluid filter is to remove dirt or debris that has been mixed into the power steering fluid. If needed replace, it is recommended to use Qingling original supplies.

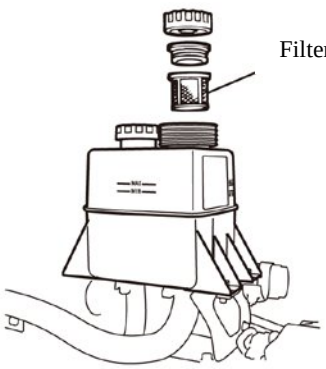
Maintenance Data List→ Refer to page 7-15

Clean the Power Steering Fluid Filter

NOTE

- During filter cleaning, be careful not to let dust or other foreign matter get inside the tank. Foreign matter in the steering fluid might cause failure of the power steering system.
- When filling compressed air into the power steering fluid filter, it must be poured in from the outside.
- The diesel fuel used for cleaning must be disposed of in a method conforming to the regulatory requirement in your country.





① Remove the cap from the power steering fluid tank.

② Remove the spring and the holder, and withdraw the filter. Take out the filter slowly while being careful not to drop foreign matter collected on it into the tank.

③ Wash the filter in diesel fuel.

④ Blow compressed air at about 200 kPa (2.0 kgf/cm²) on the outside surface of the filter to clean foreign matter from inside the filter.

⑤ Wash the filter in diesel fuel again to remove foreign matter.

⑥ Dry the filter with compressed air so as to completely remove all traces of diesel fuel.

⑦ Install the filter, holder, and spring in that sequence, and then close the cap.

⑧ Remove the pre-cleaner from the replenishing port, check to see if dust or other matter is adhering to it, and clean it. Check to see if the fluid level is satisfactory.

OTHER SERVICE AND MAINTENANCE

- Windshield Washer Fluid 7-113
- Wiper 7-115
- Lights (Lighting System) • Steering lights (Direction Indicator) 7-117
- Battery 7-118

Windshield Washer Fluid

The role of windshield washer fluid is to remove dirt and so on.

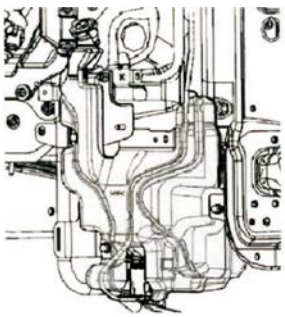
Check Wiper • Windshield Washer Fluid

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 that the windshield washer sprays correctly.

Refilling Windshield Washer Fluid

ADVICE

- When shipped from the factory, new vehicles contain only tap water in the washer fluid tank. Adjust the concentration of the fluid to suit your own usage. Be sure to 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.



Open the hood, remove the cover and add the mixed window cleaning fluid until the "MAX" line.

Mixing Ratio of Windshield Washer Fluid

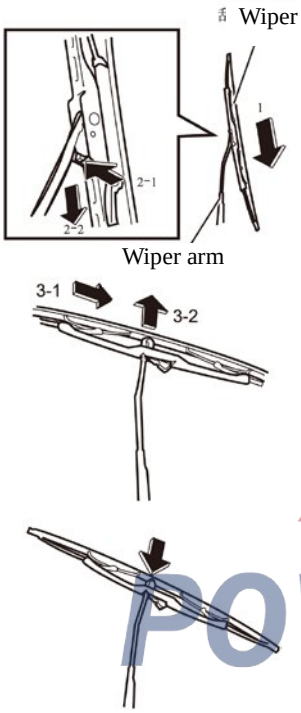
Capacity [Reference value]	Season	Tap water	Window cleaning solution	Degree of icing
	General	2	1	About -10℃
4.5L	Winter	1	1	About -20℃
	Very cold	0	Use stock solution	About -50℃

Windshield Wiper Blades

Routine Inspection

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.

Windshield Wiper Blade Replacement

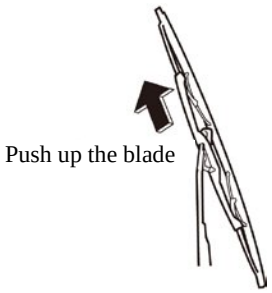


Removal

1. Pull the wiper arm up to the vertical position.
2. While pressing the wiper-blade hook towards the arm, slide the blade downwards (towards the base of the arm).
3. With the blade and arm almost perpendicular, remove the blade from the arm.

Installation

1. Insert the blade while holding it almost perpendicular to the arm.

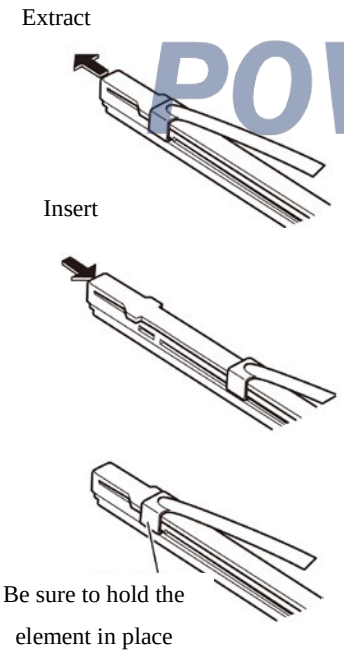


2. Then, with the blade and arm oriented in the same direction, push up the blade until it locks into place on the arm.

ADVICE

- Do not lower the wiper arm with its blade removed; the windshield glass may be scratched.
- Whenever a wiper blade has been attached, ensure that it is locked into place. Failure to observe this precaution can result in the wiper blade becoming dislocated when the windshield wiper switch is turned on.

Replacement of Wiper Rubber Element



Removal

1. Remove the wiper blade from the wiper arm.
2. Pull the wiper rubber element in the direction indicated by the arrow, and extract it from the wiper blade.

Installation

1. Insert a new wiper rubber element into the wiper blade.
2. Continue pushing in the wiper rubber element until the wiper blade's hook engages with the hole in the element, and then confirm that the wiper rubber element is securely held in place.
3. Attach the wiper blade to the wiper arm.

Lights (Lighting System) • Steering Lights (Direction Indicator)

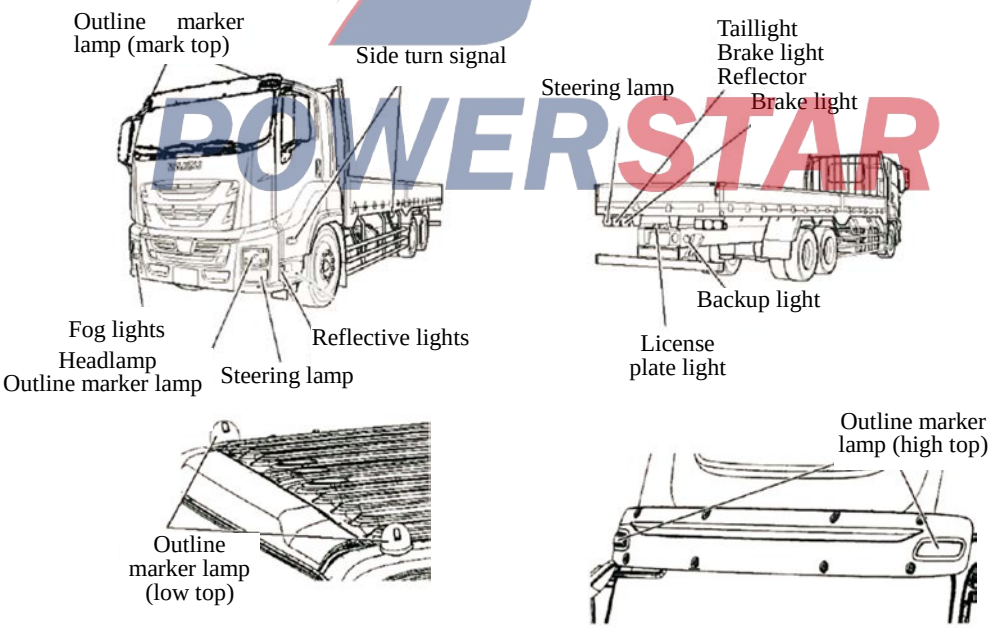
Many places on the vehicle are equipped with lamp (light). Turning off the lights may lead to accidents. In order to safely drive vehicle, it is necessary to check the status of the lamp. If you need to change the lights, it is recommended to use ISUZU original parts.

Inspection of lighting system and direction indicator

ADVICE

- When the headlight (front light) is off, the turn signal does not light even if the steering switch (direction indicator) is operated. Therefore, taking into account the system anomalies, immediately go to Isuzu dealer for checking and repairing.

① Press each switch to "ON" to check whether each lamp is working properly, whether it is lit or blinking abnormally.
② Check whether the irradiation direction or brightness is abnormal.
③ Check whether dirt or damage is on the mirror surface for each lamp, or if the lights are properly installed on the vehicle body.



Battery

The role of the battery is beginning from starting the engine powered for a variety of lights, accessories and many other electronic components. If you need to change the battery, it is recommended to use ISUZU original parts.

Maintenance data list → Refer to page 7-15

Precautions for Operating the Battery

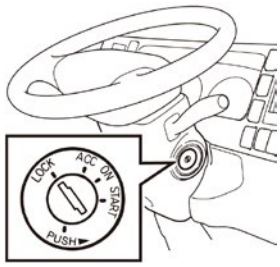
DANGER

- 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 even explosion.
- If battery fluid should enter an eye, immediately wash away using a large amount of water and continue washing for at least five 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 is a negative terminal, any such contact can result in a short-circuit and a highly dangerous electric shock.
- A vehicle battery generates extremely flammable hydrogen gas. For this reason, operations producing sparks or requiring the usage of an open flame must never be carried out near a vehicle battery. Failure to observe this precaution can result in explosion if the hydrogen gas ignites. Whenever wiping up battery fluid, a damp cloth should be used.

WARNING

- Always stop the engine whenever the battery is to be inspected.
- Dilute sulfuric acid is used as the battery fluid. Special care must be taken to ensure that this fluid does not come into contact with skin, clothing, or metal surfaces. In the event that fluid does come into contact with your skin, etc., immediately wash it off with water.
- When disconnecting the cables from the terminals, start with the negative terminal. When connecting them, the negative terminal should be reconnected last.
- When checking or replenishing the battery fluid, be careful that it does not splash onto the nylon tube, the harness, air tank, and so on. If it does splash onto one of these parts, immediately wash it off with water. The nylon tube in particular does not readily withstand acids, so it is likely to become damaged.
- When using a battery charger, be sure to disconnect the battery cables.

Please always be careful to keep the battery clean. If you do not promptly remove dirt, electrolyte may be doped with impurities, damage to the electrode plate, leading to leakage of the upper part of the battery to shorten the battery life.



When inspecting and repairing

When inspecting and repairing the power system which is including the battery, set the starter switch to the "LOCK" position and the remaining switches to "OFF". Remove the battery terminal and then operate.

If the batteries are not disconnected during inspection and repair, electrical components may be damaged.

When disassembling the battery

Disassemble the battery beginning from the terminal side of the battery cable. If careless to make tools and others contact with the battery positive terminal ⊕ and the vehicle body under the state of connected the cable of ⊖ terminal side to the battery, may cause short circuit, it is very dangerous. It can also cause the power system malfunction.

Battery charging

- To charge the battery, remove the battery from the outside of the vehicle. Remove the battery bonnet and charge in a well-ventilated place. When connecting the battery to the vehicle for direct charging, take apart the battery cable and then charge it.
- Turn off the charger switch before connecting the charger with battery or removing the charger.
- Take apart the battery cable before recharging quickly. If charging the battery quickly while the cable is connected to the battery, the generator may burn out.

Install the battery

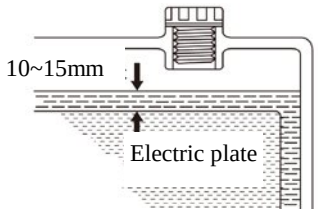
1. When attaching the battery to the vehicle, pay attention to the orientation of the battery and fix it securely to prevent it from loosening. If it is not installed firmly, it may damage the battery case or the electrode plate due to vibration during driving.
2. When installing the battery cable, connect the cable to the positive ⊕ terminal of the battery first and finally connect it to the negative ⊖ terminal.

Remove the power directly from the battery

Do not remove the 12V power directly from the battery.

If you want to remove the power from the battery, consult your ISUZU Supplier.

Check the Battery Fluid Level



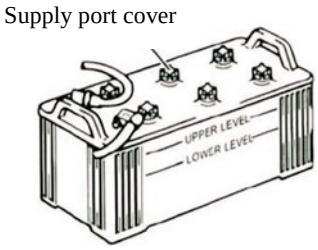
Check to see if the fluid surface is between the "UPPER" and "LOWER" levels. If it is, the fluid level is correct. If no level marks are indicated on the case, a range between 10 and 15 mm from the top of the battery plates is considered appropriate.

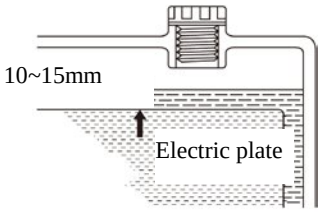
Electrolyte supplement

NOTE

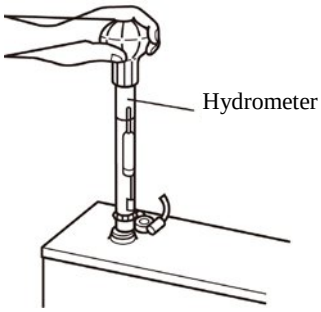
- Electrolyte should not be filled beyond the "UPPER LEVEL" line. Failure to observe this precaution can result in electrolyte spillage and corrosion of battery terminals and other components. Any spilled electrolyte should be immediately washed away with water.
- Whenever battery fluid has been added, 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 ISUZU Supplier.

When the electrolyte is insufficient, remove the battery cover, unscrew the bonnet, and add distilled water to the "UPPER LEVEL" line or 10~15 mm of the electrode plate. After replenishment, please install the bonnet and battery cover accurately.





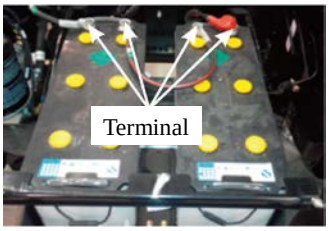
Check the Specific Gravity of Electrolyte



Check the specific gravity of the electrolyte using a hydrometer. If the specific gravity is too low, the battery should be charged.

Specific gravity of electrolyte (when fluid temperature is 20°C (68°F))
1.27-1.29

Cleaning the Terminals



1. Check the terminals for looseness and corrosion.
2. If a terminal is found to be corroded and coated in white powder, wash this away with warm water and then wipe fully dry. Subsequently, apply a light smear of grease to the terminals.
3. Securely connect the battery cables to the terminals. See "When the Battery Goes Flat" regarding steps to be taken should the battery be completely discharged.
4. For serious corrosion, please use wire brush and sandpaper grinding.

Tightening torque for terminal nuts
5 - 7 N·m (0.5 - 0.7 kgf·m/43 - 61 lb·in)

When the Battery Goes Flat→ Refer to page 8-12

CAUTION

- Do not spray water directly to clean the interior of the cab. Failure to observe this precaution could result in malfunctioning or damage to the electronic control unit or electrical components or rusting of the cab floor.
- Do not use high pressure washer nozzles to directly eject electrical appliances connector. Failure to observe this precaution could result in incorrect operation of the electrical system .
- Do not eject high-pressure water at or near the brake valve behind the front cover. Failure to observe this precaution could result in incorrect operation of the related parts .
- Do not directly spray water at the heater hose connector behind the hood, air conditioning pipe, or air-conditioning filter area.
- Failure to observe this precaution could result in water entering the cab.

NOTE

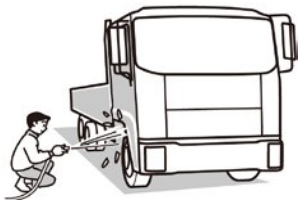
- If using automatic washing on the black or metallic coating vehicles, the painted surface may be damaged by the brush, lose its luster, or have a very visible scratch.
- When cleaning the hood area, set the air source lever to the "off" position to prevent water from entering the cab.
- Do not directly spray water at the heater hose connector behind the hood, air conditioning pipe, or air-conditioning filter area. Failure to observe this precaution could result in water entering the cab.
- Do not spray water to engine room or electrical components. Failure to observe this precaution could result in poor engine start-up and operation, and electrical system component problems
- Be sure to fold the mirror and take back the antenna before cleaning the vehicle.
- When cleaning the vehicle, be sure to observe the following precautions to avoid thermal deformation of plastic parts, mechanical damage and water enter into the cab.
  - Avoid using high pressure or high temperature water ejector to clean.
  - Keep the distance between the water ejector nozzle and the vehicle above 0.4 meters (15.75 inches) and allow the nozzle to be at right angles to the door glass.
- Make sure the detergent is completely washed away and erased. Especially in the case of using strong alkaline detergents, which are commonly used in industrial applications, may cause the optical lenses in capillary cracks if the detergent is not completely removed.

Vehicle Interior and Exterior Maintenance

- Vehicle Exterior Maintenance 7-125
- Vehicle Interior Maintenance 7-128
- Inspection and Maintenance 7-132

Vehicle Exterior Maintenance

Vehicle Cleaning



If the vehicle is operated with foreign material adhering to the exterior, this material may react chemically with paint, resulting in staining, discoloration, rusting, or corrosion of components. Also, the material may become trapped within mechanical components, negatively 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.

Vehicle Cleaning Method

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 electrical system components.
- Do not spray high pressure water at or near the brake valves behind the front lid. Failure to observe this precaution can lead to faulty operation of the related components.
- Do not spray water directly at the air conditioning filter area, the air conditioning piping, or the heater hose connections behind the front lid. Failure to observe this precaution can result in water entering the cab.

① Fully turn on the tap, and wash out the undercarriage and suspension.
② Close all openings and wash the cab and cargo body panels using a neutral detergent.
③ Clean wheels and tires using a brush and detergent.
④ After washing away all remaining detergent, use a shammy or other clean cloth to fully remove all moisture and water droplets.

Vehicle Storage

In order to maintain your vehicle's attractive appearance as long as possible, special consideration must be given to its storage location.

If the vehicle is stored or kept for an extended period of time in any of the following locations, a chemical change may occur in the paintwork, resulting in staining, discoloration, rusting, and corrosion of components.

- Locations where a large amount of oily matter, soot, heavy smoke or metal powder can adhere.
- 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.

CAUTION

- Wax must not be applied to the windshield. Failure to observe this precaution can result in irregular reflection of light, impairing your view.

ADVICE

- Do not use wax containing abrasive material. Failure to observe this precaution can lead to scratching of painted surfaces or plastic components.
- The application of wax to rubber component surfaces can result in permanent whitening.

NOTE

- Wax must not be applied to the windshield. A layer of wax can impair your view in rainy weather, and can also lead to rough movements of the windshield wiper.
- If engine oil or grease comes into contact with the windshield, staining or discoloration may result. It must be immediately cleaned away.

Wax 1 to 2 times per month, or when the wiper blade is aged, the wax is applied to the painted surface and the plating portion. In the shade, painted surface temperature below 40 ℃ painted wax.

Windshield Care

If not fully cleaned by the windshield wipers, the windshield should be cleaned using glass cleaner.

Vehicle Interior Maintenance

Remove dust and dirt from the interior of the cab using an automotive cleaner or vacuum cleaner, and gently wipe surfaces clean using a cloth wet with warm or cold water.

WARNING

- When cleaning the interior of the cab, water should never be sprayed directly. Failure to observe this precaution can lead to vehicle malfunction and possibly to fire if water should enter the audio system or other electrical components located underneath the floor carpet.
- Petroleum ether, gasoline, and other organic solvents should not be used to clean seat belts. In addition, seat belt webbing should be neither bleached nor redyed. Failure to observe these precautions can lead to the performance or strength of the seat belts being impaired. In the case of a collision, therefore, the belts could be insufficiently effective, and serious life-threatening injuries could result. When cleaning, use warm water in which a small amount of neutral detergent has been dissolved to gently wipe the seat belts.

CAUTION

- The interior of the vehicle must never be cleaned using acidic or alkaline solvents, or petroleum ether, gasoline, and other organic solvents. Failure to observe this precaution can result in discoloration and staining. • It should be noted that certain types of cleaning products contain these compounds. Be sure to read cleaning product labels carefully.
- Air fresheners (liquid, solid, gel or plate types) must not come into direct contact with, or spill onto, interior components such as the air conditioning or audio system. Compounds contained in these products can cause discoloration, staining or peeling of paint.
- Glass cleaners that contain these compounds must not be used to clean the inside of the windshield or window glass. To clean the glass, wipe using a cloth wet with warm or cold water.

Seat Belt Care

A dirty seat belt can develop retracting problems, and for this reason, regular inspection and upkeep are required.

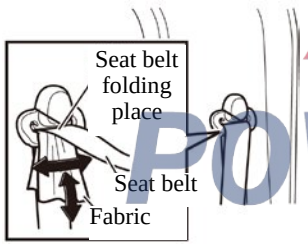
CAUTION

- Seat belt webbing can lose its strength when bleached or redyed, or when cleaned using gasoline, paint thinners or other volatile substances.
- Do not disassemble the seat belt mechanism in order to remove any foreign material or objects that may have entered the buckle. Instead, arrange for inspection and maintenance to be carried out at the ISUZU Supplier.

Cleaning a Seat Belt's Fold-back Fitting Portion

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 damage to plastic parts or seat belt webbing.



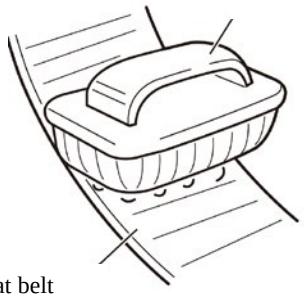
① Fold a piece of cotton cloth, absorbent gauze, or the like of approximately 5 cm in width into a rectangle.
② Mix one part neutral detergent into approximately twenty parts warm water.
③ Wet the cloth in the detergent mixture, pass it through the fold-back fitting portion of the belt, and slide it back and forth and laterally until dirt can no longer be seen.
④ Remove the cloth, remove moisture from the fitting portion of the belt using a dry cloth, and then allow it to dry naturally out of direct sunlight.
⑤ Check to be sure the seat belt retracts and pulls out correctly.

Cleaning a Belt Webbing

ADVICE

- Check to see if the seat belt fails to retract properly, the mounting part is loose, a metal part is deformed, or the belt is damaged, frayed, or faded. If you find an abnormality, contact the ISUZU Supplier.

Carbon brushes



Seat belt

① Fully extract the belt and examine for any difference in color between the front and back surfaces.

② Mix one part neutral detergent into approximately twenty parts warm water.

③ Wet a nail brush or another similar brush having soft bristles (of nylon or the like) in warm water, and use this to clean away dirt.

④ Wipe the seat belt dry using a dry cloth, and then allow it to dry naturally out of direct sunlight.

⑤ Check to be sure the seat belt retracts and pulls out correctly.

Fabric Seat Covering and Carpet

CAUTION

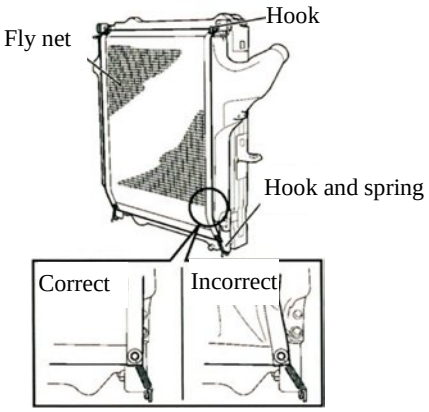
- Do not use kerosene near the flames.
- When using kerosene, provide adequate ventilation.

Cloth surface seat

Please use a vacuum cleaner to remove dust or rubbish. Follow the cleaning methods for household products to remove the dirt left behind by food, beverages, and other items.

Please use a detergent labeled as neutral detergent or advanced alcoholic synthetic detergent. Use kerosene to wipe the oil pollution (engine oil, grease, cosmetics, shoe polish, etc.).

Clean and Inspect the Fly Net ★



Inspection

1. Check whether the fly net is dirty and the mesh is neat. If the mesh is not neat or damaged, you need to replace the fly net.
2. If you want to clean or replace the fly net, you must first remove the fly net.

Dismantle

1. Remove the underside spring of the fly net from the hook of the radiator.
2. Remove the fly net from the hook on the top of the radiator.

Clean

1. Expand the fly net, spray tap water to the net, and wash it with a soft brush.
2. After cleaning, place the fly net in a well-ventilated place and let it dry.
3. If the fly net still stains after cleaning, you need to replace it.

Installation

Fix the fly net to the hook of top of the radiator, and then install the spring on the bottom of the fly net to the hook of the radiator.

CAUTION

- Install fly net to ensure the insect mesh does not obstruct radiator core or intercooler core.
- If the fly net is damaged, replace it.
- Care should be taken when installing or removing the fly net to prevent the fingers from pinching by springs or hooks.

ADVICE

- Regularly clean or replace the fly net.

Maintenance Schedule → Refer to page 7-132

Inspection and Maintenance

For safe and economic driving, we recommend that you have your vehicle inspected and serviced regularly according to the schedule indicated in this chapter.

Maintenance Schedule

For safe and economic driving, we recommend that you have your vehicle inspected and serviced regularly according to the schedule indicated in this chapter.
To drive your vehicle safely and at minimum cost, it is essential to have your vehicle regularly inspected and serviced at your Isuzu Dealer as per the specified Maintenance Schedule.
Contact your Isuzu Dealer for inspection that requires disassembly and/or special equipment.
Letters used to Indicate Maintenance Service Types
I: Inspect then clean, repair or replace as necessary
A: Adjust
R: Replace
T: Tighten to the specified torque
L: Add lubricant

ADVICE

- When inspecting the items listed below, also inspect the routine inspection items as well.

