



Owner's Handbook



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Owner's Handbook



Please read this Owner's Handbook
before using your vehicle.
Keep it in the vehicle to enable
reference at any time.



Foreword


Thank you for purchasing a Mitsubishi Fuso CANTER.

This Owner's Handbook explains proper vehicle handling and simple maintenance practices to ensure that you are able to drive your vehicle safely and comfortably.

As improper use of the vehicle may result in a breakdown or cause an accident, we urge you to read this handbook thoroughly before operating the vehicle.

Periodical lubrication and maintenance are essential to obtain maximum performance and extended service life from your vehicle. The separate "Service Booklet" contains a periodical maintenance schedule. You are strongly recommended to perform the lubrication and maintenance as specified in the schedule.

Reading the handbook

- Please be acquainted with the model name and other specifics of your vehicle so that you will be able to read the applicable descriptions that are identified by vehicle type, model or engine model in this handbook.
- Because of differences in specifications and improvements that may be added after preparation of this manual, some of the explanations and illustrations in this handbook may not apply to your vehicle.
- The following symbols are used throughout this handbook:
 - ⇒  : requests that reader should refer to the page of the number indicated.
- This manual contains important cautionary instructions and supplementary information under the following four headings which identify the nature of the instructions and information:

 **DANGER**

Precautions that should be taken in handling potentially dangerous substances such as battery fluid and coolant additives.

 **WARNING**

Precautionary instructions, which, if not observed, could result in serious injury or death.

 **CAUTION**

Precautionary instructions, which, if not observed, could result in damage to or destruction of equipment or parts.

NOTE:

Suggestions or supplementary information for more efficient use of equipment or better understanding.

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1. Recommendation to drivers

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Chassis number and engine number

If presented at the time of repair or parts order, the chassis number and engine number will facilitate the quick and smooth processing of your requests. The indicated information varies depending on the country.

<Type 1>

1 Vehicle identification number (V.I.N.)

The vehicle identification number is indicated on the left frame ①, near the front wheel.

Example: JLAFEC91G0K□□□□□□

Chassis
number

Vehicle model

2 Engine number

The engine number ② is indicated on the front side of the cylinder head.

Example: 4P10 - □□□□□□

Engine number

Engine model

<Type 2>

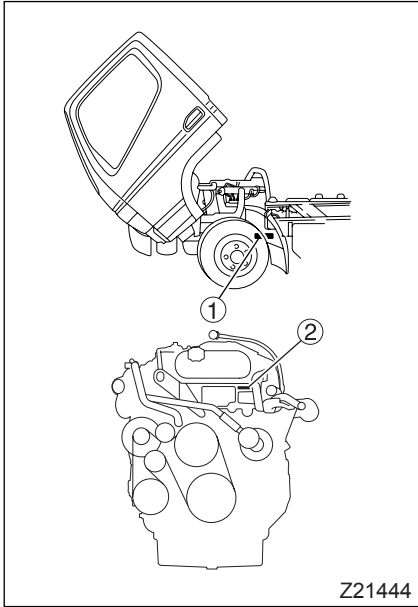
1 Chassis number

The chassis number is indicated on the left frame ①, near the left front wheel.

Example: FEC91E - □□□□□□

Chassis number

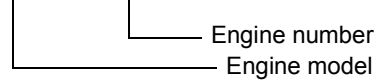
Vehicle model



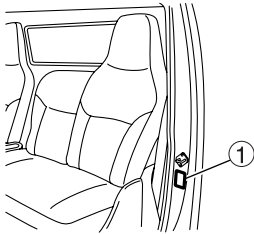
2 Engine number

The engine number ② is indicated on the front side of the cylinder head.

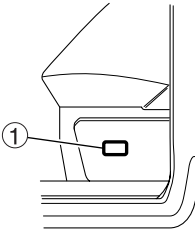
Example: 4P10 - □□□□□□



<Assistant driver's seat side>



<Crew-cab model>



Z21948

Nameplate

<Type 1>

The nameplate which contains vehicle model number and the like is attached to the assistant driver's side door opening.

<Type 2>

These two plates are attached in the cab under the rear window or, on Crew-cab models, at the right side under the rear seat. The compliance plate certifies that your vehicle complied with Australian Design Rules at the time of manufacture. In all correspondence related to your vehicle the following information should be quoted.

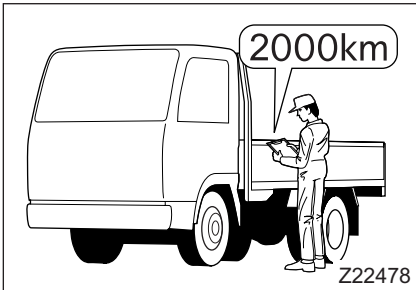
- The engine number.
- The vehicle identification number (V.I.N.) – shown on compliance plate.
- The S.O.A. No. (where applicable), option code, paint and trim codes located on data plate.

Maintenance


Checking your vehicle at regular intervals is very important for maximizing performance and extending service life. It is recommended that you make a habit of performing the following inspections.

1 New vehicle inspection

After you have driven the first 2,000 km, your vehicle requires a special inspection and adjustments to compensate for the initial settlement of various parts. When these distances have been reached, have your vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer by showing them the separate "Service Booklet".



2 Pre-operational check

Make a habit of checking your vehicle at the start of every day's operation. This will ensure safe and comfortable operation. ⇒  P. 12-13

3 Periodic inspection

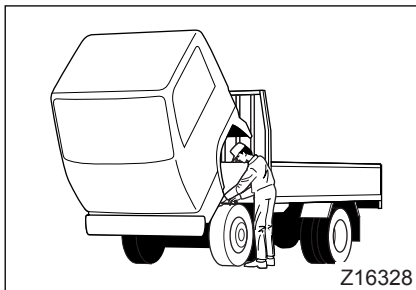
- Periodic inspection is based on either the distance traveled (odometer reading) or period of use (months/years).

Always have the recommended inspections and services performed as scheduled in accordance with the separate "Service Booklet".

- Mitsubishi Fuso gives a list of parts (brake hoses, fuel hoses, oil seals in brake related components, etc.) that should be replaced at regular intervals in order to ensure safe operation.

Though they have a direct bearing on safe vehicle operation, it is difficult to detect deterioration of these parts through ordinary inspections.

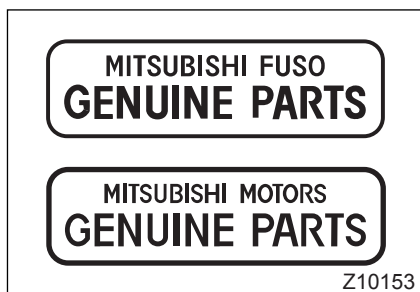
Rubber hoses, either for the brake system or the fuel system, in particular should be regularly inspected and serviced. Since they are liable to swell, chafe or crack over time, it is necessary that they be inspected by technicians according to the "Periodic inspection schedule" section, and that they be replaced at regular intervals for safety's sake. The hoses must be replaced immediately whenever they are worn or broken. For further details, refer to the separate "Service Booklet".



4 Rust and corrosion on vehicle

- Rust and corrosion of the undercarriage or underbody of the vehicle could cause an unexpected failure and even lead to an accident. They may develop rapidly especially on vehicles that are left unused for long periods, driven on coastal roads or roads on which road chemicals have been applied, or on vehicles used to transport marine products.
- Wash off road chemicals and other contamination thoroughly to ensure long life and reliable operation of your vehicle. It is also important to have your vehicle inspected each year for rust and corrosion and touch-up paint as necessary.
- A high-quality rust preventive coating is recommended if your vehicle is used under harsh conditions (e.g. frequently transporting fresh fish, lime, etc. or driving on roads where chemicals have been applied). Please contact an authorized MITSUBISHI FUSO distributor or dealer for details of high-quality rust preventive coating.

MITSUBISHI genuine parts and recommended lubricants/hydraulic fluids



1 MITSUBISHI genuine parts

Always use only MITSUBISHI FUSO/MITSUBISHI MOTORS genuine parts as replacements both to ensure safety and to obtain maximum performance from your vehicle.

MITSUBISHI genuine parts are identical to the parts used during the production of MITSUBISHI FUSO/MITSUBISHI MOTORS vehicle. All parts undergo the most stringent quality control and their quality is guaranteed by Mitsubishi Fuso Truck & Bus Corporation. All MITSUBISHI FUSO/MITSUBISHI MOTORS genuine parts are identified by the mark shown. They are available from your nearest authorized MITSUBISHI FUSO distributor or dealer.

2 Recommended lubricants/hydraulic fluids

The use of proper oil, grease and hydraulic fluid is imperative to obtain the maximum performance that was built into your vehicle. Use only lubricants and hydraulic fluids that conform to the standards and grades of our recommendation. The recommended lubricants and hydraulic fluids are listed in the “Service data” section. ⇨ P. 14-3

 **CAUTION**

Our warranty may not cover problems or accidents arising from use of parts other than MITSUBISHI genuine parts or lubricants/hydraulic fluids of unrecommended standards and grades.

NOTE:

Special lubricants/hydraulic fluids must be used in cold regions where the ambient temperature could drop below -25°C .

For details, consult your nearest authorized MITSUBISHI FUSO distributor or dealer.

Fuels**1 Fuels**

- Be sure to use diesel fuel that complies with the diesel fuel standard "EN590" specified by the Committee European de Normalization (CEN).
- In cold regions, use diesel fuel with properties appropriate for the temperature predominant in the area.
- Avoid storing your vehicle for a long time with bio-diesel fuel in the fuel tank.

 **WARNING**


- **Never use a mixture of diesel fuel with gasoline or alcohol or any fuel other than proper diesel fuel. Using other fuel could cause a fire or an explosion. If you accidentally use gasoline or alcohol when refueling the vehicle, remove all of it from the fuel system.**
- **The engine must be stopped when refueling. Never fail to put out your cigarette before refueling if you are smoking.**

 **CAUTION**

- **Never use an alternative fuel or a mixture of diesel fuel and kerosene. Such fuel has inferior lubricating properties. Using it would cause a malfunction.**
- **Never add any antifreezing agent or other additive to the fuel, as a damaged fuel injection system could result.**

- If the fuel tank breather (air hole) becomes so dirty that the breather gets blocked, the fuel tank may deform and the fuel injection system may fail. Be sure to clean them regularly.

NOTE:

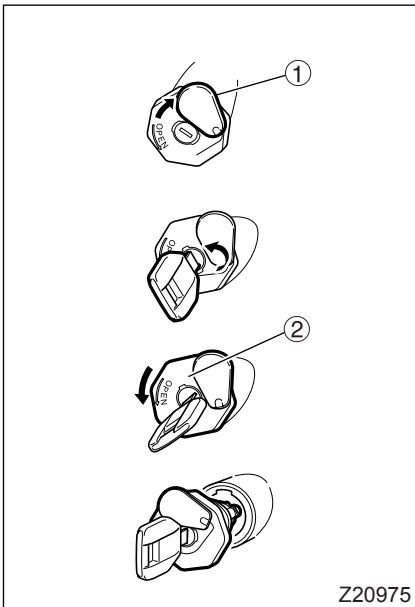
If the vehicle runs out of fuel, air will enter the fuel system. Simply refueling the vehicle will not make the engine startable; the air must be bled out of the fuel system. ⇒  P. 13-36

2 Refueling your vehicle

CAUTION

- Be careful not to allow dirt to enter the fuel tank when you refuel the vehicle.
- Tighten the cap firmly after refueling.


| Fuel tank capacity | |
|--------------------|------------|
| Type 1 | 70 liters |
| Type 2 | 100 liters |



1. Open the cover ①.
2. Insert the starter key into the lock and turn the key counterclockwise.
3. Remove the cap ② by rotating it in the direction of the arrow marked on it (counterclockwise). Refit the cap by reversing these steps. Tighten it firmly.

AdBlue®

<Vehicles with a BlueTec® system>

AdBlue® is injected into the exhaust gas inside the muffler in order to break down NOx (oxides of nitrogen) in the exhaust gas into water and nitrogen, and thus reduces the amount of NOx. ⇨  P. 5-73

 WARNING

AdBlue® is a colorless, transparent, odorless and harmless water solution (urea 32.5%, water 67.5%; Freezing temperature -11°C), so no problem will occur if you get it on your skin. However, some persons with delicate skin may in very rare cases get a rash, so carry out the following procedure.

- If AdBlue® gets on your skin, wash it off with water. If there is any change in your skin or it is painful, promptly see a doctor to receive treatment.
- In the event that you accidentally ingest AdBlue®, drink one to two cupfuls of water or milk, and promptly see a doctor to receive treatment.
- If AdBlue® gets into your eyes, immediately wash your eyes with a copious amount of water, then see a doctor to receive treatment.


AdBlue® : Registered trademark of the Verband der Automobilindustrie e.V. (VDA)

1 AdBlue® used

Be sure to use AdBlue® that conforms to ISO 22241.

ISO: International Organization for Standardization.

CAUTION

Do not carry out the following when using AdBlue® because this may cause damage to the BlueTec® exhaust gas aftertreatment. The  warning lamp will light to warn you if you fail to observe this precaution.

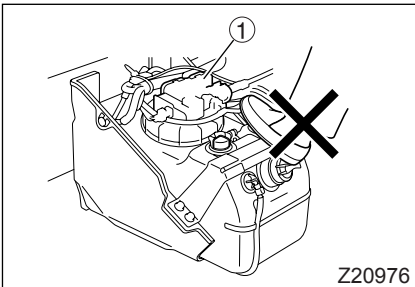
- Do not dilute the AdBlue®.
- Do not mix the AdBlue® with another reagent.
- Do not use AdBlue® that does not confirm to ISO 22241.
- Using a fluid other than the specified AdBlue® or driving a vehicle in a condition such that AdBlue® is intentionally not consumed constitutes a serious breach of the law.

2 Replenishing AdBlue®

WARNING

Do not pour anything other than AdBlue® into the urea tank. Particularly, never pour diesel fuel or gasoline into the urea tank, because this may cause a fire or damage the BlueTec® exhaust gas aftertreatment.

If you accidentally fill the urea tank with any fluid other than AdBlue®, immediately turn the starter switch to the “LOCK” position, and contact an authorized MITSUBISHI FUSO distributor or dealer to have the incorrectly added fluid drained off and the vehicle inspected.



CAUTION

Do not rest your foot on the urea tank or step on it, because this may damage the tank and/or the sensors ① on it.

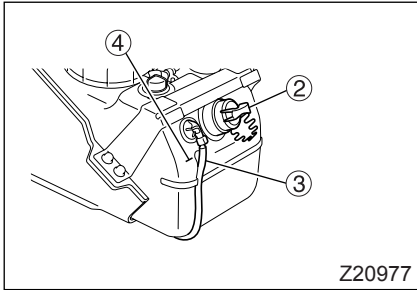
NOTE:

- Replenish the AdBlue® well before it is used up.
- It is recommended that you obtain portable AdBlue® for use in the event that the urea tank becomes empty.

- You can obtain AdBlue® from an authorized MITSUBISHI FUSO distributor or dealer.

| | |
|--------------------|-----------|
| Urea tank capacity | 12 liters |
|--------------------|-----------|

- Turn the starter switch to the “LOCK” position to stop the engine.
- Wipe away dirt, mud, or other contamination in the vicinity of the replenishment port.
- Turn the cap ② counterclockwise and remove it.
- While observing the level gauge ③, replenish the AdBlue® to the FULL line ④ on the tank.



⚠ CAUTION





- Do not use a steel container to hold AdBlue®. AdBlue® reacts with steel and produces a corrosive material. If the tank is refilled with AdBlue® containing this corrosive material, the BlueTec® exhaust gas aftertreatment will be damaged.
- Containers and appliances used to handle AdBlue® must not have been used for other purposes. Impurities that may remain in them could adversely affect the quality of AdBlue® and prevent the engine from starting.

- Install the cap securely by turning it clockwise.

NOTE:

If you spill the AdBlue® during replenishment, wipe it away with a cloth, or the like, and then wash the area with water.

NOTE:

- When the urea tank is empty, the  warning lamp flashes, the  indication (red) is displayed on the multi-information display, and the engine power is restricted. After refilling an empty urea tank with AdBlue®, the  warning lamp may flash for a while and the  indication (red) may be displayed on the multi-information display for a while when you turn the starter switch to “ON”. The lamp and indication will then go out.
- When the urea tank becomes empty in cold weather, be sure to check that the above indication goes out before parking the vehicle for a long period.

3 Storing the AdBlue®

- Seal the container, and store it indoors in a well-ventilated place away from direct sunlight. The temperature of the storage place should be between -5°C and 25°C .



WARNING

Do not store AdBlue® in a high temperature location.

If the temperature is high, AdBlue® may release ammonia, which is toxic. When storing the container, seal it. Also, open it outdoors in a well-ventilated area. If a pungent odor is emitted from the container, do not carelessly go near it.

NOTE:

- *You can use frozen AdBlue® after allowing it to thaw, without loss of quality.*
- *If you seal the container so as to prevent the water from evaporating, the quality of the AdBlue® will not change.*
- *Although AdBlue® is a non-flammable liquid, it may emit a pungent odor if it is heated due to a fire, for example. In the event that a fire breaks out, promptly move the container to a safe place.*
- It is strongly recommended to store or carry AdBlue® in the original container in which it was sold. If unavoidable, you can also use a polypropylene tank usually used for drinking water or the like instead, after thoroughly cleaning the inside with AdBlue® and making sure that it contains absolutely no water or other impurities.



CAUTION

Do not store AdBlue® in a non-specified container. If AdBlue® is stored in a steel container and then used for replenishing, corrosive material produced by chemical reactions will damage the BlueTec® exhaust gas aftertreatment.

- AdBlue® must be handled as industrial waste when discarding it.

CAUTION

Do not discard AdBlue® in a lake or marsh, in the sea, or in a river because this may cause environmental destruction.

Handling of the new vehicle

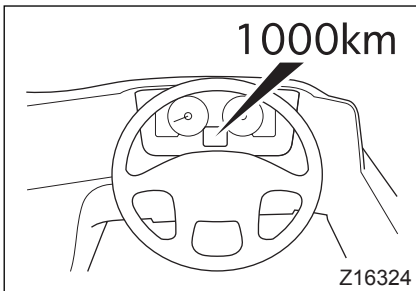
The way the vehicle is handled when new greatly affects its subsequent performance and service life. Observe the following precautions when handling the new vehicle.

1 Maintenance

The “new vehicle inspection” is very important for extending the service life of your vehicle. We strongly recommend that this inspection be performed by your nearest authorized MITSUBISHI FUSO distributor or dealer according to the schedule specified in the “NEW VEHICLE INSPECTION coupon” included in the separate “Service Booklet”.

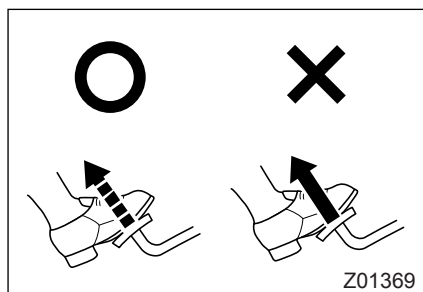
2 Maximum engine speed during run-in period

To avoid overburdening a new engine, limit engine RPM to that indicated below for the first 1,000 km. Then, run in your vehicle step by step at various speeds, beginning with low gears.



| Engine RPMs during run-in period |
|----------------------------------|
| 2,800 rpm |

Preventing problems and accidents




- Replace oils at regular intervals. Prolonged use of contaminated oil may cause bearing seizure or other major problems. Use only the oil and grease recommended in this manual. Use of any other oil and grease could cause malfunctions and other problems.
- Replace or clean filters or filter elements at regular intervals. Clogged or damaged filters or filter elements could diminish performance or cause engine malfunction.
- Never turn over the starter continuously for more than 15 seconds. Doing so could result in rundown battery or burnt out starter.
- With a manual transmission vehicle, engage the clutch slowly when starting out. Engaging the clutch too quickly could shorten the life of the power train.
- With a manual transmission vehicle, never drive with your foot on the clutch pedal. Such a practice will result not only in loss of power but also in shortened life of the clutch disc due to premature wear.
- When driving on rough roads, reduce speed sufficiently and avoid bumps and potholes as far as possible.
- Do not continue spinning the wheels after traction is lost. Put a rag or some other object under the tires to give sufficient traction to move forward.
- While the vehicle is in motion, do not try to disengage the clutch or shift the gear into neutral (manual transmission vehicles) or do not push the gearshift lever into the "N" position (vehicles with a DUONIC system). Also, never operate the vehicle with engine switched off.

WARNING

Stopping the engine while the vehicle is moving is extremely dangerous because it drastically reduces braking performance and makes the steering action extremely heavy.

- If strange noises, smells or vibrations are noted, stop as soon as it is safe to do so and check the vehicle for possible causes.

- On climbing or descending slopes, be cautious of engine overrevving which may occur upon downshifting or when the vehicle speed is excessive.
- Try to take maximum advantage of engine braking and exhaust brake features when descending a slope.
- If a warning lamp or warning indication comes on, stop the vehicle in the nearest safe place and investigate the cause. ⇒  P. 6-27
- During cold weather, be sure to use oil of a proper viscosity for the outside temperature. Also check for proper coolant and windshield washer fluid additive concentration, battery electrolyte specific gravity, etc.
- Do not carry containers of fuel or spray cans in the cabin.

**WARNING**

Carrying fuel in the cabin is extremely dangerous because an increase in the cabin temperature could cause fuel vapor to catch fire or cause the container to rupture.

- Do not attach any decorative panel or similar item to the windshield.

**WARNING**

Attaching a decorative panel or similar item to the windshield could impede driving and visibility. In addition, any suction cup on such an item could cause a fire by acting as a lens.

- Do not exceed the maximum loading capacity. Overloading puts excessive stress on vehicle parts, shortening their service life. Also, avoid loading the vehicle improperly. Improperly loaded cargo not only is unstable but also may result in uneven weight distribution which could damage the cargo deck and frame.

 **WARNING**

- **When roping up cargo or covering it with a trap, make sure that neither the rope nor the end of the trap hang down between the cab and the cargo deck as a loosely hanging rope or trap could catch fire from the engine heat.**
- **Avoid placing wooden boards or the like in the gap between the cargo deck and frame; the heat of the exhaust pipe could set them on fire.**
- **When spreading the trap, take care not to let it cover or be drawn into the engine air intake duct.**
- **When loading heavy cargo, take adequate measures to stop it from slipping. Also use wire to secure it.**

- Do not try to forcefully turn the steering wheel when the front wheels are stuck against a curbstone or other object. Doing so could cause the steering gearbox to fail.
- Do not keep the steering wheel turned fully to either side for more than 10 seconds. Doing so could cause the power steering system to malfunction.
- Never attempt to tune the engine yourself. The engine has been optimally tuned before shipment from the factory. Improper adjustments not only hurt engine performance, but also worsen exhaust emissions and increase exhaust noise.
- The vehicle uses electronic devices which are sufficiently protected against radio wave interference. However, you should consult your nearest authorized MITSUBISHI FUSO distributor or dealer if you wish to install radio transmitting equipment or other strong radio wave generating devices since they could adversely affect the performance of the vehicle's electronic equipment.