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

Maintenance Schedule for Severe Operation Condition → Refer to page 7-141

Maintenance Schedule (No. 1):

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace

T: Tighten to the specified torque L: Add lubricant

Service interval	x1,000 km x1,000 kms	1 0.6	5 3	10 6	15 9	20 12	25 15	30 18	35 21	40 24
Ease of engine startup and noise		-	I	I	I	I	I	I	I	I
Idling speed and acceleration		-	I	I	I	I	I	I	I	I
* Air cleaner element		-	-	I	-	I	-	I	-	R
Intake and exhaust manifolds		T	-	-	-	-	-	-	-	T
Valve clearance		A	-	-	-	-	-	-	-	A
Compression pressure for each cylinder		-	-	-	-	-	-	-	-	I
Engine oil contamination		-	I	I	I	I	I	I	I	I
* Engine oil		R	-	-	-	R	-	-	-	R
* Engine main oil filter element		-	-	-	-	R	-	-	-	R
* Engine partial oil filter element		-	-	-	-	R	-	-	-	R
* Main fuel filter element		-	-	-	-	-	-	-	-	R
v Pre-fuel filter element (with water separator)		-	-	-	-	-	-	-	-	R
v Dual pre-fuel filter element (with water separator)		-	-	-	-	-	-	-	-	R
Inside fuel tank		-	-	-	-	-	-	-	-	I
Fuel injection pressure and spray pattern		-	-	-	-	I	-	-	-	I
Fuel injection timing		-	-	-	-	I	-	-	-	I
Fuel injection pump strainer		-	-	I	-	I	-	I	-	I
Air compressor, governor and unloader valve functions		-	-	-	-	-	-	-	-	I
v Air flow sensor										
Radiator sub-tank cap function		-	I	I	I	I	I	I	I	I
Damage to fan belt		I	I	I	I	I	I	I	I	I
* Exhaust pipe and mounting looseness		-	I	I	I	I	I	I	I	I
Cooling circuit and radiator										
Engine coolant										
Cracks and damages on radiator hose										
Turbocharger to air duct connection and gasket		-	I	I	I	I	I	I	I	I
Clutch Fluid		-	-	-	-	-	-	-	-	R
Clutch booster exhaust cover		-	I	I	I	I	I	I	I	I
Clutch system function		-	I	I	I	I	I	I	I	I
Clutch pedal free play and stroke		5-	I	I	I	I	I	I	I	I
Rubber parts and gaskets of clutch booster										
* Transmission oil										

45 27	50 31	55 34	60 37	65 40	70 43	75 46	80 49	85 52	90 55	95 59	100 62	105 65	Odometer reading or months, whichever comes first
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	I	-	I	-	I	-	R	-	I	-	I	-	or every 3 months: I every 12 months: R (after 6th cleaning: R)
-	-	-	-	-	-	-	T	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	A	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 6 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 6 months
-	-	-	R	-	-	-	R	-	-	-	R	-	or every 6 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	I	-	I	-	I	-	I	-	I	-	I	-	or every 3 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
Every 12 months: I													
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
Every 24 months: I													
Every 12 months: I Every 24 months: R (when Isuzu recommended coolant is used)													
Every 12 months: I													
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
Every 48 months: R													
Refer to page 7-142													

Maintenance Schedule (No. 2):

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace

T: Tighten to the specified torque L: Add lubricant

Service interval ×1000km x1,000 miles	1 0.6	5 3	10 6	15 9	20 12	25 15	30 18	35 21	40 24
Loose gear control mechanism	-	-	-	-	-	-	-	-	I
Loose propeller shaft joints	-	-	-	-	I	-	-	-	I
* Worn propeller shaft universal joint and splines	-	-	-	-	-	-	-	-	I
Loose propeller shaft bearing and related parts	-	-	-	-	-	-	-	-	I
* Rear axle differential gear oil	R	-	-	-	-	-	-	-	R
* V Inter-differential gear oil	R	-	-	-	-	-	-	-	R
Damaged or distorted rear axle case	-	-	-	-	-	-	-	-	I
Damaged or distorted front axle	-	-	-	-	-	-	-	-	I
* Leaf spring U-bolt nuts	T	-	-	-	-	-	-	-	T
Leaf spring damage	-	I	I	I	I	I	I	I	I
Uneven suspension due to leaf spring fatigue	-	-	-	-	-	-	-	-	I
Loose or damaged leaf spring mounting	-	-	-	-	I	-	-	-	I
Dislodged leaf spring	-	-	-	-	-	-	-	-	I
Oil leaks from or damage to shock absorbers	-	-	-	-	I	-	-	-	I
Loose shock absorber mounting	-	-	-	-	I	-	-	-	I
Foreign object in wheels	-	I	I	I	I	I	I	I	I
Wheel nuts Retightening wheel nuts (ISO 10-bolt wheels) Refer to page 7-96	T	T	T	T	T	T	T	T	T
Damaged disc wheels	-	I	I	I	I	I	I	I	I
Loose front wheel hub bearings	-	-	-	-	I	-	-	-	I
Loose rear wheel hub bearings	-	-	-	-	I	-	-	-	I
Front and rear wheel hub bearing grease	-	-	-	-	I	-	-	-	R
Power steering fluid	R	-	-	-	-	-	-	-	-
Power steering fluid filter	-	-	-	-	-	-	-	-	-
Loose power steering system mounting	-	-	-	-	I	-	-	-	I
Excessive play in power steering bearing	-	-	-	-	-	-	-	-	I
Damage to, loose or excessive play in steering linkage	I	-	-	-	I	-	-	-	I
Knuckle-to-front axle clearance	-	-	-	-	-	-	-	-	I
Wheel alignment	-	-	-	-	-	-	-	-	I
Steering angle range for right and left turns	-	-	-	-	-	-	-	-	I
Kingpin-to-bearing clearance	-	-	-	-	-	-	-	-	I
Function of brake valve	I	I	I	I	I	I	I	I	I
Leakage, damage or loose connection of brake pipe and nylon tube	-	I	I	I	I	I	I	I	I
V Excessive wear of wheel brake cam (S-cam type)	-	I	I	I	I	I	I	I	I

45 27	50 31	55 34	60 37	65 40	70 43	75 46	80 49	85 52	90 55	95 59	100 62	105 65	Odometer reading or months, whichever comes first
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	T	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
T	T	T	T	T	T	T	T	T	T	T	T	T	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	-	-	-	-	R	-	-	-	-	-	or every 12 months
-	R	-	-	-	-	-	-	-	-	-	R	-	or every 12 months
-	I	-	-	-	-	-	-	-	-	-	I	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month

Maintenance Schedule (No. 3):

I : Inspect then clean, repair or replace as necessary A: Adjust R: Replace

T: Tighten to the specified torque L: Add lubricant

Service interval ×1000km x1,000 miles	1 0.6	5 3	10 6	15 9	20 12	25 15	30 18	35 21	40 24
v Stroke of brake chamber rod (S-cam type)	-	I	I	I	I	I	I	I	I
Function of brake chamber	-	-	-	-	-	-	-	-	I
v Expander (taper roller type)									
* Brake lining wear	-	I	I	I	I	I	I	I	I
* Lining gap of brake lining	-	I	I	I	I	I	I	I	I
* Brake drum wear or damage	-	-	-	-	-	-	-	-	I
Brake hose	-	I	I	I	I	I	I	I	R
Air dryer									
Air tanks									
Brake chamber boots and diaphragm									
Brake chamber piggyback									
Rubber parts of brake valve, relay valve, parking brake valve, trailer hand brake valve, trailer control valve, quick release valve, LSPV, governor, air dryer, MPV and DCV									
ABS modulator									
Function of parking brake control valve system	I	I	I	I	I	I	I	I	I
Electro-hydraulic cab tilt pump oil									
Air conditioner filter	-	I	I	I	I	I	I	I	I
Specific gravity of battery fluid	-	-	-	-	I	-	-	-	I
Function of starter motor	-	-	-	-	I	-	-	-	I
Wear of starter motor brushes	-	-	-	-	-	-	-	-	I
Function of generator	-	I	I	I	I	I	I	I	I
Brushless generator	-	-	-	-	-	-	-	-	I
Damage to or loose connection of wiring harness terminals	-	I	I	I	I	I	I	I	I
Steering shaft sliding sleeve	-	L	L	L	L	L	L	L	L
Front spring pins	-	L	L	L	L	L	L	L	L
Front spring shackles	-	L	L	L	L	L	L	L	L
v Rear spring pins	-	L	L	L	L	L	L	L	L
v Rear spring sliding shackles	-	L	L	L	L	L	L	L	L
v Rear spring pad	-	L	L	L	L	L	L	L	L
v Trunnion shaft	-	L	L	L	L	L	L	L	L
v Coupler									
Propeller shaft universal joints and sliding sleeves	-	L	L	L	L	L	L	L	L

45 27	50 31	55 34	60 37	65 40	70 43	75 46	80 49	85 52	90 55	95 59	100 62	105 65	Odometer reading or months, whichever comes first
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
Every 12 months: I Every 36 months: R													
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	R	I	I	I	I	I	or every month: I every 12 months: R
Replace desiccant every 100,000 km (62,000 miles) or every 12 months													
Drain water every 20,000 km (12,000 miles) or every 3 months													
Every 24 months: R													
Every 36 months: R													
Every 24 months: R													
Every 24 months: R													
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
Every 24 months: R													
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	I	-	-	-	I	-	-	-	I	-	or every 6 months
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
-	-	-	-	-	-	-	I	-	-	-	-	-	or every 12 months
I	I	I	I	I	I	I	I	I	I	I	I	I	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
See instruction manual for coupler													
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month

Maintenance Schedule (No. 4):

I : Inspect then clean, repair or replace as necessary

A: Adjust

R: Replace

T: Tighten to the specified torque

L: Add lubricant

Service interval ×1000km ×1,000miles	1 0.6	5 3	10 6	15 9	20 12	25 15	30 18	35 21	40 24
V Propeller shaft center bearing	-	L	L	L	L	L	L	L	L
Kingpin	-	L	L	L	L	L	L	L	L
Tie rod end	-	-	-	-	-	L	-	-	-
Drag link	-	-	-	-	-	L	-	-	-
Steering link arm (FYH model) V AdBlue ® filter	-	-	-	-	-	L	-	-	-
Air filter	-	-	-	-	-	-	-	-	-
Nitrogen oxide detector									
Fly net									
Urea SCR system installation loss, damage									
Urea, coolant leakage									
Inspection of urea, coolant liquid pipes and installation conditions									

45 27	50 31	55 34	60 37	65 40	70 43	75 46	80 49	85 52	90 55	95 59	100 62	105 65	Odometer reading or months, whichever comes first
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
L	L	L	L	L	L	L	L	L	L	L	L	L	or every month
-	L	-	-	-	-	L	-	-	-	-	L	-	or every 6 months
-	L	-	-	-	-	L	-	-	-	-	L	-	or every 6 months
-	L	-	-	-	-	L	-	-	-	-	L	-	or every 6 months
Every 120,000 km (75,000 miles) or 2 years: R													
-	-	-	R	-	-	-	-	-	-	-	-	-	
Every 750,000 km (466,000 miles) or 2 years: R													
Once for every 3 months: I Once for every 24 months: R													
Once for every 12 months: I													
Once for every 12 months: I													
Once for every 12 months: I													

Maintenance Schedule for Severe-Condition Operations

Driving condition

A: Driving with a trailer attached

B: Repeated starting off and stopping

C: Driving on bad roads, mountain roads, driving up hills

D: Driving in a dusty region

E: Driving on snowy roads or driving along the coast

Item	Distance covered	Conditions					
		A	B	C	D	E	B+E
Engine oil	Replace every 10,000 km (6,000 miles) or every 3 months	A			D		B+E
Engine main oil filter element	Replace every 10,000 km (6,000 miles) or every 3 months	A			D		B+E
Engine partial oil filter element	Replace every 10,000 km (6,000 miles) or every 3 months	A			D		B+E
Air cleaner element	Replace every 20,000 km (12,000 miles) or every 12 months (replace after 6th cleaning)				D		
Exhaust pipe and mounting looseness	Inspect every 2,500 km (1,500 miles) 1 times	A	B	C		E	
Transmission oil	Refer to page 142 in Chapter 7						
Transmission oil (xxx model)	XXX						
Rear axle differential gear oil	Replace every 20,000 km (12,000 miles) or every 6 months	A		C			
V Inter-differential oil	Replace every 20,000 km (12,000 miles) or every 6 months	A		C			
Damage to, loose or excessive play in steering linkage	Inspect every 10,000 km (6,000 miles) or every 3 months		B				
Brake lining wear	Inspect every 2,500 km (1,500 miles)	A	B	C	D		
Brake drum wear or damage	Inspect every 20,000 km (12,000 miles) or every 6 months	A	B	C	D		
Leaf spring U-bolt nut	Retighten every 20,000 km (12,000 miles) or every 6 months			C			
Wear of universal joint and spline of propeller shaft	Inspect every 20,000 km (12,000 miles) or every 6 months			C			

Maintenance Schedule - ZF Model Transmission

The transmission of your vehicle can stay in good condition through regular maintenance. Above all, make sure to replace the transmission oil regularly in accordance with the specified Maintenance Schedule.

Driving condition	Oil class			
	02A	02B	02D/02L	02E（ZF-EcofluidM）
Severe condition (local/long haul transport, tough operating conditions)	60,000 km (36,000 miles) or 12 months	120,000 km (72,000 miles) or 12 months	240,000 km (144,000 miles) or 24 months	
Normal condition (long-haul goods transport)	90,000 km (54,000 miles) or 12 months	160,000 km (96,000 miles) or 12 months	300,000 km (180,000 miles) or 24 months	

Change oil at the above-indicated distance or time, whichever comes first.

Low Temperature Limits

Oil sump temperature	SAE viscosity rating	Oil type
-25°C (-13°F) or above	80W/80W-85/80W-90	02A/02B
-40°C (-40°F) or above	75W/75W-80/75W-85/75W-90	02E (ZF-EcofluidM)/02D/02L

Oil Classes and Approved Trade Products

Oil Class 02A

Gear oil of viscosity grades: SAE 80W/80W-85/80W-90/85W-90/90

ADVICE

- In moderate climate zones, shift quality is impaired if viscosity grades higher than SAE 80W are used.

Manufacturer (02A)	Trade name (02A)
ADDINOLLUBEOILGMBH, LEUNA/D	ADDIN0LGETRIEBE0LGS80W
ADDINOLLUBEOILGMBH, LEUNA/D	ADDIN0LGETRIEBE0LGS80W-90
AGIPSCHMIERTECHNIKGMBH, WÜRZBURG/D	AUTOLGETRIEBE0L8OW-9O
ARALAG, BOCHUM/D	ARALGETRIEBE0LEP80W
ARALAG, BOCHUM/D	ARALGETRIEBE0LEP80W-90
AVIAMINERALÖL-AG, MÜNCHEN/D	AVIAGEAR0ILMZ80
BAYWAAG, MUNCHEN/D	BAYWAMEHRZWECKGETRIEBE0LSAE80
BEHRANOILCO., TEHRAN/IR	BEHRANSAMANDMB80W-90
BELGINMADENIYAGLAR, GEBZEKOCAELI/TR	BELGEAREPMB80
BLASERSWlSSLUBEAG, HASLE-RÜGSAU/CH	EP-GETRIEBE0L80W-100
BLASERSWlSSLUBEAG, HASLE-RÜGSAU/CH	EP-GETRIEBEOL80W-68
BLASERSWlSSLUBEAG, HASLE-RÜGSAU/CH	EP-GETRIEBE0L80W90
BPINTERNATIONAL, PANGBOIM, READING/GB	BPENERGEAREP80W
BPINTERNATIONAL, PANGBOUKNE, READING/GB	BPENERGEAREP80W-90
BPINTERNATIONAL, PANGBOIM, READING/GB	BPENERGEAREP90
BPINTERNATIONAL, PANGBOURNE, READING/GB	FR0NT0LMEHRZWECKGETRIEBE5LSAE80W
BPINTERNATIONAL, PANGBOUENE, READING/GB	FR0NT0LMEHRZWECKGETRIEBE0LSAE90
BUCHERAGLANGENTHAL, LANGENTHAL/CH	M0T0REXGEAR0ILEP80W
BUCHERAGLANGENTHAL, LANGENTHAL/CH	M0T0REXGEAR0ILEP80W/90
CALPAMMINERALOL-GMBH, ASCHAWENBURG/D	CALPAMMPGEAR0IL80WGL4
CALPAMMINERALOL-GMBH, ASCHAWENBURG/D	CALPAMMPGEAR0IL80W90GL4
CASTROLINTEHNATIONAL, PANGBOURNEREADING/GB	CASTR0LEP80W90
CASTROLINTEENATIONAL, PANGBOURNEREADING/GB	CASTR0LUNITR0N80W
CEPSALUBRICANTSS.A., MADRID/E	CEPSATRANSMISI0NES80W-90
CEPSALUBRICANTSS.A., MADRID/E	ERT0ILTRANSMISI0NES80W-90
CEPSALUBRICANTSS.A., MADRID/E	ERT0ILTRANSMISI0NESFSAE80
CHEVRONBRASILLTDA., RIODEJANEIRO/BRAZIL	UNIVERSALEPSAE80W
CHEVRONTEXACO, GHENT/B	GEARTEXEP-A80W
CHEVRONTEXACO, GHENT/B	GEARTEXEP-A80W-90
CHEVRONTEXACO, GHENT/B	GEARTEXEP-A85W-90
CLAASKGAAMBH, HARSEWlNKEL/D	CLAASAGRISHIFT4SC80W90
COMP.BRASIL.D.PETRO.IPIRANGA, RIODEJANEIRO/BR	IPIRGER0LEP80W
CONDATLUBRIFIANTS, CHASSESURKHONE/F	GEARA（80W）
DEOLIEBRONB.V., ZWIJNDRECHT/NL	T0RMULTIPURP0SEGERA0ILSAE80W90
ENIS.P.A.REFINING&MARKETINGDIVISION, ROME/I	R0TRAHY80W-90
ENIS.P.A.REFINING&MARKETINGDIVISION, ROME/I	R0TRAHYDB80W
EXXONMOBILCORPORATION, FAIRFAX,VIRGINIA/USA	ESS0GEAR0ILGP-D80W
EXXONMOBILCORPORATION, FAIRFAX,VIRGINIA/USA	M0BILUBEGX-A80W
FUCHSPETROLUBAG, MANNHEIM/D	TITANGEARMPSAE80W
GINOUVESGEORGESSA, LAFARLEDE/F	Y0RK791SAE80W85
GULFOILINTEBNATIONAL, PITTSBURG/USA	GULFGEARXP80W
GULFOILINTEBNATIONAL, PITTSBURG/USA	GULFGEARXP80W-90
HUILESBERLIETS.A., SA INTPRIEST/F	RT0EP80W
HUILESBERLIETS.A., SAINTPRIEST/F	RT0EP80W-90
IGOLFRANCESA, AMIENS/F	TRANSEPASAE80W-85W

INDIAN0ILC08P0RATI0NLTD., SJUMBAI/IND	SERVOGEARHPSOW（T）
INDIANOILCORPORATIONLTD., MUMBAI/IND	SERV0GEARHP80W-90（T）
INDIANOILCOEPORATIONLTD., MUMBAI/IND	SERV0GEARHP90（T）
KOMPRESSOL-OELVERKAUFSGMBH, KÖLN/D	K0MPRESS0L-MEHRZWECK-GETRIEBE0ELSAE80W -90
KRAWTS.L.,ANDOAIN/E	HIDR0ILSAE80W90
KROON-OILB.V.,ALMELO/NL	GEARLUBEGL-480W-90
KUWAITPETROLEUMR&TB.V., EUROPOORTRT/NL	Q8T35SAE80W
KUWAITPETROLEUMR&TB.V., EUROPOORTRT/NL	Q8T35SAE80W-90
KUWAITPETROLEUMR&TB.V., EUROPOORTRT/NL	Q8T35SAE90
LIQUIMOLYGMBH, ULM/D	LIQUIM0LYGETRIEBEÖLGL4SAE80W
LIQUIMOLYGMBH, ULM/D	LIQUIMOLYGETRIEBEÖLGL4SAE85W-9O
MAZIVAZAGREBD.0.0, ZAGREB/HR	INATRANSM0LDB80W
MAZIVAZAGREBD.0.0, ZAGREB/HR	INATRANSM0LHD80W-90
MEGUINGMBH&CO.KGMINERALOELWERKE, SAARLOUIS/D	MEGOLMEHRZWECKGETRIEBEOELGUSAESOW
MEGUINGMBH&CO.KGMINERALOELWERKE, SAARLOUIS/D	MEG0LMEHRZWECKGETRIEBE0ELGL4SAE85W-90
MOL-LUBKFT., ALMÖSFÜZITÖ/H	M0LHYK0M0L80W
MOTULSA, AUBERVILLIERSCEDEX/F	M0TULGEARMB80W
NESTEMARKKINOINTIOY, ESPOO/FIN	NESTEGEAREP80W-90
NEWPROCESSAG, TÖBACH/CH	EPGEAR0ILSAE80W
OEST, GEORGMINERALÖLWEKK, FREUDENSTADT/D	OESTMEHRZWECK-GETRIEBEÖLSAE8OW
OEST, GEORGMINERALÖLVEHK, FREUDENSTADT/D	0ESTMEHRZWECK-GETRIEBEÖLSAE80W-90
OMVREFINING&MARKETINGGMBH, WIEN/A	0MVGEAR0ILMPSAE80W-85
OMVREFINING&MARKETINGGMBH, WIEN/A	0MVGEAR0ILMPSAE85W-90
OPETPETROLCÜLÜKA.S., IZMIR/TR	0RSAEPMT80W
ORLENOILSP.ZO.0, KRAKOW/PL	PLATINUMGEASGL-480W
ORLENOILSP.ZO.0, KRAKOW/PL	PLATINUMGEARGL-480W/90
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/1	PAKEL0GEAR0ILEP/FZSAE80W
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/1	PAKEL0GEAB0ILEP/FZSAE80W/90
PANOLINAG, MADETSWIL/CH	PAN0LINEPGEAR80W
PANOLINAG, MADETSWIL/CH	PAN0LINEPGEAR80W/90
PETROBRASDISTRIBUIDORAS.A., DUQUEDECAXIAS/BR	LUBRAXTRM-4（SAE80W）
PETROBRASDISTRIBUIDORAS.A., DUQUEDECAXIAS/BR	LUBRAXTRM-4SAE90
PETROGALS.A., LISBOA/P	GALPTRANS0IL80W90
PETROGALS.A., LISBOA/P	GALPTRANS0IL80W
PRISTAOILEAD, ROUSSE/BG	PRISTAEP80W
PTPERTAMINA（PERSERO）, JAKARTA/RI	R0REDEP-ASAE80W-90
PTPERTAMINA（PERSERO）, JAKARTA/RI	R0REDEP-ASAE90
RAVENSBERGERSCHMIERSTOWVERTRIEBGMBH, WERTHER/D	RAVENOLMZ-GETRIEBEÖL8OGL4
RAVENSBERGERSCHMIERSTOWVERTRIEBGMBH, WERTHER/D	RAVEN0LMZ-GETRIEBEÖL80W-90GL4
REPSOLYPFLUBRICANTESYESPECIALIDADES, MADRID/E	CSEPMSAE80W
S-OILCOKPORATION, SEOUL/KOREA	DRAG0NGEARTM80W
S.A.E.L., MADRID/E	GULFGEARLUBRICANT80W-85
SHELLBRASIL, BARKADATIJUCA-RIODEJANEIRO/BR	SHELLSPIRAXG80W（INBRASILONLY）
SHELLINTEKNATIONALPETROLEUMCOMPLTD, LONDON/GB	SEHLLSPIRAXEP80
SHELLINTEENATIONALPETROLEUMCOMPLTD, LONDON/GB	SHELLSPIRAXMA80W
SRSSCHMIERSTOWVERTRIEBGMBH, SALZBERGEN/D	WINTERSHALLWIOLINMEHRZWECK-GETRIEBEÖL 8O
SRSSCHMIERSTOWVERTRIEBGMBH, SALZBERGEN/D	WINTERSHALLWI0LINMEHRZWECK-GETRIEBEÖL 80W-90
SRSSCHMIERSTOWVERTRIEBGMBH, SALZBERGEN/D	WINTERSHALLWI0LINMEHRZWECK-GETRIEBEÖL 90
SUOMENPETROOLIOY, HAMINA/FIN	TEB0ILEPSAE80W
SUOMENPETROOLIOY, HAMINA/FIN	TEB0ILEPSAE80W-90
TOTALISUOILCO.LTD., SEOUL/ROK	T0TALEP80W
TOTALLUBRIFIANTSS.A., PARIS/F	ANTAREP80W
TOTALLUBRIFIANTSS.A., PARIS/F	ANTAREP80W-90
TOTALLUBRIFIANTSS.A., PARIS/F	FINAP0NT0NICN80W-85
TOTALLUBRIFIANTSS.A., PARIS/F	FINAP0NT0NICN80W-90
TOTALLUBRIFIANTSS.A, PARIS/F	T0TALEP80W-85
TOTALLUBRIFIANTSS.A., PARIS/F	T0TALEP80W-90
TOTALLUBRIFIANTSS.A., PARIS/F	TRANSELFEP80W

TOTALLUBRIFIANTSS. A., PARIS/F	TRANSELFEP80W-90
UNILOPAL, SAUMURCEDEX/F	UNIL0PALGEAREPSAE80W85W
VALVOLINEEUROPE, DORDRECHT/NL	HIGHPERF0RMANCEGEAR0ILGL-480W
YACCO, STPIERRELESELBEUF/F	BVXM10080W85

Oil Class

Gear oil of viscosity grades: SAE 75W-80/75W-85/75W-90/80W/80W-85/80W-90/ 85W-90/90

ADVICE

- In moderate climate zones, shift quality is impaired if viscosity grades higher than SAE 80W are used.

Manufacturer (02B)	Trade name (02B)
ADDINOLLUBEOILGMBH, LEUNA/D	ADDIN0LGETRIEBE0LGX80W90ML
AGIPSCHMIERTECHNIKGMBH, WORZBURG/D	AGIPROTRATRUCKGEARS, SAE75W-90
ARALAG, B0CHUM/D	AEALGETRIEBE0LEPPLUS80W-90
ARMORINES.A., LANESTERCEDEX/F	BM80
AVIAMINERALOL-AG, MUNCHEN/D	AVIASYNT0GEARFE75W-90EP
AVIAMINERALOL-AG, MONCHEN/D	AVIASYNT0GEARFE80W-90
BAYWAAG, MONCHEN/D 02B	BAYWASUPER8090MC
BEHRANOILCO., TEHRAN/IR	BEHEANSAMAND0EM180W-90
BPINTERNATIONAL, PANGBOURNE, READING/GB	BPENERGEAKDL80W-90
BPINTERNATIONAL, PANGBOURNE, READING/GB	BPENERGEARHT80W-90
BPINTERNATIONAL, PANGBOURNE, READING/GB	ENERGEABSHX-MSAE75W-90
BPINTERNATIONAL, PANGBOURNE, READING/GB	FR0NT0LGETRIEBEÖLFESAE80W-90
BUCHERAGLANGENTHAL, LANGENTHAL/CH	MOTOREXUNISYNTTX
CALPAMMINERALOl-gmbh, ASCHAWENBURG/D	CALPAMMULTIGEAR0ILFE80W90
CASTROLINTERNATIONAL, PANGBOURNEREADING/GB	CASTR0LDYNADRIVE80W-90
CASTROLINTERNATIONAL, PANGBOURNEREADING/GB	CASTR0LDYNADRIVEPLUS75W90
CASTROLINTERNATIONAL, PANGBOURNEREADING/GB	CASTR0LMULTIDRIVE80W90
CEPSALUBRICANTSS.A,, MADRID/E	CEPSATRANSMISI0NESEPFE+LD75W-90
CHEVRONTEXACO, GHENT/B	MULTIGEAR80W-90
CHEVRONTEXACO, GHENT/B	MULTIGEARS75W-90
CHEVRONTEXACO, SYDNEY/AUS	CALTEXTRANSLUBELDSAE80W
CHEVRONTEXACO, SYDNEY/AUS	CALTEXTRANSLUBELDSAE90
DAFTRUCKSN.V., EINDHOVEN/NL	DAFSUPER80W90
DEOLIEBRONB.V., ZWIJTTORECHT/NL	T0RUNIGEAR75W90LD
ENIS.P.A.REFINING&MARKETINGDIVISION, ROME/I	R0TRALSX75W-90
ENIS.P.A.REFINING&MARKETINGDIVISION, ROME/I	R0TRATRUCKGEAR80W-90
EXXONMOBILCORPORATION, FAIRFAX,VIRGINIA/USA	M0BILUBE1SHC75W-90
EXXONMOBILCORPORATION, FAIRFAX,VIRGINIA/USA	M0BILUBES80W-90
FALCONOILCOMPANYLTD., SHARJAH/UAE	FALC0NSUPEREPGEAR0IL80W/90GL-4
FINKEMINERALfiLWERKGMBH, VISSELHfiVEDE/D	AVIATIC0NFINK0GEARSUPER80W-90
FUCHSPETROLUBAG, MANNHEIM/D	TITANSUPERGEABMC80W-90
GENOLGMBH&CO., WIEN/A	GEN0LGEAR-SYN80I-90
GINOUVESGEORGESSA, LAFARLEDE/F	Y0RK896
GRUPALOTOSSA, GDANSK/PL	TITANISSUPERGL-580W/90
GULFOILINTERNATIONAL, PITTSBURG/USA	GULFGEABMZ80W
GULFOILINTERNATIONAL, PITTSBURG/USA	GULFGEARMZ80W-90
GULFOILINTERNATIONAL, PITTSBURG/USA	GULFGEAKMZ85W-90
GULFOILINTERNATIONAL, PITTSBURG/USA	GULFGEARMZ90
GULFOILINTERNATIONAL, PITTSBURG/USA	GULFGEARTDL80W-90