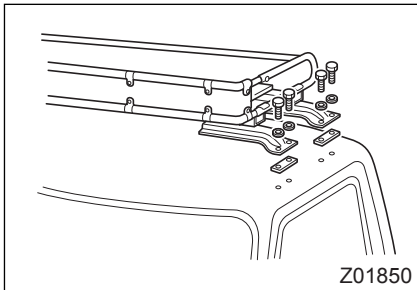
NOTE:

The power supply of your vehicle is rated 12-volts. Use a 12-volt radio equipment.

- Do not attempt to install electrical wiring yourself. Instead have it done by your nearest authorized MITSUBISHI FUSO distributor or dealer.

! WARNING

If wiring is improperly installed upon installing some separately purchased electric device, originally installed equipment may malfunction and could possibly cause a fire due to overheating of the electrical circuit.



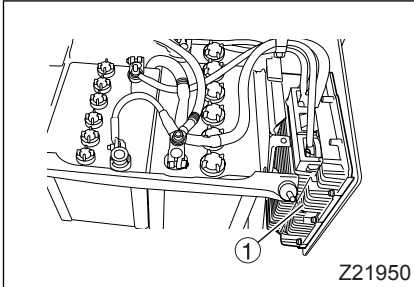
- If a lifting magnet is used to unload cargo, its magnetism may cause sensors to malfunction. If the vehicle is to be used in a special environment, please consult the nearest authorized MITSUBISHI FUSO distributor or dealer.
- When installing a roof deck, drag foiler or other equipment on the cab roof, use the holes provided in the roof for that purpose. The installed equipment including the luggage on it must be less than 50 kg in weight. The bolts (M8 x 1.25), washers, rubber packings and other parts used for installing the equipment must be of the specified material. After installation, the periphery of the bolts should be completely sealed with a sealant. For further information, please contact your nearest authorized MITSUBISHI FUSO distributor or dealer.
- Do not attempt to modify the vehicle. The vehicle's performance and functionality could deteriorate, and newly fitted parts may not comply with legal regulations. If you wish to fit any accessory, please consult the nearest authorized MITSUBISHI FUSO distributor or dealer.

When servicing the vehicles with 12-volt and 24-volt power circuits

<Vehicles with a battery equalizer>

Handling of vehicles equipped with 12-volt and 24-volt power circuits

If there is a battery equalizer ① next to the battery, your vehicle is equipped with 12-volt and 24-volt circuits. The 12-volt power supply is used by the equipment in the cab and the 24-volt power supply by the equipment to be installed on the vehicle body. Refer to the section "When a fuse has blown" on page 13-11.



! CAUTION

Consult an authorized MITSUBISHI FUSO distributor or dealer before installing electrical equipment. If you carry out wiring by yourself to install commercially available electrical equipment, the equipment may malfunction or the wiring overheat, which could cause a fire in the worst case.

NOTE:

- *If the battery has run down, use a vehicle with a 12-volt power source to jump-start the engine. Do not use a vehicle with a 24-volt power source. Refer to the section "When the battery has run down" on page 13-33.*
- *When replacing the battery, follow the procedure given in this handbook. Refer to the section "Battery – check" on page 12-102.*

Driving in foreign countries

It is important to point out to our valued customers that different countries throughout the world have vehicles designed to be more suited to the conditions which exist in a particular country.

If you are concerned in anyway, please contact your nearest authorized MITSUBISHI FUSO distributor or dealer for information on the country you will be visiting before your departure.

Local conditions or regulations may change for a particular countries in the following way:

- Local conditions and regulations covering fuels and lubricants may not be suitable for use in your vehicle. Damage may occur to your vehicle if the wrong fuels or lubricants are used.
- Due to local regulations or different driving conditions, modification of your vehicle may be required in some cases.
- The proper customer service for your particular vehicle may not be available due to the fact that the importer may not distribute our entire model line-up. Therefore, certain parts of your vehicle may not be available.

Because these things could inconvenience you, you should discuss them with your nearest authorized MITSUBISHI FUSO distributor or dealer before your departure to foreign countries.

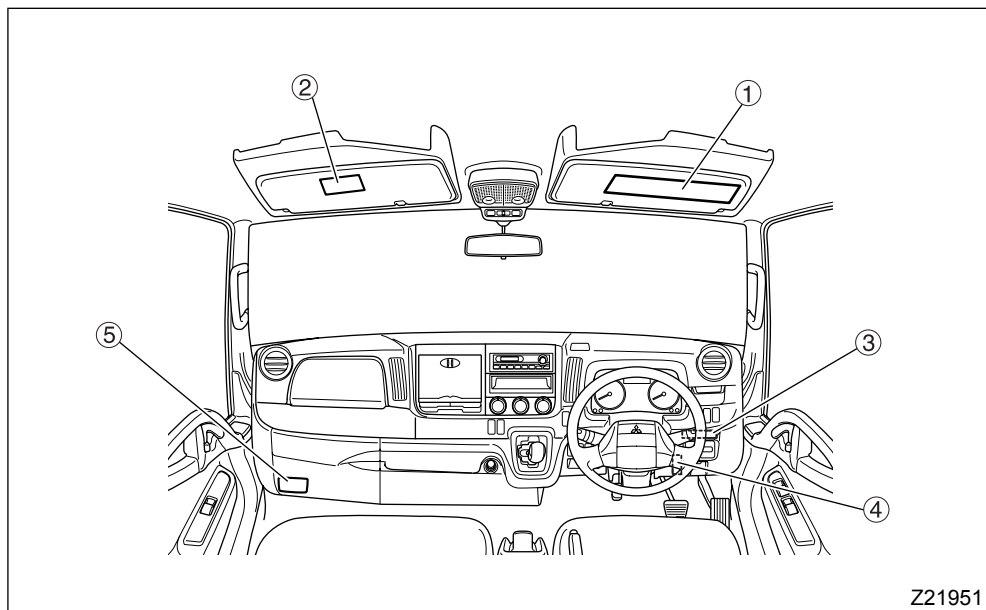
2. Warning labels

Labels inside the cab 2-3
Exterior labels 2-6

- The caution and warning labels show important information. Be sure to read them before using the vehicle.
- If any label has peeled so it is difficult to read, is scratched or otherwise damaged, or has peeled off completely, please inform an authorized MITSUBISHI FUSO distributor or dealer. The warning and caution labels apply only to the vehicle itself, not to any equipment mounted on the vehicle. For information on caution and warning labels that apply to equipment mounted on the vehicle, please refer to the owner's handbook supplied by the manufacturer of the equipment.
- The locations of these labels and the information on them may vary with the vehicle model. Check the information on each label on your vehicle.

Labels inside the cab

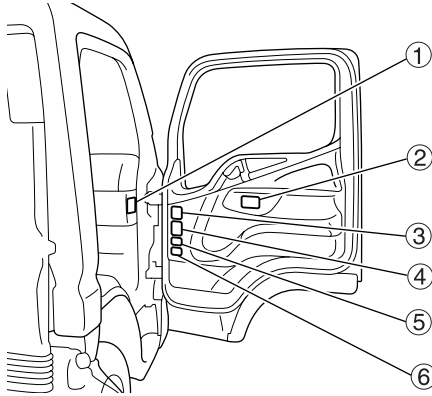
1 Around the driver's seat



Z21951

| Location | Category | Information | Ref. page |
|----------|-----------|---|---------------|
| ① | ⚠ WARNING | Handling of driver's seat SRS air bag <Vehicles with a driver's seat SRS air bag> | 4-10 |
| | ⚠ WARNING | Handling of DPF system with regeneration control | 5-52, 5-64 |
| | ⚠ CAUTION | Handling of AdBlue® <Vehicles with a BlueTec® system> | 1-8 |
| ② | ⚠ WARNING | Handling of assistant driver's seat SRS air bag <Vehicles with an assistant driver's seat SRS air bag> | 4-10 |
| ③ | ⚠ WARNING | Handling of DPF indicator lamp | 5-52, 5-64 |
| ④ | ⚠ WARNING | Inspection of engine oil level | 12-26 |
| ⑤ | ⚠ WARNING | Use of specified fuse | 13-11 |

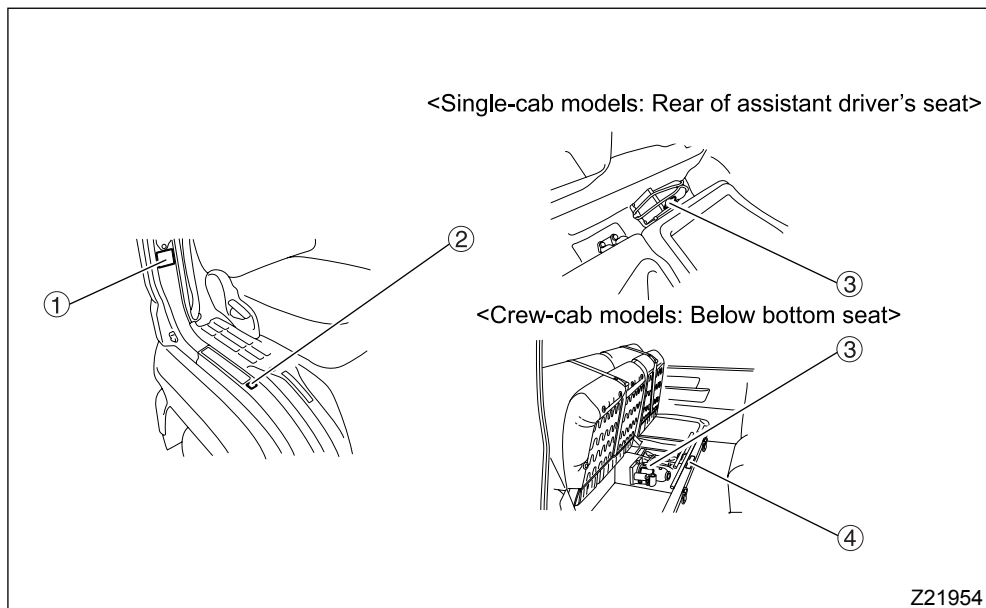
2 Door



Z21953

| Location | Category | Information | Ref. page |
|----------|-----------|--|-----------|
| ① | ⚠ CAUTION | Handling of dump lever <Dump trucks> | 8-6 |
| ② | ⚠ CAUTION | Handling of PTO <Vehicles with a transmission PTO> | 8-2 |
| ③ | ⚠ WARNING | Handling of DUONIC <Vehicles with a DUONIC system> | 5-21 |
| ④ | ⚠ CAUTION | Hill start assist system <Vehicles with a hill start assist system> | 8-20 |
| ⑤ | ⚠ CAUTION | Handling of 4WD system <FG> | 8-12 |
| ⑥ | ⚠ CAUTION | Handling of vehicles equipped with 12-volt and 24-volt power circuits <Vehicles with a battery equalizer> | 1-17 |

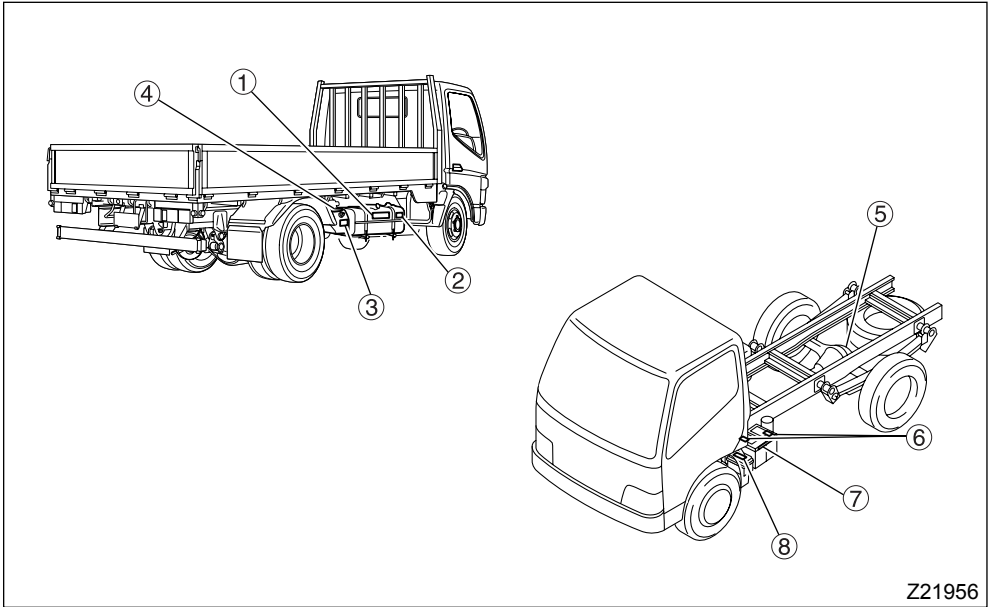
3 Driver's door pillar, rear of assistant driver's seat and rear seat



| Location | Category | Information | Ref. page |
|----------|----------------|--|-----------|
| ① | Standard value | Tire pressure | 12-78 |
| ② | ⚠ WARNING | Handling of limited slip differential <Vehicles with an LSD> | 12-87 |
| ③ | ⚠ WARNING | Handling of jack | 12-81 |
| ④ | ⚠ CAUTION | Handling of rear air conditioner <Vehicles with a rear air conditioner> | 4-4 |

Exterior labels

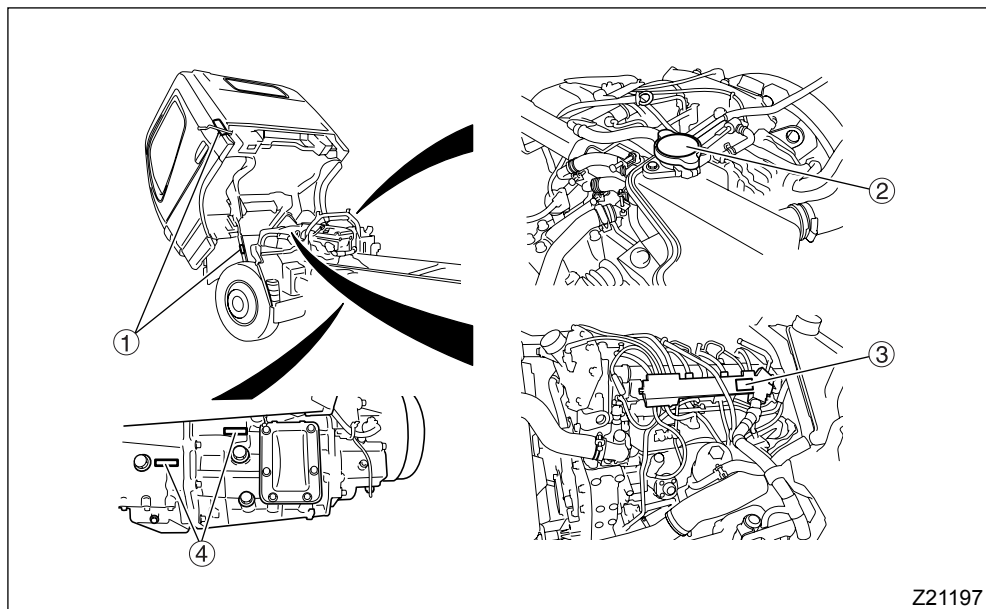
1 On the frame and exterior equipment



Z21956

| Location | Category | Information | Ref. page |
|----------|-----------|---|-----------|
| ① | ⚠ CAUTION | Use of diesel fuel | 1-6 |
| ② | ⚠ CAUTION | Fuel tank capacity | 6-4 |
| ③ | ⚠ CAUTION | Prohibition against standing on urea tank <Vehicles with a BlueTec [®] system> | 1-8 |
| ④ | ⚠ CAUTION | Handling of AdBlue [®] <Vehicles with a BlueTec [®] system> | 1-8 |
| ⑤ | ⚠ CAUTION | Oil to use for LSD (limited slip differential) <Vehicles with an LSD> | 12-36 |
| ⑥ | ⚠ DANGER | Handling of battery | 12-102 |
| ⑦ | ⚠ CAUTION | Handling of vehicles equipped with 12-volt and 24-volt power circuits <Vehicles with a battery equalizer> | 1-17 |
| ⑧ | ⚠ WARNING | Use of specified fuse | 13-11 |

2 On the cab exterior and engine

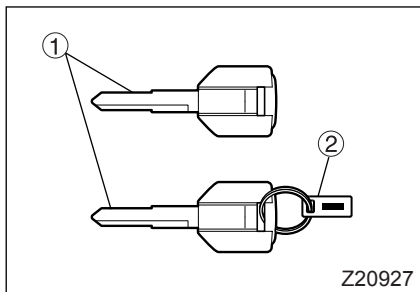


Z21197

| Location | Category | Information | Ref. page |
|----------|-----------|---|-----------|
| ① | ⚠ WARNING | Handling of cab tilt function <Vehicles except Crew-cab models> | 12-7 |
| ② | ⚠ WARNING | Handling of pressure cap | 12-65 |
| ③ | ⚠ CAUTION | Inspection and replacement of engine oil | 12-26 |
| ④ | ⚠ CAUTION | Oil to use for clutch and transmission <Vehicles with a DUONIC system> | 12-32 |

3. Opening and closing

| | |
|--|------|
| Starter key | 3-2 |
| Engine immobilizer (theft prevention device) | 3-2 |
| Doors | 3-5 |
| Keyless entry system | 3-8 |
| Entering and leaving the vehicle | 3-11 |
| Door window glass | 3-13 |
| Cargo deck gates | 3-15 |

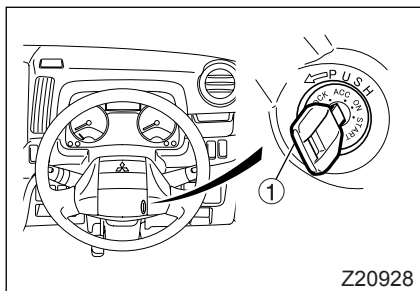


Starter key

- Two identical starter keys ① are provided. You can use either of these starter keys for locking/unlocking the doors and starting/stopping the engine.
- Please make a note of the starter key number ②. You can purchase more starter keys if you inform an authorized MITSUBISHI FUSO distributor or dealer of this number.

Engine immobilizer (theft prevention device)

1 Engine immobilizer

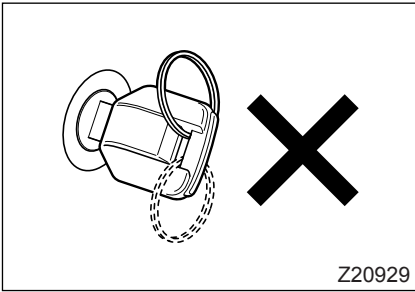


- The engine immobilizer is a theft prevention device. It prevents the engine from being started unless an engine immobilizer starter key ① that has been registered to it is used.
- The engine immobilizer automatically starts operating as soon as the starter switch is turned to "ACC" or "LOCK". Once the engine immobilizer is activated, it prevents the engine from being started.
- The engine immobilizer starter key sends a signal to the vehicle, thereby canceling the engine immobilizer such that the engine can be started.

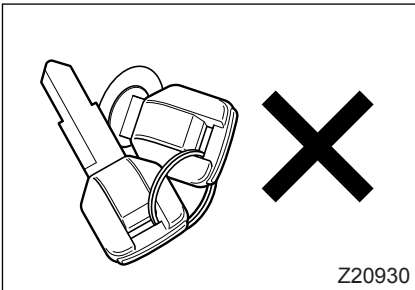
NOTE:

In the circumstances detailed below, it is possible that the vehicle cannot receive a signal from the immobilizer starter key, meaning that the engine cannot be started, even if the starter switch is turned to the "START" position. If this happens, remove any keys and other metallic objects that are touching the immobilizer starter key, return the starter switch to the "ACC" or "LOCK" position, and try starting the engine again.

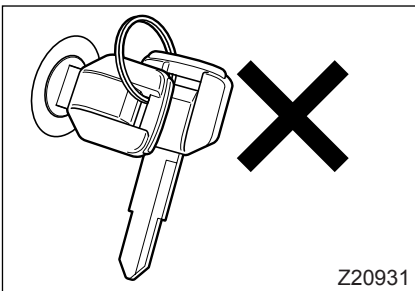
If you still cannot start the engine, have the vehicle inspected at an authorized MITSUBISHI FUSO distributor or dealer.



- A metallic ring is on top of the handle of the engine immobilizer starter key.



- The handle of the engine immobilizer starter key is in contact with a metallic part of another key.



- The engine immobilizer starter key is placed on top of or near to another vehicle's engine immobilizer starter key.
- A key holder that emits radio waves or the remote control switch of the keyless entry system is placed on top of or near the engine immobilizer starter key.
- A card with an embedded IC chip or a mobile phone is held together with the engine immobilizer starter key.

The engine immobilizer starter key is an electronic device containing a signal transmitter. Bear in mind the following cautions:

- Do not bend the engine immobilizer starter key or subject it to strong shocks.
- Do not leave the engine immobilizer starter key in any part of the cab where it could be exposed to direct sunlight and get extremely hot (60°C or higher).
- Do not store the engine immobilizer starter key near a magnet or any other source of magnetism.
- Do not disassemble or modify the engine immobilizer starter key.
- Keep magnetic keyrings and other magnetic items away from the engine immobilizer starter key.
- Do not place the engine immobilizer starter key near an audio player, personal computer, television set, or other device that is a source of magnetism.
- Do not clean the engine immobilizer starter key using an ultrasonic cleaner.

In the event that you lose an engine immobilizer starter key or wish to have a new one made, contact an authorized MITSUBISHI FUSO distributor or dealer. (A maximum of six engine immobilizer starter keys can be registered with a single vehicle.) You will need to take to the authorized MITSUBISHI FUSO distributor or dealer all the engine immobilizer starter keys that you have at the time.

Please note the following regarding registration of starter keys:

- When having the registration of a starter key deleted by an authorized dealer, also take to the dealer all the starter keys for which you do not wish to delete the registration.
- If you lose all of the starter keys, additional registration or deletion of registration of starter keys is not possible, and you must then purchase a new immobilizer control unit and a new starter key.

NOTE:

Certified for use in Hong Kong.



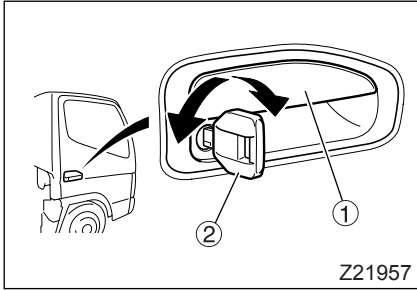
Doors

WARNING

- To help prevent accidents, always check for vehicles and pedestrians approaching from behind before opening the doors.
- Driving with a door ajar can be very dangerous. Make sure the doors are completely closed before starting.
- Exercise caution when opening a door in strong wind. Otherwise, the wind could catch the door and suddenly blow it open.
- Exercise caution when opening a door on a downward slope. Otherwise, the inclination of the vehicle could cause the door to suddenly fall open.
- When leaving the vehicle, take with you any child who was riding in the cab. Never leave a child in the cab. A child left in the cab could interfere with the vehicle, causing it to move or catch fire. Also, the cab gets extremely hot in sunshine and in hot weather so a child left in the cab could suffer heatstroke.
- When closing a door, be careful not to trap your hand or anything else.

CAUTION

- Avoid applying undue force to a door when opening or closing it; otherwise the door could be damaged.
- Do not swing on or hang anything heavy on any of the doors. Doing so could damage the door components.

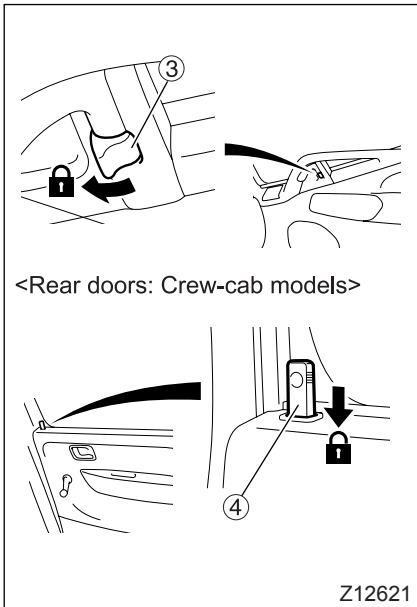


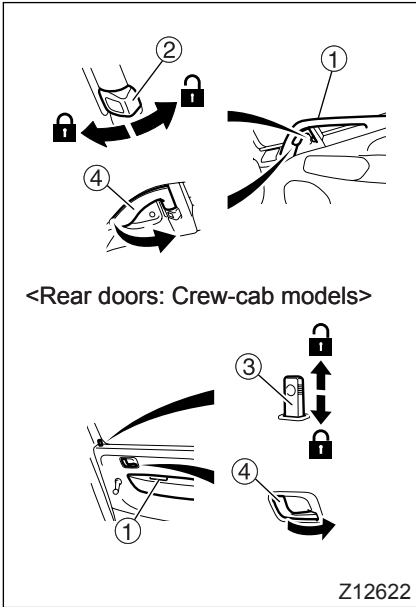
1 From the outside

- To open, pull the outer handle ① toward you.
- Use the starter key ② to lock or unlock the door.
- It is possible to lock each door without using the starter key. With the driver's door or assistant driver's door, push the lock knob ③ toward the front of the vehicle then pull the outer handle and keep it pulled as you close the door. With a rear door, push the lock knob ④ down then pull the outer handle and keep it pulled as you close the door.

NOTE:

- On vehicles with central door locks, locking or unlocking the driver's door using the starter key or lock knob also causes the assistant driver's door and the rear doors (Crew-cab type vehicles) to automatically lock or unlock.
- When you leave your vehicle, be sure to remove the starter key from the starter switch to prevent theft.
- Be careful not to lock the doors with the starter key inside the vehicle.





2 From the inside

- To close, use the door waist bar ①. Close the door completely.
- To lock the driver's door or assistant driver's door, push the lock knob ② toward the front of the vehicle. To lock a rear door, push the lock knob ③ down.
- To unlock and open the driver's door or assistant driver's door, push the lock knob toward the rear of the vehicle then pull the inner handle ④. To unlock and open a rear door, pull up the lock knob then pull the inner handle ④.

CAUTION

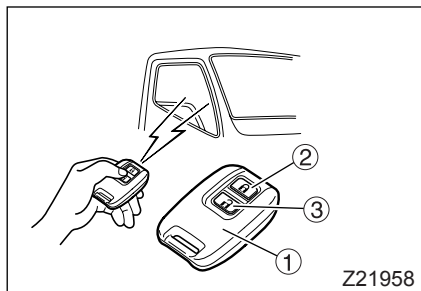
Closing the door by pulling any part other than the door waist bar could damage the door mechanism.

Keyless entry system

<Vehicles with keyless entry system>

1 Keyless entry system

The keyless entry system allows you to lock/unlock the doors of the driver's seat, passenger's seat and the rear seats (Crew-cab models) by operating the remote-control switch ①.

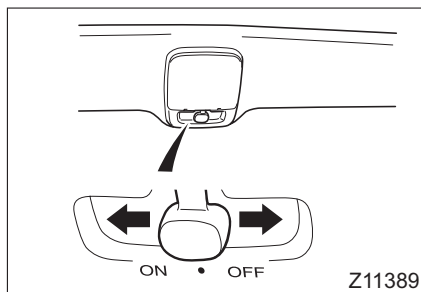


! CAUTION

- If you carry the keyless entry remote control switch with you when traveling on an airplane, avoid pressing any button on the switch. If you keep the switch in a suit pocket or somewhere like a bag, prevent the switch buttons from being accidentally pressed, since the radio-wave signals emitted from the switch could interfere with normal operation of the airplane.
- Do not expose the remote control switch to water, disassemble it, or apply shock by dropping it.
- Do not leave the remote control switch in a place that is exposed to direct sunlight or where the temperature rises to 60°C or above. Doing so will shorten the life or cause failure of the remote control switch.

2 How to operate the remote control switch

- Point the remote control switch toward the antenna of the cabin.
- Operate the remote control switch within 3 m from the center of the cabin.
- Press the button ② to lock the doors.
- Press the button ③ to unlock the doors.
- When you press the buttons, be sure to press them for at least one second. If a button does not work after one press, press the button again after one or two seconds.
- After locking the doors with the remote control switch, always check that the doors are locked by lifting the outside handle of a door.
- You can check the locking/unlocking of the doors by the flashing of the emergency lamp and the room lamp. Leave the switch of the room lamp ① "•".



When the doors are locked, the room lamp and the emergency lamp flash twice.

When the doors are unlocked, the emergency lamp flashes once and the room lamp lights up for about 10 seconds.

NOTE:

- *The range in which you can operate the remote control varies somewhat depending on the surroundings such as proximity to a TV antenna, power station, broadcasting station, etc.*
- *If you do not open a door within 30 seconds after unlocking with the remote control switch, the doors will automatically be locked again.*
- *If you lose the remote control switch or the switch does not work, please contact an authorized MITSUBISHI FUSO distributor or dealer to obtain a spare remote control switch.*
- *You cannot lock the doors by the lock knob at the driver's seat if the starter key is inserted in the starter switch.*
- *Do not leave the vehicle with the starter key left inside the vehicle after locking the door with the remote control switch. When you leave the vehicle, carry the starter key as well as the remote control switch with you, otherwise the remaining key could encourage theft.*
- *You may order up to two spare remote control switches. If you need a spare remote control switch, request it from an authorized MITSUBISHI FUSO distributor or dealer.*

The remote control switch does not work under the following conditions:

- *A door is open or incompletely closed.*
- *When the starter key is in the starter switch*

3 Replacing the battery

If the remote control switch does not lock or unlock the doors upon pressing a button, the battery has probably run down. Replace it with a new one.



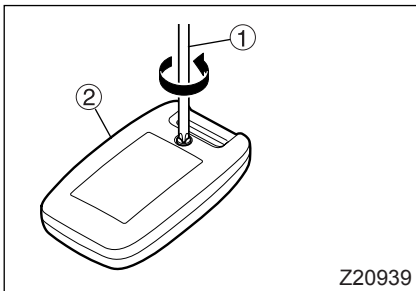
WARNING

- **Keep the batteries out of the reach of children. If a child swallows a battery, visit a doctor immediately.**
- **Do not disassemble, heat or drop the battery in water. Doing so could cause a fire or explosion.**

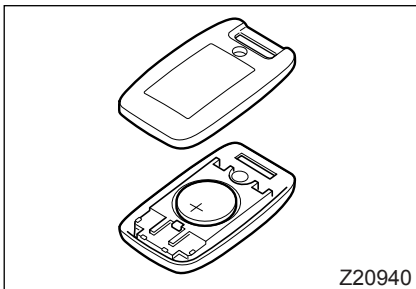
⚠ CAUTION

- Use the designated standard type of battery. If the battery is replaced with an incorrect type, the battery could explode.
- Attach the battery with the “+” mark facing upward.
- Do not use a metal tool such as tweezers to replace the battery. Doing so could cause a short circuit.
- Dispose of used batteries in accordance with local regulations. Inconsiderate disposal could adversely affect the environment. For disposal, wrap the battery with tape, vinyl sheet, etc. for insulation so that the battery cannot contact other metal objects or be exposed to water.
- Do not expose the inside of the remote control switch to water, and keep it away from dirt and dust. Otherwise, the switch could fail.

| Designated Battery | Quantity |
|------------------------|----------|
| Lithium battery CR2032 | 1 |



1. Use a crosshead screwdriver ① to turn the screw and remove the cover ②.



2. Place a new battery with the “+” mark facing upward.
3. Reattach the cover and the screw.
4. Operate the switch and check that the remote control works.

Entering and leaving the vehicle



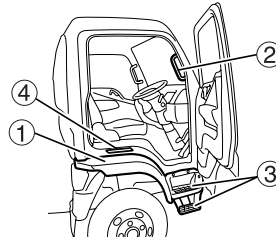
WARNING

- Always use the step to climb into or down from the vehicle. Never put your foot on the wheel or tire since it could easily slip off.
- The step can become slippery in rain or snow. Firmly hold the grip while climbing into or down from the vehicle. Holding the grip is particularly important when snow has settled and frozen on the step.
- If the soles of your shoes are oily or greasy, you could slip when climbing down from the vehicle or when operating the brake or clutch pedal.
Wipe any oil and grease off the soles of your shoes before entering or leaving the vehicle.
- Do not hold luggage or other items in your hands when entering or leaving the vehicle since this can be dangerous.
- Do not jump down from the vehicle. Jumping down from the vehicle could cause you to fall or sustain an injury.
- Take care when entering or leaving the vehicle on a slope or in a strong wind since the door could open or close suddenly.

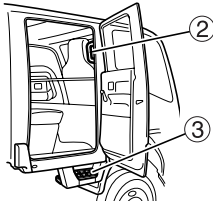
<FE models>



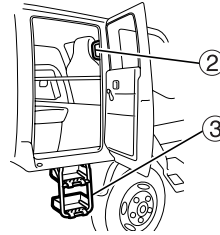
<FG models>



<Rear doors of FE Crew-cab models>



<Rear doors of FG Crew-cab models>



Z22035

CAUTION

- **Hold onto the grip when entering or leaving the vehicle. Do not grasp any other part of the vehicle since it could break.**
- **When entering or leaving an FG model vehicle, do not place your feet or hands on the overfender ①. The overfender could suffer damage. Also, the overfender can be dangerously slippery.**

When climbing into and out of the cab, support your body by at least three points at a time by firmly gripping the handle ② and fully placing your feet on the steps ③. If you place your hand on the fender, put it on the non-slip section ④.

Door window glass

WARNING

Do not allow a child to put its hands or head out of a window. The child's head or hands could hit an object outside the vehicle, and the child could be seriously injured in the event of hard braking.

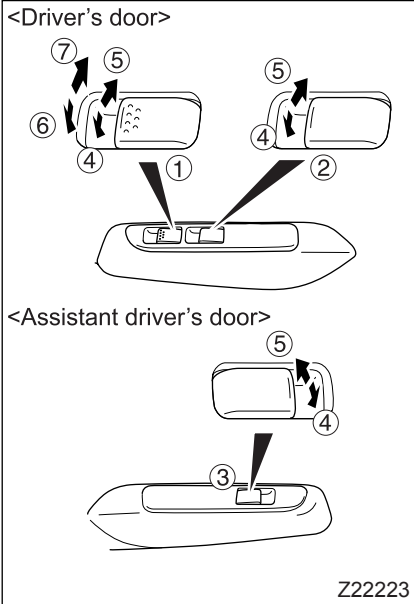
1 Power window switches

WARNING

- Always make sure that no one has their head or hands out of the window when closing it. A body part could be injured if caught in a closing window. Never allow a child to open or close the window.
- Do not allow a child to operate the power windows. Otherwise, the child may accidentally operate the power window switch and get its hands or head trapped.

CAUTION

Do not keep any door or window open in rainy weather, and be careful not to spill a drink on any of the window switches. If water or any other liquid gets on a window switch, it can cause a malfunction.



The power window switches function only when the starter switch is in the "ON" position.

On the driver's door, there are two switches: switch ① for controlling the driver's window and switch ② for controlling the assistant driver's window.

The switch for the driver's window has an auto function for fully opening or fully closing the window with a single touch of the switch.

③ Switch for assistant driver's window.

• **Manual operation**

④ Gently press the switch to open the window. The window will move only while you are pressing the switch. It will stop when you release the switch.

⑤ Gently pull the switch to close the window. The window will move only while you are pulling the switch. It will stop when you release the switch.

• **Auto function**

⑥ To fully open the driver's window with a single touch of the switch, press the switch firmly. If you wish to stop the window part-way, give the switch a gentle pull.

⑦ To fully close the driver's window with a single touch of the switch, pull the switch firmly. If you wish to stop the window part-way, give the switch a gentle push.

! CAUTION

Do not keep any door or window open in rainy weather, and be careful not to spill a drink on any of the window switches. If water or any other liquid gets on a window switch, it can cause a malfunction.

NOTE:

In cold weather, the auto function may not work temporarily. In this event, open or close the window by the manual operation.

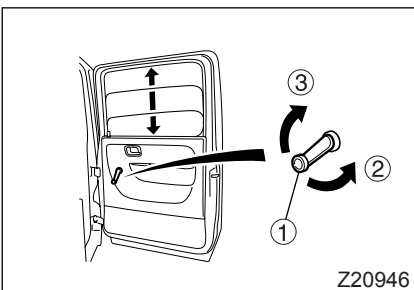
2 Window regulator handle

<Crew-cab models>

Turn the window regulator handle ① to open or close the window.

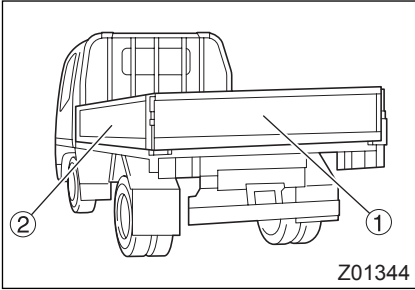
② Open

③ Close



CAUTION

The front door window glass lowering limit is near the door waist bar ④. Trying to lower it further could damage the internal mechanism.



Cargo deck gates

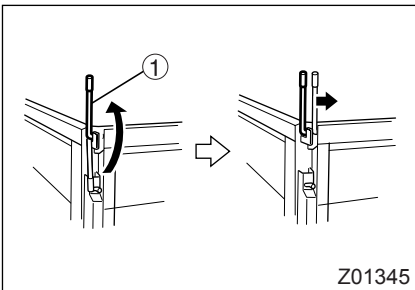
Explained here are the opening and closing methods of the rear gate ① and side gates ② on standard type cargo decks.

For handling methods of cargo decks of special design or rear bodies, refer to the appropriate body manufacturer's instruction manual.

1 Rear gate

WARNING

- When closing the rear gate, be careful not to trap the rear gate chains. Otherwise, the rear gate and rear gate chains could suffer damage. If the rear gate is not adequately locked, it could open during vehicle operation, resulting in an accident.
- When opening and closing the rear gate, be careful not to trap your fingers.
- Do not drive the vehicle with the rear gate open. Cargo could fall to the ground, causing an accident.



To open: Swing up levers ① on both sides of the rear gate, and then push the levers inward to unlatch the gate for opening.

To close: Reverse the above order.

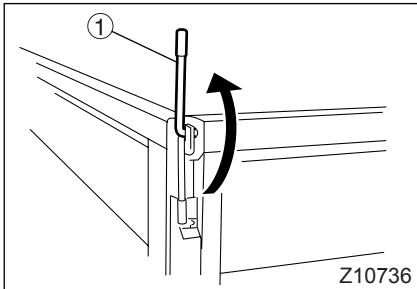
2 Side gates

WARNING

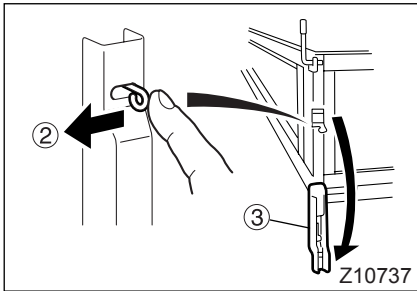
- When opening and closing the side gates, be careful not to trap your fingers.
- Do not drive the vehicle with either side gate open. Cargo could fall to the ground, causing an accident.

To open:

1. Swing up lever ① at the rear end of each side gate.



2. Push spring ② outward and open gate support ③ down.

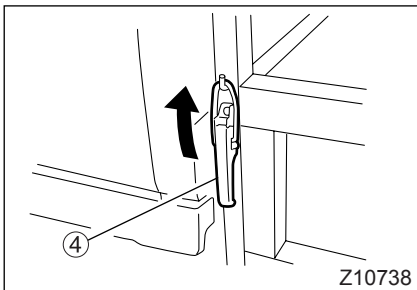


3. Raise handle ④ at the front end of the gate and unlatch the gate for opening.

To close: Reverse the above order.

NOTE:

When opening both the side gates, open the rear gate first.



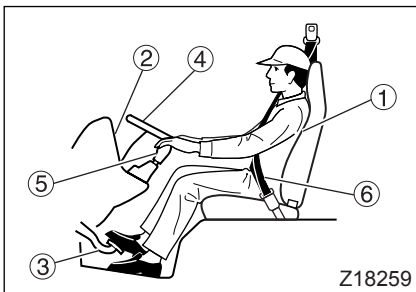
4. Seat and steering wheel adjustments

| | |
|--|------|
| Seats | 4-2 |
| Seat belts | 4-5 |
| Supplemental restraint system (SRS) – air bag and seat belt pre-tensioner system | 4-10 |
| Steering wheel | 4-20 |

Seats

WARNING

- Adjusting the seat while the vehicle is in motion is dangerous as the seat may move more than you intend. Be sure to stop the vehicle and set the parking brake before performing any adjustment of the seat.
- After you have adjusted the seat, gently move or rock the seat to ensure that it is locked in the desired position.
- When adjusting the seat, keep your hands away from the bottom of the seat and from moving parts of the seat. Otherwise, you could suffer an injury by getting your hands and fingers trapped.
- When adjusting the angle of the seatback, keep your back or hand pressed against it. Otherwise, the seatback could suddenly return to its original position and injure you by hitting your face or other body parts.



1 Driver's seat

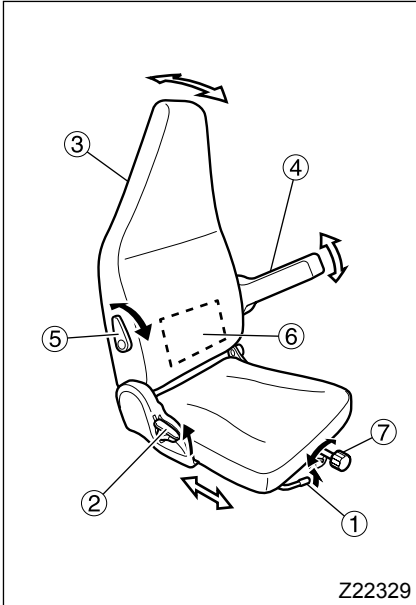
1.1 Correct driving position

WARNING

Adjust the seat and steering wheel in order to ensure that you assume the correct driving posture. An incorrect posture while driving can result in serious accidents. Furthermore, in the case of vehicles fitted with an SRS air bag, you could be seriously injured by a deploying air bag if sitting too close to the steering wheel.

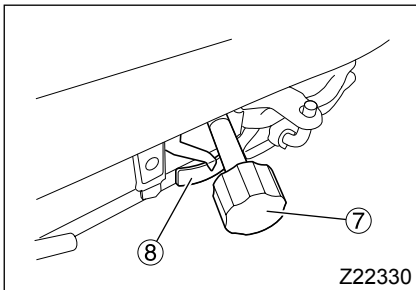
- Before driving the vehicle, adjust the seat with reference to the following points:
 - ① Your back must touch the seatback.
 - ② You must be able to see the warning lamps and meters.
 - ③ You must be able to reach and firmly press the pedals.
 - ④ You must be able to operate the steering wheel and switches with ease.
 - ⑤ You must be able to operate the shift lever with ease.

- ⑥ You must be able to fasten the seatbelt correctly.
- Adjust the steering wheel to a position at which you can operate it comfortably with your arms slightly bent.



1.2 Making adjustments

- Slide seat forward or backward while holding slide adjustment lever ① raised. After making the adjustment, release the lever and move the seat back and forth slightly to lock it in position.
- To adjust the angle of the seatback ③, raise reclining lever ②. The seatback can be swung forward and down, providing access to the tool stowage space.
- Lower the armrest ④ to use it.
- Lumbar support lever <vehicles with lumbar supports> Pull the lever ⑤ to adjust the hardness of the lumbar support ⑥ in the seatback as desired.



- Rotate the seat suspension knob ⑦ <vehicles with a suspension seat> to adjust the dial ⑧ to your weight. Then the seat will be set to the correct position when you sit down on it.

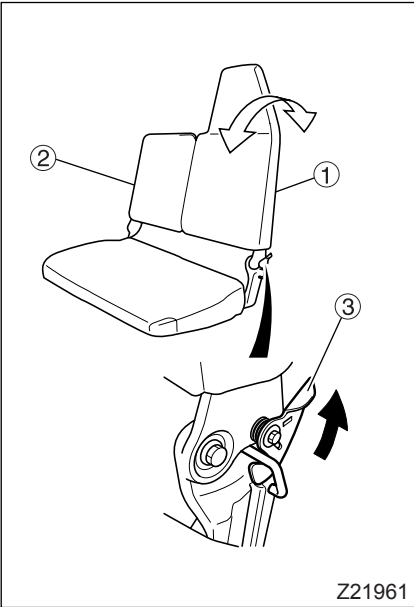
2 Assistant driver's seat

- ① Assistant driver's seat
- ② Center seat

Pulling the seatback lever ③ allows the seatback to be tipped forward. Use this function when you wish to access the tool storage space. After returning the seatback to its original position, gently rock it to make sure it is locked in place.