GULFOILINTEKNATIONAL, PITTSBURG/USA	GULFSYNGEAR75W-90
HANDELMIJNOVIOLB.V., NIJMEGEN/NL	KENDALLT0TALDRIVELINEED75W90
HUILESBERLIETS.A., SAINTPRIEST/F	RT0L0NGEVIAPEC080W-90
HUILESBERLIETS.A., SAINTPRIEST/F	RT0L0NGEVIATCXEC075W-90
IGOLFRANCESA, AMIENS/	GEASM80W90
IGOLFRANCESA, AMIENS/F	SYNTHEGEARSAE75W90
KROON-OILB.V., ALMELO/NL	TRANSMISSI0N0ILSP1011
KUWAITPETROLEUMR&TB.V., EUROPOORTRT/NL	Q8GEAR0ILXGSAE80W-90
KUWAITPETROLEUMR&TB.V., EUROPOORTRT/NL	Q8TRANSXGSSAE75W-90
LIQUIMOLYGMBH,ULM/D	HYP0IDGETRIEBE5LTDLSAE80W-90
MAZIVAZAGREBD.0.0, ZAGREB/HR	INAHIPEN0LSHD75W-90
MAZIVAZAGREBD.0.0, ZAGREB/HR	INAHIPEN0LTDL80W-90
MEGUINGMBH&CO.KGMINERALOELWERKE, SAARLOUIS/D	MEGOLGETRIEBEOELTRUCK-SYNTHSAE75W-90
MEGUINGMBH&CO.KGMINERALOELWERKE, SAAELOUIS/D	MEGOLHYPOID-GETRIEBEOELTDLSAE8OW-9O
MILLERSOILSLIMITED, BRIGHOUSE/GB	SYNTRANFE
MINERALOL-RAWIN.DOLLBERGEN, UETZE-DOLLBERGEN/D	PENNAS0LMEHRZWECK-GETRIEBE0ELGL4SAE80W
MINERALÖL-RAWIN.DOLLBERGEN, UETZE-DOLLBERGEN/D	PENNAS0LMEHRZWECK-GETRIEBE0ELGUSAE85W-90
MINERALOL-RAWIN.DOLLBERGEN, UETZE-DOLLBERGEN/D	PENNAS0LMEHRZWECK-GETRIEBE0ELGL4SAE90
MODRICAOILREFINERY, MODRICA/BIH	TRANSLUBEGL-4SAE80W
MODRICAOILREFINERY, MODRICA/BIH	TRANSLUBEGL-4SAE90
MORRISLUBRICANTS, SHREWSBURY/GB	L0DEX0LSS80W
MORRISLUBRICANTS, SHREWSBURY/GB	SERV0LEP80W/90
MOTULSA, AUBERVILLIERSCEDEX/F	M0TULGEARSYNTTDL75W-90
NESTESIARKKINOINTIOY, ESPOO/FIN	NESTEHYP0IDITDLS75W-90
NEWPROCESSAG, TUBACH/CH	GEABOILSYNTH
OEST, GEORGMINERALOLWESK, FREUDENSTADT/D	OESTMEHRZWECK-GETRIEBEÖLFESAE8OW-9O
OEST, GEORGMINERALOLVEHK, FREUDENSTADT/D	0ESTSYNTHGETRIEBE0LSAE75W-90
OKNEDERLAND, STAPHORST/NL	0KUNI-VEHICLEDAN0ILLD-SAE75W/90
OKNEDERLAND, STAPHORST/NL	QUINT0LTRANSMISSI0N0ILVS-45SAE75W/90
OMVREFINING&MARKETINGGMBH, WIEN/A	0MVGEAR0ILXD-4SAE80W-85
OMVREFINING&MARKETINGGMBH, WIEN/A	0MVUNIGEARSSAE75W-90
OMVREFINING&MARKETINGGMBH, WIEN/A	0MVUNIGEARSAE80W-90
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0GL0BALGEABCBSSAE75W/85
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0GL0BALGEARSASAE80W
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0GL0BALGEARSASAE80W/85
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0GL0BALGEARSASAE80W/90
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0GL0BALGEARSASAE85W/90
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0GL0BALMULTIGEARTSSAE75W/90
PANOLINAG, MADETSWIL/CH	PAN0LINSUPERDUTYSYNTH75W/90
PANOLINAG, MADETSWIL/CH	PAN0LINT0PGEAR80W/90
PETROGALS.A., LISBOA/P	GALPTRANSVEXTDL75W90
RAVENSBERGERSCHMIERSTOWVERTRIEBGMBH, WERTHER/D	RAVENOLSLGSPEC.LKWGETR.ÖL80W90
REPSOLYPFLUBRICANTESYESPECIALIDADES, MADRID/E	VEHICLETAG0FELD75W90
S.A.E.L.，MADRID/E	GULFSYTHETICGEARLUBRICANT75W-90
SHARJAHNATIONALLUBEOILCO.LTD., SHARJAH/UAE	SHABLUEPGEABLUBE80W/90（GL-4）
SHELLINTERNATIONALPETROLEUMCOMPLTD, LONDON/GB	SHELLSPIRAXGX80W
SHELLINTEKNATIONALPETROLEUMCOMPLTD, LONDON/GB	SHELLSPIRAXGX80W-90
SHELLINTEBNATIONALPETROLEUMCOMPLTD, LONDON/GB	SHELLSPIRAXMX80W-90
SRSSCHMIERSTOWVERTRIEBGMBH, SALZBERGEN/D	WINTERSHALLGETRIEBEFLUIDSML80W-90
SRSSCHMIERSTOWVERTRIEBGMBH, SALZBERGEN/D	WINTERSHALLWI0LINRSG80
STATOILLUBRICANTS, STOCKHOLM/S	GEARWAYG480W
STRUB+COAG, REIDEN/CH	STRUBMULTIGEARSG080W-90
STRUB+COAG, REIDEN/CH	VULC0GEARSYNTSGX75W-90
TEDEXPRODUCTIONSP.Z.0.0.,TOMASZOWMZOWIECKI/PL	TEDEXGEAR0ILSAE80W
TEDEXPRODUCTIONSP.Z.0.0.,TOMASZOWMZOWIECKI/PL	TEDEXSUPERGEAROIL （3343M） SAE80W90
TOTALLUBRIFIANTSS.A., PARIS/F	ANTAREPS75W-90
TOTALLUBRIFIANTSS.A., PARIS/F	ANTARUNIVERSALFE80W-90
TOTALLUBRIFIANTSS.A., PARIS/F	FINAP0NT0NICFDL75W-90
TOTALLUBRIFIANTSS.A., PARIS/F	FINAPQNT0NICMDL80W-90
TOTALLUBRIFIANTSS.A., PARIS/F	TOTALTRANSMISSIONMDL80L-90

TOTALLUBRIFIANTSS. A., PARIS/F	T0TALTRANSMISSI0NRSFE80W-90
TOTALLUBRIFIANTSS. A., PARIS/F	T0TALTRANSMISSI0NSYNFE75W-90
TOTALLUBRIFIANTSS. A., PARIS/F	TRANSELFSYNTHESEFE75W-90
TOTALLUBRIFIANTSS. A.，PARIS/F	TRANSELFUNIVERSALFE80W-90
VALVOLINEEUROPE, DORDRECHT/NL	SYNP0WERGEAB0ILTDL75W-90
VIALOILLTD., MOSCOW/RUS	CONSOLTRANSLUX
YACCO, STPIERRELESELBEUF/F	BVXIOOO
ZELLER+GMELINGMBH&CO., EISLINGEN/D	DIVIN0LGEAR0ILST0SAE80W-90
ZWRIEDRICHSHAFENAG, FRIEDRICHSHAFEN/D	ZF-ECOFLUIDX

Oil Class 02D

Gear oil of viscosity grades: SAE 75W-80 (semi-synthetic, synthetic)

Manufacturer (02D)	Trade name (02D)
AGIPSCHMIERTECHNIKGMBH, WURZBURD/D	AUTOLGETRIEBEÖLVSL-475W-8O
ARALAG, BOCHUM/D	ARALGETRIEBEÖLSNSSAE75W-80
BPINTERNATIONAL, PANGBOUENE, READING/GB	CASTROLSYNTRANSZ
BUCHERAGLANGENTHALLANGENTHAL/CH	M0T0REXPRISMATF75W/80
CEPSALUBRICANTSS.A., MADRID/E	CEPSATRANSMISI0NESFE+LD75W-80
CHEVRONTEXACO, GHENT/B	MULTIGEARMTF75W-80W
DAFTRUCKSN.V., EINDHOVEN/NL	DAFPREMIUM75W80W
DEOLIEBRONB.V., ZWIJWDRECHT/NL	T08MT/LDGEAR0IL75W80
ENIS.P.A.REFINING&MARKETINGDIVISION, ROME/I	R0TRAMULTIGEAR75W-80
EXXONMOBILCORPORATION, FAIRFAX, VIRGINIA/USA	M0BILUBEXHP75W-80
FUCHSPETROLUBAG, MANNHEIM/D	TITANCYTRACLD75W-80
GINOUVESGEORGESSA, LAFARLEDE/F	Y08K89475W-80
GULFOILINTEBNATIONAL, PITTSBURG/USA	GULFGEARTX75W-80
HANDELMIJNOVIOLB.V., NIJMEGEN/NL	KENN0C0FLEETTRANSMISSI0NLUBEEDSAE75W-80W
HUILESBERLIETS.A., SAINTPRIEST/F	RT0L0NGEVIAEC075W-80
IGOLFRANCESA, AMIENS/F	TRANSGEARZF75W80
KROON-OILB.V., ALMELO/NL	GEARSYNTHMT/LD75W-80
KUWAITPETROLEUMR&TB.V., EUEOPOORTRT/NL	Q8T60SAE75W-80
MAZIVAZAGREBD.0.0, ZAGREB/HR	INATRANSM0LHD75W-80
MOTULSA, AUBERVILLIERSCEDEX/F	M0TULM0TYLGEAR75W-80
OKNEDERLAND, STAPHORST/NL	0KCAEDAN0ILMT/LDSAE75W/80
OMVREFINING&MARKETINGGMBH, WIEN/A	0MVGEAR0ILLDISAE75W-80
PAKELOMOTOROILS.R.L, SANBONIFACIO（VR）/I	PAKEL0G0LDENGEARLDSAE75W/80
PANOLINAG, MADETSWIL/CH	PAN0LINTRANSGEAR75W/80W
PETROGALS.A., LISBOA/P	GALPTRANSVEXTDLULTRA75W80
PETRONASLUBRICANTSINTERN.., KUALALUMPUB/MAL	TUTELATRUCKGEAKFE （SAE75W80）
PETRONASLUBRICANTSINTERN.., KUALALUMPUR/MAL	TUTELATRUCKGEARLITESAE75W80
RALOYLUBRICANTESS.A.DEC.V., TIANGUISTENCO/MEX	NEWEXPERIENCESYNTHETIC0IL341
REPSOLYPFLUBRICANTESYESPECIALIDADES, MADRID/E	VEHICLETAGOCAJASFELD75W-80
S.A.E.L., MADRID/E	GULFINTARDERGEAR0IL75W-80
SHELLINTEKNATIONALPETROLEUMCOMPLTD, LONDON/GB	SHELLTRANSMISSI0N0ILZFLD75W-80
TOTALLUBRIFIANTSS.A., PARIS/F	ANTARLD75W-80
TOTALLUBRIFIANTSS.A., PARIS/F	FINAP0NT0NICTI75W-80
TOTALLUBRIFIANTSS.A., PARIS/F	T0TALTRANSMISSI0NTI75W-80
TOTALLUBRIFIANTSS.A., PARIS/F	TRANSELFLD75W-80
UNILOPAL, SAUMURCEDEX/F	GERI0NLD75W80
VALVOLINEEUROPE, DORDRECHT/NL	DURABLENDGEAR0ILGL-4SAE75W-80
YACCO, STPIERRELESELBEUF/F	BVXZ-50075W-80

Oil Class 02E
Gear oil of viscosity grades: SAE 75W-80
(synthetic)

Manufacturer (02E)	Trade name (02E)
CASTROLINTERNATIONAL, PANGBOURNEREADING/GB	CASTR0LSYNTRANSMAX75W-80
ZWRIEDRICHSHAFENAG, FRIEDRICHSHAFEN/D	ZF-ECOFLUIDM

Oil Class 02L
Gear oil of viscosity grades: SAE 75W-80/75W-85
(semi-synthetic, synthetic)

Manufacturer (02L)	Trade name (02L)
FUCHSPETROLUBAG, MANNHEIM/D	FUCHSTITANCYTRACMANSYNTH/75W-80

Recommended Fluids, Lubricants and Diesel Fuels

It is extremely important to select correct lubricants and diesel fuels so that your Isuzu vehicle demonstrates its full performance over years.

Top up the lubricants in accordance with the Maintenance Schedule specified for your vehicle. Use Isuzu genuine lubricants or those recommended in the list below. The lubricant change intervals specified in the Maintenance Schedule and the terms and conditions of the new vehicle warranty assume the use of Isuzu genuine or Isuzu recommended lubricants listed below.

LUBRICATION	MANUFACTURER	BRAND	GRADE		
			API	ACEA JASO	
Diesel engine crankcase	ISUZU GENUINE	BESCOMULTI-ZTYPECF-4（10W-30）	CF-4		
	ISUZU GENUINE	BESCOS-3（10W），（20W），（30），（40）	CD		
	Shell	RimulaR3X（15W-40）	CH-4/CG-4/CF-4/CF	E5/E3	DH-1
	Shell		CF-4/CF		
	Shell	RimulaR2Extra（15W-40）	CF		
	ExxonMobil	RimulaR2（30），（40）	CI-4	E2	
	Castrol	DelvacMX（15W-40）	CH-4		
	BP	TectionJ-Max（15W-40）	CH-4		
	Caltex/Chevron	Vane1lusC6Extra（15W-40）	CF	E3	DH-1
				E3/E5	
	Caltex/Chevron	DeloGold（30），（40）	CH-4/CF	E2	
	Caltex/Chevron	De1oGo1dMultigrade （15W-40）	CI-4Plus	E3	
	ISUZU GENUINE	De1o400Mult i grade（15W-40）		E7	DH-1
Manual transmission (Except ZF9S1310 type)	ISUZU GENUINE	BESCOGEAROILSH（80W-90），（90），（140）	GL-5		
	Castrol	Syntrax Universal（80W-90）	GL-5		
	Caltex	ThubanGL-5EP（80W-90），（85W-140）	GL-5		
Differential	ISUZU GENUINE	BESCOGEAROILSH（80W-90），（90），（140）	GL-5		
	ExxonMobil	Mobilube HD（80W-90）	GL-5		
	Castrol	Syntrax Universal（80W-90）	GL-5		
	Caltex	ThubanGL-5EP（80W-90），（85W-140）	GL-5		
Power steering	ISUZU GENUINE	BESC0ATFII（power steering only），ATFIII			
	Shell	SpiraxS3ATFMD3（Dexron ® III）			
	Castrol	TQDIII（Dexron ® III）			
	BP	Autran DXIII（Dexron ® III）			
	Caltex/Texaco	Texamaticl888（Dexron ® III）			
Center bearing Grease lubricated hub Water pump Propeller shaft sliding yoke Universal joint Kingpin Steering shaft Drag link (Multi-purpose grease)	ISUZU GENUINE	BESC0L-2GREASE（No.2），L-3GREASE（No.3）			
	Shell	GadusS3V220C2（No.2）			
	ExxonMobil	MobilgreaseXHP222/223（No.2），（No.3）			
	Caltex/Texaco	Starplex EP(No.2)			
Multi-purpose grease containing molybdenum	Shell	GadusS2V220AD2（No.2）			
	Caltex	MolytexGreaseEP2（No.2）			

COOLANT	MANUFACTURER	BRAND*
Engine cooling system	ISUZU GENUINE	BESCOLLCSUPERTYPEE, AS
	Caltex/Texaco/Chevron	Extended Life Coolant
	Caltex/Texaco/Chevron	Havoline XLC
	Caltex/Texaco/Chevron	Delo ELC
	Caltex/Texaco/Chevron	Delo ELC Nitrite Free
	BASF	GlysantinG34

*: Use Isuzu recommended coolant, or GENERAL MOTORS ENGINEERING STANDARDS GM6277M (Ethylene glycol based non-silicate and non-borate coolant) or equivalent.

ADVICE

- Mix the coolant and water at an appropriate concentration.

FLUID	BRAND
Electric-hydraulic cab tilt pump	MIL-H-5606E aviation oil or equivalent

FLUID	MANUFACTURER	BRAND	GRADE *
Clutch fluid tank	ISUZU GENUINE	BESCObrakefluidsuperDelcosuprem	DOT3
	ACDelco™	e11	DOT3

DIESEL FUEL / APPLICABLE STANDARD (Sulfur content below 50 ppm)	
Japanese Industrial Standards (JIS)	Based on JIS K2204: 2007 Diesel Fuel
Deutsche Industrie Normen (DIN)	Based on EN590: 2004
American Society for Testing and Materials (ASTM)	Based on D975-04c No.1-D S15 or No.2-D S15 (below 15 ppm)
British Standards (BS)	Based on EN590: 2004

CAUTION

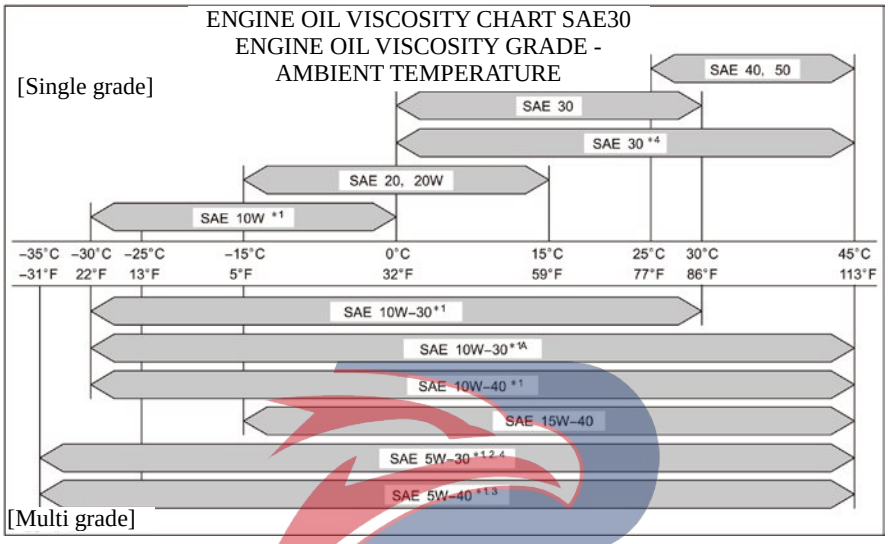
- Be sure to use low-sulfur diesel fuel (containing sulfur of 50 ppm or lower).
  If you supply the vehicle with poor-quality fuel, water-removing additive or other additive, gasoline, kerosene or alcohol-based fuel, it could harm the fuel filter, prevent proper movement of fuel-lubricated parts in the injectors and adversely affect the engine and PM catalytic converter, possibly resulting in a breakdown.
  If you accidentally put the wrong fuel in the tank, drain it all out. Starting the engine with the wrong fuel in the tank could result in a fire or engine damage.
- Open the fuel tank filler cap slowly. If you open it quickly, fuel may spurt out.

ADVICE

- Only use fuels listed above. Do not use other fuels as they may adversely affect the engine.

Engine Oil and Gear Oil Viscosity

Select appropriate engine and gear oils in accordance with the tables below. It is also important to select the viscosity appropriate for the temperature at which your vehicle operates. Use the following tables for making correct selections.

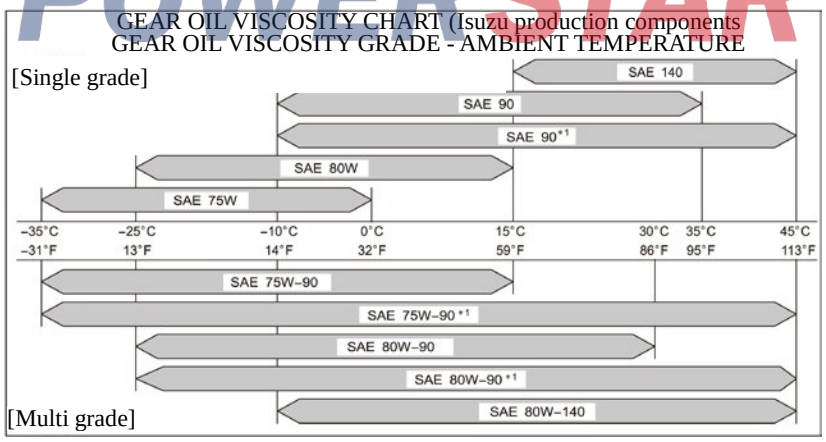


*1: At ambient temperatures below -25°C (-13°F), this can only be used when starting aids (oil pan heater, block heater, etc.) are used.

*2: In the case of 5W-30 oil for commercial vehicles (CV), only Isuzu genuine oil can be used.

*3: 5W-40 oil is specified as the recommended oil only for cold regions (Russia, China, etc.).

*4: Use is possible at ambient temperatures up to 45°C (113°F) only in the case of Isuzu genuine oil.



*1: Use is possible at ambient temperatures up to 45°C (113°F) only in the case of Isuzu genuine oil.

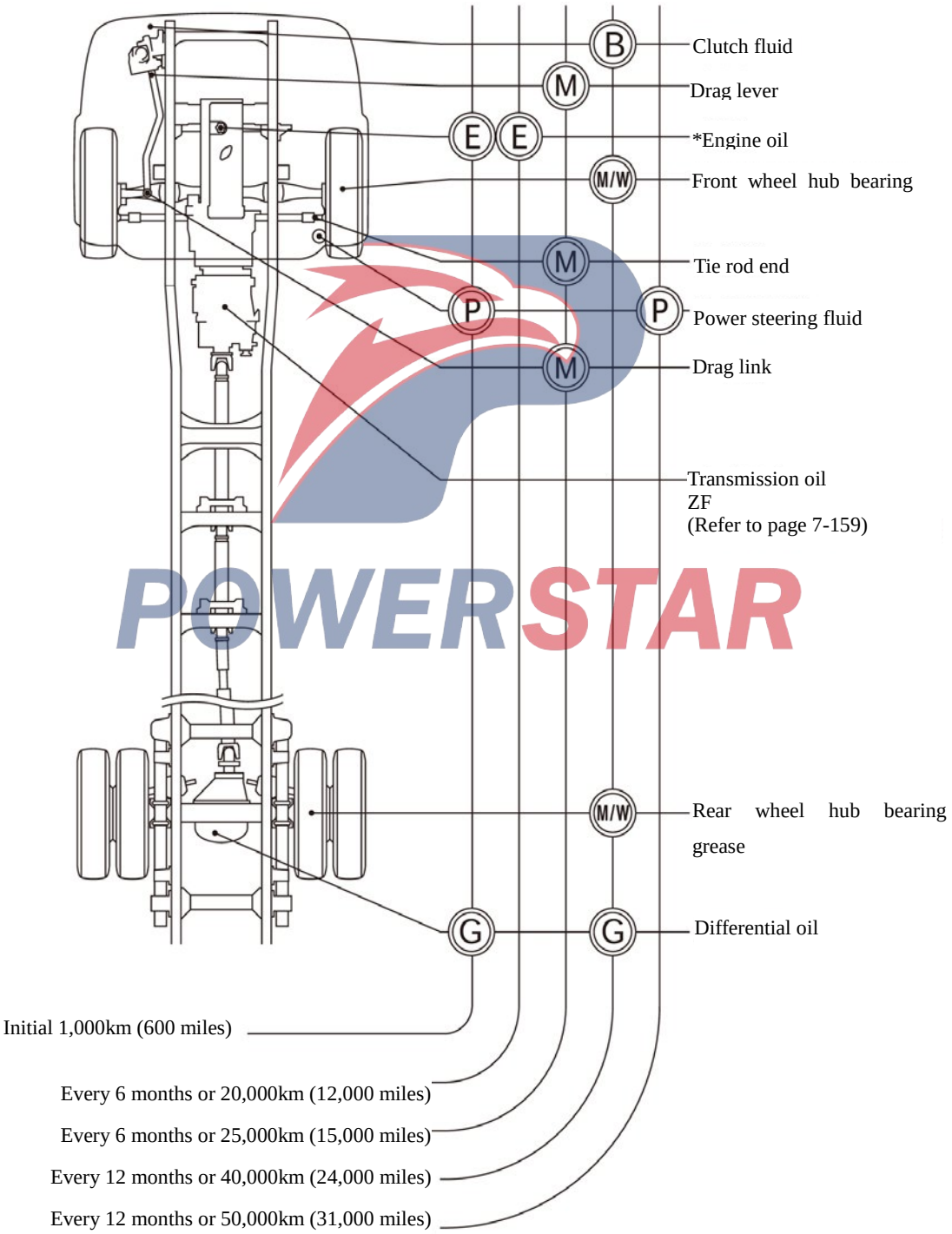
Lubrication Chart

CXR/EXR Models (with R066/F075 and R130 Type Axles)

○ CHECK or SUPPLY
● CHANGE

Ⓔ....ENGINE OIL
Ⓖ ....GEAR OIL
Ⓜ ....MULTIPURPOSE TYPE GREASE
Ⓜ/Ⓦ ....MULTIPURPOSE TYPE GREASE or WHEEL BEARING GREASE

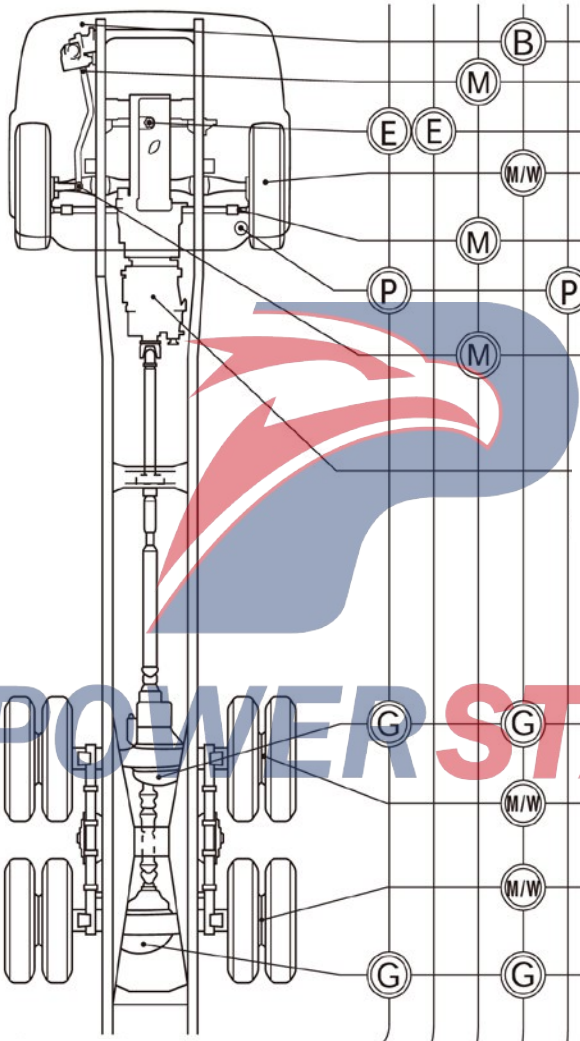
Ⓑ ...BRAKE FLUID
Ⓟ...POWER STEERING FLUID



*Check oil and fluid level daily.

CYZ/EXZ Models with Leaf Spring Suspension
(with F075 and RT210/RT250 Type Axles)

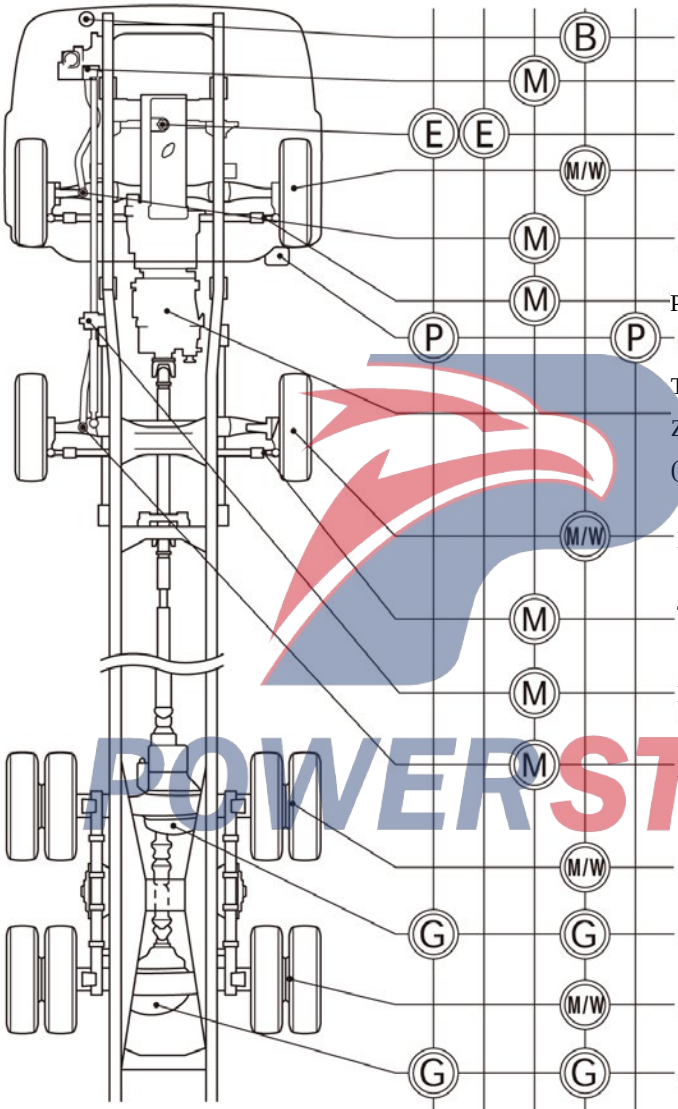
○ CHECK or SUPPLY
◎ CHANGE
Ⓔ ....ENGINE OIL
Ⓖ ....GEAR OIL
Ⓜ ....MULTIPURPOSE TYPE GREASE
Ⓜ/Ⓦ ....MULTIPURPOSE TYPE GREASE or WHEEL BEARING GREASE
Ⓑ ...BRAKE FLUID
Ⓟ ...POWER STEERING FLUID



*Check oil and fluid level daily.