NOTE:

If the lever ③ is difficult to move, pull it while pushing the top of the seatback rearward. Then you will be able to pull the lever easily.

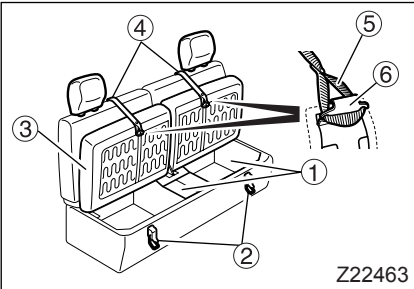


Z21961

3 Rear seat – Crew-cab models

Storage compartments ① are located under the rear seat. The rear seat can be folded up for access to them. When you wish to stow or remove something from these compartments, release the clamps ② at the base of the seat and raise the seat cushion ③. To retain the seat cushion, use the retaining bands ④ that are attached to the seatback. Fit the loop ⑤ at the end of each retaining band over the corresponding hook ⑥ on the seat cushion.

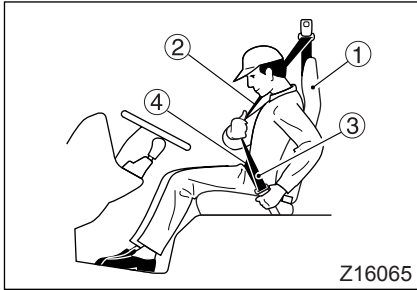
After using this storage, return the rear seat to the original position and lock it by fully fastening the clamps.



Z22463

! CAUTION

Do not put any objects in the storage compartments ① on which a heater unit is installed. Otherwise, the unit may be damaged by overheating.



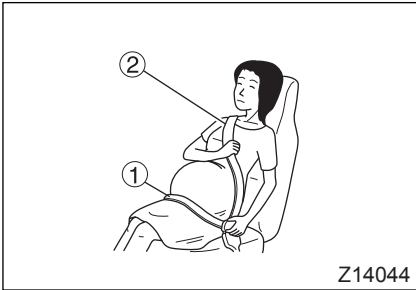
Seat belts

Before the vehicle is driven, each occupant must fasten his/her seat belt in accordance with the following instructions and warnings:

- ① Position yourself as far back as possible in your seat, and sit up straight. Adjust the seat to the correct position.
- ② Make sure the seat belt passes across your shoulder (not across your neck or arm).
- ③ Make sure the seat belt is not twisted.
- ④ Position the lap portion of the seat belt as low as possible across your hips.

 **WARNING**

- Be sure that everyone in the cab has fastened their seat belts before driving the vehicle. Unless you fasten your seat belt, you could be seriously hurt in the event of hard braking or a collision.
- Do not drive with your seatback tipped back further than necessary. In the event of a collision, you could move such that the belt presses against your neck, seriously hurting you.
- Seat belts are designed to bear upon the bony structure of the body, and should be worn low across the front of the pelvis, or the pelvis, chest and shoulders, as applicable; wearing the lap section of the belt across the abdominal area must be avoided.
- Seat belts should be adjusted as firmly as possible, consistent with comfort, to provide the protection for which they have been designed. A slack belt will greatly reduce the protection afforded to the wearer.
- Care should be taken to avoid contamination of the webbing with polishes, oils and chemicals, and particularly battery acid.
- Cleaning may safely be carried out using mild soap and water. The belt should be replaced if webbing becomes frayed, contaminated or damaged.
- It is essential to replace the entire assembly after it has been worn in a severe impact even if damage to the assembly is not obvious.
- Replace any seat belt that is cut or frayed or has a buckle that does not work properly.
- Belts should not be worn twisted.
- Each seat belt assembly must only be used by one occupant; it is dangerous to put a belt around a child being carried on the occupant's lap.



! WARNING

- Expecting mothers and sick people must wear seat belts correctly in case of a mishap. In the case of an expecting mother, the seat belt could, if not worn properly, dig into the abdomen in the event of hard braking or a collision, possibly inflicting serious injuries on the expecting mother and unborn child and, in the worst possible case, causing death. Even when worn correctly, however, a seat belt can apply great pressure to certain parts of the body, so an expecting mother should consult a physician before using one.
- An expecting mother should wear her seat belt in basically the same way as other people. However, she should place the lap belt ① as low as possible, below the abdomen. Also, she should position the shoulder belt ② so it passes across her chest and not across the abdomen.
- Make sure any child riding in the cab wears a seat belt.
Fit an appropriate child restraint system (baby seat, child seat, or booster seat) on the assistant driver's seat for any child who rides in the cab if the seat belt passes across his/her neck, chin, or face or does not pass across his/her hips. Do not fit a child restraint system on the center seat. Doing so could impede driving.
Do not allow a child to be held on anyone's lap. In the event of hard braking or a collision, it would be impossible to adequately restrain the child, and the child could thus be injured.
- Warning: No modifications or additions should be made by the user which will either prevent the seat belt adjusting devices from operating to remove slack, or prevent the seat belt assembly from being adjusted to remove slack.
- Do not attempt any form of modifications or repairs to seat belt components. If the retractor or other components do not operate correctly, call an authorized MITSUBISHI FUSO distributor or dealer; they will take the necessary corrective action.

 **WARNING**

- **Maintenance of Seat Belts:** when cleaning the seat belts, as recommended, avoid getting solutions into the buckle where they may attack the lubricant or cause corrosion. Do not attempt to bleach or re-dye belts, as this may affect the webbing strength.
- It is dangerous to fasten or unfasten your seat belt while driving since the momentary diversion of your attention could lead to a serious accident. Be sure to fasten and unfasten your seat belt while the vehicle is stationary.

1 Seat belt care

Periodically inspect the webbing, buckles, and tongues as well as emergency locking retractor (ELR) operation.

Replace seat belt if there is any sign of damage.

- Replace seat belts that have undergone shocks as the result of a collision.
- Keep sharp edged or potentially damaging objects away from webbing and other parts of the seat belts.
- Always keep the belts clean and dry. Use a mild soap and lukewarm water to clean seat belts. Use of solvents like gasoline and thinner can greatly weaken the seat belts.
- Never attempt to bleach or dye the seat belts, as this could weaken them considerably.

2 3-point seat belts with emergency locking retractor (ELR)

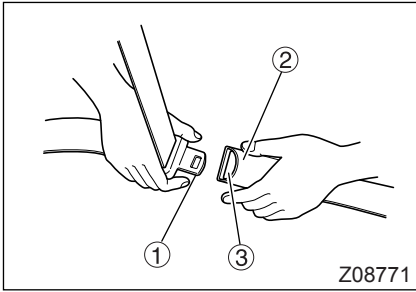
NOTE:

It is not necessary to adjust the length of these seat belts.

An ELR seat belt extends and retracts automatically as its wearer moves but locks automatically for protection in the event of a sudden stop or shock.

The belt's tightness should be adjusted automatically.

If there is any looseness, lift the belt gently and the mechanism will take up the slack. With the belt properly tightened, the risk of it slipping off in a collision is reduced.

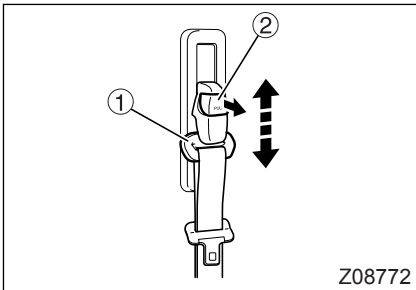


• Fastening

1. Hold tongue ① and gently extend the belt. If the belt locks or is difficult to extend, let it retract and pull it gently again.
2. Taking care that the belt does not become twisted, insert the tongue into the buckle ② until you hear a click.
3. Pull on the tongue to confirm that it is locked in.
4. Adjust the belt so it is across your hips and shoulder.

• Unfastening

1. Press the red button ③ to unlock the buckle.
2. The belt automatically retracts when unlocked. To prevent the tongue causing damage or injury, hold it while the belt retracts.



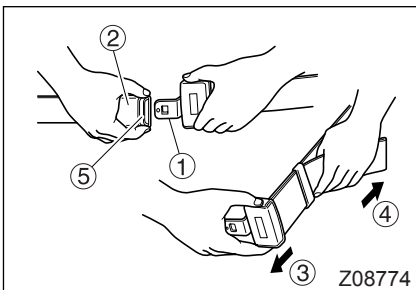
2.1 Seat belt anchor

<Driver's seat>

! WARNING

The shoulder belt can be dangerous if worn across the neck. Adjust its position so that it does not cross over the neck.

Adjust the seat belt anchor ① upward or downward to ensure that the belt passes across your shoulder. You will need to keep the lock button ② pulled while moving the seat belt anchor downward. When the seat belt anchor has reached the desired position, release the lock button and jiggle the seat belt anchor up and down to make sure it is locked in place.



3 2-point seat belt

• Fastening


1. Taking care that the belt does not become twisted, insert the tongue ① into the buckle ② until you hear a click.
2. Pull on the tongue to confirm that it is locked in.
3. Adjust the belt so it is low across your hips.
4. To adjust the belt's length, hold the tongue at 90° to the belt. Pull the belt end to shorten the belt or the tongue to lengthen it.

- ③ To lengthen
- ④ To shorten

**WARNING**

For maximum protection in the event of an accident, the belt must not be loose. A loose belt could even aggravate injuries.

- **Unfastening**

Press the red button  on the buckle to separate the tongue and buckle.

**Supplemental restraint system (SRS)
– air bag and seat belt pre-tensioner
system**

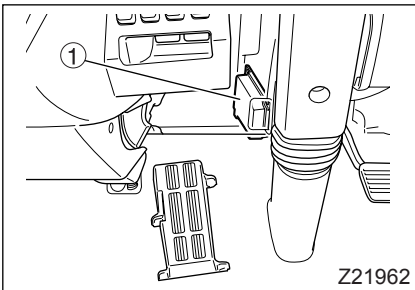
<Vehicles with SRS air bags>

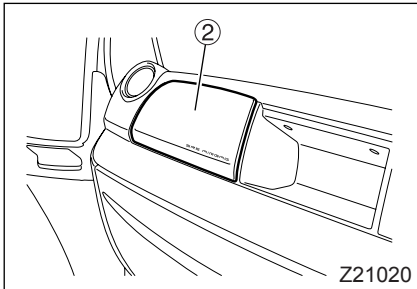
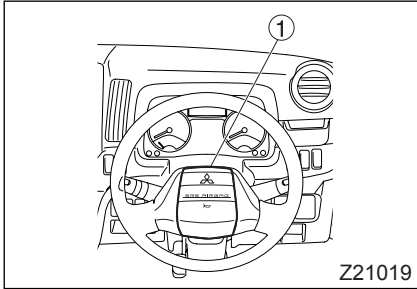
1 SRS air bag at driver's seat and assistant driver's seat

The SRS air bags at the driver's seat and assistant driver's seat reduce the impact on the head of the driver and assistant driver and complement the seat belt pre-tensioner system in case of a strong shock from the front that could seriously injure the driver and assistant driver when the starter switch is "ON". SRS stands for Supplemental Restraint System.

 **WARNING**

- An SRS air bag is not a substitute for a seat belt. A seat belt must be worn by every occupant of the vehicle.
If you do not wear your seat belt, you may be thrown forward in the event of a collision or emergency braking. If the air bag inflates at the same time, the powerful shock may cause fatal injuries. Be sure to wear the seat belt for the following reasons:
 - The seat belt keeps you properly positioned when the SRS air bag inflates.
 - The seat belt can reduce the risk of injury in a collision that does not cause the SRS air bag to inflate.
 - The seat belt reduces the risk of your being thrown from the vehicle.
- Adjust the position of the seat correctly. Sit upright with your back against the seat-back.
Do not sit too close to the SRS air bag or lean toward it. Inflation of the SRS air bag takes place extremely quickly, so it could fatally injure you if the distance between you and the air bag is too short.
- After the SRS air bag has inflated, its components and items in its vicinity will be hot. Do not touch them or you could be burned.
- Do not splash water or apply shock to the computer ① of the SRS air bag near the left side of the driver's feet. Otherwise, the SRS air bag may malfunction, or may not function correctly in a collision, and could cause serious injuries.





WARNING

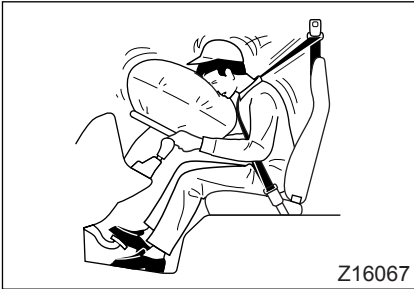
- If you find damage or cracks around where the SRS air bag at driver's seat ① and at assistant driver's seat ② is installed, arrange for it to be inspected at an authorized MITSUBISHI FUSO distributor or dealer. Otherwise, you may be injured in a collision because of incorrect function of the SRS air bag.
- Do not replace the steering wheel, attach stickers to the SRS air bag storage area, or put a cover over the SRS air bag deployment area.
Doing so could increase the risk of serious injuries by preventing normal operation of the SRS air bag.
- Because the SRS air bag inflates very rapidly, contact with the SRS air bag could cause a wound or bruising.

NOTE:

- When the SRS air bag inflates, it will make a very loud sound and emit white smoke, but this is not a fire and will not harm the human body. However, a person with a weak respiratory system or sensitive skin may feel irritation in the throat or on the skin temporarily. If residue such as sediment adheres to your body, such as the eyes and skin, wash it off with water as soon as possible. A person with sensitive skin may feel irritation in rare cases.
- The inflated SRS air bag will shrink immediately and will not obstruct the view.
- The SRS air bag cannot be used again after it has inflated once. Have the SRS air bag components replaced at an authorized MITSUBISHI FUSO distributor or dealer. Also, if the air bag did not inflate itself in a collision, have it inspected at an authorized MITSUBISHI FUSO distributor or dealer.
- The windshield may be broken by shock or by inflation of the assistant driver's SRS air bag.

2 SRS air bag at driver's seat

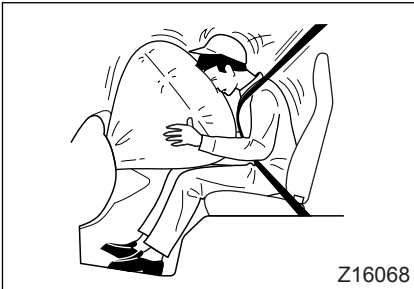
The SRS air bag at driver's seat is installed in the steering wheel.

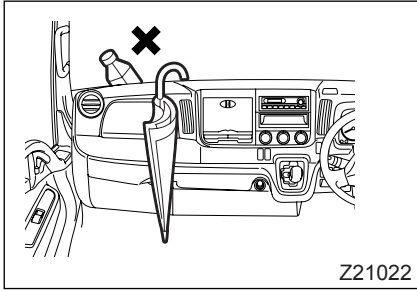


3 SRS air bag at assistant driver's seat

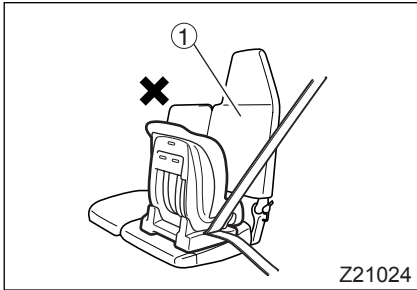
The assistant driver's SRS air bag is located in the instrument panel.

Even when the assistant driver's seat is not occupied, the assistant driver's SRS air bag operates at the same time as the driver's SRS air bag.

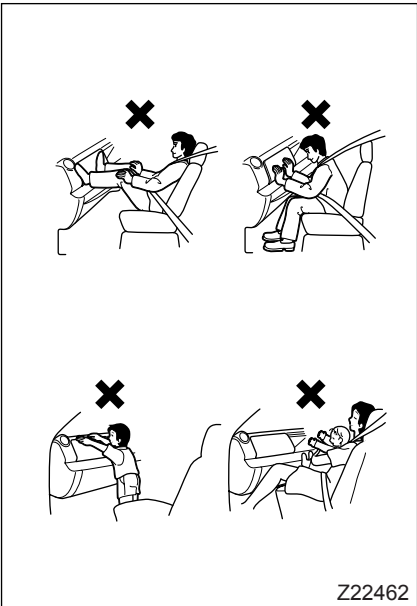




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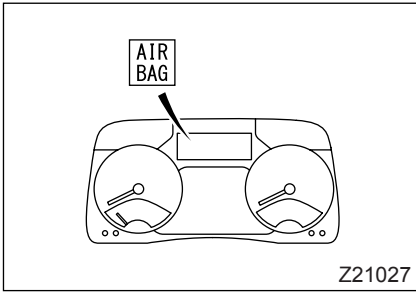
Z21024




Z22462

WARNING

- Do not place any objects on top of the instrument panel, and do not place an umbrella, etc. against the panel. Also, do not attach any accessories to the windshield. Any such items could inhibit proper inflation of the assistant driver's SRS air bag, and inflation of the assistant driver's SRS air bag could propel them toward occupants, causing serious injuries.
- Do not attach a child seat, baby seat, or any other kind of child restraint behind the assistant driver's seat ①. If a child were seated in a child restraint on the assistant driver's seat and the assistant driver's SRS air bag inflated, the child could suffer life-threatening injuries.
- Even if the vehicle does not have an assistant driver's SRS air bag, you must not attach a child restraint to the center seat; it could impede the driver's actions.
- Do not allow any person sitting on the assistant driver's seat to sit on the front edge of the seat, place his/her hands or feet on the instrument panel, or sit with his/her face or chest near the instrument panel. Also, do not allow any child to stand in front of the instrument panel or be held on the lap of a person sitting on the assistant driver's seat. Otherwise, inflation of the assistant driver's SRS air bag could cause life-threatening injuries.
- Do not allow any person sitting on the assistant driver's seat to hold a bag or other item of luggage in his/her arms or place such an item on his/her lap. Otherwise, inflation of the assistant driver's SRS air bag could cause serious injuries.

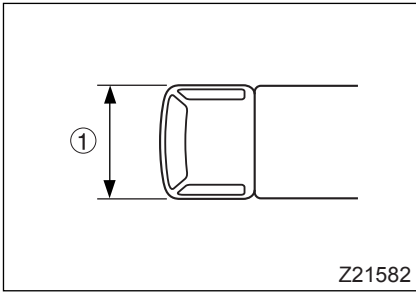


4 SRS air bag warning lamp

If  is indicated on the multi-information display, the SRS air bag is faulty. Have it inspected by an authorized MITSUBISHI FUSO distributor or dealer.

WARNING

If you continue to drive with a faulty SRS air bag, incorrect functioning of the SRS air bag could cause serious injuries.



5 Operational conditions of SRS air bag at driver's seat and assistant driver's seat

5.1 When the SRS air bag functions

When a strong shock that could seriously injure a passenger is received from the front of the vehicle.

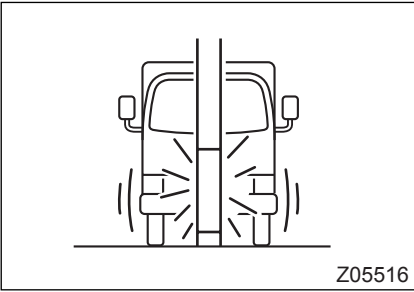
- ① Range of air bag functions

NOTE:

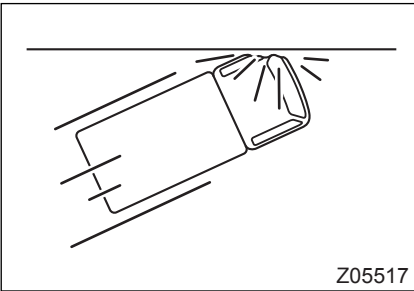
- *In some cases the SRS air bag does not function when the shock of collision is not severe, depending on the situation, even if the vehicle suffers heavy deformation or damage in the collision.*
- *As the SRS air bag reduces shock to the head by supplementing the function of the seat belt, it will not immediately function in case of a collision in which the driver is wearing the seat belt correctly and there is no possibility of serious injury.*

5.2 Cases in which the SRS air bag does not function

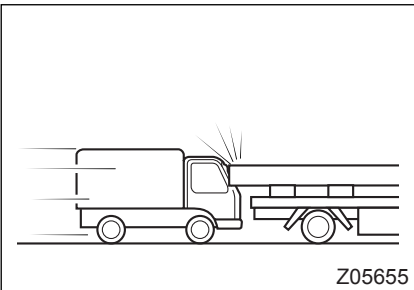
In some cases there will be no large shock to the passengers even if the front of the vehicle is largely deformed or damaged by the collision. In such cases, the deformation and damage to the vehicle may not correspond to the function of the SRS air bag.



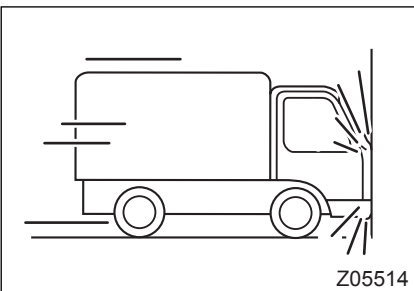
- When the vehicle collides head-on with a narrow object, such as a utility pole or tree



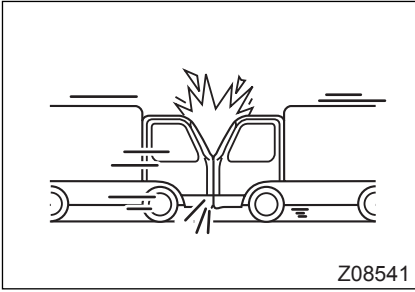
- When the vehicle collides obliquely at the front



- When the vehicle collides with the rear deck of a vehicle, such as a truck, at the height of the windshield



- When the vehicle collides with a hard object, such as one made of concrete, at a speed of about 25 km/h or lower



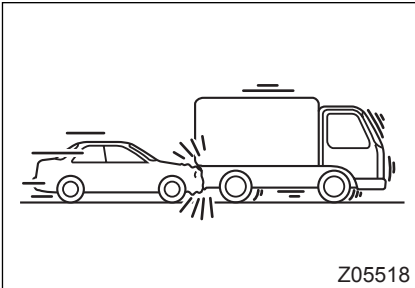
- When the vehicle collides head-on with a parked vehicle of similar weight at a speed of about 50 km/h or lower

NOTE:

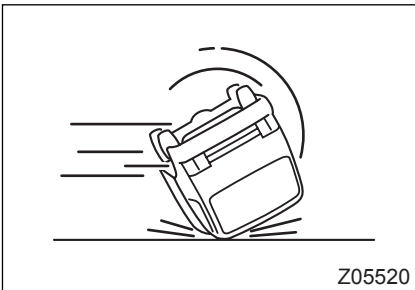
The SRS air bag will deploy at a higher speed if the vehicle collides with an object that absorbs shock (such as a vehicle or guard rail that deforms or moves).

5.3 When the SRS air bag does not have the intended effects

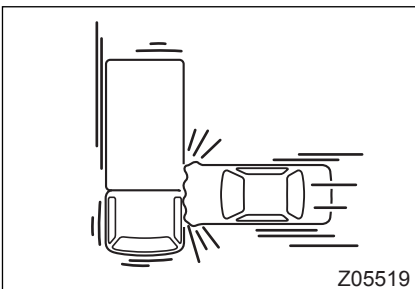
In the following cases, the SRS air bag may function, but will not protect passengers even when it inflates:



- When the vehicle is struck from the rear



- When the vehicle rolls or turns over

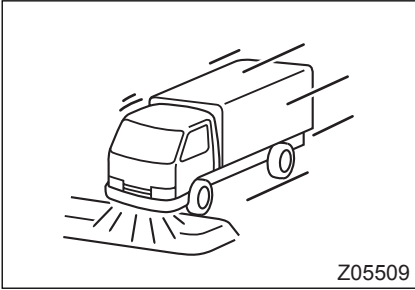


- When the vehicle is struck from the side

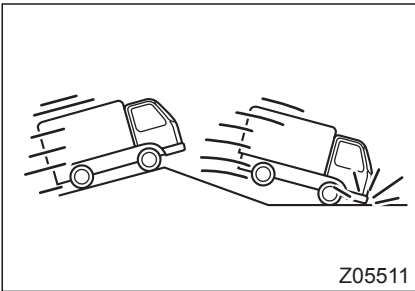
5.4 Cases in which the SRS air bag functions

The SRS air bag may function if the vehicle receives a strong shock at the lower part of the chassis during driving.

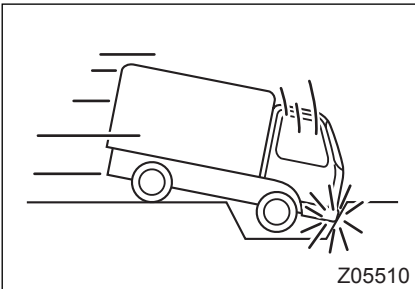
- When the vehicle strikes a median strip or curb-stone



- When the vehicle jumps and hits the ground



- When the vehicle falls into a deep hole or ditch



6 Notes on handling

WARNING

Consult an authorized MITSUBISHI FUSO distributor or dealer before servicing or modifying the following sections. Faulty service or modification may cause incorrect functioning of the SRS air bag, resulting in serious injuries.

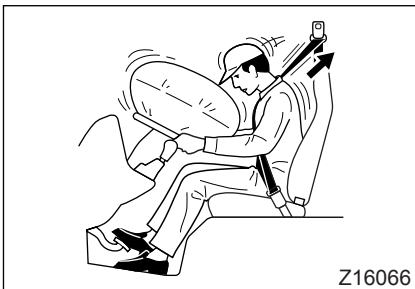
- Service around the steering wheel
- Service of the instrument panel
- Service around the lower panel in front of the assistant driver's seat
- Installation of audio equipment
- Repair or modification around the front of the vehicle
- Repair or modification of the suspension
- When scrapping the vehicle, please contact an authorized MITSUBISHI FUSO distributor or dealer. Otherwise, the SRS air bag may unexpectedly function and cause injuries.
- Do not diagnose the circuit of the SRS air bag with an electrical tester. It may cause the SRS air bag to malfunction.
- Do not apply excessive force, such as hitting the steering pad, to the SRS air bag storage area. It may cause incorrect functioning of the SRS air bag and serious injuries.

NOTE:

If you sell the vehicle, please explain that the vehicle is equipped with an SRS air bag and ensure the instructions are provided with the vehicle.

7 Seat belt pre-tensioner system

- The driver's seat belt and assistant driver's seat belt in a vehicle that has SRS air bags each have a pre-tensioner that instantaneously tightens the belt in the event of a strong frontal impact.
- By securely restraining the driver and assistant driver, the pre-tensioners boost the effectiveness of the seat belts and SRS air bags.



Z16066

 **WARNING**

- Observe the following to ensure the seat belt pre-tensioner system is fully effective. Wear the seat belt correctly. Adjust the seat belt to the proper position.
- Do not attach, remove or disassemble the seat belt pre-tensioner system. If the seat belt pre-tensioner system requires repair, please contact an authorized MITSUBISHI FUSO distributor or dealer. Handling without care may cause the seat belt pre-tensioner system to malfunction, resulting in injuries.
- When scrapping the vehicle, please contact an authorized MITSUBISHI FUSO distributor or dealer. Otherwise, the seat belt pre-tensioner system may malfunction unexpectedly, resulting in injuries.

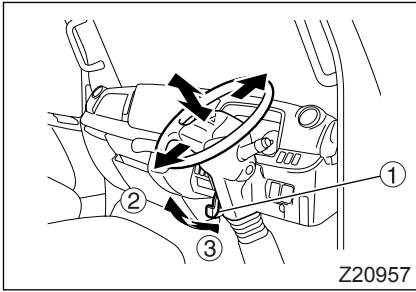
NOTE:

The seat belt pre-tensioner system cannot be used again if it has functioned once. Have it replaced at an authorized MITSUBISHI FUSO distributor or dealer.

Steering wheel **WARNING**

- After every adjustment, try to move the steering wheel back and forth to make sure that it is securely locked. Unless the lever returns to its original position, the steering wheel may move while the vehicle is in motion and cause an accident.
- Make adjustments with the vehicle stationary. Adjusting the steering wheel while driving is dangerous since it could detract from your concentration or cause the steering wheel to move more than desired.

The steering wheel can be adjusted to the preferred height and tilted forward/backward. Adjust the steering wheel as well as the seat to the best positions for easy safe driving.

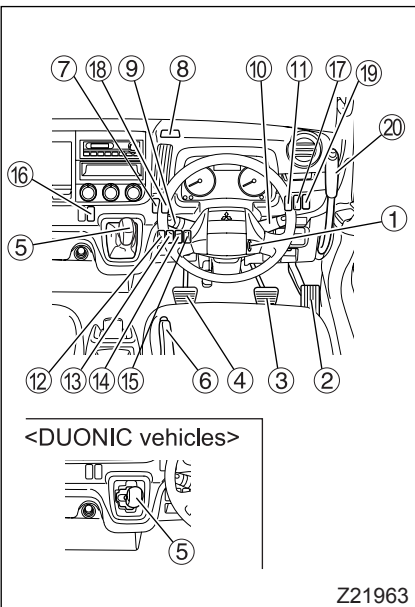


- Pull the lock lever ① then adjust the steering wheel to the height and angle that are most comfortable for you.
 - Push the lock lever back in to securely retain the steering wheel.
- ② Adjust
③ Retain

5. Switches and controls

| | |
|--|------|
| Arrangement of switches and controls | 5-2 |
| Starter switch | 5-3 |
| Starting the engine | 5-5 |
| Warming up the engine | 5-9 |
| Stopping the engine | 5-11 |
| Idling stop and start (ISS) system | 5-13 |
| Pedals | 5-18 |
| Gearshift lever | 5-19 |
| DUONIC | 5-21 |
| Parking brake lever | 5-40 |
| Combination switch | 5-41 |
| Hazard warning lamp switch | 5-46 |
| Fog lamps | 5-46 |
| Rearview mirrors | 5-47 |
| Mirror heater switch | 5-50 |
| Horn switch | 5-51 |
| Regeneration controlling DPF system | 5-52 |
| BlueTec [®] system | 5-62 |

Arrangement of switches and controls



- ① Starter switch
- ② Accelerator pedal
- ③ Brake pedal
- ④ Clutch pedal <Manual transmission vehicles>
- ⑤ Gearshift lever
- ⑥ Parking brake lever
- ⑦ ECO mode switch
- <Vehicles with a DUONIC system>
- ⑧ Hazard warning lamp switch
- ⑨ Combination switch
 - Wiper and washer switch
 - Exhaust brake switch
- ⑩ Combination switch
 - Lighting switch
 - Passing/dimmer switch
 - Turn signal switch
- ⑪ Fog lamp switch <Vehicles with fog lamps>
- ⑫ DPF cleaning switch
- ⑬ Mirror heater switch
- <Vehicles with a mirror heater switch>
- ⑭ ISS cutoff switch <Vehicles with an idling stop and start (ISS) system>
- ⑮ Fluorescent lamp switch <Vehicles with a fluorescent lamp> ⇨ P. 10-40
- ⑯ Hill start assist system main switch
- <Vehicles with a hill start assist system> ⇨ P. 8-20
- ⑰ Hill start assist system adjustment switch
- <Vehicles with a hill start assist system> ⇨ P. 8-20
- ⑱ Front drive switch <FG models> ⇨ P. 8-13
- ⑲ PTO switch <Vehicles with a PTO> ⇨ P. 8-2
- ⑳ Dump lever <Dump truck> ⇨ P. 8-6

Starter switch

1 Starter switch position

WARNING

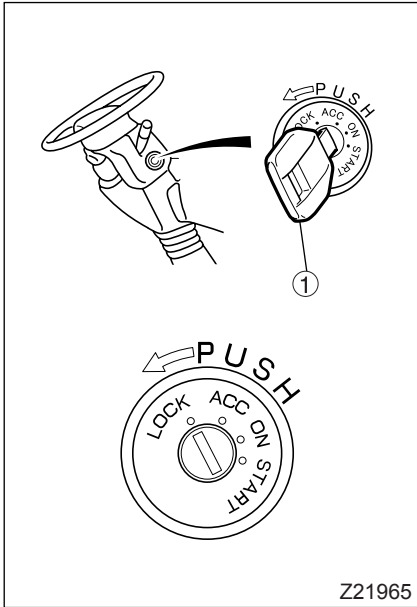
Never turn the starter switch to any position other than the “ON” position while driving the vehicle. Turning the starter switch to the “ACC” position would be dangerous because the engine would stop and the following problems would occur:

- The braking force reduces extremely.
- The power steering system would stop working so the steering action would become extremely heavy.
- The fuel injection system could suffer a failure.
- The electric circuits for the warning lamps and meters would stop working, and electric parts could fail.

When the starter key is removed from the starter switch, the steering wheel locks, making steering impossible.

CAUTION

- Do not turn the starter switch to the “START” position while the engine is running. Doing so could damage the starter.
- The starter key cannot be turned from the “ACC” position to the “LOCK” position unless it is pressed in. Do not attempt to turn it by force. Keep the key pressed in while turning it from the “ACC” position to the “LOCK” position.
- Get into the habit of always removing the starter key after stopping the engine. Leaving the key in the “LOCK”, “ON”, or “ACC” position for a long period could run down the battery, making the engine impossible to start.
- Avoid using the “ON” or “ACC” position for long periods, for example, for listening to the radio, as the battery could be completely discharged.



- **LOCK**
The starter key ① can be inserted and removed in this position only. To place the key in the “LOCK” position, turn it to the “ACC” position then press it in. Keep it pressed in while turning it to the “LOCK” position. When the key is removed, the steering wheel locks.
The lighting switch, hazard warning lamps, interior lamp, horn, central door locks and turn signal lamps can be used.
- **ACC**
The engine is made stopped or is not running in this position.
The radio and cigarette lighter can be used.
- **ON**
The engine is running in this position.
All electrical circuits are operable.
- **START**
The engine is turned over and started in this position.
Once the engine is running, release the key and the switch will automatically return to the “ON” position.

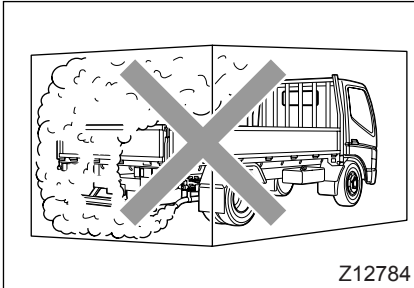
NOTE:

- *Turn the key only after inserting it fully in the starter switch.*
- *If you are unable to turn the key, gently turn the steering wheel clockwise and counterclockwise as you turn the key.*

2 Starter key reminder alarm

A buzzer sounds if you open the door with the engine shut down and the key left in the starter switch. Remove the starter key from the switch and keep it with you whenever leaving the vehicle.


Starting the engine



WARNING

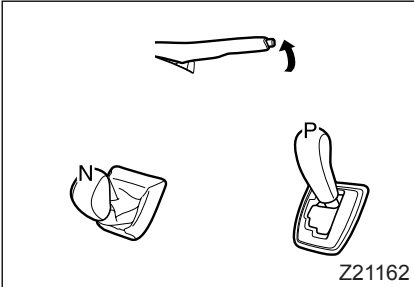
- Do not start or warm up the engine in a garage or other closed area. When starting the engine or entering or leaving a garage, do not run the engine for longer than is necessary as the accumulation of exhaust gas in closed areas is very dangerous. Exhaust emissions contain carbon monoxide (CO), which if breathed can cause unconsciousness or death.
- If you smell exhaust gases inside the cab, inspect the exhaust pipe and check whether exhaust gases are leaking through holes or cracks caused by corrosion or damage. If exhaust gases are leaking, have the exhaust pipe inspected by an authorized MITSUBISHI FUSO distributor or dealer.
If exhaust gases that have leaked from the exhaust pipe come into the cab, ventilate the cab with fresh air by opening the windows fully or by opening the doors.
- Make sure that there are no flammables under or rear the parked vehicle, especially close to the exhaust pipe. A fire could be started by the heat from the engine or exhaust pipe.
- When you start the engine, be sure to sit in the correct position on the driver's seat to wait for the engine to warm up. If you are leaning out of the door window or otherwise incorrectly seated and the vehicle suddenly moves, a serious accident could occur.
- Never attempt to push-start the engine. Doing so will make braking sluggish and steering actions extremely heavy, which could lead to a serious accident. On vehicles with a DUONIC system, it is impossible to push-start the engine, and attempting to do so could damage the transmission.
- On vehicles with a DUONIC system, the engine can be started when the gearshift lever is in the "P" or "N" position. However, for safety you should start the engine with the lever in the "P" position. Avoid starting the engine with the lever in the "N" position except in an emergency such as when the engine has stopped on a railroad crossing.

NOTE:

- After the engine has started, let it warm up for 1 to 2 minutes.
- Do not continue operating the starter for more than 15 seconds as this could damage it or discharge the battery.
- If you operate the starter continuously for 10 seconds and the engine still does not start, turn the starter switch to the "ACC" position and wait about 30 seconds for the battery to recover before performing the starting procedure again.
- Do not repeatedly operate the starter with only short gaps between operations. If you need to operate the starter two or more times to start the engine, wait at least three seconds between operations. Otherwise, you may damage the engine and starter and/or cause them to work poorly.
- On a vehicle that has not been operated for a week or more, or after replacement of engine oil or engine oil filter element, be sure to crank the engine before starting it. ⇨  P. 5-8
- In a cold region, using a high-capacity battery improves engine startability.

1 Pre-starting steps

1. Pull parking brake lever to fully apply the parking brake.
2. Manual transmission vehicles:
Place gearshift lever in the neutral position.
Vehicles with a DUONIC system:
Place the gearshift lever in the "P" position.

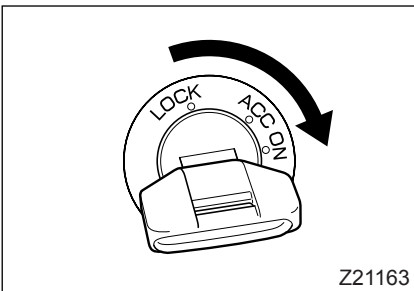
**2 Starting procedure**

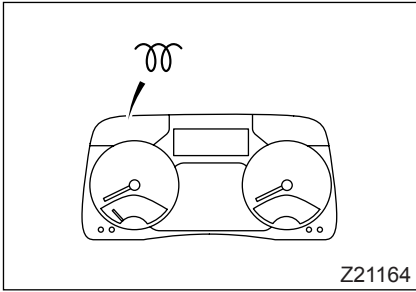
1. Depress the brake pedal fully.


 CAUTION

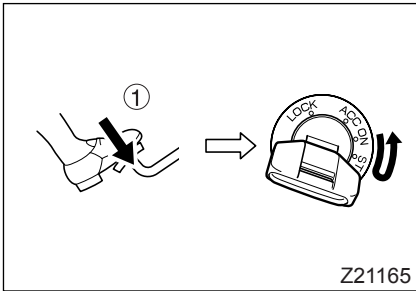
For safety, keep the brake pedal depressed until the engine has started.

2. Turn the starter switch to the "ON" position.





3. Check whether the  indicator lamp illuminates or not.



- **When the  indicator lamp does not illuminate**

Vehicles with a DUONIC system: While holding down the brake pedal, turn the starter switch to the “START” position to start the engine.

Manual transmission vehicles: While holding down the brake pedal, depress the clutch pedal ① and turn the starter switch to the “START” position to start the engine.


- **When the  indicator lamp illuminates**

Wait until the indicator lamp goes out;

Vehicles with a DUONIC system: While holding down the brake pedal, turn the starter switch to the “START” position to start the engine.


Manual transmission vehicles: While holding down the brake pedal, depress the clutch pedal ① and turn the starter switch to the “START” position to start the engine.

NOTE:

- *If the engine is difficult to start after the  indicator lamp has gone out, there may be a problem with the engine preheating system. Have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.*
- *In cold weather, the idling speed may increase immediately after starting the engine. The idling speed decreases to the appropriate level when the coolant temperature rises sufficiently.*

4. Release the starter switch when the engine has started.

If you are not going to start the vehicle immediately, release the pedal.


5. After the engine has started, let it warm up for 1 to 2 minutes.  P. 5-9

| |
|---------------------|
| Engine idling speed |
| 650 rpm |

3 Starting the engine when vehicle has been parked over an extended period

When the vehicle is not used for a week or more or the engine oil and oil filter are replaced, the engine becomes starved of oil. Before the engine is started, therefore, it must be cranked in accordance with the following procedure to distribute oil to its various components.

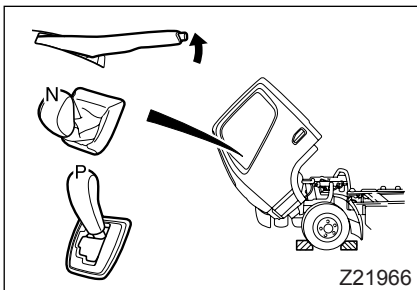
CAUTION

- To ensure maximum safety, be sure to fully apply the parking brake and block the wheels with chocks.
 - Performing the cranking is of essential importance in terms of protecting the turbo-charger.
1. Pull the parking brake lever to fully apply the parking brake.
 2. Manual transmission vehicles:
Place gearshift lever in the neutral position.
Vehicles with a DUONIC system:
Place the gearshift lever in the "P" position.
 3. Start the engine in the normal way, but you do not have to wait until the  indicator lamp goes out.
 4. Without depressing the accelerator pedal, place the starter switch in the "START" position and crank the engine for roughly 15 seconds.
If the engine starts, release the starter key and do not depress the accelerator pedal for roughly 15 seconds.

4 Starting the engine with the cab tilted

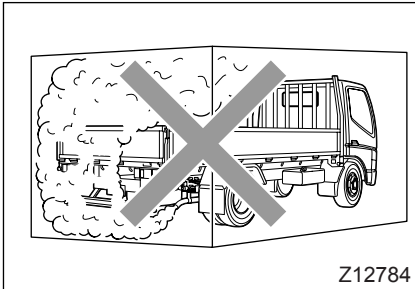
When you need to start the engine with the cab tilted for inspection or servicing purposes, be sure to observe the following safety precautions:

- Set the parking brake firmly and chock the wheels.
- With a manual transmission vehicle, make sure that the gearshift lever is in the neutral position. On vehicles with a DUONIC system, make sure that the gearshift lever is in the "P" position and the gear position indicator is showing "P".
- Make sure nobody is near the engine compartment, then place the starter switch in the "START" position to start the engine.



Warming up the engine

Before driving, warm up the engine for 1 to 2 minutes.



Z12784

WARNING

- Do not warm up the engine in a garage or other closed area. When starting the engine or entering or leaving a garage, do not run the engine for longer than is necessary as the accumulation of exhaust gas in closed areas is very dangerous.

Exhaust emissions contain carbon monoxide (CO), which if breathed can cause unconsciousness or death.

- If you smell exhaust gases inside the cab, inspect the exhaust pipe and check whether exhaust gases are leaking through holes or cracks caused by corrosion or damage. If exhaust gases are leaking, have the exhaust pipe inspected by an authorized MITSUBISHI FUSO distributor or dealer.

If exhaust gases that have leaked from the exhaust pipe come into the cab, ventilate the cab with fresh air by opening the windows fully or by opening the doors.

- Make sure that there are no flammables under or rear the parked vehicle, especially close to the exhaust pipe. A fire could be started by the heat from the engine or exhaust pipe.

CAUTION

If you do not allow the engine to warm up adequately, you may encounter the following or other problems.

- If driving is started or the engine is raced, cylinders and pistons may wear severely, which may lead to an engine breakdown because the oil has not yet distributed sufficiently throughout the engine.
- The turbocharger may fail because it will start rotating at a high speed before sufficient oil reaches the turbocharger shaft.
- On vehicles with a DUONIC system, it may take time to shift gears if you do not allow the engine to warm up sufficiently.

NOTE:

Idling the engine for long time wastes fuel, and is therefore detrimental to environmental protection and resource conservation. So shut down the engine whenever you leave the vehicle, even for a short period.

After the engine has been idling for a relatively long time, white smoke may be given off from the muffler when driving off from a standstill and accelerating.

This is a normal effect of the catalytic converter that is located in the muffler, and does not indicate any abnormality.

If you start to drive immediately after starting the engine (while the engine is still cold), you will encounter the following problems:

- *In a cold region, the extreme coldness of the engine will cause poor ignition of fuel, making the engine prone to knocking.*
- *If the idling speed is too low, the engine will be abnormally noisy. Be sure to return the idling speed to the appropriate value.*

Warm up the engine for 1 to 2 minutes.

The idling speed will decrease to the appropriate level when the coolant temperature has risen sufficiently.

Stopping the engine

WARNING

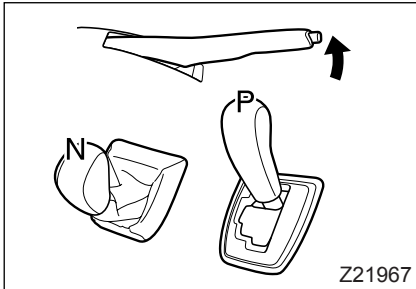
- Never allow the vehicle to coast with the engine stopped as braking may be dangerously sluggish and extremely difficult steering may result. This may also cause a failure of the fuel injection system.
- The engine and exhaust pipe are extremely hot just after stopping the vehicle. Avoid parking the vehicle where there are flammables such as dry grass.
- Do not stop the engine for parking with the steering wheel fully turned to either direction. This will cause the power steering system pressure to drop, thus causing the steering wheel to return rapidly, possibly injuring you.
- Do not park on a slope. A vehicle parked on a slope can move uncontrollably and cause an accident.