CYZH Model with Leaf Spring Suspension
(with F075 and RT210/RT250 Type Axles)

○ CHECK or SUPPLY
◎ CHANGE
Ⓔ .....ENGINE OIL
Ⓖ ....GEAR OIL
Ⓜ ....MULTIPURPOSE TYPE GREASE
Ⓜ/Ⓦ ....MULTIPURPOSE TYPE GREASE or WHEEL BEARING GREASE
Ⓑ ...BRAKE FLUID
Ⓟ ...POWER STEERING FLUID



Clutch fluid
Drag lever
*Engine oil
Front wheel hub bearing grease
Tie rod end
Power steering fluid
Drag link
Transmission oil
ZF
(Refer to page 7-159)
Front wheel hub bearing grease
Tie rod end
Drag link,
Steering link arm
Drag link
Rear wheel hub bearing grease
Differential gear oil
Rear wheel hub bearing grease
Differential gear oil

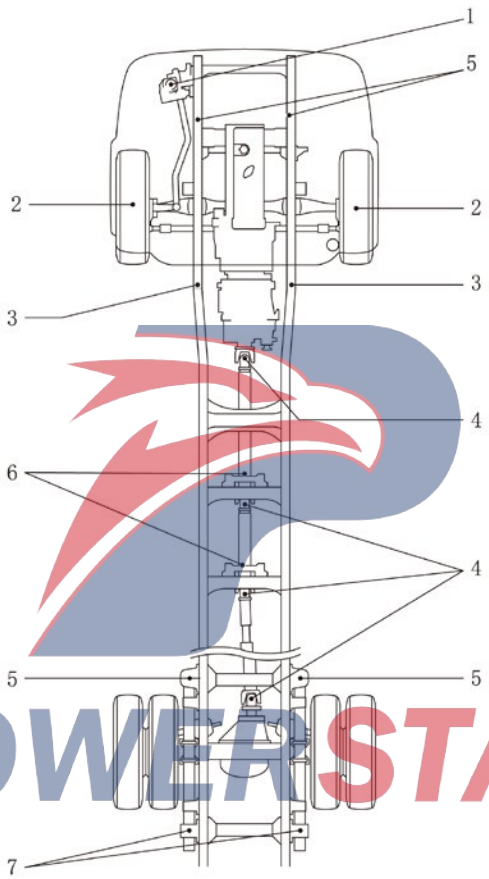
Initial 1,000km (600 miles)
Every 6 months or 20,000km (12,000 miles)
Every 6 months or 25,000km (15,000 miles)
Every 12 months or 40,000km (24,000 miles)
Every 12 months or 50,000km (31,000 miles)

*Check oil and fluid level daily.

Greasing Points

CXR/EXR Models (with F075 and R130 Type Axles)

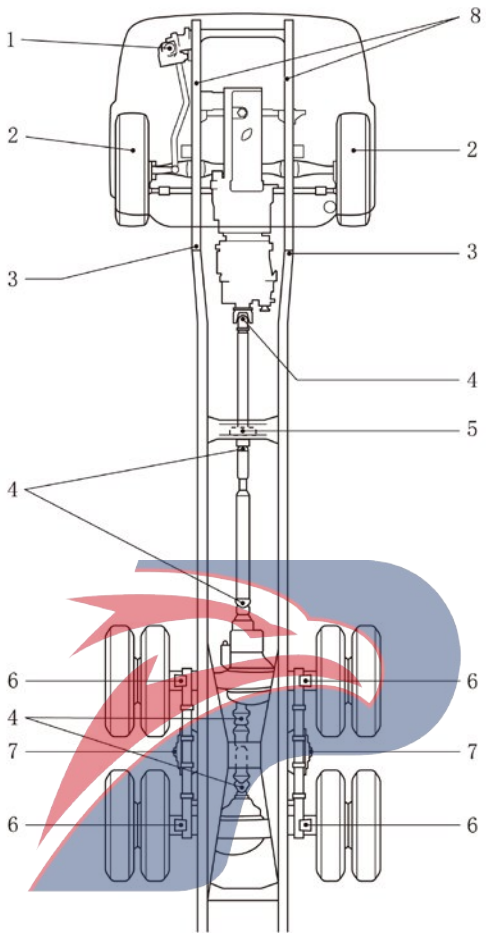
Every month or every 5,000km (3,000miles)



1. Steering shaft sliding sleeve
2. Kingpin
3. Spring and shackle pin
4. Propeller shaft universal joint and sliding sleeve
5. Spring pin
6. Propeller shaft center bearing
7. Spring sliding shackle

CYZ/EXZ Models with Leaf Spring Suspension (with F075 and RT210/RT250 Type Axles)

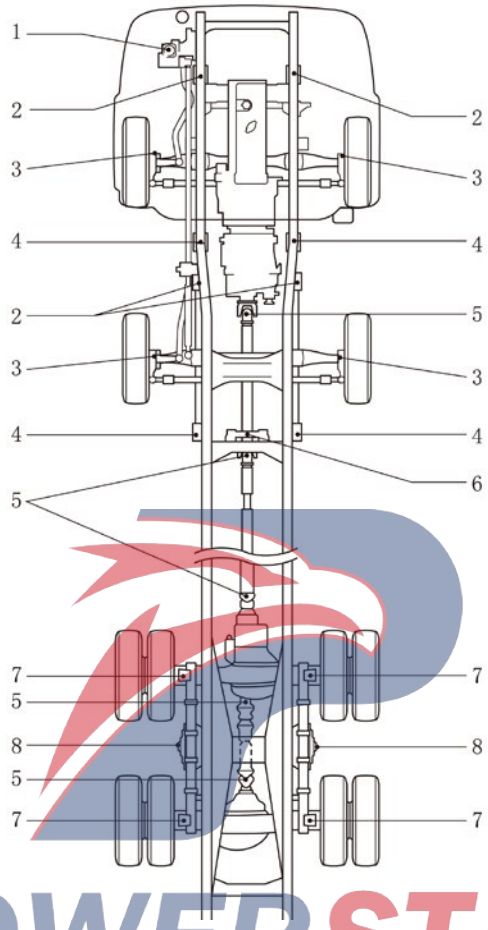
Every month or every 5,000km (3,000miles)



1. Steering shaft sliding sleeve
2. Kingpin
3. Spring and shackle pin
4. Propeller shaft universal joint and sliding sleeve
5. Propeller shaft center bearing
6. Spring slide pad
7. Trunnion shaft
8. Spring pin

CYH Models with Leaf Spring Suspension(with F075 and RT210/RT250 Type Axles)

Every month or every 5,000km (3,000miles)



1. Steering shaft sliding sleeve
2. Spring pin
3. Kingpin
4. Spring and shackle pin
5. Propeller shaft universal joint and sliding sleeve
6. Propeller shaft center bearing
7. Spring slide pad
8. Trunnion shaft


POWERSTAR

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Causes of Malfunction and Measures

As a precautionary measure, please carry out routine inspection and maintenance. Be sure to carry out regular inspections and maintenance. In order not to deepen the deterioration of minor problems, please deal with it early.

If any of the following faults occur, please check and handle according to the instructions in the following table.

If it cannot be repaired alone and the solution in the table invalid or not clear specific fault location, please contact Isuzu supplier.

ADVICE

The ◎ mark on the measures column indicates the need for repair and commissioning. Please contact your ISUZU Supplier.

Phenomenon		Cause	Measures	Reference page
Engine cannot be started	The starter does not run or has weak power	Battery is dead	Charge or replace	8-12
		Battery terminals deviate, loose or corroded	After dealing with the corrosion part, re-fixed	7-122
		Starter grounding wire deviate, loose or corrode	After dealing with the corrosion part, re-fixed	—
		Starter, electrical system failure	◎	
	Operating normally	No fuel	Confirm there is no fuel leaks before replenishing	8-13
		Air has been mixed in the fuel system	Discharge the air	8-13
		Fuel filter blocked	Replace the filter after water excluded	7-63 7-99
		Fuel icing	Heat the fuel pipe with hot water and wait for the temperature rising	—
		Supply pump malfunction	◎	—
		No urea (AdBlue®)	Replenishment of urea (AdBlue®)	2-37 3-10
		Urea (AdBlue®) is poor quality	◎	—
		Engine control system fault	◎	—
		Preheating device failure	◎	

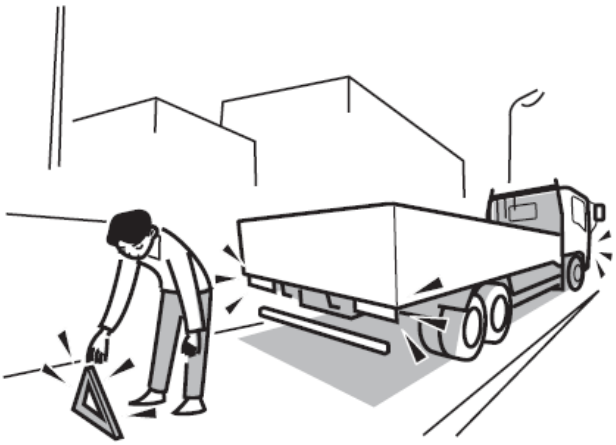
Phenomenon	Cause	Measures	Reference page
Engine stalls immediately after it started	Idle speed is too low	Adjust through idle control valve	4-64
	Fuel filter blocked	Replace the filter after water excluded	7-63
	Fuel Strainer blocked	Replace the filter	7-99
	Engine control system fault	◎	—
	Air cleaner blocked	Clean or replace the filter	7-48
	Supply pump malfunction	◎	—
Engine running unstable	Fuel system fault	◎	—
	Air and water has been mixed in the fuel system	Do operation of water removal or deaeration of the fuel filter	7-63 7-99 8-13
	Engine control system fault	◎	—
Exhaust smoke is white	Insufficient preheat running	Carry on preheat running	4-63
	Engine oil is too much	Adjust to normal amount	7-38
	Engine control system fault	◎	—
	Supply pump malfunction	◎	—
	Fuel system fault	◎	—
	Idle speed to maintain a long time (about 2 hours or more)	Keep the vehicle parked in a place that does not affect the traffic, depress the accelerator pedal and confirm that no white smoke comes out.	—

Phenomenon	Cause	Measures	Reference page
Exhaust smoke is black	Engine control system fault	◎	—
	Supply pump malfunction	◎	—
	Air cleaner blocked	Clean or replace the filter	7-48
	Fuel system fault	◎	—
	Exhaust system blocked	◎	—
			—
Overheat	No coolant	Supplement	7-59
	The front of the radiator was clogged by garbage	Clean	7-131
	Radiator sub tank cap is not covered	Cover or replace the radiator sub tank cap.	
	Coolant is contaminated	Clean the inside of the radiator and replace the coolant	7-59
	Fan clutch fault	◎	
	Radiator fuel tank cap contaminated and damaged	Clean or replace	
Insufficient oil pressure			
	Insufficient engine oil remaining	Supplement	7-40
	Engine internal failure	◎	—
	Meter and lamp and switch ect. failure	◎	—
Insufficient air pressure	Air compressor failure	◎	—
	Air pipe leaks	◎	—
	Air conditioner failure	◎	—

Phenomenon	Cause	Measures	Reference page
The engine does not work	Parking brake lever is not reset	Reset correctly	—
	Brake is pulled up	◎(Adjust the gap between drum and liner)	—
		Fill air	7-91
	Clutch is slippage	Adjust the clutch clearance	7-103
	Air cleaner blocked	Clean the filter	7-48
	Fuel filter blocked	Replace the filter after water excluded	7-63
	Fuel strainer blocked	Replace the filter	7-99
	Engine control system fault	◎	—
	Engine fault	◎	—
			—
Brakes respond slowly	The gap between drum and liner is large	◎	—
	Air pressure low	Increase engine speed and fill air	7-91
Brake unidirectional action	The tire pressure on each wheel is not balanced	Adjust to the appropriate air pressure	7-73
	Tire wear uneven	Replace the tire	7-80
	The gap between drum and lining is not balanced between the each wheels	◎	7-72
Steering wheel is not flexible	The goods in front are heavy	Re-stacked goods properly	2-5
	Power steering oil is insufficient	Supplement	7-110
	The front tire pressure is insufficient	Adjust to the appropriate air pressure	7-73

Phenomenon		Cause	Measures	Reference page
Steering wheel shaking		Hub bolts and nuts loosen	Tighten with the specified torque	7-87
		Tire pressure is not balanced	Adjust to the appropriate air pressure	7-73
		Tires are not balanced	◎	—
		Steering wheel free travel is too large	◎	—
Steering wheel returning is slow response		The grease supply for each parts of steering system is not sufficient	Supply of grease	7-23
		Tire positioning failure	◎	—
Clutch cut off is slow response		The air is insufficient	Fill air	7-91
		Clutch oil is insufficient	Supplement	7-105
		Pedal clearance is too large	Adjust to appropriate clearance	7-103
Make noise and abnormal sound	From the transmission	Transmission oil is insufficient	Supplement	7-106
		Transmission internal fault	◎	—
	From differential	The differential oil is insufficient	Supplement	7-108
		Differential internal fault	◎	—
	From differential	Spring pins, lifting lugs, blocks and others wear and tear	◎	—
	From transmission shaft	The grease supply for each parts is not sufficient	Supply of grease	7-23
		Spline shaft, bearings and other wear	◎	—

Vehicle Breakdown during Driving



① Turn on the hazard warning light flashes, and immediately stop the car in a safe area (roadside, sidewalk) that does not affect traffic.

② Make the passengers get off, and stay in a safe place.

③ Go to the safety place, the use of the nearest telephone or emergency phone to inform the status of the fault and other information.

WARNING

[When fuel leaks]

- In the event of a fuel leak, the spark may cause a fire. Please shut down the engine immediately.

ADVICE

- Purchased QingLing vehicle, incidental give away "National Service Network Guide" and placed in the vehicle inspection certificate bag, please refer it.

ADVICE

- Purchased QingLing vehicle, incidental give away "National Service Network Guide" and placed in the vehicle inspection certificate bag, please refer it.

Tire Blow-out

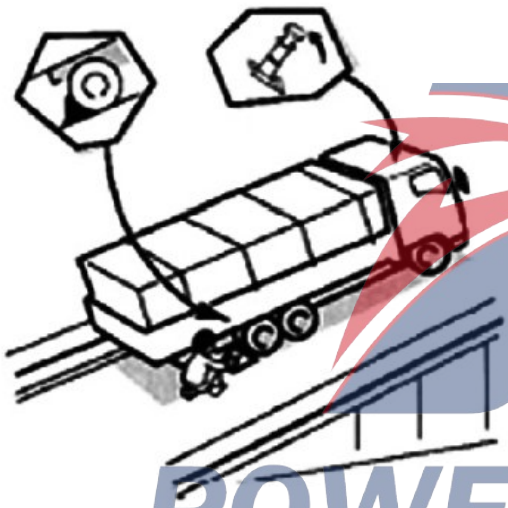
WARNING

- Continued driving after a flat tire will increase the force on the hub bolts and may cause accidents such as the falling off of the wheels due to the bolts breakage.

When a flat tire occurs during driving, hold the steering wheel firmly and stop it slowly, avoid sudden braking. Please change the tires in a safe and flat area that does not affect traffic. When changing tires on the road, use the hazard warning lights and parking warning sign to warn the vehicle of the back. Pull up the parking brake lever, and in front and rear of the diagonal tire of the tire to be replaced (for example, the right front wheel when the left rear wheel needs to be replaced) fix it with stone and square block.

Please urge the passengers in the same vehicle to get off.

Tire Replacement (ISO 10-bolt Wheels) → Refer to page 7-80
Handling the Jack → Refer to page 7-5



Spare Tire

Engine Stops Working while Driving

Slowly depress the brake pedal to slow down and immediately stop in a safe place to check and repair. If the engine stops working while driving caused by the exhaustion of fuel, simply supplying the fuel cannot start the engine. Please perform the degassing operation after the fuel supply is completed.

When the Fuel Runs out → Refer to page 8-13

WARNING

- There may be some changes in driving operation. Please stop in safety zone as follows.
- Steering wheel operation becomes more laborious due to failure of power steering (steering wheel operation reducing device). Please increase the intensity of operating the steering wheel

Vehicle Cannot Move at the Road Crossing

CAUTION

- When in the road crossing you are unable to move, move the car to the outside of the road first.

Brake Failure

When the brake suddenly malfunctions, please shift the gears in the order of 3rd gear → 2nd gear → 1st gear to reduce the speed and hold the steering wheel and slowly pull up the parking brake lever and parking on the left side of the road (left for Japan Driving). In the mountainous areas, parking is carried out through driving into an emergency shelter (the place continuous rising and falling of the sand gravel on the left side of the road) , in the most dangerous case, parking is done by friction between the side of the body and the guardrail or sinking the front wheels into the ditches beside the road.

CAUTION

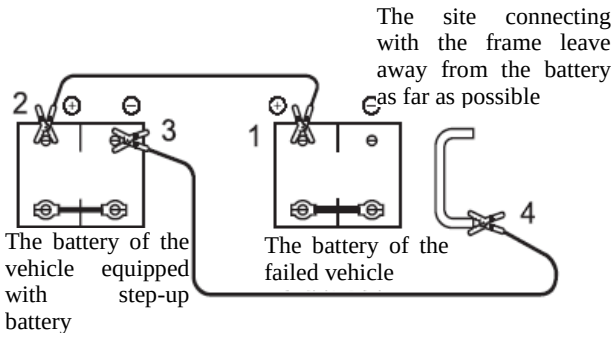
- When running at high speed, it is very dangerous to suddenly pull up the parking brake lever completely. Please by the way of shift to reduce the speed and then pull up the parking brake lever.

Hand Brake Failure

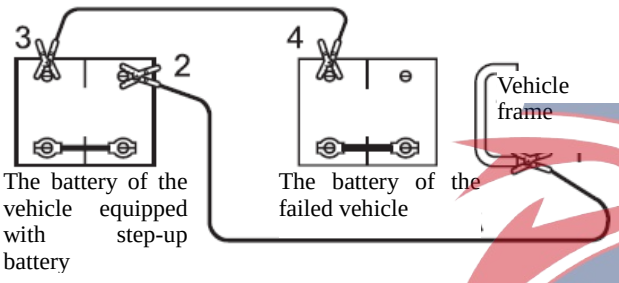
After the parking brake lever is pulled up, the parking brake is not responding and the warning lamp is no prompt, indicating that the brake system has failed and needs to be repaired. Please contact the ISUZU Supplier.

When the Battery Goes Flat

Emergency cable disconnection sequence



Emergency cable connection sequence



If the driver attempts to start the engine using a car emergency cable When the battery goes flat, use the following method.

1. Start the engine with a boost battery.
2. Check the level of the battery electrolyte of the failed vehicle.
   Check the battery electrolyte level → Refer to page 7-120
3. Connect one end of the red emergency cable to the battery positive terminal (1) of the failed vehicle and to the battery positive terminal (2) of the vehicle equipped with the step-up battery on the other end.
4. Connect one end of the black emergency cable to the battery negative terminal (3) of the vehicle equipped with the step-up battery and the other end to the frame of the failed vehicle (4) as far as possible from the battery.
5. After the emergency cable is connected, start the engine of the failed vehicle.

CAUTION

- The engine is hard to start in cold areas. At this point, it is necessary to start the engine of the vehicle equipped with the step-up battery first and then start the engine of the failed vehicle.

6. After the engine of the failed vehicle has been started, disconnect the emergency cables in the reverse order of the emergency cable connection sequence.

WARNING

- Check the battery electrolyte level before connecting the emergency cable. When the battery electrolyte level is below "L0WER LEVEL", using the battery or charging the battery will increase the damage to the battery, increasing the risk of overheating and explosion. Add battery electrolyte before connecting emergency cables.
- There may be sparks when the emergency cable is connected to the frame of the failed vehicle (4). Sparks can ignite the hydrogen of the battery. Therefore, an explosion may occur if the connection site of the emergency cable with the vehicle frame is too close to the battery. The connection site of emergency cable with the vehicle frame should be as far away from the battery.
- Avoid putting the positive and negative terminals of the battery and the positive and negative terminals of the other battery together when connecting the emergency cable.
- Be sure to disconnect the emergency cable from the battery terminal when using the battery charger.

CAUTION

- For vehicle safety and maintenance, do not use the pushing method to start the engine.
- Make sure that the booster battery supplying power is at the same voltage as the battery of the failed vehicle.
- Do not disconnect the battery terminals while the engine is running. This can cause the electrical system to malfunction.

When the Fuel Runs out

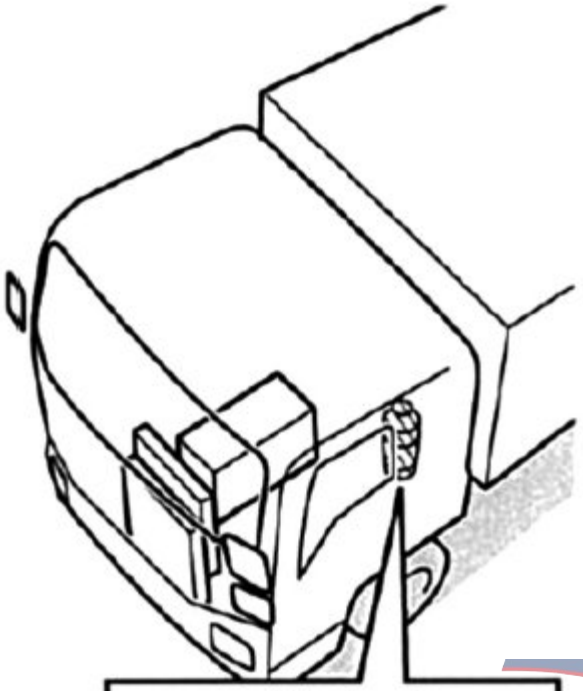
When the fuel filter is replaced and the fuel runs out, the air will be mixed into fuel system and just refueling does not make the engine starting. Please follow the points below for degassing.

Exhaust Method

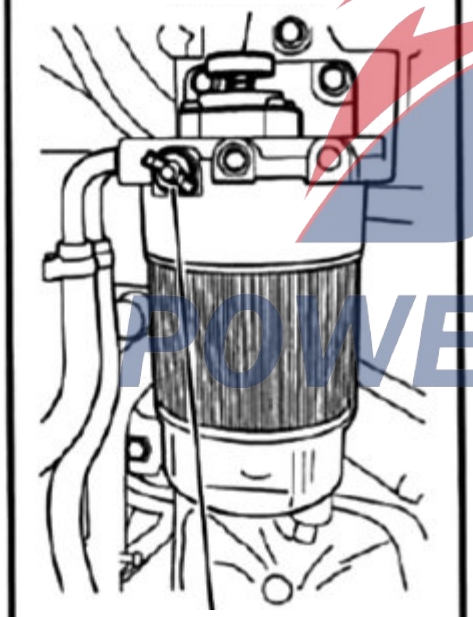
When fuel runs out, exhaust in the order of "Fuel Strainer," "Fuel Filter," and " Follow-up of degassing operation"

ADVICE

- If the degassing operation is insufficient, the engine may not operate properly. Do not omit the procedure of “Follow-up of degassing operation".



Fuel pump



Exhaust pin

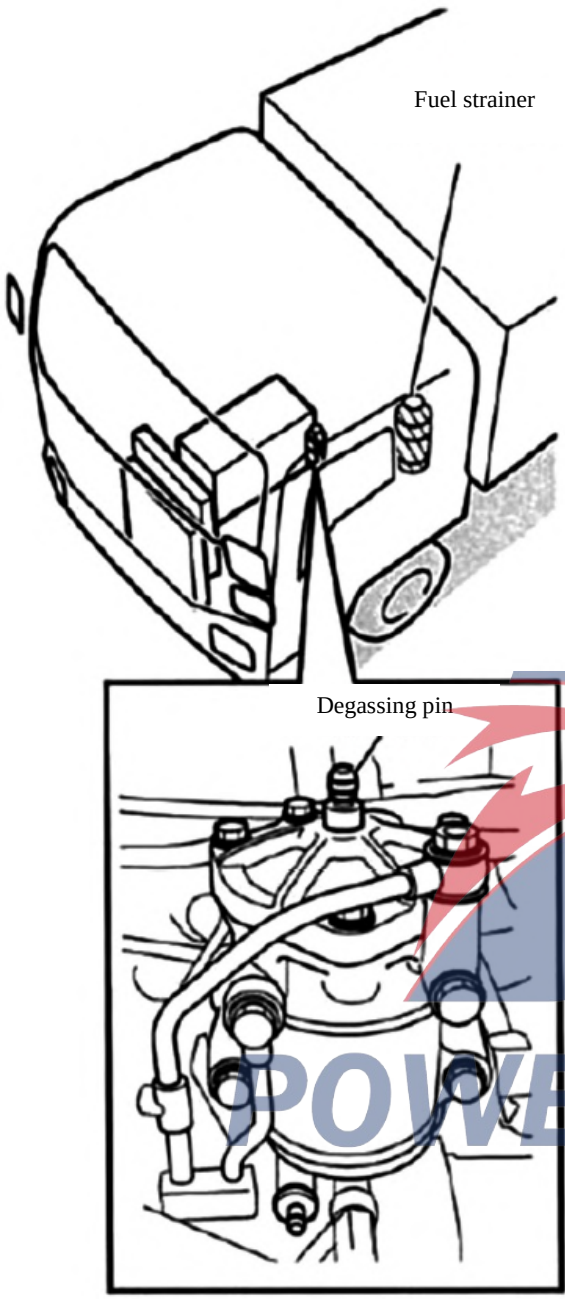
Fuel pre-cleaner

① Arrange the fuel container below the degassing pin. In order to make the fuel not splashed around everywhere, install transparent tubes, etc. on the degassing pin (inside diameter 8 mm). Then open the exhaust pin.

② When shaking the fuel pump to send fuel, bubbles may overflow in the exhaust pin.

③ Without large bubble, tighten the degassing pin, remove the hose.

④ Wipe clean the fuel around the pin.



Fuel filter

① Arrange the fuel container below the degassing pin. In order to make the fuel not splashed around everywhere, install transparent tubes, etc. on the exhaust pin (inside diameter 6 mm). Then open the exhaust pin.

② When shaking the fuel pump to send fuel, bubbles may overflow in the exhaust pin.

③ Without large bubble, tighten the degassing pin, remove the hose.

Fixed torque of exhaust pin
6.0~9.0N•m{0.6~0.9kgf•ml}

④ Wipe clean the fuel around the pin.

Follow-up of exhaust operation

① Shake the fuel pump up and down more than 150 times.

② When the accelerator pedal is released, rotate the starter to start the engine. If you cannot start, repeat step ①.

③ Confirm whether there is fuel leakage.

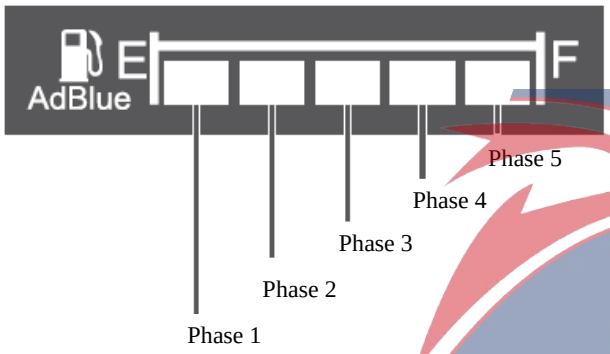
When the Urea (AdBlue®) is Exhausted

When the "Restart prohibited" interface appears on the multi-function display screen, fill the urea (AdBlue®) in the following order and start the engine.

ADVICE

- Please supply more than 10L of urea (AdBlue®).
- The hint on the multi-function display screen disappears and the alarm sounds stop before starting the engine.