If it is unavoidable to park the vehicle on a slope, do the following: Firmly apply the parking brake, place the gearshift lever in the “P” position (vehicles with a DUONIC system), chock the wheels, and turn the steering wheel toward an obstruction (like a curb stone) for increased safety in case the vehicle moves.

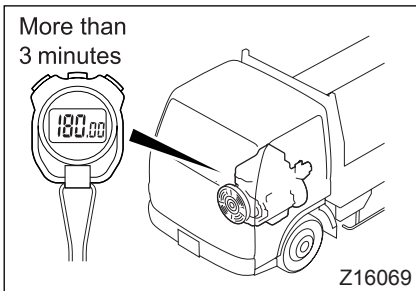
- With vehicles with a DUONIC system, do not park the vehicle only with the gearshift lever placed in the “P” position; always firmly engage the parking brake. If you park the vehicle on a steep slope only by placing the gearshift lever in the “P” position without also engaging the parking brake, the gearshift lever will become extremely difficult to move or, in the worst case, it may be impossible to release the transmission from the locked state. If this happens, shift the gearshift lever into the “N” position and then, after making sure the gear position indicator shows “N”, move the lever to the “D” position.

⚠ CAUTION

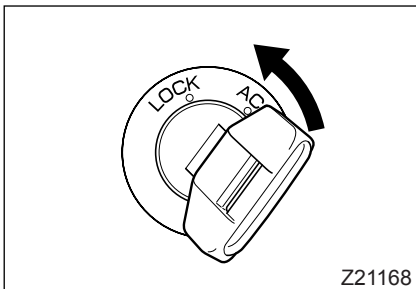
- If you stop the engine immediately after uphill or high-speed driving, the oil supplied to the rotor shaft of the turbocharger will rise to an abnormally high temperature and the rotor shafts could seize up. To avoid this, run the engine at idle for at least 3 minutes instead of stopping it immediately.
- The engine should only be stopped from an idle. Stopping it at a high RPM could result in an engine malfunction.



1. Hold down the brake pedal and apply the parking brake.
2. Manual transmission vehicles:
Place gearshift lever in the neutral position.
Vehicles with a DUONIC system:
Place the gearshift lever in the "P" position. Confirm that "P" is shown on the gear position indicator.



3. Allow the engine to idle for more than 3 minutes before stopping it.
When the vehicle is in motion, engine parts become extremely hot. This is particularly true during uphill or high-speed driving. Therefore, let the engine cool down sufficiently by allowing it to idle for a time before stopping it.



4. Turn the starter switch to the "ACC" position to stop the engine.

Idling stop and start (ISS) system

<Vehicles with an idling stop and start (ISS) system>

The idling stop and start (ISS) system is intended to improve fuel consumption and reduce exhaust emissions by automatically stopping the engine when the vehicle is stopped and automatically starting the engine when the vehicle is started.

WARNING

Do not coast down a hill with the engine stopped automatically. Doing so will make steering actions heavy and braking extremely sluggish, which could lead to a serious accident.

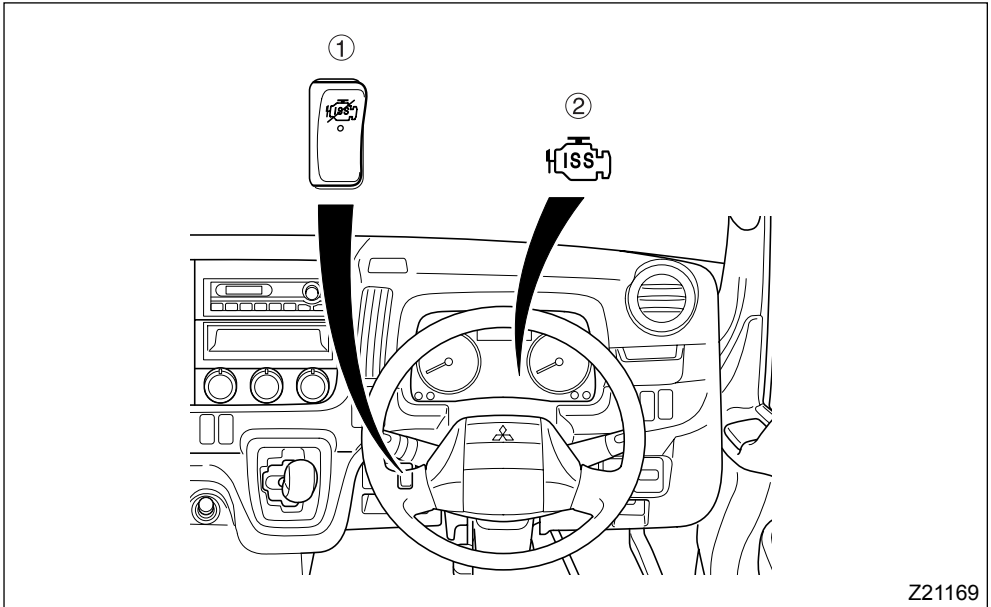
CAUTION

- **Be sure to keep the brake pedal depressed while the engine has been automatically stopped. Otherwise, the vehicle could start moving, causing an unexpected accident.**
- **When leaving the driver's seat, place the starter switch in the "LOCK" position and securely apply the parking brake. Otherwise, the vehicle may start moving, causing an unexpected accident.**
- **In places where a strong magnetic field exists such as near a magnet crane, press the ISS cutoff switch to disable the ISS functions. Otherwise, the system may malfunction, causing an unexpected accident.**
- **When inspecting the vehicle, press the ISS cutoff switch to disable the ISS functions. If the system malfunctions during the inspection, an unexpected accident may result.**



NOTE:


- *If the engine is going to be stopped for a long time, be sure to place the starter switch to the "LOCK" position to prevent the deterioration of battery performance.*
- *ISS stands for idling start and stop.*

1 Controls and indicators




Z21169

- ① ISS cutoff switch
Used to disable the ISS functions.
- ②  indicator lamp
This lamp flashes or illuminates when the ISS is operating. If the lamp remains lit, there is a problem in the ISS.
The  indicator lamp flashes or illuminates depending on the state of ISS operation, as shown below:

| Operation state |  indicator lamp |
|--|--|
| Preparing for automatic engine stop | Fast flashing (0.5-second interval) |
| Automatic engine stop in progress | Slow flashing (2-second interval) |
| <ul style="list-style-type: none"> • Automatic engine start is cancelled. (Door is opened during automatic engine stop.) • ISS failure | Illuminated |

2 Operation of the ISS system

2.1 Conditions under which the ISS does not work

- The ISS cutoff switch is pressed to disable the ISS functions.
- PTO is being used <vehicles with PTO>.
- The battery voltage is abnormal.
- The coolant temperature indicator shows the 4th mark or below or the 9th mark or above on the scale.
- The cab is raised.
- The  indicator lamp is illuminated.
- Automatic or parked DPF regeneration is in operation.
- The driver's door or assistant driver's door is open.
- The turn signal switch is operating or the hazard warning lamp switch is pressed.

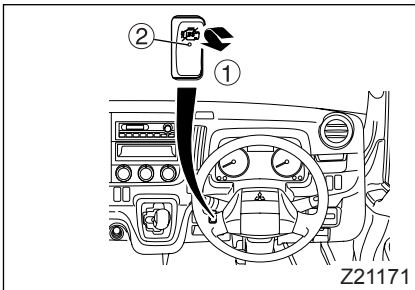
2.2 ISS cutoff switch

If you press the ISS cutoff switch ①, the ISS functions are disabled. To cancel the ISS cutoff function, press the switch again.

The indicator lamp ② on the switch is illuminated while the ISS functions are disabled.

NOTE:

Even if you have pressed the ISS cutoff switch to disable the ISS functions, the ISS functions will be automatically enabled once you place the starter switch to the "LOCK" position.





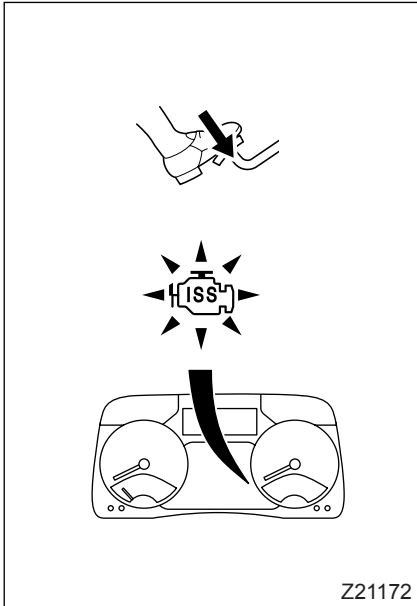
2.3 Automatic engine stop

CAUTION

Do not allow the engine to be automatically stopped with the vehicle stopped and the steering wheel fully turned to either direction. This will cause the power steering system pressure to drop, thus causing the steering wheel to return rapidly, possibly injuring you.

The ISS functions are enabled once the vehicle speed exceeds 10 km/h.

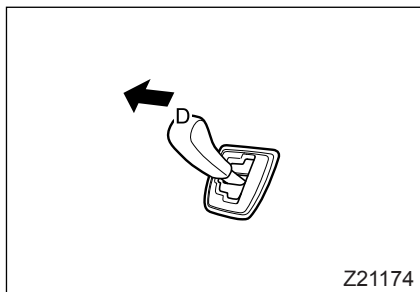
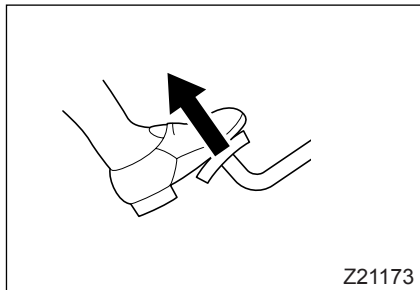
1. Depress the brake pedal to stop the vehicle. In a few seconds after the vehicle has stopped, the  indicator lamp will flash rapidly. When it starts flashing slowly, the engine is automatically stopped.
2. Keep the brake pedal depressed while the engine has been automatically stopped. The  indicator lamp flashes slowly (2-second interval) while the engine has been automatically stopped.
 - If you leave the gearshift lever in the “D” position when you stop the vehicle and while the engine has been automatically stopped, braking power will be retained for a few seconds until a creeping phenomenon occurs even after the brake pedal is released. Braking power will not be retained if you stop the vehicle with the gearshift lever placed in the “N” position or if you place the gearshift lever in the “N” position while the engine has been automatically stopped.



NOTE:

- *The engine will not be automatically stopped if you open the driver's door or assistant driver's door before the automatic engine stop operation is completed. Close the door to automatically stop the engine.*
- *If the ISS is activated and the engine is stopped while the headlamps (low beam) or fog lamps <vehicles with fog lamps> are illuminated, the headlamps (low beam) or fog lamps <vehicles with fog lamps> are automatically turned off. When the engine is started automatically, the lamps will automatically come on.*
- *After the ISS is activated and the engine is automatically stopped, the air conditioner <vehicles with an air conditioner> will operate the fan for 1 minute.*

If the engine has been automatically stopped for a long time and you wish to turn on the air conditioner, press the ISS cutoff switch to disable the ISS functions, then place the gearshift lever in the “P” position and start the engine using the starter switch.



2.4 Automatic engine start

1. Keep the brake pedal depressed.
2. If the gearshift lever is in the “D” or “N” position, the engine will start automatically when you release the brake pedal.
Braking power will not be retained if you stop the vehicle with the gearshift lever placed in the “N” position or if you place the gearshift lever in the “N” position while the engine has been automatically stopped.

If the gearshift lever has been placed in the “N” or “P” position while the engine has been automatically stopped, the engine will start automatically when you place the lever in the “D” or “R” position while keeping the brake pedal depressed.

If the gearshift lever is in the “D” position, the engine will start automatically when you place the gearshift lever in the manual mode position while keeping the brake pedal depressed.

NOTE:

- *While the engine has been automatically stopped, a buzzer sounds when the driver’s door or assistant driver’s door is opened without applying the parking brake. The buzzer stops if you apply the parking brake.*
- *If the system has been deactivated by opening the driver’s door or assistant driver’s door while the engine has been automatically stopped, start the engine with the starter switch after placing the gearshift lever in the “P” position.*

Pedals

1 Accelerator pedal ①

! WARNING

If you use a floor mat, be sure to use a Mitsubishi Fuso genuine floor mat and lay it correctly. Do not lay the floor mat over the accelerator pedal or accelerator pedal stopper. Do not lay a floor mat over another floor mat. Failure to observe these instructions would be dangerous because the accelerator pedal could be prevented from returning when released.

Racing the engine also increases fuel consumption.

NOTE:

Depressing the brake pedal while depressing the accelerator pedal will increase safety, as this helps reduce the engine power.


2 Brake pedal ②

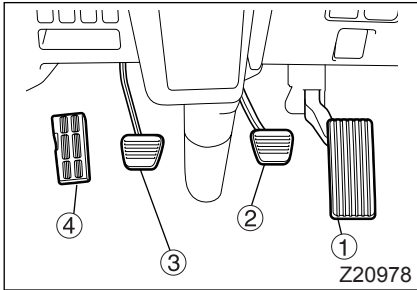
! WARNING

Do not allow empty beverage cans or other objects to get under the brake pedal as they may hinder the brake pedal operation, leading to an extremely dangerous situation. Keep the floor clear of empty beverage cans and other objects.

! CAUTION

On a vehicle with a DUONIC system, always depress the brake pedal with your right foot. Operating the brake with your left foot may slow your response to an emergency, resulting in an unexpected accident. Depress the accelerator pedal and brake pedal to confirm their positions before starting the engine.

- If your vehicle is equipped with disc brakes and you notice squealing during braking, the disc brake pads have worn to the limit and must be replaced. Have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.
- Use the brake pedal correctly. ⇨  P. 7-9



3 Clutch pedal ③

<Manual transmission vehicles>

- Do not operate the vehicle with your foot on the clutch pedal as doing so can shorten the service life of the clutch. Driving with your foot on the clutch pedal could prevent engine braking and exhaust braking from taking place.
- Depress the clutch pedal fully when changing gear. If you do not depress the clutch pedal far enough, the clutch will slip, possibly damaging the clutch discs.

4 Foot rest ④

<Vehicles with a DUONIC system>

Gearshift lever

<Manual transmission vehicles>



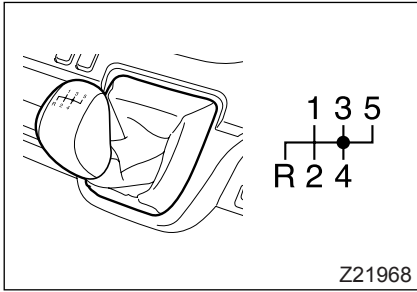
WARNING

Do not keep your hand on the gearshift lever in the neutral position while applying a forward or backward force to the lever. This is dangerous, as the vehicle could start moving and cause an accident. In addition, it may damage the transmission. Also note that if you attach a commercially available extension to the lever, only a gentle force will move the lever.



CAUTION

- Shifting from a forward gear to the reverse gear or vice versa, should be done only after the vehicle has come to a complete stop. When backing up, always double check to make sure that there is nothing in your path.
- Depress the clutch pedal fully whenever changing gear. If you do not depress the pedal completely, the clutch will slip and the clutch disc will be damaged, which could lead to an accident.



- The gear pattern is inscribed on the top of gearshift lever.
- Fully depress the clutch pedal when shifting gears.
- When the gearshift lever is placed in the reverse (R) position, the backup lamps light up and the backup buzzer sounds simultaneously.
- For vehicles with a DUONIC system, see page 5-21.

DUONIC

<Vehicles with a DUONIC system>

The DUONIC system combines the controls of the clutch, transmission and engine into a single system to achieve automatic clutch engagement/disengagement and gear shifting during start-out and driving.

The clutch mechanism incorporates two clutch systems (called a “dual-clutch”), allowing the DUONIC system to provide smooth gear shifting with minimum shock.

1 What you should know before you can safely and properly operate your vehicle

1.1 Before starting the engine

Before starting the engine, step on the accelerator pedal and brake pedal with your right foot to check and get a feel for their locations.

1.2 Creep

Creep refers to a very slow vehicle movement that occurs when the gearshift lever is placed in a driving position and the accelerator pedal is released. This occurs due to the power transmitted from an idling engine.



CAUTION

- **To prevent creep, keep the brake pedal firmly pressed when moving the gearshift lever to the “R” or “D” position. Do not release the parking brake until you have finished the shift operation.**
- **Continue depressing the brake pedal fully while the position indication on the gear position indicator is still flashing. This is especially important when starting on an uphill road. As the gear is not yet engaged and thus the creep effect is not available while the display is flashing, the vehicle may move backward if the brake pedal is released, which could cause an accident.**

1.3 Brake pedal operation

CAUTION

Get into the habit of always using the right foot to depress the brake pedal. If you use the left foot, the pedal-pressing action will not be fully responsive, which could lead to an accident especially in the case of emergency braking. Before starting the engine, step on the accelerator pedal and brake pedal with your right foot to confirm the locations of these pedals.

1.4 Leaving the vehicle with the engine running

Before leaving the vehicle, make sure the parking brake is firmly applied, the gearshift lever is in the “P” position, and the gear position indicator is showing “P”. If you open the door with the engine running and the gearshift lever in the “D” position, a buzzer will sound continuously to warn you.

If you place the gearshift lever in the “R” position with the engine running, the buzzer will sound intermittently.

1.5 Parking

Park the vehicle on a level, flat surface if possible. When parking the vehicle, do the following:

While keeping the brake pedal depressed, firmly apply the parking brake and then place the gearshift lever in the “P” position.

If it is unavoidable to park the vehicle on a slope, firmly engage the parking brake while keeping the brake pedal depressed, and then place the gearshift lever in the “P” position. In addition, chock the wheels.

1.6 Selecting the “R” (reverse) position

Bring the vehicle to a complete stop before placing the gearshift lever in the “R” position. The “R” position cannot be selected while the vehicle is moving.

1.7 Towing

If it becomes necessary to tow the vehicle, observe the following. Doing otherwise could damage the DUONIC system. Never attempt to push-start the engine.

- On an FB or FE model vehicle, disconnect the propeller shaft or get the towing vehicle to raise the rear wheels before towing the vehicle.
- On a part-time 4-wheel drive vehicle, raise the front wheels and disconnect the propeller shaft at the rear before towing the vehicle.

1.8 Driving on a slippery road

WARNING

Use the manual shift mode when driving on slippery surfaces (such as a wet or frozen road). Using the automatic shift mode on slippery roads could cause an accident for the following reasons:

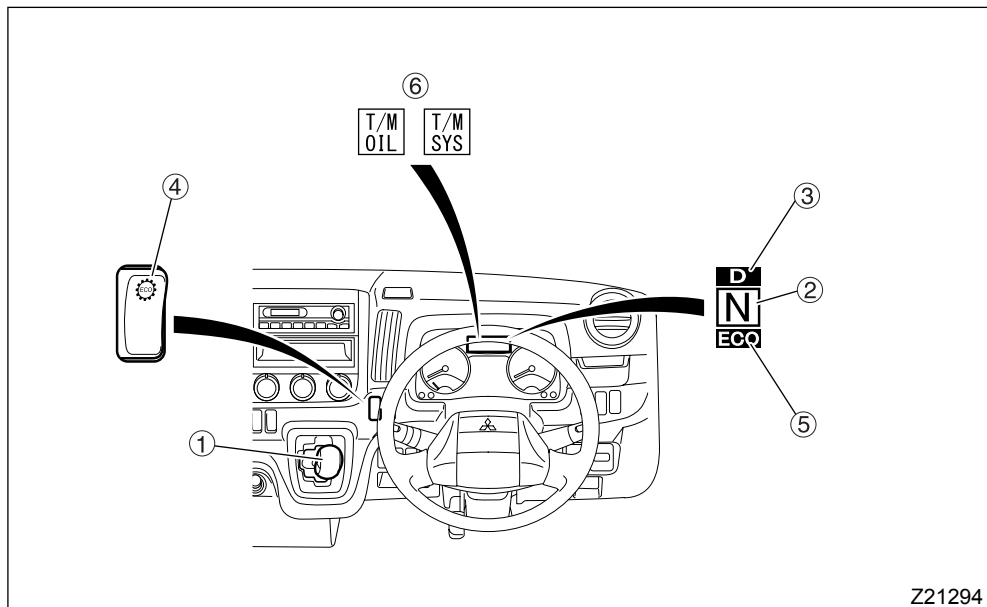
Skidding is more likely to be caused by automatic shift-downs that take place normally when driving in the automatic shift mode. Skidding also may occur easily due to automatic shift-downs following full or quick operation of the accelerator pedal.

Even while driving using the manual shift mode, the vehicle is likely to skid if you suddenly depress the accelerator pedal or quickly shift down the gear.

1.9 Starting on uphill roads

The vehicle may move backward when starting on an uphill road even though the creep effect helps to reduce backward movement. If the vehicle seems likely to move backward, be sure to also use the parking brake.

2 Controls and indicators



Z21294

① Gearshift lever

Used to control the operation of the DUONIC system. Move the lever until it completely engages in each position.

② Gear position indicator

Indicates the selected gear of the transmission.

③ Automatic shift mode indicator

This indication appears while driving in the automatic shift mode.

④ ECO mode switch

When this switch is turned on, the economy mode works to make early up-shifts to improve fuel economy.



This switch is usable when driving in the automatic shift mode.


⑤ ECO mode indicator

This indication appears when the economy mode is activated.

⑥ Warnings

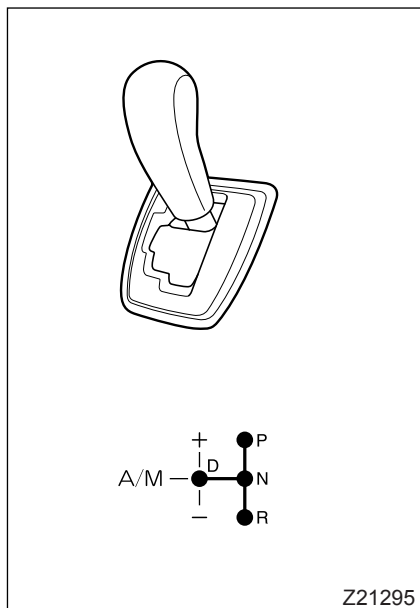
If there is a problem with the DUONIC system, one of the following warnings appears on the multi-information display.

-  (red)
Indicates that the DUONIC system is faulty.
-  (red)
Indicates that the clutch control fluid temperature is abnormally high.

-  (amber)
Indicates that the DUONIC system is faulty (but the vehicle may be driven if automatic or manual gear shifting is possible).



3 Gearshift lever

This lever is used to control the operation of the DUONIC system. Move the lever until it completely engages in each position.



3.1 How to operate the gearshift lever


- To switch from the automatic shift mode to the manual shift mode, use either of the following methods with the gearshift lever in the “D” position:
 - Move the gearshift lever to the “+” or “-” position.
 - Push the gearshift lever into the “A/M” position.


The indication “” on the multi-information display disappears when the manual shift mode is engaged.
- To switch from the manual shift mode back to the automatic shift mode, push the gearshift lever into the “A/M” position from the “D” position. The automatic shift indicator shows “” when the automatic shift mode is engaged.
- When you release the gearshift lever after moving it to the “+”, “-” or “A/M” position, it will return to the “D” position.

NOTE:

- Unless the engine is started, operating the gearshift lever has no effect on the DUONIC system.
- The following gearshift lever movements are possible only while the brake pedal is depressed: “P” to “R”; “N” to “R”
- If the battery runs down, the gearshift lever will stay locked and cannot be operated even if the brake pedal is depressed. At this time, if the gearshift lever is in the “P” position, the vehicle cannot be moved.

Restore the battery by any of the following methods:

- Charge the battery.
- Replace the battery. ⇨  P. 12-105
- Connect the dead battery to the booster battery of another vehicle with booster cables.

⇨  P. 13-33

3.2 Gearshift positions

P: Parking

- Use this position when starting or warming up the engine of a stopped or parked vehicle.
- The starter key can be removed when the gearshift lever is in this position.
- Use this position when using the PTO.

N: Neutral

- No power is transmitted to the wheels.
- Although you can also use this position when starting the engine, we strongly recommend using the “P” position for increased safety.

D: Drive

- This is the position for driving.
- In the automatic shift mode, gearshifts take place automatically as shown below in accordance with the vehicle loading and speed.

| Gear change scheme |
|-----------------------|
| 1 ⇄ 2 ⇄ 3 ⇄ 4 ⇄ 5 ⇄ 6 |

NOTE:

The DUONIC system automatically selects the starting gear according to the steepness of the slope and the vehicle loading. It selects 2nd on a level or downhill road and 1st on an uphill road.

- Moving the gearshift lever from “D” position to the “A/M”, “+”, or “-” position causes the manual shift mode to be selected.

A/M: Automatic/manual shift mode

Each time you push the gearshift lever into this position, the gearshift mode switches between the automatic shift mode and manual shift mode.

+: Upshift

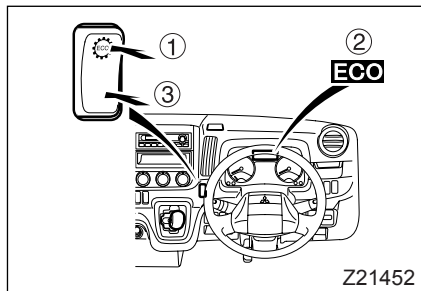
- Use this position for manual upshifts.
- The gear shifts up by one gear each time you move the gearshift lever to this position from the “D” position.

-: Downshift

- Use this position for manual downshifts.
- The gear shifts down by one gear each time you move the gearshift lever to this position from the “D” position.

R: Reverse

- Use this position to reverse the vehicle.
- The backup lamps come on and a buzzer sounds simultaneously when the gearshift lever is in this position.



4 ECO mode switch

You can use the ECO mode switch only while driving in the automatic shift mode.

When the ECO mode is turned on using this switch, the DUONIC system applies the following control:

- Makes upshifts earlier than when the ECO mode is off.
- Makes the gear less likely to shift down when the accelerator pedal is depressed.
- The ECO mode is activated when the “ON” side ① of this switch is pressed. The multi-information display will then indicate “ECO” ② on the screen. Press the “OFF” side ③ of the switch to deselect the ECO mode.

NOTE:

- *The ECO mode should be used when the vehicle is zero- to half-loaded and driven on relatively level roads.*
- *Turn off the ECO mode switch when the vehicle is fully loaded or is driven on uphill or downhill roads.*

5 When starting the engine

On a vehicle with a DUONIC system, start the engine as follows.

CAUTION

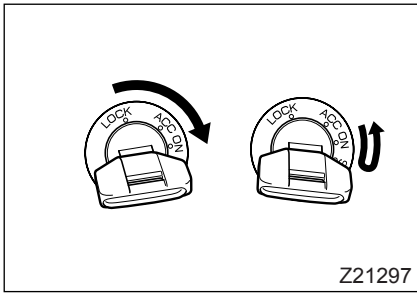
Always depress the brake pedal with your right foot. Operating the brake with your left foot may slow your response to an emergency, resulting in an unexpected accident. Depress the accelerator pedal and brake pedal with your right foot to confirm their positions before starting the engine.



1. Confirm the following:
 - The parking brake is securely applied.
 - The gearshift lever is in the “P” position.
2. Depress the brake pedal.

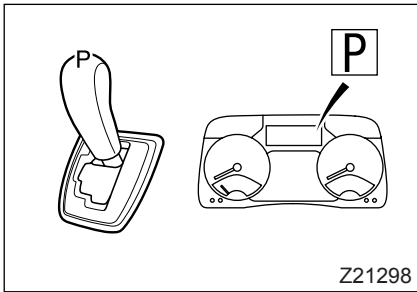
CAUTION

For safety, keep the brake pedal depressed until the engine starts.



3. Turn the starter switch to the “ON” position.



4. Check if the  indicator lamp illuminates. If the  indicator lamp illuminates, wait until it goes out.



5. Check that the gear position indicator is showing "P".

6. Turn the starter switch to the "START" position to start the engine. When the engine has started, release the brake pedal. ⇨  P. 5-6
7. Warm up the engine for 1 to 2 minutes before starting the vehicle. ⇨  P. 5-9

NOTE:

Warm up the engine sufficiently. If you do not allow the engine to warm up sufficiently, it may take time to shift gears.

6 Driving tips

WARNING

- When you start the vehicle, never operate the gearshift lever while stepping on the accelerator pedal. The vehicle will suddenly lurch forward and could cause a serious accident. Be sure to depress the brake pedal whenever operating the gearshift lever while starting the vehicle.
- Never race the engine when the vehicle is stopped. If the gearshift lever happens to have been placed in any position other than "P" or "N", the vehicle will suddenly lurch and could cause a serious accident.

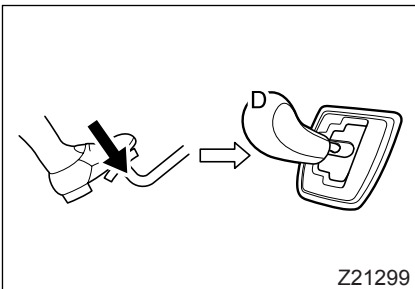
⚠ CAUTION

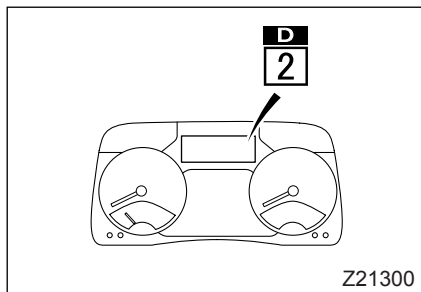
- Always fully depress the brake pedal when moving the gearshift lever to the “D” or “R” position. Otherwise, the vehicle will creep and could cause an accident.
- To start the vehicle on downhill slopes, place the gearshift lever in the “D” position or select a gear in the manual mode. If you start the vehicle with the gearshift lever in the “N” position, engine braking does not work, which could cause an unexpected accident.
- If there are steps or other sharp changes in height on the surface in front of the vehicle, depress the accelerator pedal carefully when starting the vehicle. Recklessly stepping on the accelerator pedal is dangerous as the vehicle could move unexpectedly quickly.
- Do not pump the accelerator pedal when starting the vehicle, as this will increase the chance of damaging the transmission.
- When starting the vehicle especially on a slope, do not use a forward gear if the vehicle is moving backward or do not place the gearshift lever in the “R” position if the vehicle is moving forward. Such actions will increase the chance of damaging the transmission.
- On an uphill road, avoid stopping the vehicle by only using the accelerator pedal. Otherwise, a slipping or broken clutch may result. Be sure to stop the vehicle using the brake pedal on an uphill road.
- Do not operate the accelerator pedal when the gearshift lever is in the “D” or “R” position and the service brakes or parking brake are applied. Failure to follow this instruction will damage the transmission.

6.1 Starting

• Automatic shift mode

1. While keeping the brake pedal fully depressed, place the gearshift lever into the “D” position.

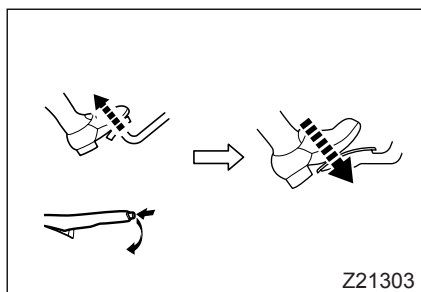




2. Check that the multi-information display is showing “D” and that the gear position indicator is showing “1” or “2”.

NOTE:

- The DUONIC system selects the starting gear automatically according to the steepness of the slope and the vehicle loading. It selects 2nd on a level or downhill road and 1st on an uphill road.
- Start the vehicle only when the gear position indicator indicates “1” or “2”. When starting after the ABS has been activated, the system may take longer than usual to engage the starting gear.
- The starting gear engagement is still in progress while the indication on the gear position indicator is flashing. Do not release the brake pedal at this time.



3. Release the parking brake. Gradually release the brake pedal and then slowly depress the accelerator pedal to start the vehicle.

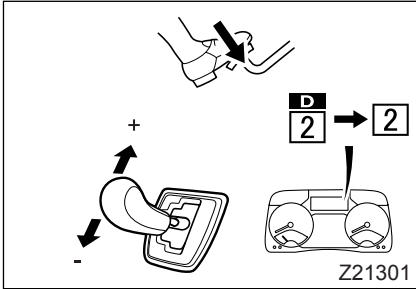
- **Manual shift mode**

You can select 1st, 2nd or 3rd as the starting gear.

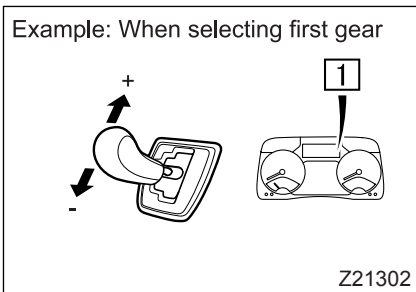
! CAUTION

- Except when starting on a downhill road, do not select 3rd gear. Selecting 3rd gear when starting in any other condition could cause a transmission failure. While starting, the system automatically prevents the 4th and higher gears from being selected.

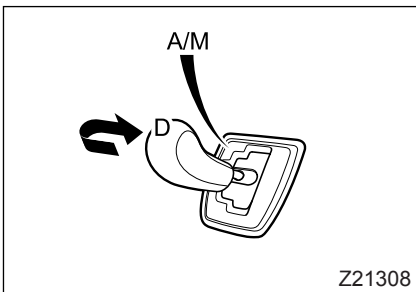
- Start the vehicle only when the gear position indicator indicates “1”, “2” or “3”. When starting after the ABS has been activated, the system may take longer than usual to engage the starting gear.



1. Fully depress the brake pedal.
 2. Move the gearshift lever from the “D” position to the “+” or “-” position.
- The gear shifts up by one gear each time you move the lever to “+”.
 - The gear shifts down by one gear each time you move the lever to “-”.



The “D” indication on the multi-information display disappears when the manual shift mode is engaged.

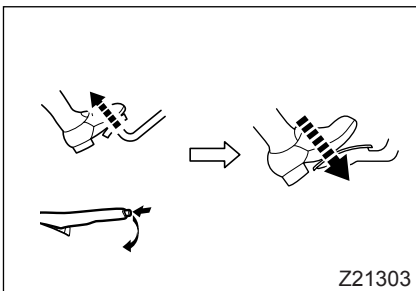


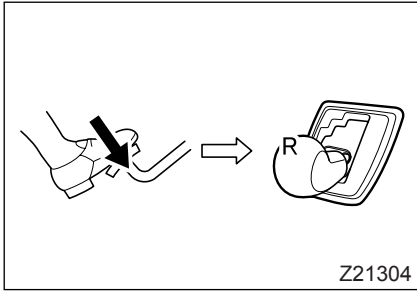
The gearshift mode also can be changed between “manual” and “automatic” each time you push the gearshift lever from the “D” position into the “A/M” position.

NOTE:

The starting gear engagement is still in progress while the indication on the gear position indicator is flashing. Do not release the brake pedal at this time.

3. Make sure the gear position indicator is showing the desired gear.
4. Release the parking brake. Slowly depress the accelerator pedal while gradually releasing the brake pedal to start the vehicle.





6.2 Reversing

1. While holding the brake pedal fully depressed, place the gearshift lever into the "R" position.
2. Check that the gear position indicator shows "R".

NOTE:

- *While the vehicle is moving, the reverse gear does not engage even if you place the gearshift lever into the "R" position. Always place the gearshift lever into the "R" position when the vehicle is stopped.*
 - *Reverse gear engagement is still in progress when the indication on the gear position indicator is flashing. Do not release the brake pedal at this time.*
3. Release the parking brake. Slowly depress the accelerator pedal while gradually releasing the brake pedal to reverse the vehicle.

7 Driving

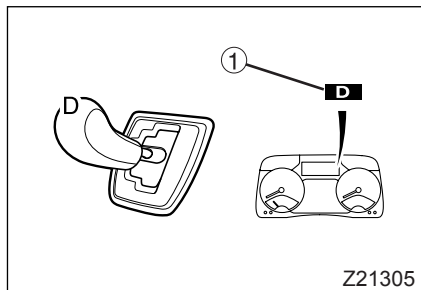
It is recommended to use the automatic shift mode for ordinary driving to reduce your workload.

CAUTION

- **Never place the gearshift lever into the "N" position while driving. This could result in an accident as engine braking is not available, and could damage the transmission.**
- **Use the manual shift mode when driving on slippery surfaces (such as a wet or frozen road). Using the automatic shift mode on slippery roads could cause an accident for the following reasons:**
Skidding is more likely to be caused by automatic shift-downs that take place normally when driving in the automatic shift mode. Skidding also may occur easily due to automatic shift-downs following full or quick operation of the accelerator pedal.
Even while driving using the manual shift mode, the vehicle is likely to skid if you suddenly depress the accelerator pedal or quickly shift down the gear.

NOTE:

- In cold weather when the temperature of the transmission oil is low, you may experience slower automatic shift-downs from 3rd to 2nd and from 2nd to 1st than usual. This does not indicate any problem; shifting will return to normal speed as the oil temperature rises.
- There could be an instance when gear engagement is rather slow and you notice a delay in gear shifting. If this happens repeatedly, please have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.

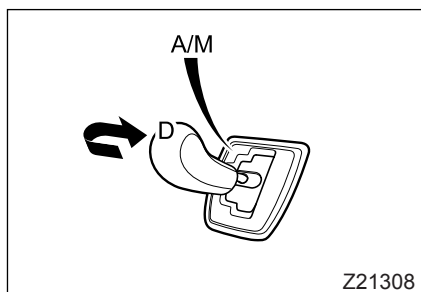
**7.1 Driving in automatic shift mode**

If you pull away and drive in the automatic shift mode, gearshifts will take place automatically as shown below in accordance with the accelerator-pedal position and vehicle speed. The automatic shift mode indicator ① will be shown.

| Gear change scheme |
|-----------------------|
| 1 ⇄ 2 ⇄ 3 ⇄ 4 ⇄ 5 ⇄ 6 |

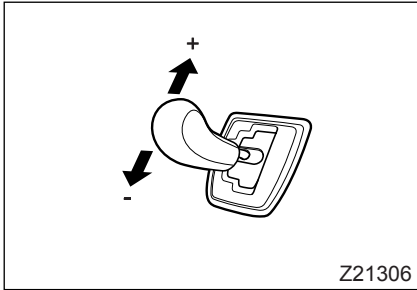
NOTE:

The starting gear is automatically selected according to the steepness of the slope and the vehicle loading. The vehicle will start in 2nd on level and downhill roads and in 1st on uphill roads.

**7.2 Driving in manual shift mode**

Move the gearshift lever from the "D" position to the "A/M" position to switch from the automatic shift mode to the manual shift mode. You can also switch to the manual shift mode by moving the gearshift lever in the "+" or "-" direction.

The manual shift mode will then be set and the automatic shift indicator "D" will disappear from the multi-information display.

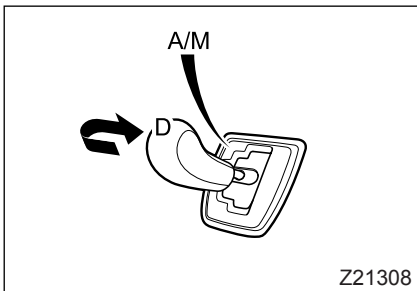


In the manual shift mode, the gear is fixed at the presently selected one even when the vehicle speed changes. So you should change the gear appropriately according to the vehicle speed.

- The gear shifts up by one gear each time you move the gearshift lever to the “+” position.
- The gear shifts down by one gear each time you move the gearshift lever to the “-” position.
- If the gearshift lever is moved to the “+” or “-” position multiple times, the gear will change upward or downward as long as the engine is operating within the normal rpm range.

NOTE:

If the system judges that a manual upshift or downshift would put the engine speed out of the normal rpm range, the gearshift does not take place. If the gear does not change when you operate the gearshift lever, first adjust the vehicle speed using the accelerator or brakes and then operate the gearshift lever again.



Push the gearshift lever into the “A/M” position if you want to change the gearshift mode from the manual shift mode to the automatic shift mode.

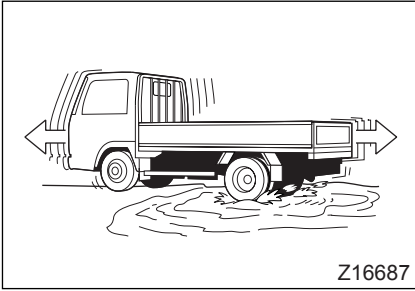
8 Moving out of mud, snow or sand

WARNING

Be sure to check safety around the vehicle before moving the vehicle by using fore-and-aft rocking motion. Failure to do so could result in an accident.

CAUTION

Do not try to free a stuck vehicle for more than 5 minutes. Prolonged rocking motion will damage the transmission, as the transmission oil quickly heats up to a dangerous temperature.



Z16687

Move the gearshift lever between the “D” and “N” positions to rock the vehicle and thereby get it out of the mud, snow, or sand.

9 Short stops

WARNING

Never race the engine when the vehicle is stopped. If the gearshift lever happens to have been placed in any position other than “P” or “N”, the vehicle will suddenly lurch and could cause a serious accident.

CAUTION

On an uphill road, avoid stopping the vehicle by only using the accelerator pedal, as this could cause slipping or a broken clutch. Always use the brake pedal to stop the vehicle on an uphill road.

When you stop the vehicle to wait at signals or in a traffic jam, the clutch automatically disengages as the vehicle slows down and an automatic gear change takes place as follows:

- When driving in the automatic shift mode, the 2nd gear will be automatically engaged. On uphill roads, the 1st gear may be engaged depending on the steepness of the slope and the vehicle loading.
- When driving in the manual shift mode, the 2nd gear will be automatically engaged if 3rd or higher gear was selected before stopping. On uphill roads, the 1st gear may be engaged depending on the steepness of the slope and the vehicle loading.
- Keep the brake pedal fully depressed while stopped.
- In the case of a prolonged stop, you can release the brake pedal after engaging the parking brake and placing the gearshift lever in the “P” position.

- In a vehicle with an ISS system, if you keep the gearshift lever in the “D” position while the vehicle is stopped, braking power will be retained for a few seconds after you release the brake pedal to start the vehicle until creeping starts to occur. Braking power will not be retained if you stop the vehicle with the gearshift lever in the “N” position or if you place the gearshift lever in the “N” position after the engine has been automatically stopped.

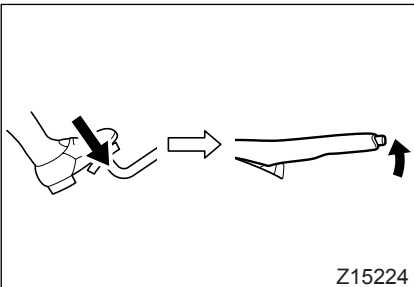
See page 5-13 for details on the ISS system.

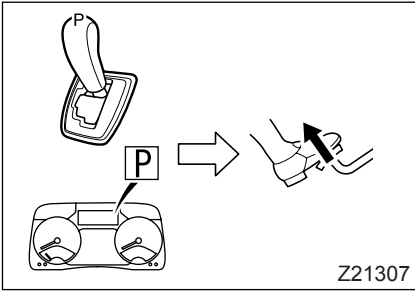
10 Parking

WARNING

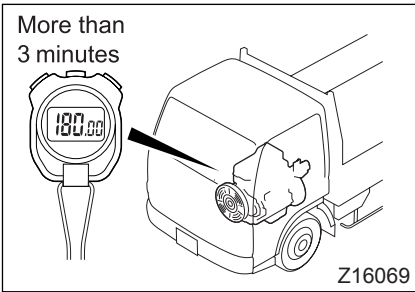
- **Avoid parking on slopes. The vehicle may start moving while it is parked, causing an unexpected accident. When you cannot avoid parking on a slope, securely apply the parking brake. On a vehicle with a DUONIC system, place the gearshift lever in the “P” position and apply chocks to the wheels. You can further improve safety by leaving the steering wheel turned so the vehicle will roll toward an obstacle (for example, a curbstone) in the unlikely event of movement.**
- **Do not park the vehicle by only placing the gearshift lever in the “P” position. If you park the vehicle on a steep slope by only placing the gearshift lever in the “P” position, the gearshift lever will become hard to move, and in some cases it may become impossible to release the lever. In such a case, first place the gearshift lever in the “N” position. Then, after checking that the gearshift position indicator is showing “N”, place the lever in the “D” position.**

1. Stop the vehicle on the flattest available surface.
2. While keeping the brake pedal depressed, pull the parking brake lever to fully apply the parking brake.