Urea amount table



Multi-function display screen

Restarting has been prohibited (urea solution replenishment)
Urea is empty, cannot restart the engine. Please replace the specified urea.

The operation steps of re-start

① The starter switch is placed in the "LOCK" position, supplying more than 10L of urea (AdBlue®).

Operation of urea (AdBlue®)
→ Refer to page 2-36

Whether to Use the Specified Urea (AdBlue®)
→ Refer to page 2-36

Filling of Urea (AdBlue®)
→ Refer to page 2-37

Urea Tank
→ Refer to page 3-9

② After the urea (AdBlue®) is replenished, turn the starter switch "ON" from the "LOCK" position and wait until the prompt on the multi-function display screen disappears and the alarm "Beep ---" stops.

③ When the prompt on the multi-function display screen and the alarm "Beep ---" is no reaction, turn the starter switch back to the "LOCK" position, replenish the urea (AdBlue®) and repeat step ②.

④ Start the engine.

Warning lamp is on

Air pressure

When parking

Low Pressure Caution
Please infuse air

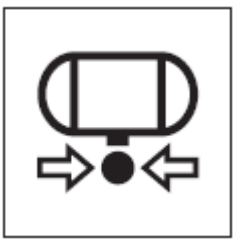
When driving

Low Pressure Caution

When the brake warning light (red) is lighting and the "Low Pressure Caution" message appears on the multi-function display screen, indicated that the air pressure in the air tank is insufficient and the brake does not fully function. At the same time, the alarm tone "beep ---" sounded. Please immediately stop the vehicle to a safe place, check and properly handle. In addition, the alarm tone "beep ---" stops after the parking brake lever is pulled.

WARNING

- Do not drive the vehicle while the brake warning light is on. In this case, the brake partially fails and there is a safety risk.



Auxiliary pressure warning light is on, indicating insufficient pressure in the auxiliary gas tank. At the same time, the alarm beep sounds.
Please immediately stop the car to a safe place to check and properly handle. In addition, the alarm tone "beep ---" stops after the parking brake lever is pulled.

Inspection and maintenance

- Run the engine at idle speed and increase the air pressure until the brake warning light or auxiliary air pressure warning light goes out.
- When the required time that the air pressure increases from 0 kPa {0 kgf / Cm2} to the air pressure of off the lights is more than the specified time, maintenance is necessary.
  Please contact the ISUZU Supplier.

Check Air Pressure → Refer to page 7-94

Charging

When parking

Abnormal charging
Please check the belt.
There is battery depletion out risk, please consult Isuzu supplier.

When this prompt appears on the multi-function display screen, indicated that the charging system may have failed.
Please immediately stop in a safe place for checking and repairing.

When driving

Please stop in a safe place
Abnormal charging

Inspection and maintenance

1. Check whether the fan belt is disconnected or loose.
2. When the fan belt is loose, please adjust it.
3. If the belt is abnormal, please contact the ISUZU Supplier.

Fan Belt → refer to page 7-51

ADVICE

- Please don't drive when this prompt is on the multi-function display screen. Because the battery is continuously discharged.

Oil pressure

When parking

Oil pressure abnormal
Please check the amount of oil. If the oil level is normal and there is no oil leakage, Please consult Isuzu dealer.

When this prompt is on the multi-purpose display screen, indicated that the oil pressure is low or the fuel filter is clogged.
Please immediately stop in a safe place, turn off the engine for checking and repairing.

When driving

Please stop in a safe place
Oil pressure abnormal

Inspection and maintenance

① Check the amount of engine oil.

Engine Oil → Refer to page 7-38

② When the engine oil quantity is low, confirm that there is no oil leak before supplying.

③ When the engine oil quantity is normal without leakage, consider the fuel filter blockage. In this case, you need to change the engine oil.

Engine Oil Filter → Refer to page 7-43

④ When the engine oil quantity is normal without fuel filter blockage, but there is fuel leakage, please contact the ISUZU Supplier.

CAUTION

- Please don't drive when this prompt is on the multi-function display screen. It may damage the engine and there is safety risk.

ADVICE

- When in winter season engine oil temperature is too low, the viscosity is too high, the warning may also appear, and the lights will go out after warm-up operation.

Overheating

When parking

Overheat

Turn off the engine after the cold running and check the coolant. To prevent scalding, do not open the sub fuel tank cap at high temperatures.

When prompted on the multi-function display screen and with an alarm tone, indicated that the engine overheats. Please stop in a safe place for inspection and repair immediately.

When driving

Please stop in a safe place

Overheat

Check and Treatment during Overheating → Refer to page 8-24

Coolant

When parking

Insufficient coolant
Deal after confirm the coolant no leakage. To prevent scalding, do not open the sub tank cap at high temperatures.

When driving

Please stop in a safe place
Insufficient coolant

When prompted on the multi-function display screen and with an alarm tone, indicated that the engine coolant is insufficient. Please immediately stop in a safe place for inspection and properly deal.

Engine Coolant → Refer to page 7-56

Inspection and maintenance

① Check whether the coolant is leaking, when not leaked, and then supply the coolant according to the "Coolant Supply Operation" procedure.

Coolant Supply Operation → Refer to page 7-61

② When the display appears again soon after the display of coolant leakage or coolant replenishment, contact your ISUZU Supplier.

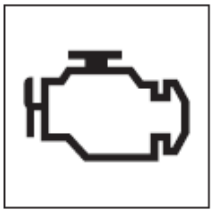
ADVICE

- When overheating or insufficient cooling water is available, it will be prompted on the multi-function display screen and with a beep sound. Please stop at a safe place for inspection and properly handle immediately.

Check and Treatment during Overheating → Refer to page 8-24

Engine Control System

Engine Control Warning Lamp → Refer to page 4-42



QOS★

QOS Warning Lamp → Refer to page 4-53

Communication System

When parking

Communi cation System

Abnormal communication system

Please turn off the engine and restart it. When the display still appears, contact your Isuzu supplier.

When driving

Commun ication System

Please stop in a safe place

When there is a communication error in the peripherals of the instrument and instrument, it will be displayed on the multi-function display.

At this point, the water temperature gauge stops running, the alarm function of the instrument cannot be operated normally.

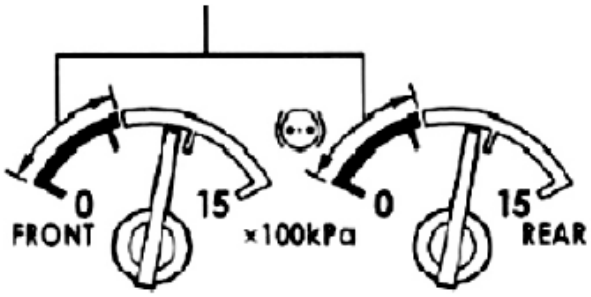
Please park the vehicle in a safe place, shut down the engine and restart the engine.

When this display appears again, contact your ISUZU Supplier.

When the Meter Shows Abnormal (except the Water Temperature Gauge)

Air Pressure Gauge

Brake air pressure gauge red alarm zone



While the meter shows abnormal, the brake warning lamp is on. Please check the air pressure.

Air Pressure → Refer to page 8-17

Brake warning lamp

Overheating (including Water Temperature Gauge)

Water Temperature Gauge

Red alarm zone

When the calibration is into the red alarm zone and the calibration color is red, indicating that the engine is overheat. At this point, the "Overheat" indication will appear on the multifunction display screen. Please immediately stop in a safe place to check and properly handle.

When parking

Overheat
Turn off the engine after the cold running and check the coolant. To prevent scalding, do not open the sub fuel tank cap at

When driving

Please stop in a safe place
Overheat

Inspection and handling when overheating

① The engine speed to maintain 1000r / min level, and cold operation. Turn off the engine when the water temperature gauge is lowered to the central vicinity range.

ADVICE

- Sudden turn off the engine may cause damage.

② Check the amount of coolant, when the fluid volume is insufficient, please supply it.

③ Check the front of the radiator, if there are garbage and plastic bags and other items, please promptly clean.

④ After the inspection is completed, be sure to contact the ISUZU Supplier.

Engine Coolant → Refer to page 7-56

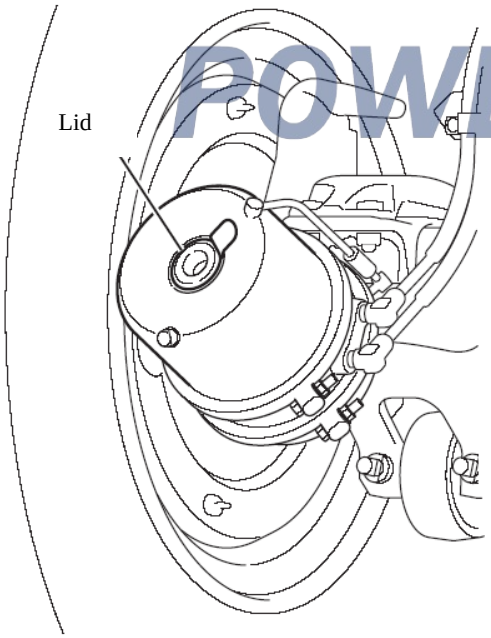
WARNING

- Do not open the radiator sub-water tank cap or radiator water tank cap when the coolant temperature is too high. Unauthorized opening of the lid may result in burns caused by steam and heat spurts. At this time the coolant temperature in the sub tank is also high, there is a risk of burns due to high temperature of the liquid. Please wait for the coolant temperature reducing before checking, supplementing and replacement.
- When you have to open the radiator sub tank cap or the radiator tank cap, fold the thick cloth over the lid after the temperature of the coolant drops to the proper temperature (80 ° C) and slowly loosen the lid.
- The coolant is toxic. Do not drink. Careless into the eyes, immediately wash with water.
- The coolant is flammable. Do not place it near a fire source.

When the parking brake can not be released

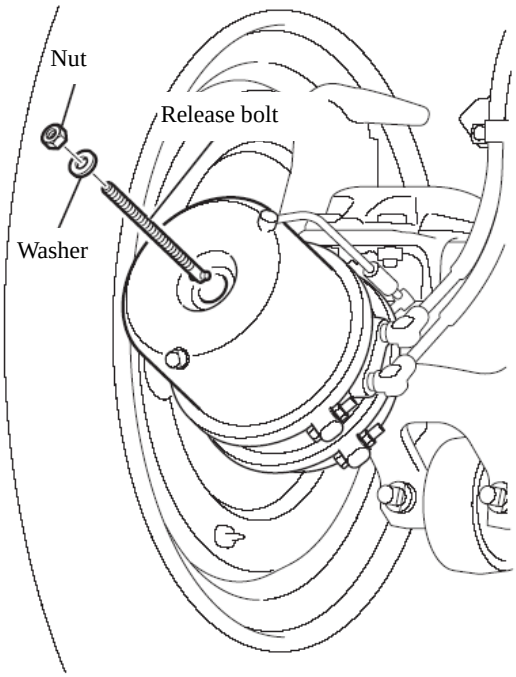
CAUTION

- When manually releasing parking brake to move a vehicle, the brake will be in a failure status. Therefore, do not lift the parking brake on the ramp.
- Manual release is limited to the exclusive trailer towing and temporary moving vehicle.
- After moving the vehicle, please immediately contact your ISUZU supplier.

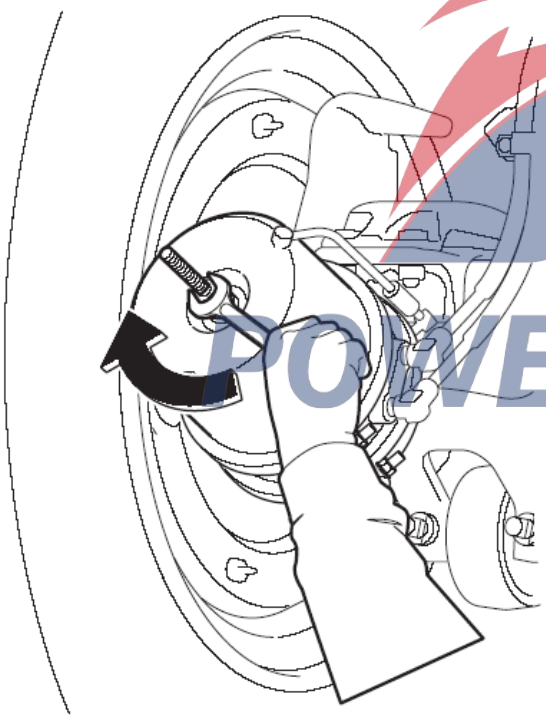


For models using the R130/RT210/RT250 type axle

1. Use wedges for pad the wheels to prevent the tires from sliding.



2. Open the lid and insert the release bolt provided in the vehicle and push down as far as it will go. Turn 90° clockwise until locked.



3. Pull the release bolt with forced to see if it is firmly seated and place the washer and nut and tighten.

Maximum height (protruding height of the release bolt)
Nearly 85mm (3.35 in)

4. Loosen the release bolt, and operate in reverse order of the tightening procedure. (Put the release bolt in the tool bag.)

When the headlight (light bulb) does not light up

① Check the bulb is damaged.
② Replace the damaged bulb. Be sure to check whether the starter switch is in the "LOCK" position and each switch is "OFF" before changing.
③ If the bulb is not damaged, it may be line abnormalities. Please contact the ISUZU Supplier.

WARNING

- Use the specified lamp. Non-specified products may cause the device to run poorly or catch fire. Driving the vehicle with the lights off could cause an accident. Always keep the lights on while driving.

Lamp (bulb) wattage

Position	Headlight name		Bulb wattage
Front end	Headlight	Low beam lights	70W
		High beam lights	75W
	Fog lights (front fog lights)		70W
	Turn signal (direction indicator)		21W (Amber)
	Outline marker lights（Clearance Lamp)		5W
Rear end	Brake lights / taillights		21/5W
	Brake light		21W
	Turn signal (direction indicator)		21W
	Auxiliary light (Reversing light)		21W
	License Plate Light		10W
Side	Side turn signal (direction indicator) front		21W (Amber)
	Side turn signal (direction indicator) intermediate		21W
Roof	Front outline lights (standard top, high top)		LED
	Front outline light (low top)		5W
Cab interior	Interior lights (low roof, high roof)		10W
	Interior lights (high roof)		LED
Reference	Instrument interior lighting lights		LED
	Instrument and the central console warning lights		LED

* When replacing the unrecorded headlight (bulb) in the above table, contact your ISUZU Supplier.

CAUTION

- When a lamp (lamp) other than the specified wattage (W) is used, it may cause deformation of the lens, container, etc. due to overheating of the lamp and the wiring. There is risk of fire.
- The lamp just extinguished is hot. To avoid burns when replacing the lamp, make sure that the lamp is adequately cooled before replacement.
- Do not drive the vehicle without the lights on. There is risk of accidents.

Replace the Headlights

If the lamp is damaged, put on the lamp with the specified wattage. Do not over tighten the screw when installing.

ADVICE

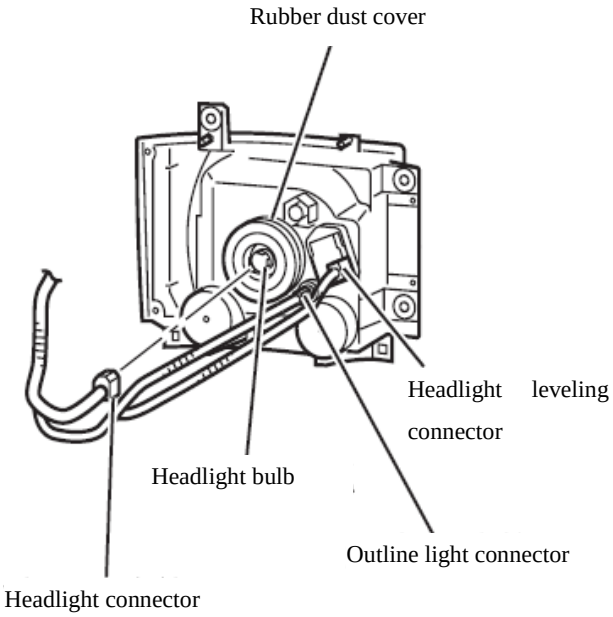
- Do not change lamps with non-specified wattages. This can cause blinking anomalies, especially for turn signals.
- When replacing the headlight, contact the ISUZU Supplier to adjust the beam of the headlight.

Bulb Wattage → Refer to page 8-28

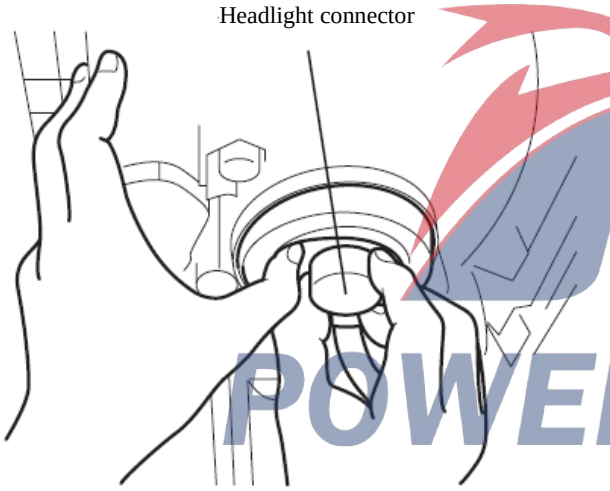
1. Tilt the driver's cab, and replace the light bulb on the side-front of the vehicle.

CAUTION

- The cab should only be flipped over on the horizontal road.
- When turning up the cab indoors, check that there is sufficient clearance in front of and above the cab.
- Close the doors and windows firmly when the cab is turned over. Do not switch the door when turning the cab.
- Do not turn the cab over when there is something on the dashboard, seat, cup holder, or inside and on the floor.
- Remove all ice or snow from the top of the bumper before turning the cab over. Failure to do so could damage other parts such as bumpers, headlights or backsplash trays.
- If you have to open or close the door to flip the cab, firmly support the door when opening and closing the door. After opening or closing the door, it may be dangerous to release the door immediately. The door may hit you or someone else, causing injury or damage to the door. Close the door and make sure it is fully closed.

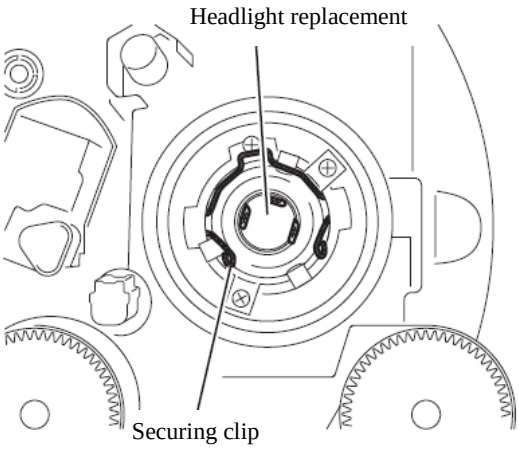


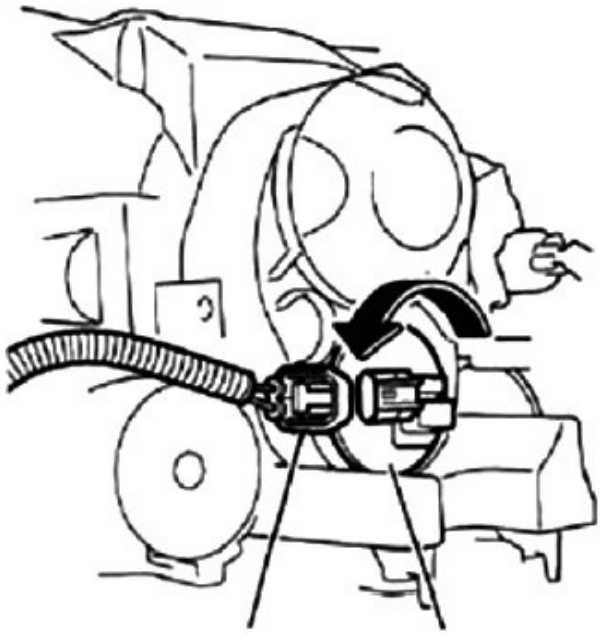
2. Disconnect the headlight connector.



ADVICE

- When removing the headlight connector, press and hold the center of the rubber boot and pull out the connector. Without pressing the center of the rubber boot, pull out the headlight connector, the lamp will pop up, and when the connector is removed, the lamp will hit the reflector by the rebound force and will cause the lamp to break.

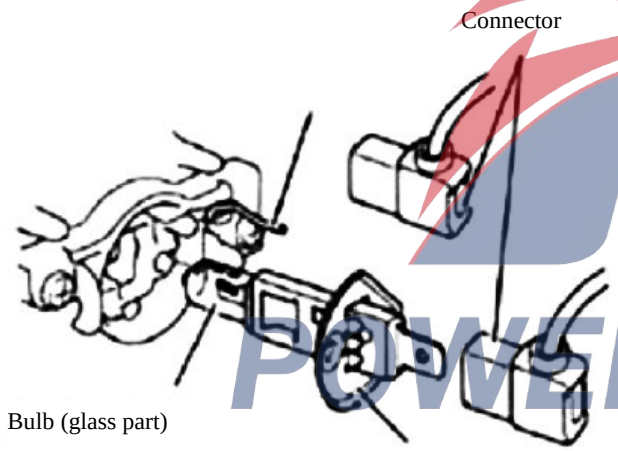




Connector Cover

High beam replacement

① Oblique cab, starting from the front of the vehicle replacement. Remove the connector and turn the lamp cover to the left to remove it.



Connector

Bulb (glass part)

Sleeve

② Remove the two connectors, press the clamp that holds the lamp, and move it upward to remove the lamp. Replace the new light bulb.

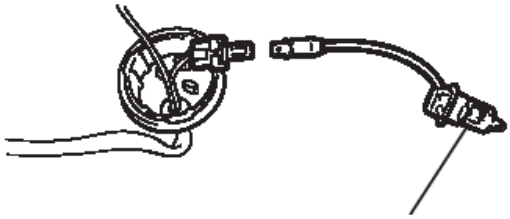
③ When installing the light bulb, follow the steps in the opposite direction. Please pay attention to the following points in the process.

a. Before installation, check the bulb up and down position.

b. Rotate the lamp cover to the right to secure.

ADVICE

- The lampshade is not fixed and may cause malfunction due to flooding in the lamp.



Fog light valve (H3 valve, 24V / 55W)

④ Follow the steps in the opposite direction when installing the light bulb. Please pay attention to the following points in the process.

a. Bulbs have different slots up and down (round, quadrilateral), please pay attention to the correct installation.

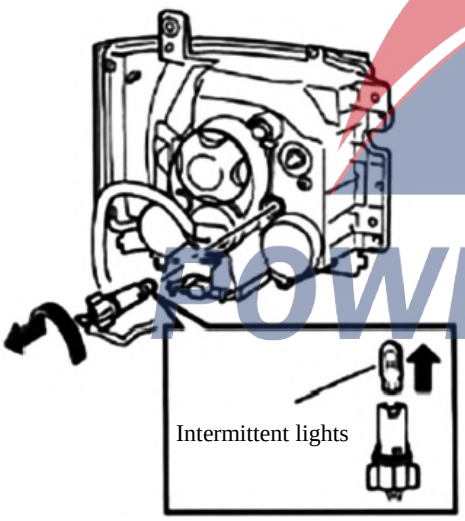
- Left and right direction: a quadrangular notch above

b. Rotate the lamp cover to the right to secure. When fixing the lamp cover, be careful not to crush the electric wire in the lamp shade.

ADVICE

- When the light cover is not screwed completely, it may cause malfunction due to the water into inside the light.

Replace the Outline Light



① Tilt the cab, starting replacement from the front of the vehicle. Turn left to remove the connector.

② Remove the bulb from the connector, replace the new bulb.

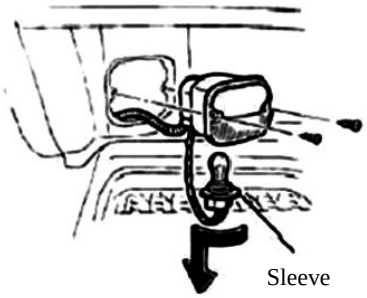
③ When installing the light bulb, follow the steps in the opposite direction. Please pay attention to the following points in the process.

a. Rotate the connector to the right to secure.

ADVICE

- When the lampshade is not screwed completely, it may cause malfunction due to the water into inside the lamp.

Replace the Turn Signal Light



① Remove the two screws and remove the turn signal.

② Remove the socket by turning to the left, and remove the old lamp from the socket and replace with the new one. When removing the bulb, hold the bulb to rotate to the left.

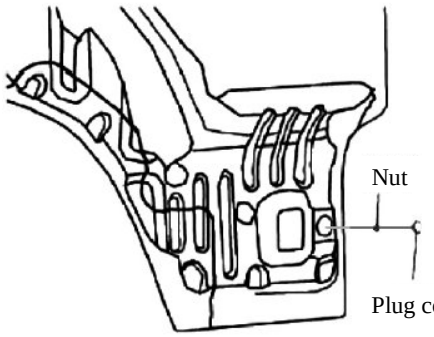
③ When installing the light bulb, follow the steps in the opposite direction. Please pay attention to the following points in the process.

a. Rotate the connector to the right to secure.

ADVICE

- When the light socket is not screwed completely, it may cause malfunction due to the water into inside the light.

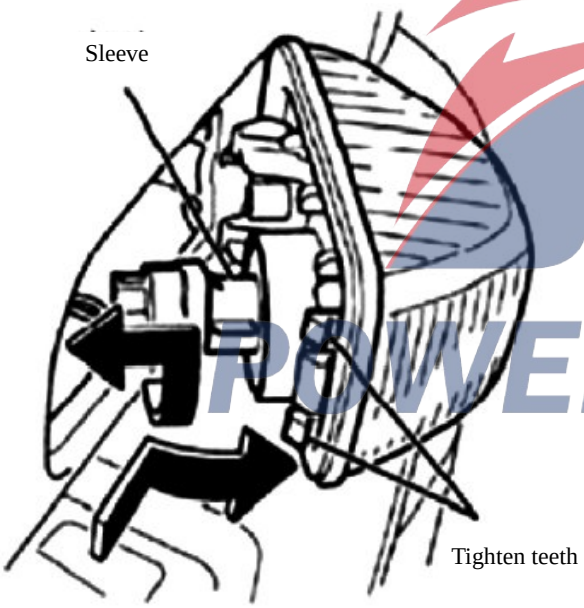
Replace the Side Turn Signal Light



Front end

① Open the front door, remove the lamp cover below the door.

② Remove the nut.



③ Stretch the side turn signal to the front direction of the vehicle and pull open the rear end of the lamp.

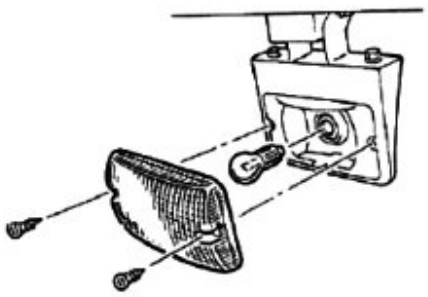
④ Turn left to remove the socket and remove the old lamp from the socket and replace with a new one.

⑤ When installing the light bulb, follow the opposite procedure. Please pay attention to the following points in the process.

a. Rotate the socket to the right to secure.

ADVICE

- When the lamp socket is not screwed completely, it may cause malfunction due to the water into inside the lamp.



The middle part

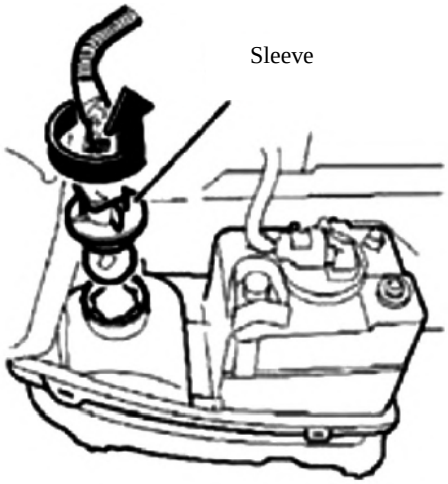
① Remove the two screws.

② Remove the lens.

③ Replace the new light bulb.

④ When installing the bulb, follow the opposite procedure.

Replace the Front Turn Signal Light



① Turn the socket from the bumper to the left and remove the light.

② Remove the bulb from the socket and replace it.

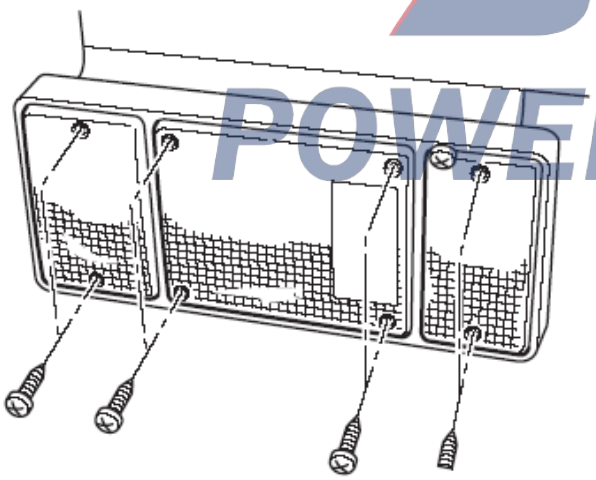
③ When installing the light bulb, follow the steps in the opposite direction. Please pay attention to the following points in the process.

a. Rotate the socket to the right to secure.

ADVICE

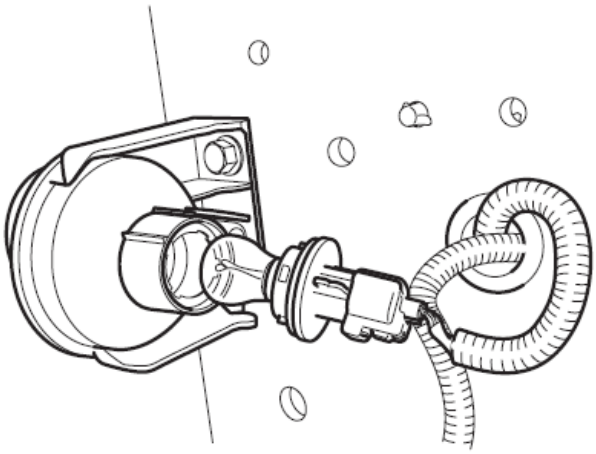
- When the light socket is not screwed completely, it may cause malfunction due to the water into inside the light.

Replace Brake Lights, Tail Lights and Turn Signal Lights



1. Loosen the screw and remove the light glass.
2. Hold down the bulb and turn it counterclockwise to loosen the bulb.
3. When installing the light bulb, just need in the reverse order of removing the light bulb to do.

Replace Reversing Lights

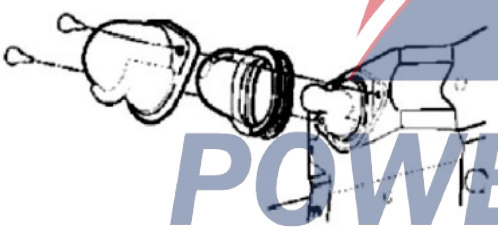


① Remove the socket from the interior of the light.
② Remove the light bulb from the socket and replace it.
③ When installing the light bulb, follow the steps in the opposite direction. Please pay attention to the following points in the process.
a. Rotate the connector to the right to secure.

ADVICE

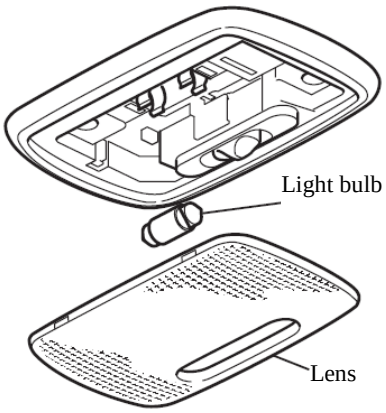
- When the light socket is not screwed completely, it may cause malfunction due to the water into inside the light.

Replace the License Plate Light



① Loosen the screw and remove the light cover.
② Remove the lens.
③ When removing the bulb, press and hold the bulb and turn to the left.
④ When installing the bulb, follow the opposite procedure.

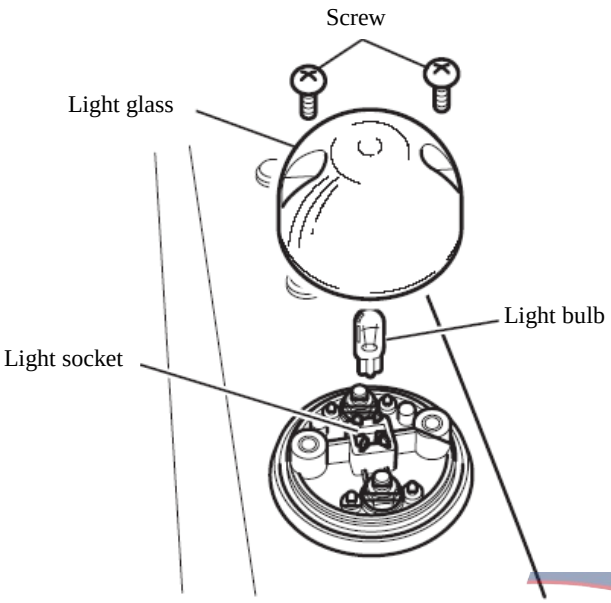
Replace Interior Lights



① Remove the lens, pull out the light bulb.
② Install in accordance with the opposite procedure.

Except the high-top cab vehicle models

Replace Front End Outline Light ★

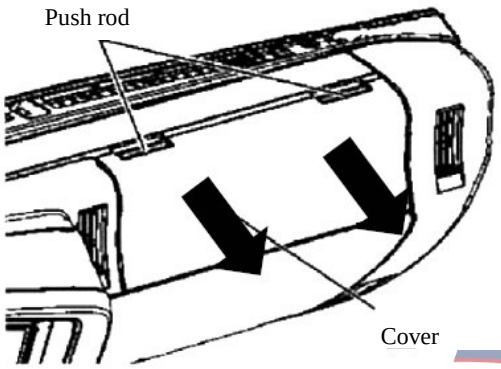


1. Loosen the screw and remove the light glass.
2. Remove the light bulb, replace the new light bulb.
3. When installing the light bulb, operate in the reverse order of removing the light bulb.

Replacement of Fuse and Relay

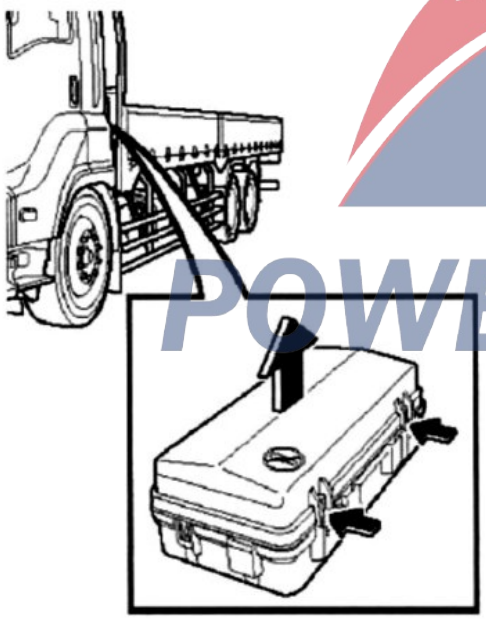
When the lamp does not turn on or cannot blink normally, and the unit of the electrical system does not work, check whether the fuse is blown.

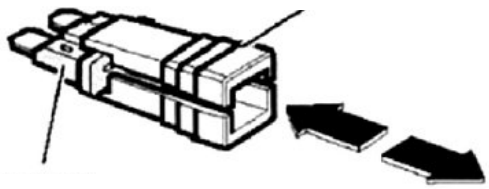
Fuse Location



Rear side of left cab

The fuses are located in the front of the front passenger seat and the left rear of cab. Maintenance and replacement, please remove the lid. Maintenance and replacement of the relay box of the rear cab also need to open the cover. Disassemble the lid while pushing the pusher lever to the front.

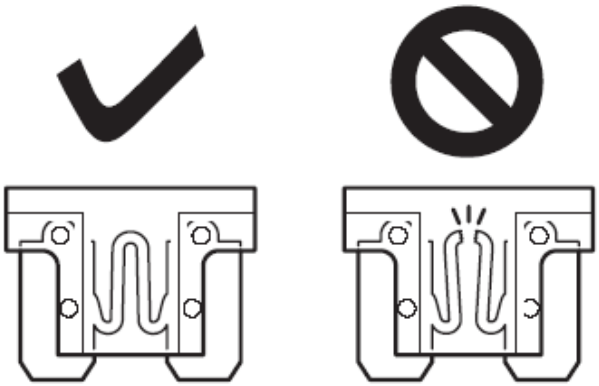




Fuse replacement

① Before replace the fuse, please set the starter switch to "LOCK" position, pull up the handbrake.

② Insert the fuse puller into the fuse box and pull out the fuse. (Fuse puller is placed in the fuse box of the cab.)

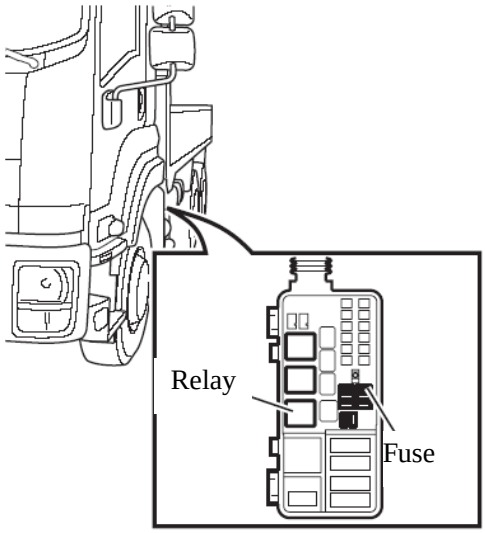


Normal　　Open

③ If the fuse is as shown on right picture of the left side, indicating that it is blown. Please replace it with the spare fuse. (The spare fuse is in fuse box in the glove box)

WARNING

- Be sure to use the specified fuse. Non-specified products and wire, silver foil, etc. may cause malfunction and fire.
- If the fuse is blown once again after replaced and the fuse blown for unknown reasons, contact your ISUZU Supplier.
- Do not check or replace fuses while the starter switch is in the "ON" position and the HSA is in a parked condition. It may cause accidents and malfunctions.
- Please inspect the fuse in a flat place and secure the tire before repairing.

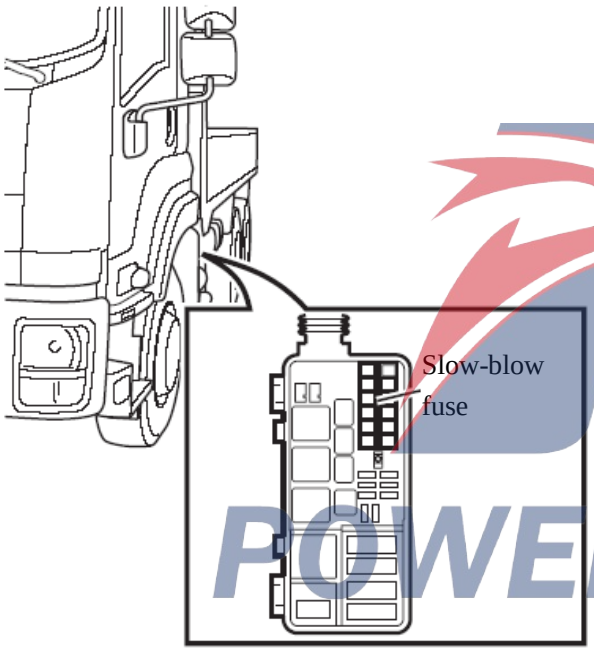


Relay replacement

Open the lid and replace the relay.

ADVICE

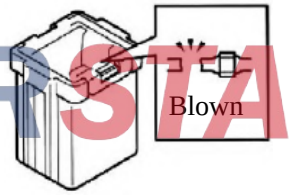
- Relay box lid should not be opened or closed without any problems found.
- The relay box is constructed so that water cannot penetrate. If water or drink spills over to the lid, wipe it clean before opening the lid.
- There will be heat around the lid during the vehicle is running, it is normal.



Replace slow-blow fuse

Electrical system headlights and other equipment are not running, and the fuse is normal, then check the slow-blow fuse.

Please replace if the slow-blow fuse is broken. Please contact the ISUZU Supplier. Slow-blow fuses protect the circuit. Please install the slow-blow fuses, so that can be quickly replaced after the vehicle is fault.



WARNING

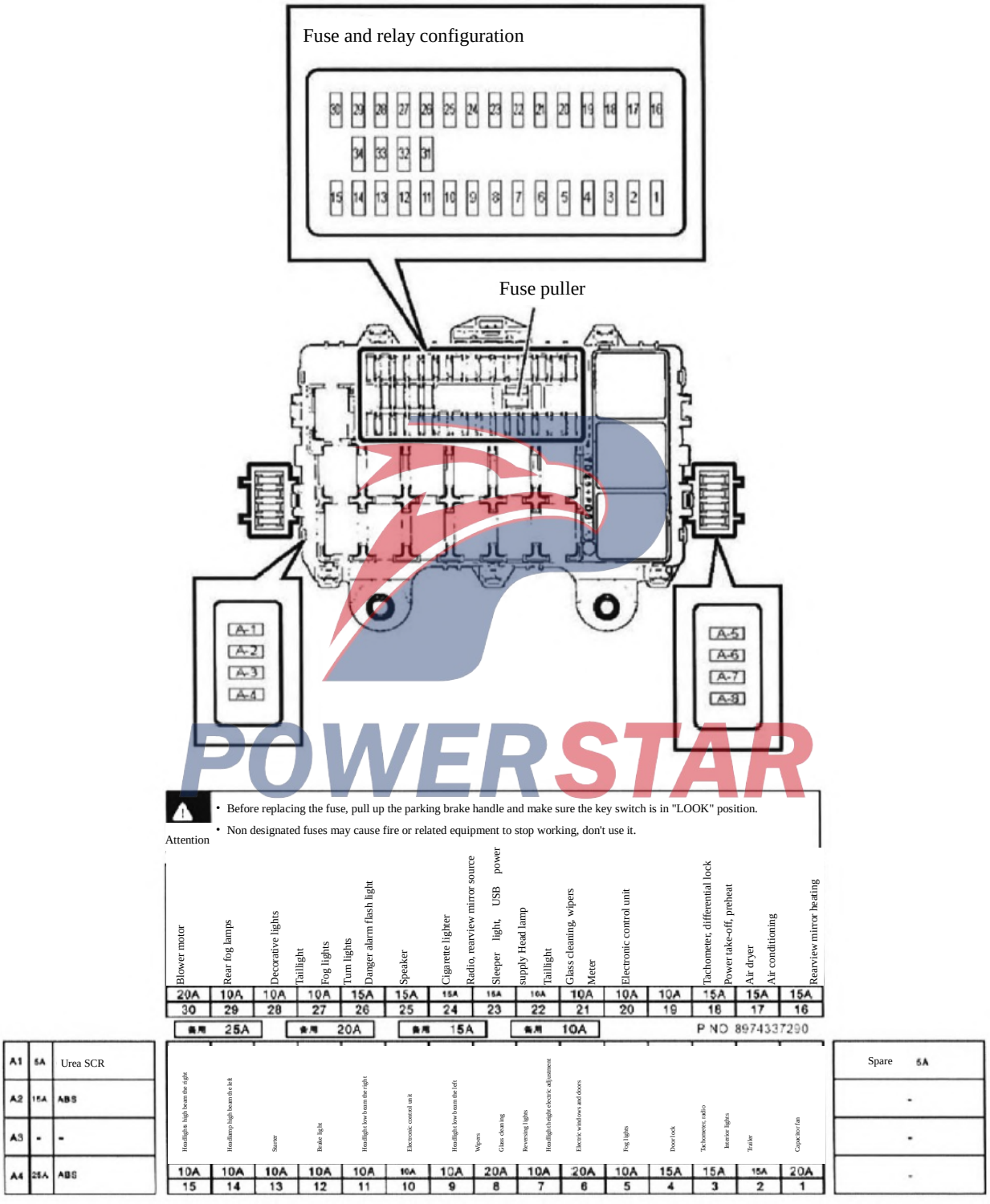
- Use Isuzu original genuine parts when replacing slow-blow fuse.
- Do not use non specified slow-blow fuses. Using other products may cause serious malfunction or cause fire.
- If the new slow-blow fuse is blown as soon as it was replaced, please contact your ISUZU Supplier.

ADVICE

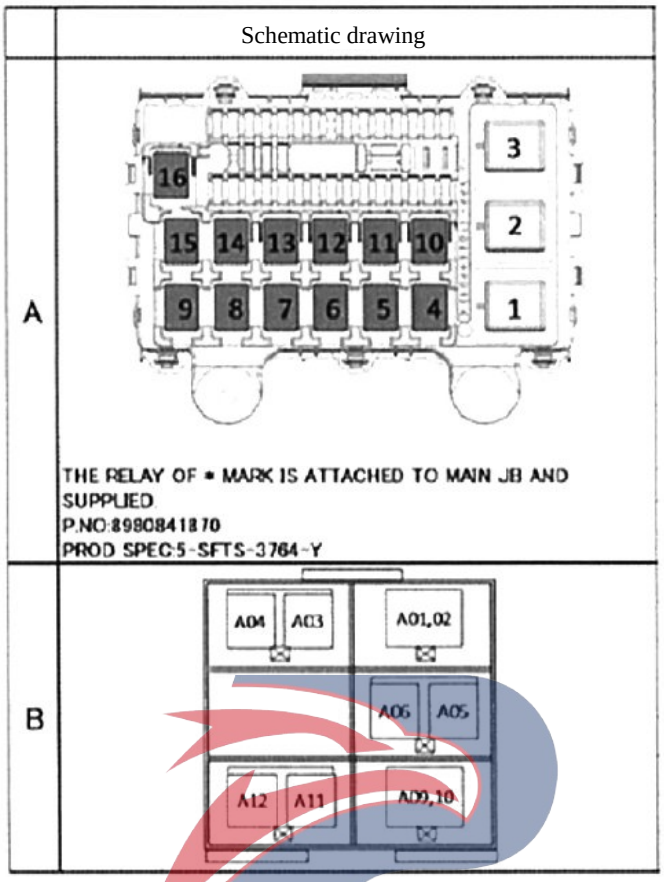
- If the circuit which is connected to the battery is overloaded, the slow-blow fuse will blow to prevent damage to the wiring harness.

Fuse and Relay Configuration

Fuse configuration (inside cab)



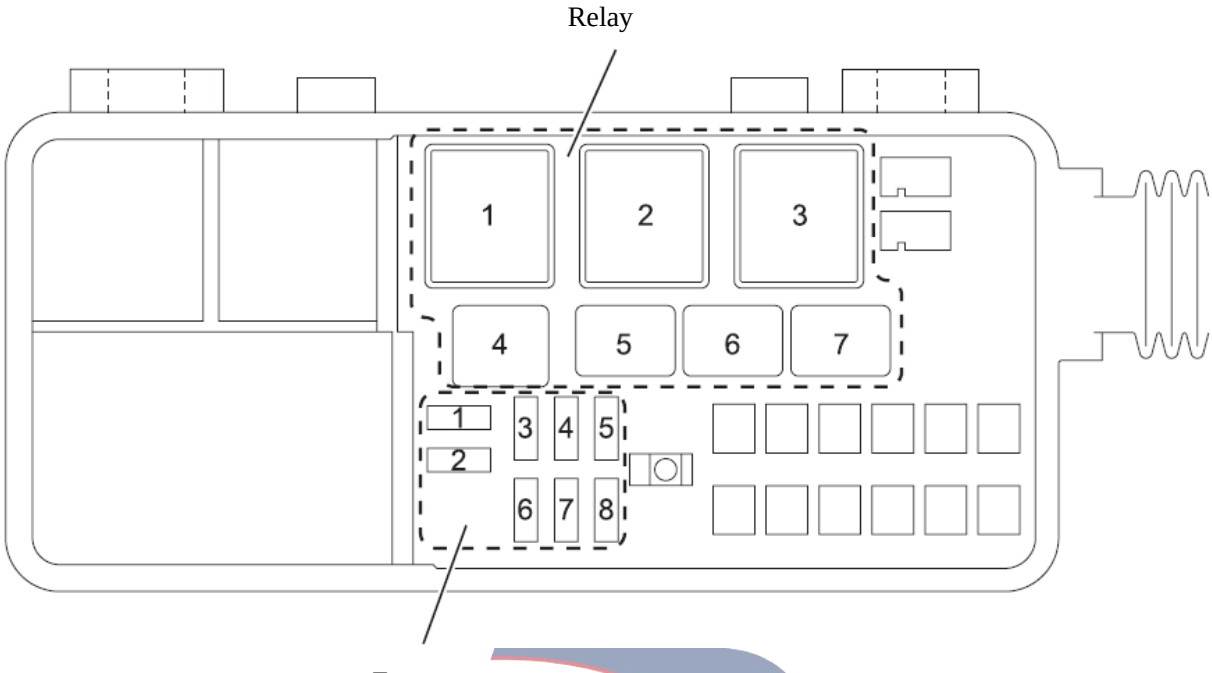
Schematic drawing



Relay number	Relay name	Relay product number	UPC	FNA	Relay number	TORQUE [N·m]	QTY	Vehicle models C++	Vehicle models EX+	USAGE	Specification
1	STOP LAMP	RELAY ASM,S/LP SW	9312E	1880A	897262933Y	-	1	O	O	ALL	
2	BLOWER	RELAY ASM,BLO MOT	931A2J	1625A	897262933Y	-	1	O	O	ALL	
3	KEY ON	RELAY ASM,ACSRY	9312L	3675A	897262933Y	-	1	O	O	ALL	
4	-	-	-	-	-	-	-	-	-	-	
5	RR FOG	RELAY ASM,RR FOG LP	9312E	4994Z	897173035Y	-	1	O	O	ALL	
6	WIPER MAIN	RELAY ASM,WSW SYS	-	-	897173035Y	-	1	※O	※O	ALL	
7	HORN	RELAY ASM,HORN	-	-	897173035Y	-	1	※O	※O	ALL	
8	WIPER HI/LOW	RELAY ASM,WSW SYS	-	-	897173035Y	-	1	※O	※O	ALL	
9	FOG	RELAY ASM,FOG LP	9312C	9090A	897173035Y	-	1	O	O	ALL	
10	CDS FAN	RELAY ASM,A/C CNDSR FAN MOT	931A2K	1027V	897173035Y	-	1	O	O	ALL	
11	-	-	-	-	-	-	-	-	-	-	
12	POWER WINDOW	RELAY ASM,SI WDO	9312L	2735A	897173035Y	-	1	O	O	ALL	
13	HEAD LAMP LO	RELAY ASM,HDLP LOW BEAM	-	-	897173035Y	-	1	※O	※O	ALL	
14	-	-	-	-	-	-	-	-	-	-	
15	HEAD LAMP HI	RELAY ASM,HDLP HIGH BEAM	-	-	897173035Y	-	1	※O	※O	ALL	
16	TAIL	RELAY ASM,T/LP	-	-	897173035Y	-	1	※O	※O	ALL	
A01/A02	COMP	RELAY ASM,A/C COMP	931A2J	3125A	897262933Y	-	1	O	O	ALL	
A03	P/TILT LID OPEN	RELAY ASM,BODY TILT PUMP	931B1	184AA	897173035Y	-	1	O	O	ALL	
A04	TRLR BACK LAMP	RELAY ASM,B/U LP	9312E	2535A	897173035Y	-	1	-	O	EX+	
A05	ACC MAIN	RELAY ASM,ACSRY	9312L	3675A	897173035Y	-	1	O	O	ALL	
A06	IG1 MAIN	RELAY ASM,IGN	936Y4	1360T	897173035Y	-	1	O	O	ALL	
A09/A10	TRLR STOP	RELAY ASM,TRLR S/LP	9312K	210AA	897262933Y	-	1	-	O	EX+	
A11	TRLR INF1	RELAY ASM,ANTILOCK BRK IND	9312J	9708A	897173035Y	-	1	-	O	EX+	
A12	TRLR INF2	RELAY ASM,ANTILOCK BRK IND	9312J	9708A	897173035Y	-	1	-	O	EX+	

<NOTE> 1 MODEL COLUMN SHOWS O STANDARD SETTING, △ OPTION SETTING, — NO SETTING, × ATTACHED BY BODY BUILDER

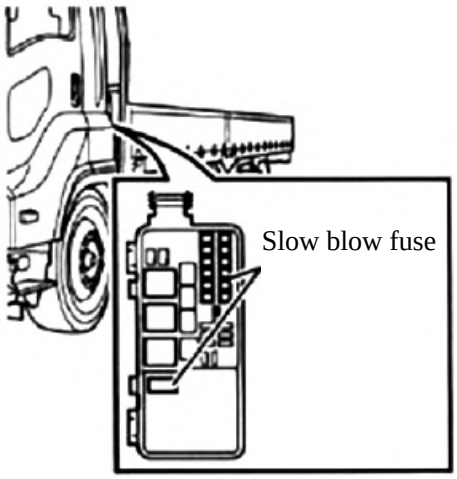
Cab outside fuse and relay locations



NO.	RELAY
1	SEDIMENTERHEARTER
2	ECM MAIN POWER SUPPLY
3	GLOW
4	EXHAUSTBRAKE
5	CBA TILT CONTROL（NEUTRAL)
6	STARTER CUT
7	SCR SENSOR

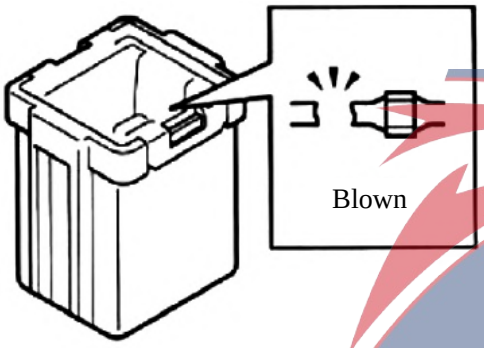
NO.	FUSE	SIZE
1	NOx SENSOR	15A
2	SCR	25A
3	PVC	15A
4	EXHAUSTBRAKE	10A
5	BLANK	-
6	KEY POWER SUPPLY	10A
7	SEDIMENTERHEARTER	20A
8	CABTILT CONTROL	10A

When the Slow Blow Fuse Blown



Slow blow fuse is the device used to protect the electrical circuit and emergency situations can quickly replace.

If the battery electrical circuit load exceeds a predetermined value, in order to protect the electrical circuit, the slow blow fuse blown before the cable is damaged.



Inspection and maintenance

If headlights and other electrical systems do not operate but the fuse is normal, please check and repair the slow blow fuse.

If the slow blow fuse is as shown on the left drawing, indicating that the slow blow fuse blown.

Please contact your ISUZU Supplier.

WARNING

- Be sure to use the specified slow blow fuse. Non-specified products and wire, silver foil, etc. may cause malfunction and fire.
- If the slow blow fuse blown once again after replaced and the slow blow fuse blown for unknown reasons, contact your ISUZU Supplier.
- Do not check or replace slow blow fuse while the starter switch is in the "ON" position and the HSA is in a parked condition. It may cause accidents and malfunctions.
- Please inspect the fuse in a flat place and secure the tire before repairing.

ADVICE

- No failure occurs, no need to carry out the opening relay box lid operation.
- The relay box is constructed so that water cannot penetrate. If water or drink spills over to the lid, wipe it clean before opening the lid.
- There will be heat around the lid during the vehicle is running, it is normal.

When the accident occurred

Do not panic in the event of an accident and dispose of it in the following manner.

① Prevent secondary accidents.
Turn on the hazard warning light flashes, stop immediately in a safe area (roadside, sidewalk) that does not affect traffic and turn off the engine.

② Rescue the wounded
When someone is injured, try to give emergency aid whenever possible before the ambulance arrives. When the head is injured, stay in place and do not move. To avoid secondary accidents, please transfer to a safe place.

③ Contact the police
Please explain to the police the location of the incident, the site conditions, the number of injuries and the level of injury, and accept guidance.

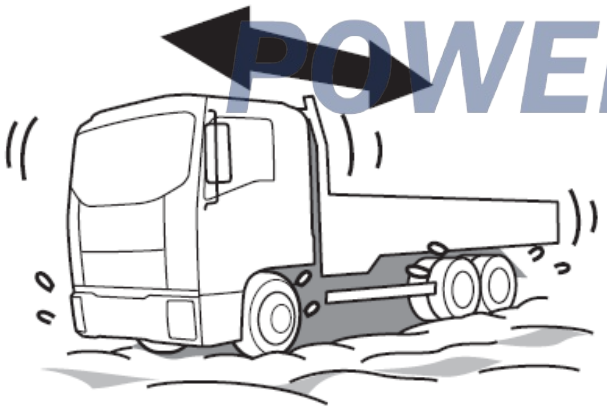
④ Confirm the occupant information (address, name, telephone number) and the accident situation

⑤ Contact the vehicle dealers and insurance companies

CAUTION

- Minor accidents, minor injuries also need to be contacted with the police and treated by a doctor. Special head shock, even without obvious traumatic injury, may also leave disease.

When the vehicle get caught in mud pit in the uneven road



Excessive step on the accelerator pedal may make the pit deeper and disengage more difficult.
Please take the method of putting stones, wood or blankets below the tire or repeatedly moving forward and backward to use inertia to leave mud pit.

When towing the vehicle

If you need to tow the vehicle due to breakdown or accident, please contact your ISUZU Supplier. During operation, please pay attention to the following points.

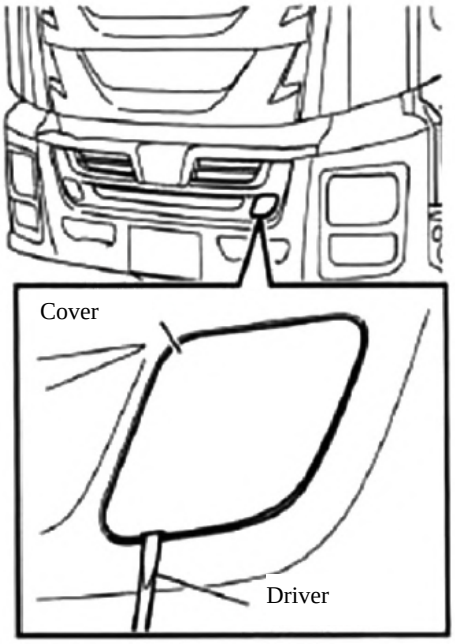
① While waiting for the trailer, fix the front and rear tires. In case of any fault of drive shaft or rear wheel drive, the handbrake may fail.

② During the traction need to operate the steering wheel, brake, please ensure that the engine is started. When releasing the safety brake of the spring, refer to "Parking brake cannot be released" on page 8-28. When the engine fails, it needs to be towed by the trailer.

③ When traction, keep the gear is in neutral. When the transmission breakdown, remove the drive shaft before towing.

WARNING

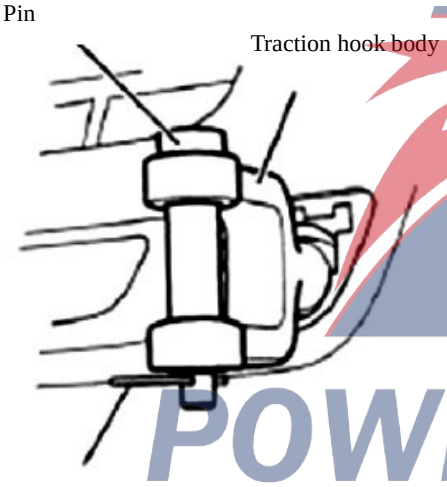
- Be sure to secure the wheels before removing the drive shaft. It may cause a major accident by the vehicle sliding.



④ When installing the front hook, follow the steps below.

a. Using a flat-blade screwdriver to pry open the hook groove, remove the cover.

b. Install the towing hook which is in the vehicle kit. Fix the tow hook by rotating it.



⑤ If you need to remove the pin of the towing hook while hanging the towing rope on the front towing hook, follow the steps below.

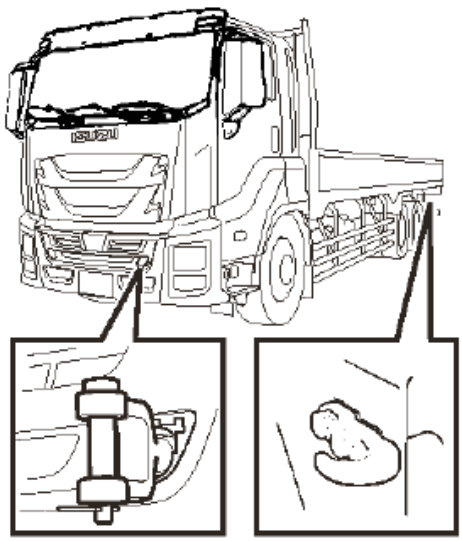
a. Remove the spring pin.

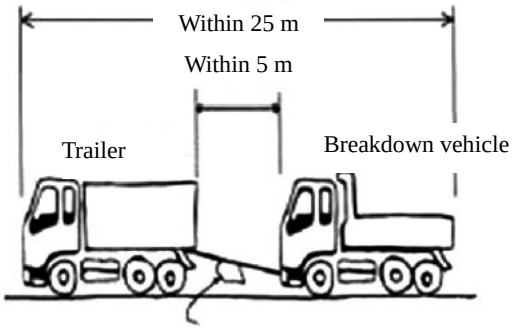
b. Pull the pin out of the hook body.

c. Attach the towing ropes and pins to the towing hook body.

d. Install the spring pin on the pin.

⑥ Please use the towing hook when empty load. Use a strong traction rope, and fix it in the traction hook.





White cloth with each side length longer than 30 cm

⑦ Trailer and breakdown vehicle distance should be maintained within 5m.

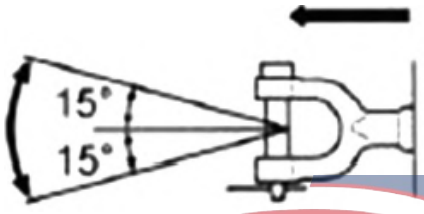
⑧ Tie up one piece of white cloth with each side length longer than 30 cm in the middle of the traction rope.

⑨ To ensure that the front end of the trailer and the rear end of the faulty car within 25 m.

⑩ For safety reasons, attach the traction rope to the towing hook within the scope of application of the traction rope (30 ° centered on the hook).

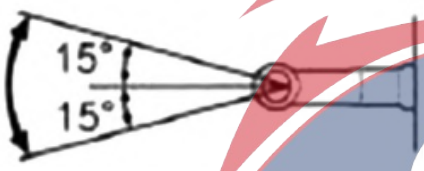
Front end

The scope of application of traction rope



⑪ Avoid suddenly braking during towing. When the hook load suddenly increases, it may break.

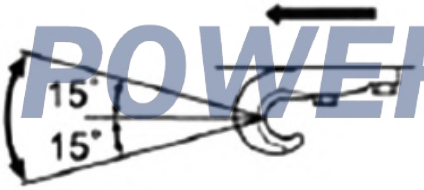
The scope of application of traction rope



⑫ During towing, do not bend the tow rope.

Rear end

The scope of application of traction rope



⑬ When the vehicle get caught in a groove or mud pit, remove the cargo , and tow by the axle to take the place of the towing hook.

The scope of application of traction rope

⑭ After the towing is completed, remove the towing hook and cover the cover. Inspection and maintenance

ADVICE

[Used Wrecker trailers (special trailers) in the following situations]

- There is a risk of the brakes overheating and malfunctioning when going long slope downhill.
- Transmission, differential malfunction.
- When the fault occurred in the highway.


POWERSTAR

• MAIN DATA 9-2

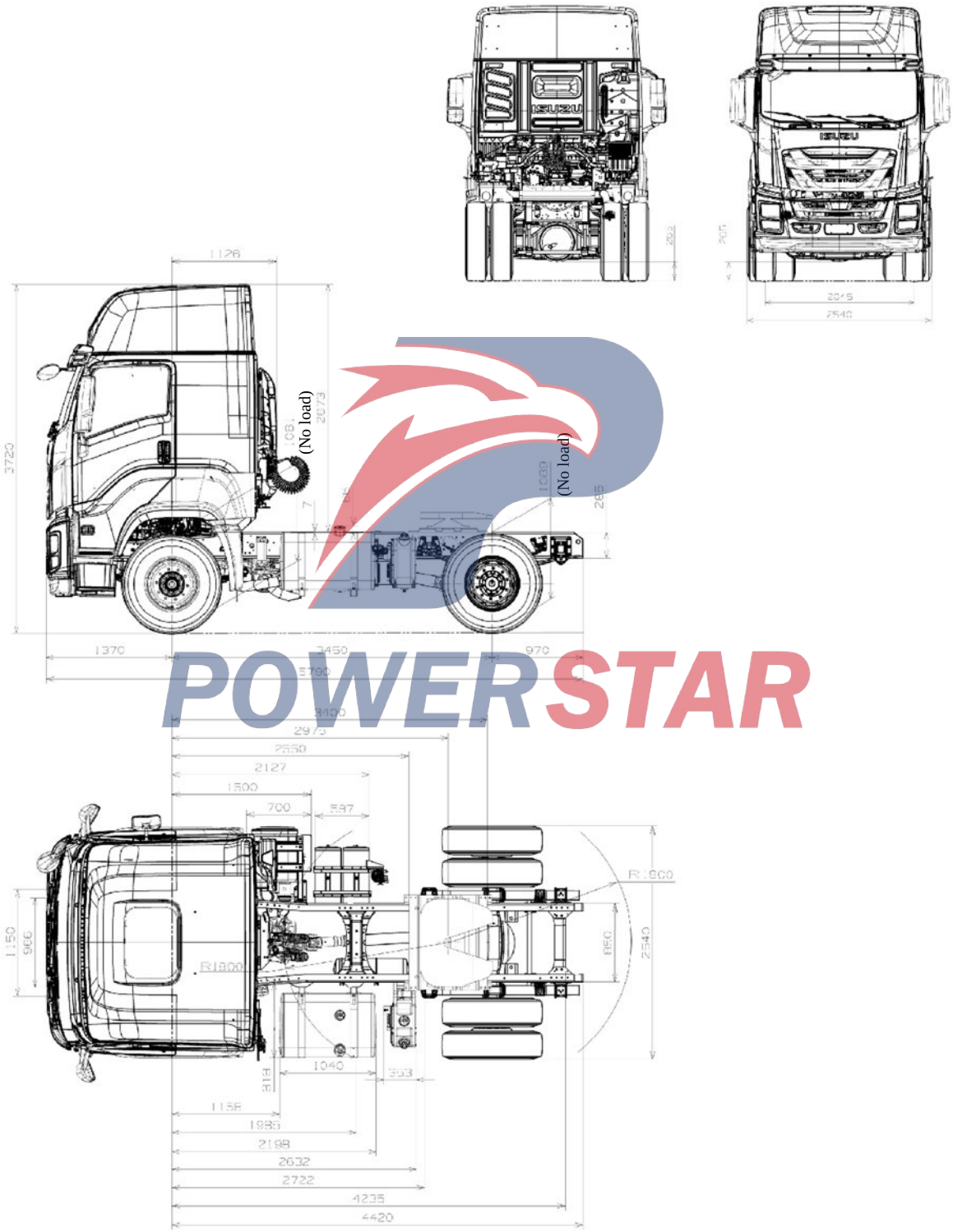
Model	Name	Total mass (kg)	Curb mass (kg)	Axle load (kg)	Load mass (kg)	Saddle load mass (kg)	Allowable towing total mass (kg)	Wheelbase
QL4180U2JDR	Semi-trailer tractor	18000	6980	7000/11000		10890	34890	3450
QL4181U2JDR	Semi-trailer tractor	18000	6980	6500/11500		10890	34890	3450
QL4250U2NDZ	Semi-trailer tractor	24900	8850, 8350	6900/18000		15920,16420	39920, 40000	3385+1370
QL4251U2NDZ	Semi-trailer tractor	25000	8850	7000/18000		16020	40000	3385+1370
QL4180W1JDR	Semi-trailer tractor	18000	7250	6500/11500		10620	34620	3450
QL4180W1KDR	Semi-trailer tractor	18000	7450	6500/11500		10420	34420	3900
QL4250W1NDZ	Semi-trailer tractor	24900	9100	6900/18000		15670	39670	3385+1370
QL4251W1NDZ	Semi-trailer tractor	24900	9100	6900/18000		15670	39670	3385+1370
QL4180W2JDR	Semi-trailer tractor	18000	7250	6500/11500		10620	34620	3450
QL4250W2NCZ	Semi-trailer tractor	25000	9280, 8870	7000/18000		15590，16000	39590, 40000	3385+1370
QL1250U1QDZY	Truck chassis	25000	9000	7000/18000				3985+1370
QL5310CCYU1VDHJ	Truck	31000	13100	6500/6500/18000	17770			1850+4575+1370
QL1310U1VDH	Truck	31000	12550	6500/6500/18000	18320			1850+4575+1370
QL1311U1VDHY	Truck chassis	31000	10550	6500/6500/18000				1850+4575+1370
QL1310U2TDHY	Truck chassis	31000	10150	6500/6500/18000				1850+3280+1370
QL5310XLCU2VDHJ	Truck	31000	15150	6500/6500/18000	15720			1850+4575+1370
QL1311U2VDHY	Truck chassis	31000	10450	6500/6500/18000				1850+4575+1370
QL5330GXFW2SDZY	Fire truck chassis	33000	10450	7000/26000				4565+1370
QL5330GXFW2QDZY	Fire truck chassis	33000	10450	7000/26000				3985+1370
QL5400GXFW2VCHY	Fire truck chassis	40000	10450	7000/7000/26000				1850+4575+1370
QL5420THBW2TDHY	Concrete pump truck chassis	42000	10450	8000/8000/26000				1850+4575+1370

Length	Width		Front suspension	Rear suspension	Cargo compartment length	Cargo compartment width	Cargo compartment height	Number of springs	Tire
5790	2540	3720/3970(with shroud)	1370	970				4/4+3	315/80R22.5 18PR(12R22. 5 18PR)
5790	2540	3720/3970(with shroud)	1370	970				4/4+3	315/80R22.5 16PR(12R22. 5 16PR)
6895	2540	3720/3970(with shroud)	1370	770				4/4	315/80R22.5 16PR(12R22_5 18PR)
6895	2540	3720/3970(with shroud)	1370	770				4/4	12R22.5 18PR(295/80R22. 5 18PR)
5790	2540	3720/3970(with shroud)	1370	970				4/4+3	315/80R22.5 16PR(12R22_5 16PR)
6240	2540	3720/3970(with shroud)	1370	970				4/4+3	315/80R22.5 16PR(12R22. 5 16PR)
6895	2540	3720/3970(with shroud)	1370	770				4/4	315/80R22.5 16PR(12R22. 5 18PR)
6895	2540	3720/3970(with shroud)	1370	770				4/4	315/80R22.5 16PR(12R22. 5 18PR)
5790	2540	3720/3970(with shroud)	1370	970				4/4+3	315/80R22.5 16PR(12R22. 5 16PR)
6895	2540	3720/3970(with shroud)	1370	770				7/10;4/4	12R22.518PR
8465	2540	3055	1370	1740				7/10	12R22.5 18PR(295/80R22. 5 18PR)
12000	2540	3180	1370	2835	9400	2460	800	7/7/10	315/80R22.5 16PR(12R22. 5 16PR)
12000	2540	3180	1370	2835	9600	2430	600	7/7/10	315/80R22.5 16PR(12R22. 5 16PR)
11800	2540	3300/3900(with shroud)	1370	2635				7/7/10	315/80R22.5 16PR(12R22. 5 16PR)
9410	2540	3055	1370	1540				7/7/10	315/80R22.5 16PR(12R22. 5 16PR)
12000	2600	3970	1370	2835	9550	2420	2350	7/7/10	315/80R22.5 16PR(12R22. 5 16PR)
11800	2540	3720	1370	2635				7/7/10	315/80R22.5 16PR(12R22. 5 16PR)
9895	2540	3055	1370	2590				7/10	315/80R22.5 18PR(12R22. 5 18PR)
8465	2540	3055	1370	1740				7/10	315/80R22.5 18PR(12R22. 5 18PR)
11285	2540	3055/2985	1370	2120				7/7/10	315/80R22.518PR
11285	2540	2985	1370	2120				7/7/10	315/80R22.520PR

Model: QL4180U2JDR/QL4181U2JDR/QL4180W1JDR/QL4180W2JDR

Product: Tractor/Tractor (Dangerous Goods Truck)/Tractor

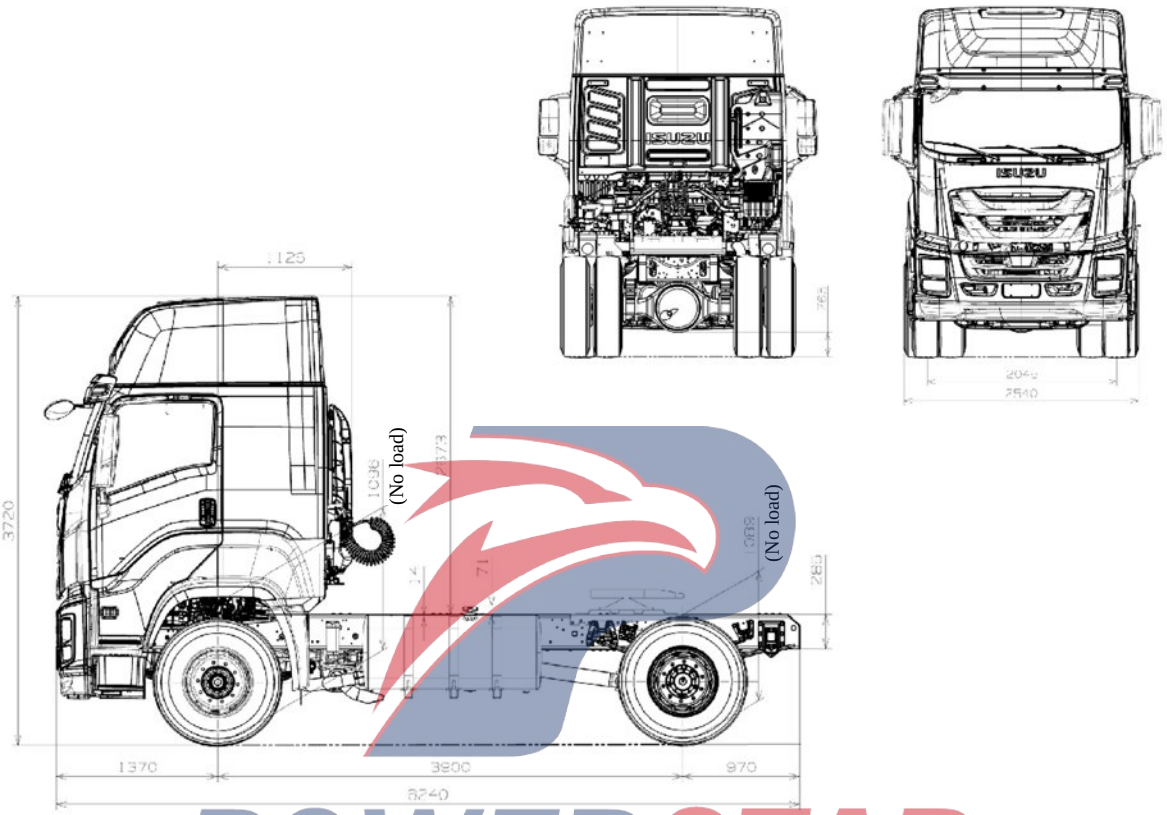
(Data only for reference)

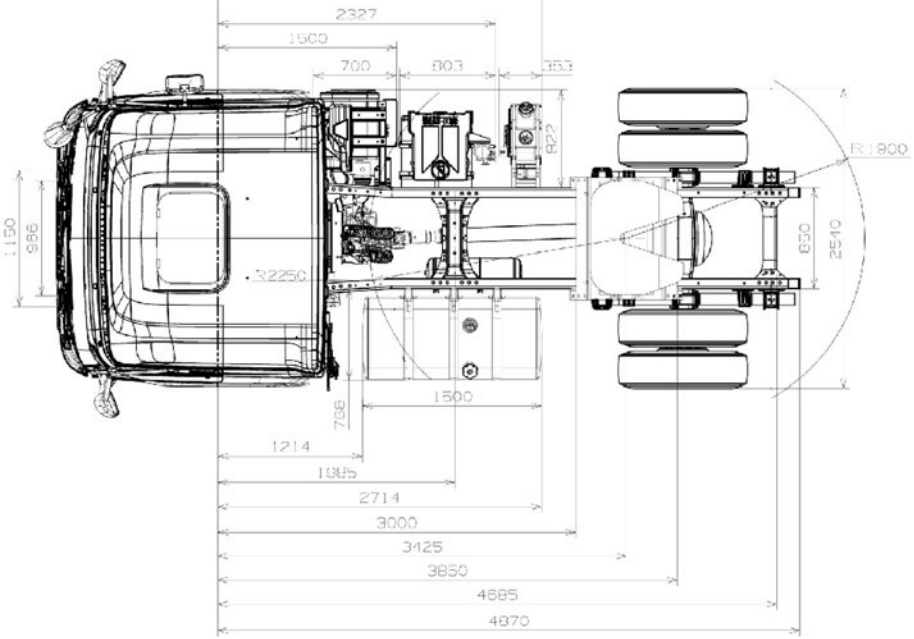


Model: QL4180W1KDR

Product: Tractor

(Data only for reference)

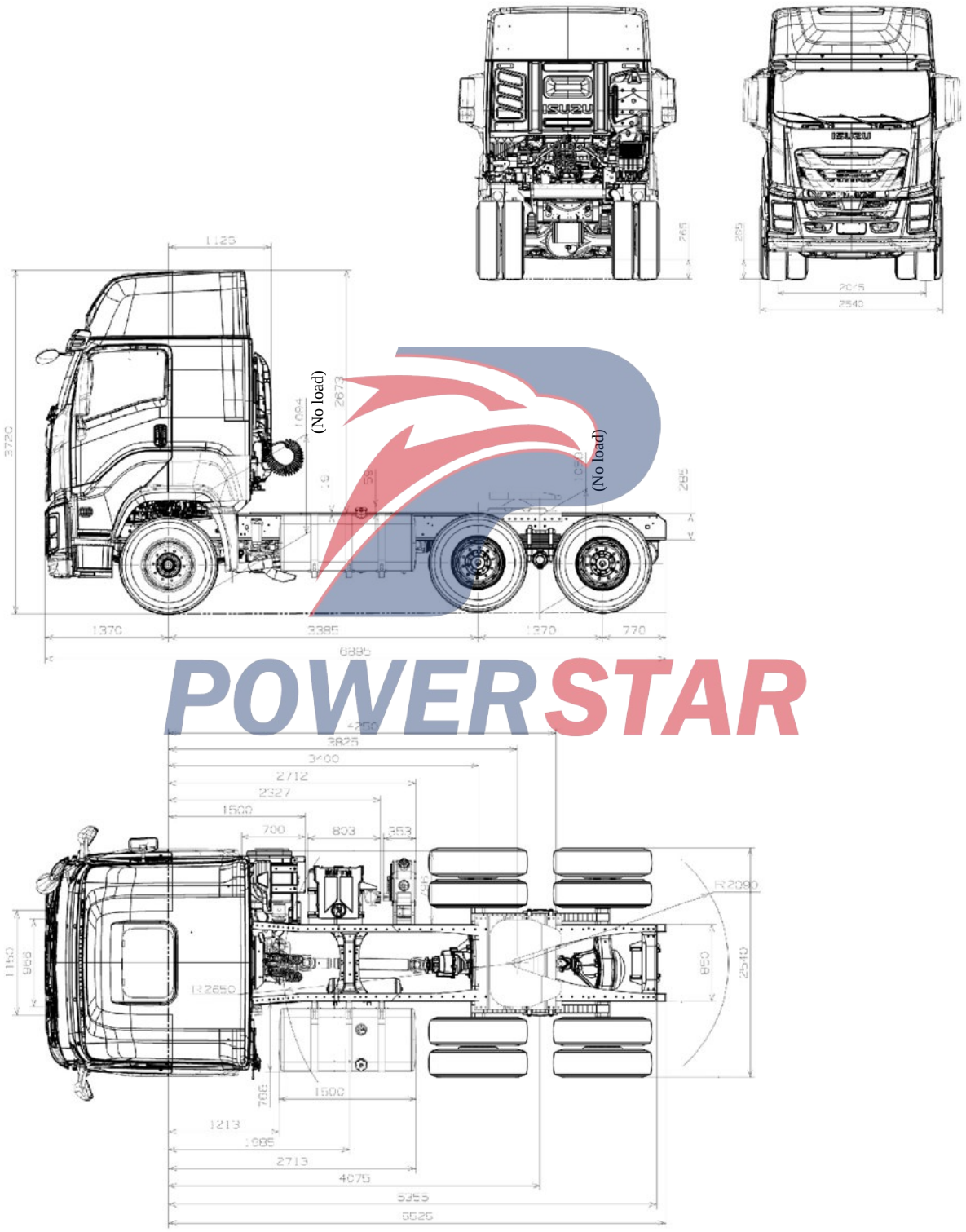




Model: QL4250W2NCZ/QL4250U2NDZ/QL4250W1NDZ/QL4251W1NDZ/QL4251U2NDZ

Product: Tractor /Dangerous Goods Truck

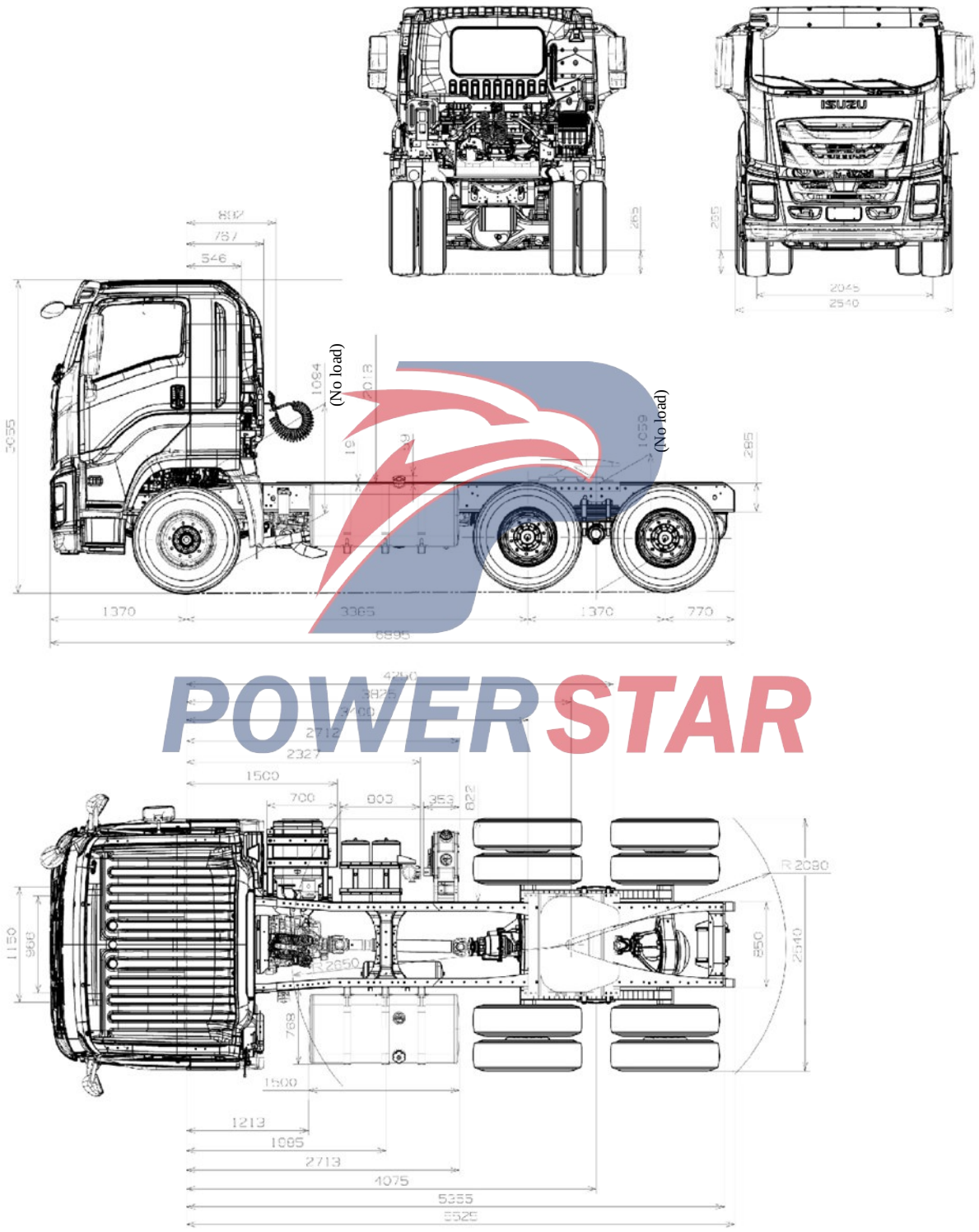
(Data only for reference)



Model: QL4250W2NCZ/QL4250U2NDZ

Product: Tractor

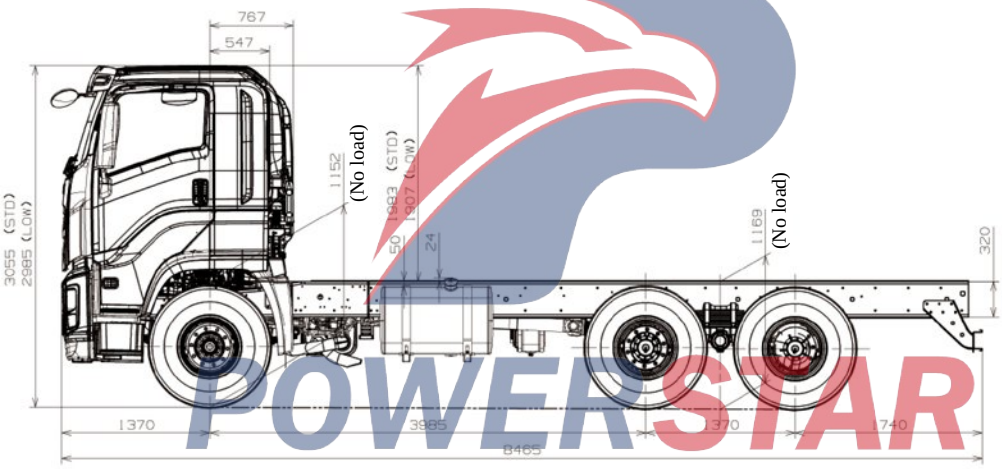
(Data only for reference)

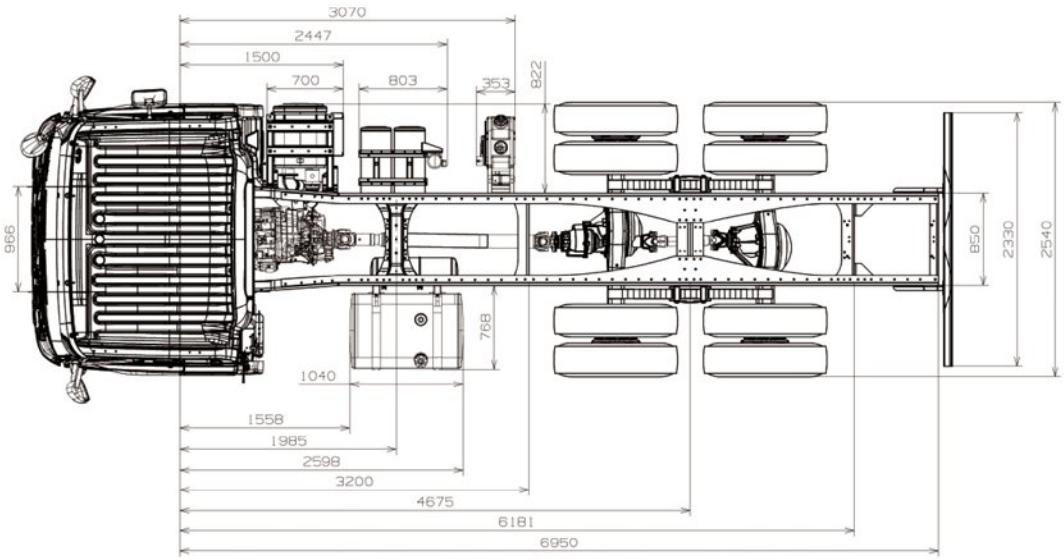


Model: QL5330GXFW2QMY

Product: Fire truck chassis

(Data only for reference)

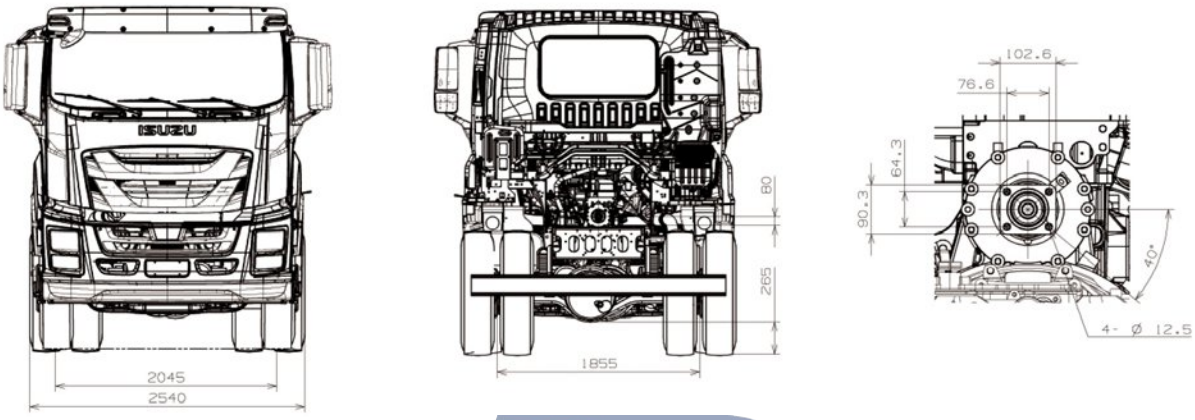


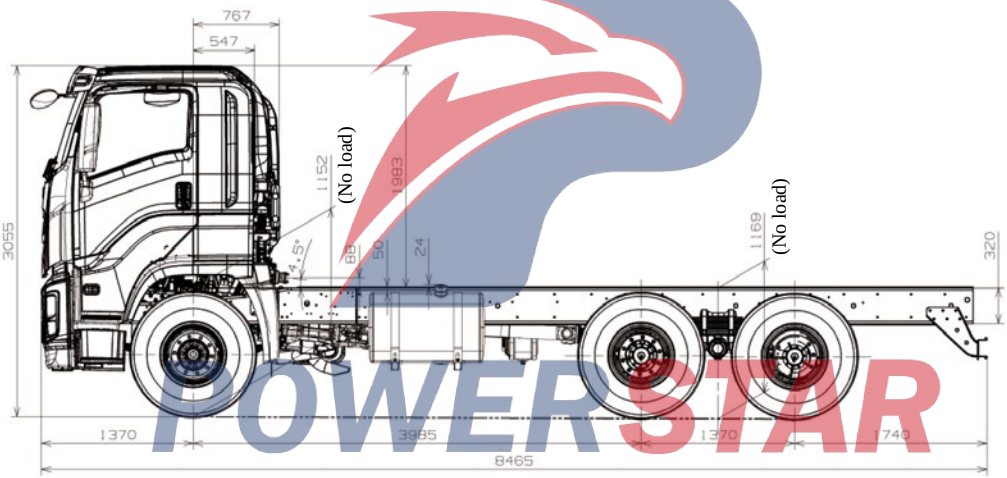


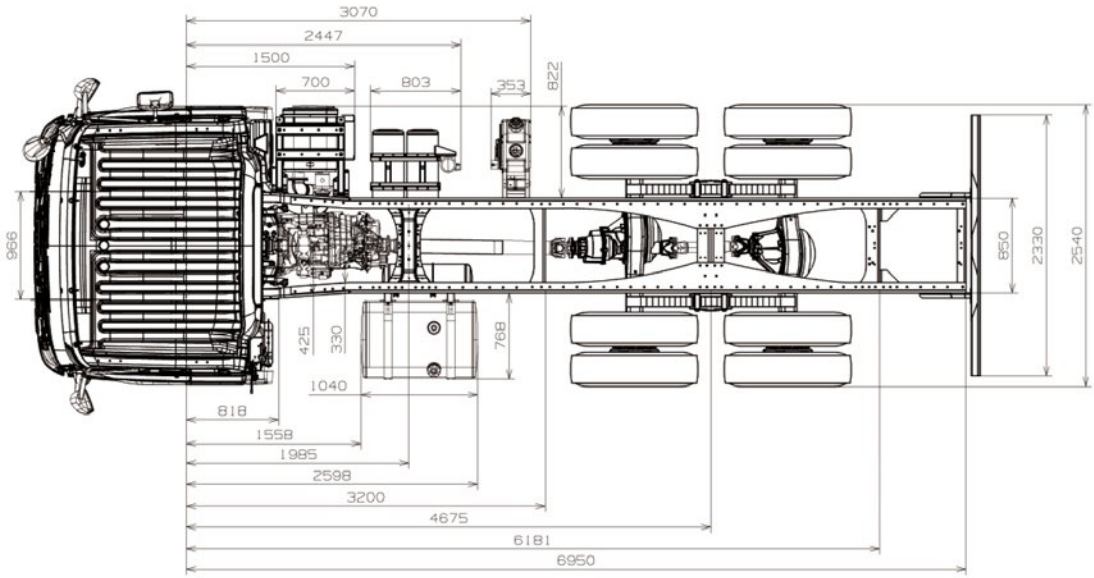
Model: QL1250U1QDZY

Product: Truck chassis

(Data only for reference)



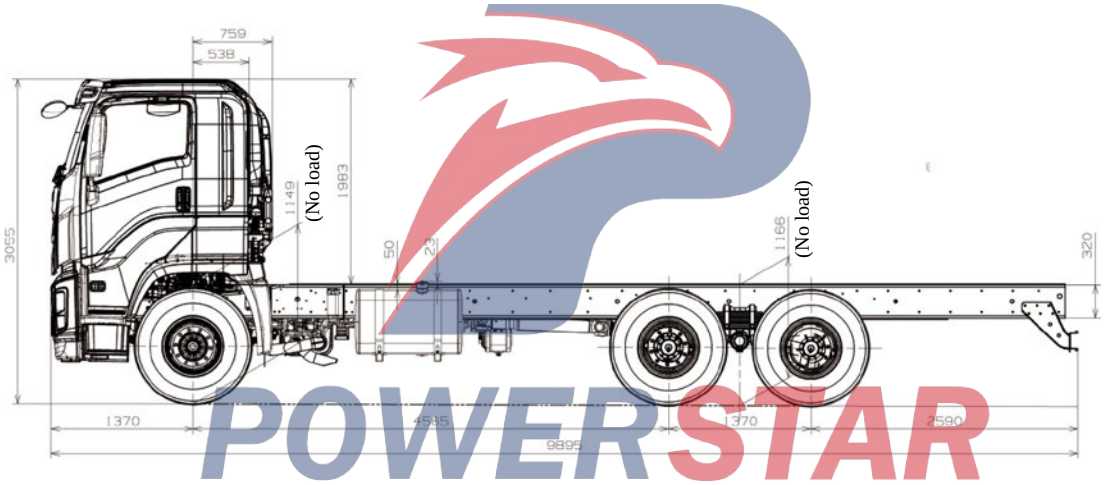


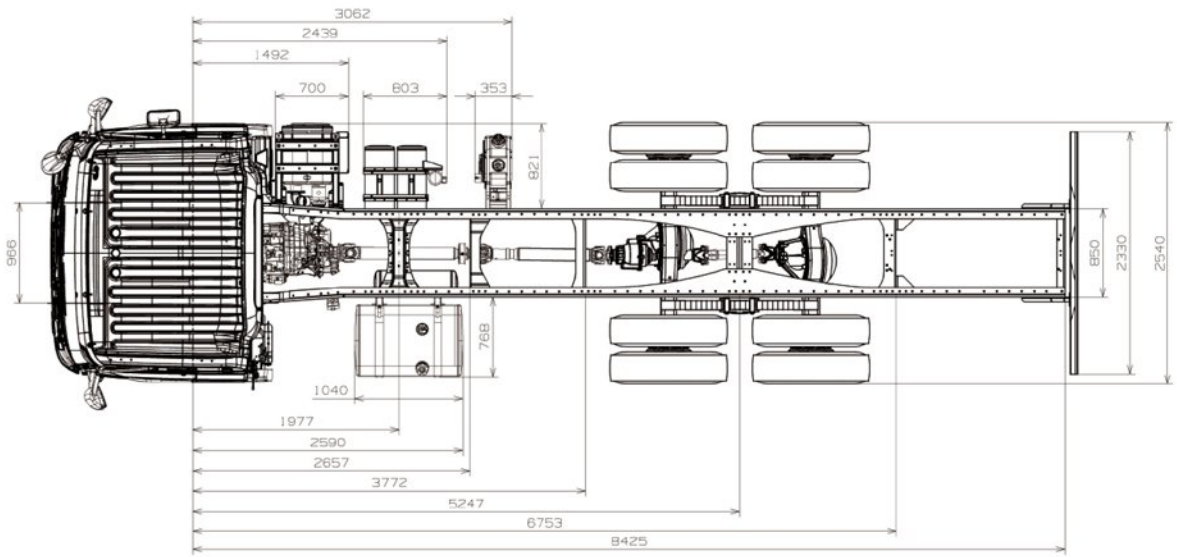


Model: QL5330GXFW2SMY

Product: Fire Truck chassis

(Data only for reference)

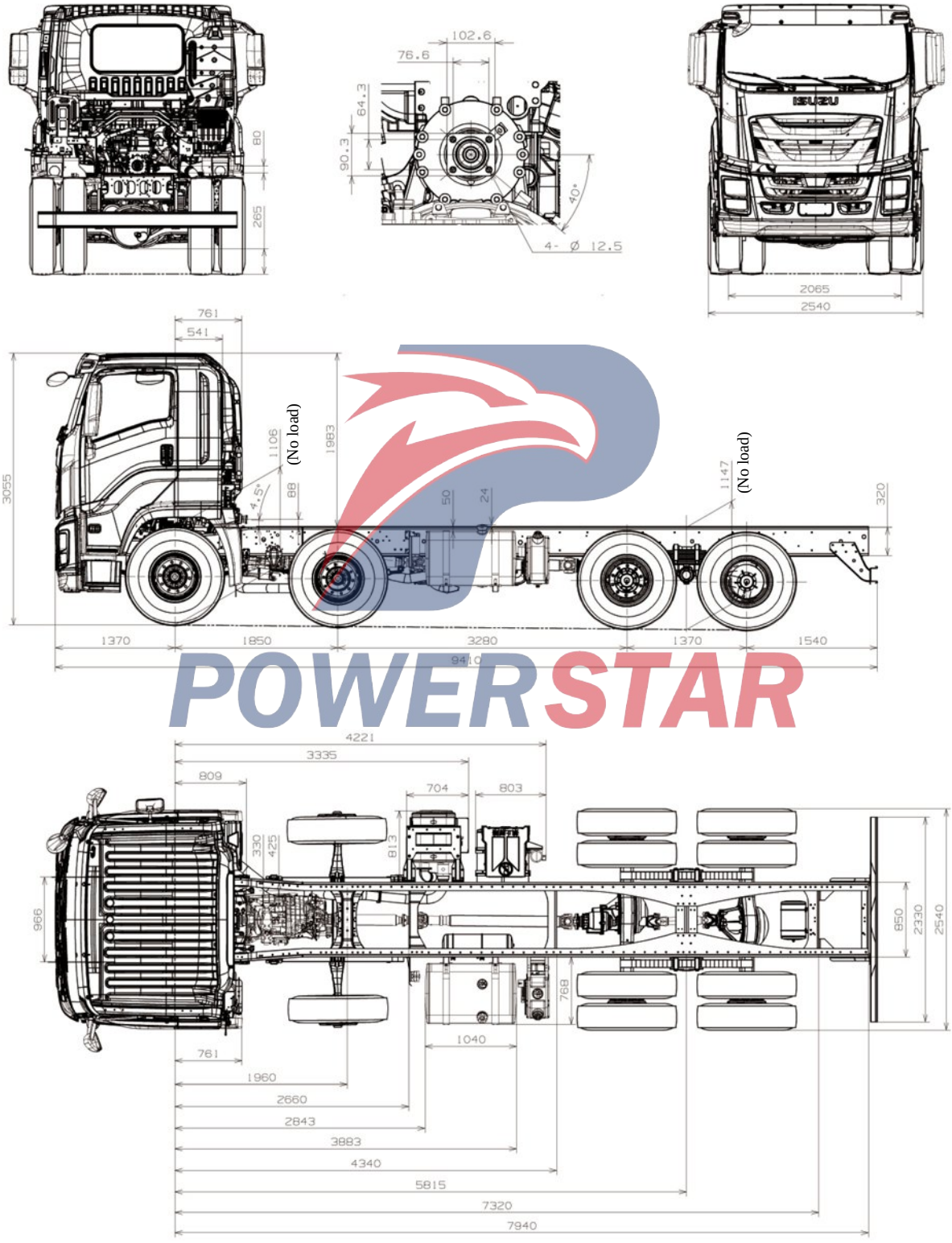




Model: QL1310U2TDHY

Product: Mixer chassis

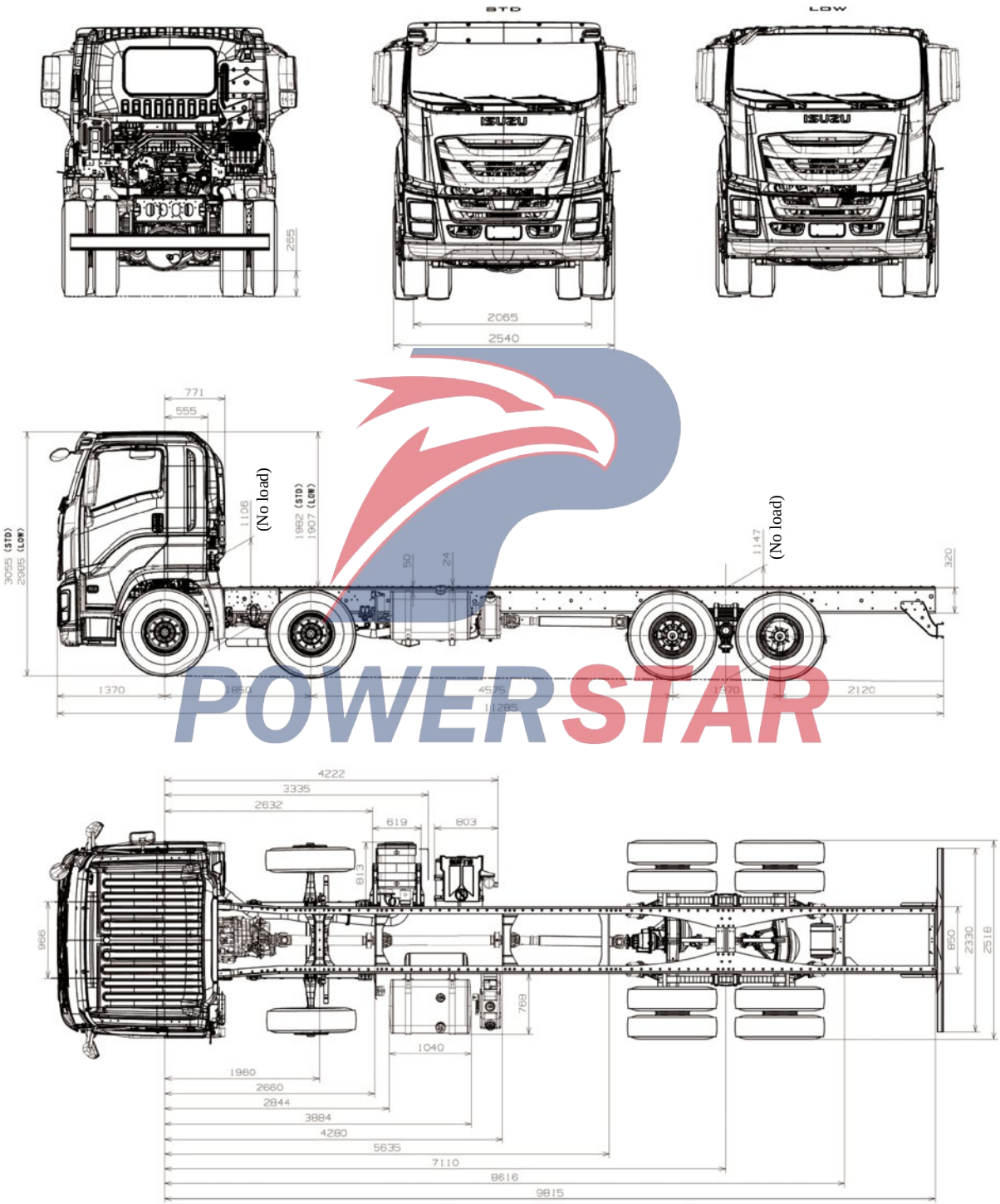
(Data only for reference)



Model: QL5400GXFW2VVHY/QL5420THBW2TDHY

Product: Fire Truck chassis/Pump Truck chassis

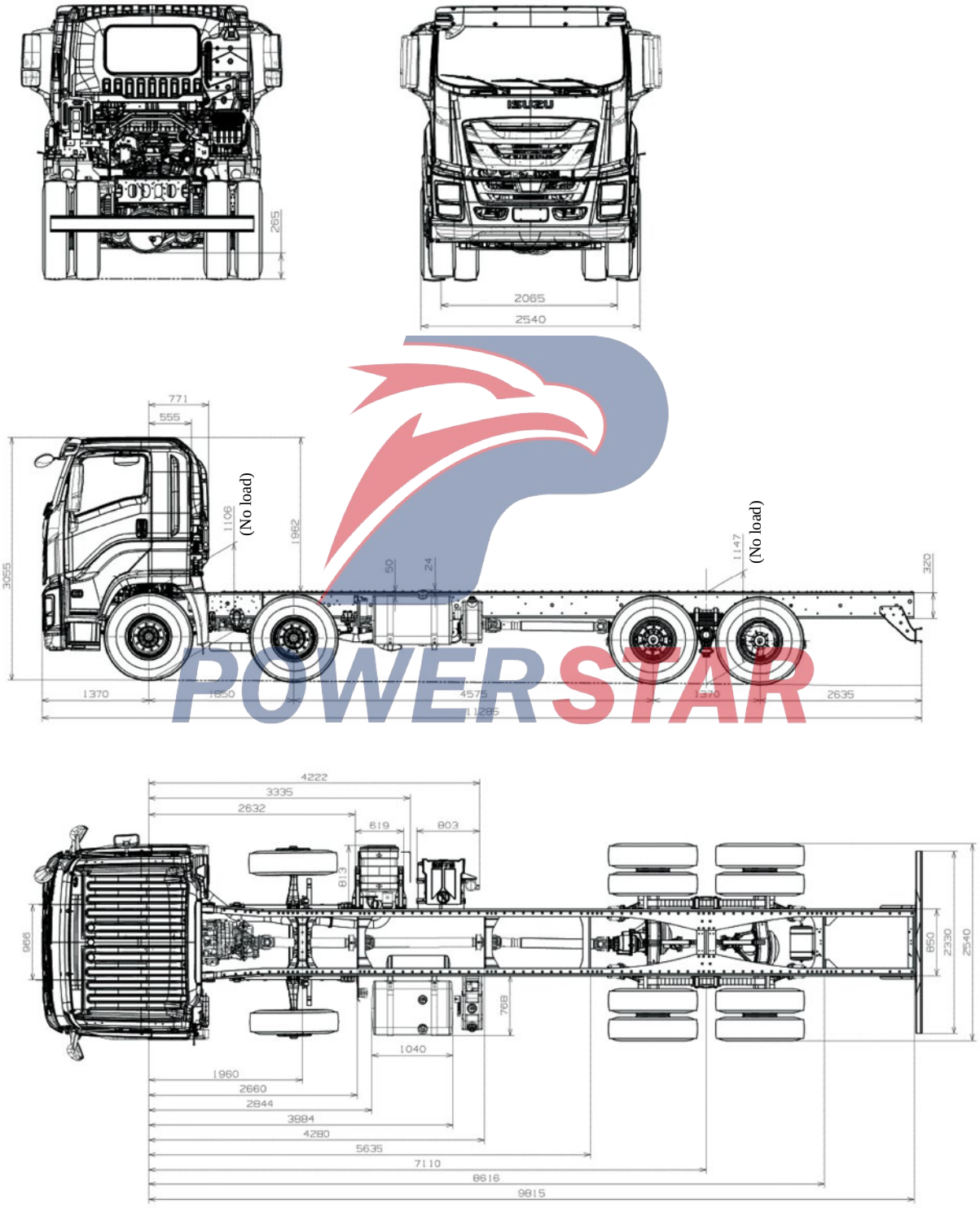
(Data only for reference)



Model: QL1311U1VDHY

Product: Dangerous Chemicals Truck chassis

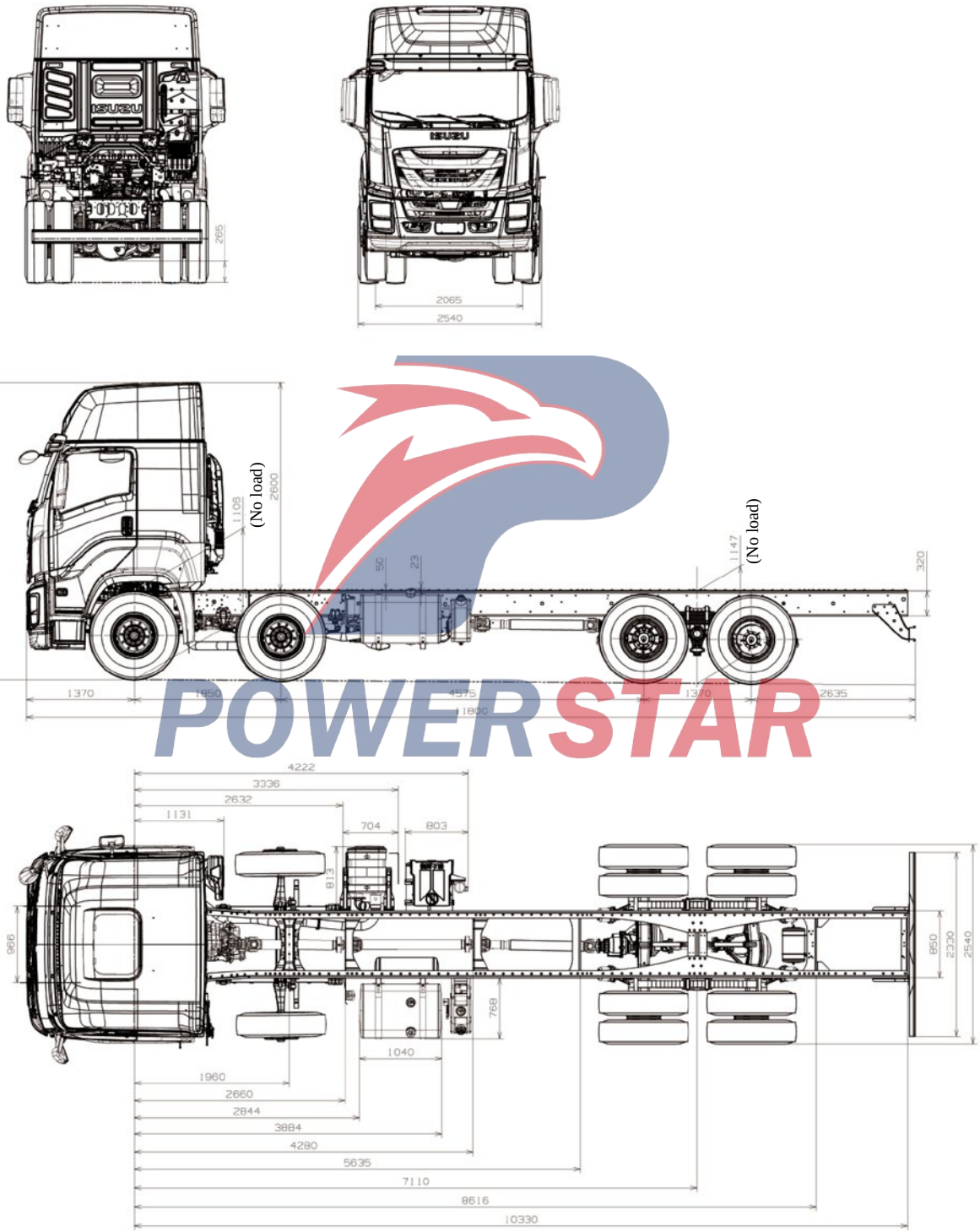
(Data only for reference)



Model: QL1311U2VDHY

Product: Dangerous Chemicals Truck chassis

(Data only for reference)



Model: QL1310U1VDHY/QL1310U2VDHY

Product: Mixer chassiss

(Data only for reference)