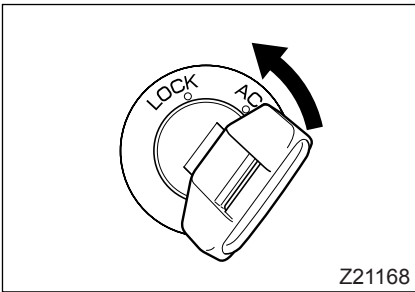




- Place the gearshift lever in the "P" position. When the gearshift position indicator shows "P", release the brake pedal.



- Let the engine idle for about 3 minutes to allow it cool down. Engine parts are particularly hot immediately after the vehicle has been driven uphill or on an expressway. Let the engine idle for at least 3 minutes.



- Turn the starter switch to the "ACC" position to stop the engine.

- When you leave the vehicle, remove the starter key and lock the doors.

NOTE:

A buzzer sounds continuously if the driver's door or assistant driver's door is opened while the engine is running and the gearshift lever is in the "D" position. The buzzer stops if the gearshift lever is moved to the "P" or "N" position, the engine is stopped, or the door is closed.

If the gearshift lever is moved to the "R" position while the engine is running, the buzzer sounds intermittently.

Always stop the engine with the gearshift lever in the "P" position.

11 Leaving the vehicle with the engine running

Leave the vehicle after confirming the following:

1. The parking brake is firmly applied.
2. The gearshift lever is in the "P" position.
3. The gear position indicator is showing "P".

NOTE:

A buzzer sounds continuously if the driver's door or assistant driver's door is opened while the engine is running and the gearshift lever is in the "D" position. The buzzer stops if the gearshift lever is moved to the "P" or "N" position, the engine is stopped, or the door is closed. If the gearshift lever is moved to the "R" position while the engine is running, the buzzer sounds intermittently. Always stop the engine with the gearshift lever in the "P" position.

12 If a transmission system warning is displayed


The multi-information display indicates a warning if there is a problem with the DUONIC system. If a transmission system warning is displayed, take necessary action according to the following instructions.

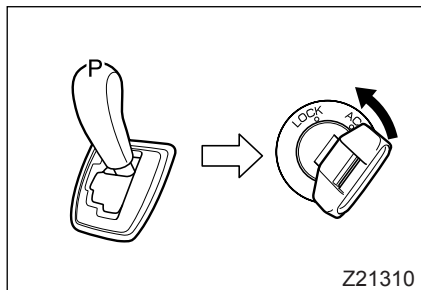
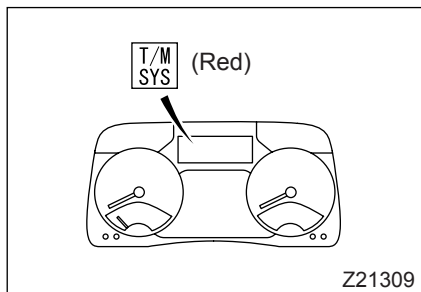
12.1 warning (red)

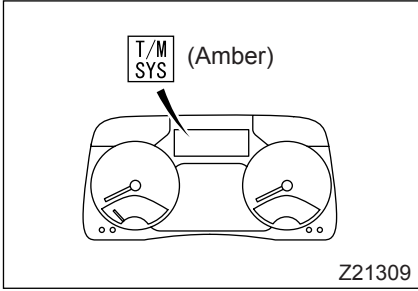
• If this warning appears while driving:

Immediately slow down by braking and stop the vehicle in a safe place.

• Actions to take after stopping the vehicle

1. Place the gearshift lever in the "P" position and shut off the engine.
2. Restart the engine. If the engine cannot be started, contact an authorized MITSUBISHI FUSO distributor or dealer.
3. If the  warning (red) is not indicated after the engine is started, you may continue to drive the vehicle. If the warning is indicated again, do not continue to drive but contact an authorized MITSUBISHI FUSO distributor or dealer immediately.

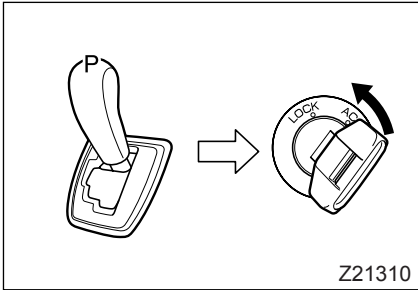





12.2  warning (amber)

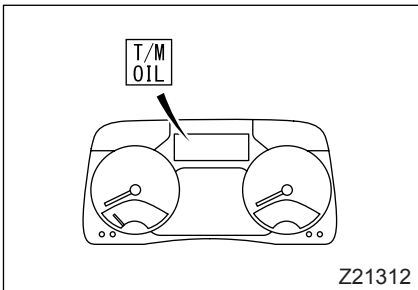
• If this warning appears while driving:

- You may continue to drive if automatic gear shifting is possible in the automatic shift mode. However, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.
- If automatic gear shifting does not work in the automatic shift mode, stop the vehicle in a safe place.



• Actions to take after stopping the vehicle

1. Place the gearshift lever in the “P” position and shut off the engine.
2. Restart the engine. If the engine cannot be started, contact an authorized MITSUBISHI FUSO distributor or dealer.
3. If the  warning (amber) is not indicated after the engine is started, you may continue to drive the vehicle. If the warning is indicated again, operate the gearshift lever in the manual shift mode. You may continue to drive if manual gear shifting is possible. However, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer as soon as possible. If manual gear shifting is impossible, do not continue to drive but contact an authorized MITSUBISHI FUSO distributor or dealer.




12.3  warning

• If the warning appears:


- Place the gearshift lever in the “P” position. Depress the accelerator pedal to run the engine at a speed slightly higher than the idling speed in order to cool down the engine.
- If the warning disappears, you may continue to drive. If the warning remains on or is indicated repeatedly, transmission oil leakage may be the cause. Contact an authorized MITSUBISHI FUSO distributor or dealer.

⚠ CAUTION

Do not stop the engine without letting the transmission cool down, otherwise the transmission may seize up. Stop the engine only after the  warning has disappeared from the screen.


Parking brake lever

⚠ WARNING



- Except in an emergency, never apply the parking brake while the vehicle is moving since the vehicle could spin and/or overturn.
- Illumination of the  warning lamp does not necessarily indicate that the parking brake has been fully activated. Be sure to pull the lever all the way.


1 Using the parking brake lever

• Parking

The parking brake is activated when the parking brake lever is fully pulled out. The  warning lamp lights up simultaneously.

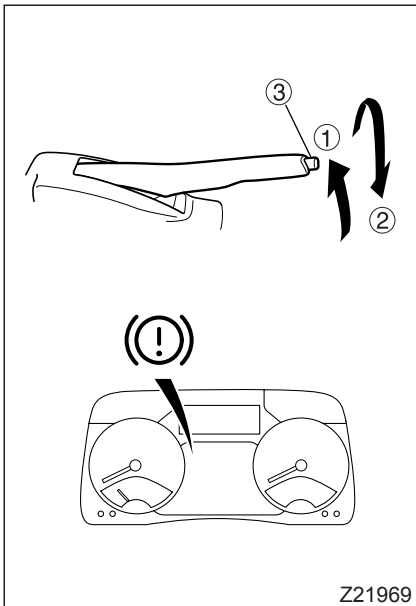
• Releasing

Raise the lever slightly, press the end button , and lower the lever with the button still pressed. Make sure that the  warning lamp goes out.

- When parking, please bear in mind the cautions in "Parking", Chapter 7.  P. 7-17

2 Parking brake alarm

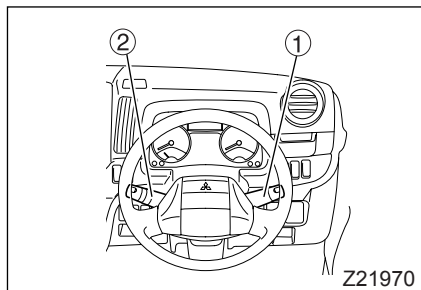
- If you start the vehicle without releasing the parking brake and the vehicle moves at a speed of 12 km/h or higher, a buzzer will sound (beeps intermittently) 3 seconds later to warn you.
- If the buzzer sounds, immediately stop the vehicle in a safe place and then release the parking brake.



Z21969

⚠ CAUTION

- Before putting the vehicle in motion, check that the (1) warning lamp is not illuminated. If you accidentally drove the vehicle with the parking brake applied, the parking brake would wear prematurely and overheat, leading to reduced effectiveness and the risk of a fire.
- When parking your vehicle on a slope, block the wheels with chocks for added safety.

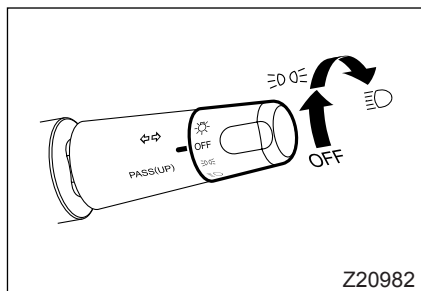


Combination switch

1 Arrangement of switches

- ① Lighting switch
Passing/dimmer switch
Turn signal switch
- ② Exhaust brake switch
Wiper and washer switch

2 Lighting switch



⚠ WARNING

Do not touch the lenses of the headlamps while they are lit or immediately after turning them off, as they become very hot and could burn you.

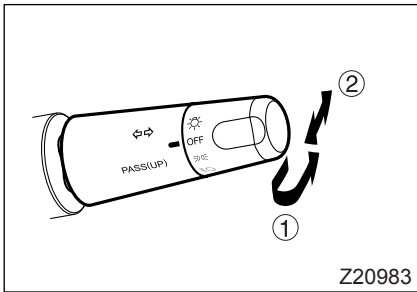
⚠ CAUTION

Keeping the headlamps on for a long period without the engine running can drain the battery, making the engine impossible to start.

The lighting switch can be used with the starter switch in any position.

Turning the knob at the end of the lever controls the illumination of lamps as follows:

| | Clearance, tail, license, end out-line marker <Vehicles with end out-line marker> and meter illumination lamps | Headlamps |
|----------------|--|-----------|
| ☸☸ position | On | Off |
| ☸☸ position | On | On |



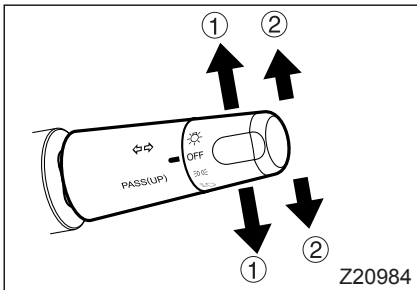
3 Passing signal/dimmer switch

- **Passing signal ①**

Pulling the lever up activates the high beams until the lever is released. Use this to flash a signal when overtaking another vehicle.

- **Dimmer ②**

With the headlamps illuminated, pushing the lever down activates the headlamp high beams and pulling it back to the original position reactivates the low beams. When the high beams are on, indicator lamp ☸ lights up.



4 Turn signal lamp switch

- **Turn signal ①**

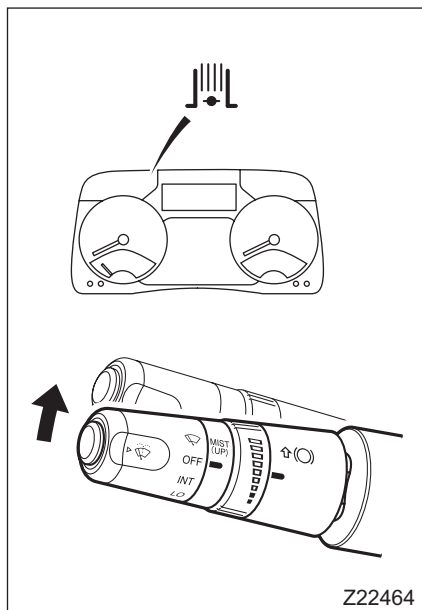
Moving the lever forward or backward activates the corresponding turn signal causing it to flash. At the same time, the corresponding indicator lamp ☸ or ➡ flashes.

When the steering wheel is returned to the neutral position after a right or left turn, the switch automatically moves back to the neutral position and the lamp stops flashing. After making a moderate turn, however, the switch will sometimes not return automatically. In this case, put the switch in the neutral position by hand.

- **Lane changer ②**

Lightly pushing the lever forward or backward causes the corresponding turn signal lamp to flash while the lever is held in this position.

5 Exhaust brake switch



! WARNING

- Do not use the exhaust brake on slippery road surfaces. Using the exhaust brake on a wet, frozen, snow-covered, or otherwise slippery road surface when the vehicle is lightly loaded or not loaded can cause the tires to slip on the road surface, resulting in a skid.
- Reduce speed sufficiently before negotiating a curve. This is especially true if your vehicle is equipped with ABS. When negotiating a curve with the exhaust brake applied, if the tires slip due to the slippery road surface or a step in the road, the ABS may function, causing the exhaust brake to be temporarily released, which may result in a serious accident.


The exhaust brake enhances engine braking. Use it as an auxiliary braking means on downhill stretches or during high-speed driving.

Exhaust brake usage differs between manual and automatic transmission vehicles. See the instructions below.

NOTE:

Do not keep the exhaust brake switch in the activation position at all times. Keeping the switch in the activation position worsens fuel consumption, as doing so causes the exhaust brake to work frequently and thus the vehicle to decelerate and accelerate frequently. Save fuel by using the exhaust brake switch appropriately according to road and traffic conditions.

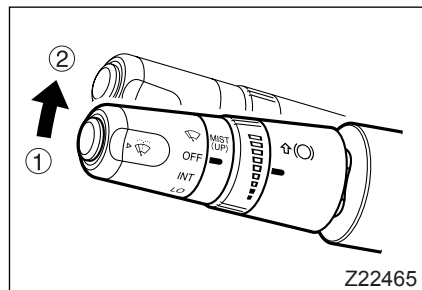
• **Activation and deactivation of exhaust brake**

Pushing the lever forward activates the exhaust brake. While the exhaust brake is activated, indicator lamp  stays illuminated.

- ① Deactivated
- ② Activated

The exhaust brake will be temporarily disabled in the following conditions. Full functionality will be returned when the original conditions have been restored.

- The accelerator pedal or clutch pedal <manual transmission vehicles> is depressed



- The gearshift lever is in the neutral position <Manual transmission vehicles>, or the gearshift lever is in the "N" position <Vehicles with a DUONIC system>
- The ABS is operated.

6 Wiper and washer switch



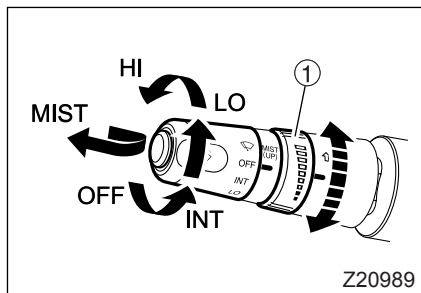
WARNING

In cold weather, warm the windshield using the heater before spraying washer fluid on it. Otherwise, the washer fluid may freeze on the windshield.



CAUTION

- Operating the wipers when the windshield is dry damages the windshield glass. If the glass is dry, be sure to squirt it with washer fluid before operating the wipers.
- Do not operate the wipers when the rubber parts of the wiper blades are frozen onto the windshield or otherwise stuck to the windshield. The wiper blades could get damaged, and the wiper motor could fail.
- When the wipers are not used for a long time, dust, sand, and other substances can collect between the wiper blades and windshield. Clean the wipers before using them. Otherwise, the windshield may get scratched.
- Operating the washer continuously for more than 20 seconds or when there is no fluid in the reservoir could burn out the washer motor.
- Do not operate the wipers while the arms are raised. Doing so could damage the wiper arms.
- Before operating the washer switch, check the conditions around your vehicle. Washer fluid may splash about under certain conditions.



- Rotating the grip at the end of the lever activates the windshield wipers in one of the following three modes:

INT:

Wipers operate intermittently. By operating the interval control switch ①, the operating interval of wipers can be varied between 3 and 12 seconds.

LO:

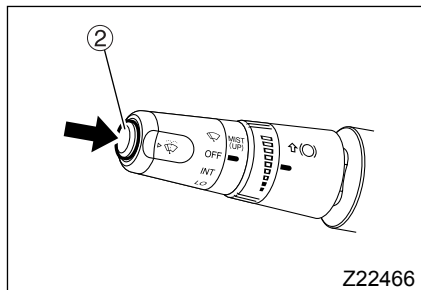
Wipers operate at a slow speed.

HI:

Wipers operate at a rapid speed.

MIST:

The wipers operate once when you flip up the lever toward you.



- If the wipers chatter on the windshield or wipe the windshield unevenly, replace the wiper blades. ⇒ P. 12-100
- While the button on ② is pressed, washer fluid is sprayed onto the windshield glass and the wiper operates several times.
- Refill the washer fluid reservoir before it is empty. ⇒ P. 12-101
- If there is washer fluid in the reservoir but none is sprayed when you operate the washer, the nozzles may be blocked. Clean the nozzles using a piece of thin wire. If fluid is still not sprayed when you operate the washer, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.

Hazard warning lamp switch

⚠ CAUTION

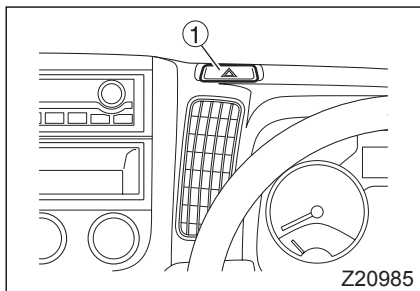
The battery may be discharged and the engine impossible to restart if the hazard warning lamps are operated for an extended period of time.

The hazard warning lamps may be used as a warning to other vehicles when you suddenly find it necessary to stop your vehicle in emergencies.

The lamps can flash in any of the starter switch positions.

Pressing switch ① causes all turn signal lamps to flash simultaneously. At the same time, indicator lamps \leftrightarrow start flashing.

Pressing the switch again causes the lamps to go out.



Fog lamps

<Vehicles with fog lamps>

⚠ WARNING

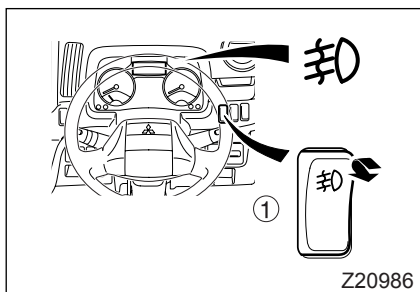
Do not touch the lenses of the fog lamps while they are lit or immediately after turning them off, as they become very hot and could burn you.

Use the front fog lamps when you drive in fog, snow, or other poor visibility conditions.

The fog lamps operate only when the lighting switch is in the $\Rightarrow \circ \Leftarrow$ or $\equiv \circ$ position.

When you press the fog lamp switch ①, the fog lamps come on simultaneously with the $\circ \ddagger$ indicator lamp.

To turn off the fog lamps, press the fog lamp switch again or turn the lighting switch to the "OFF" position.



Rearview mirrors

NOTE:

- *When turning right or left, bear in mind the difference in tracking of the front and rear inner wheels, and use the rearview mirrors to confirm safety behind you.*
- *Pay attention to the extended rearview mirrors when driving on narrow roads. Take particular care to ensure that they do not hit pedestrians.*
- *In rainy weather, drops of water can adhere to the mirrors, detracting from rearward visibility. Stop the vehicle and wipe off the water to restore visibility.*

1 Mirror adjustment

Before starting to drive, sit in the correct driving position and make sure you can see behind the vehicle, the sides of the vehicle, and around the vehicle. Also, make sure the mirror surfaces are not dirty.

1.1 Reflections

<Type 1>

<Side mirrors>

- Lateral direction

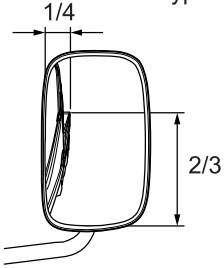
Position each side mirror so the side of the vehicle is reflected in approximately one quarter of the mirror surface.

- Vertical direction

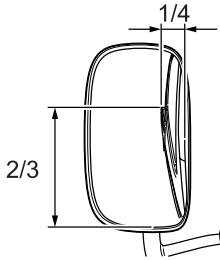
On the driver's side, position the side mirror so the rear-bottom corner of the left-hand door window is reflected two thirds of the way up from the bottom of the mirror surface. On the assistant driver's side, position the side mirror so the rear-bottom corner of the right-hand door window is reflected two thirds of the way up from the bottom of the mirror surface.

<Driver's side>

<Type 1>



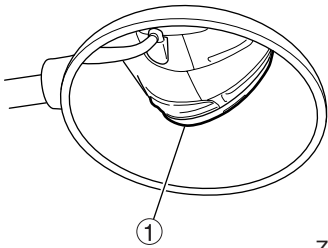
<Assistant driver's side>



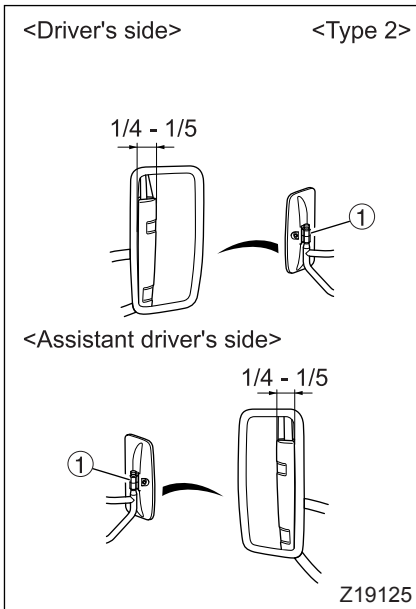
Z19943

<Undermirror>

Position the undermirror so the corner ① of the bumper is reflected in the center of the mirror surface.

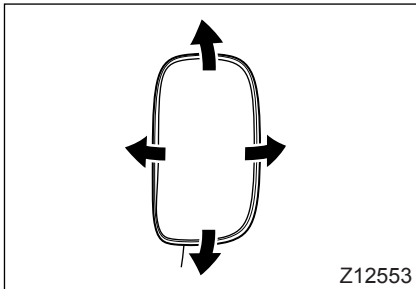


Z08819



<Type 2>


- Lateral direction
Position each side mirror so the cab or the rear body is reflected in approximately one quarter to one fifth of the mirror surface.
- Vertical direction
Position each mirror so the mirror stay ① (mirror mounting section) is parallel with the mirror.



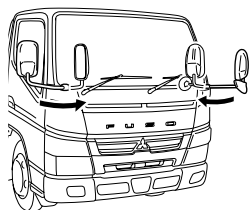
1.2 Adjustment method

 **CAUTION**

Make any necessary mirror adjustments before (not after) starting to drive.

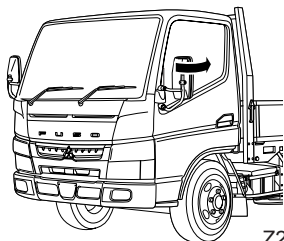
Adjust the mirror to the correct angle by pushing its edge up/down and left/right by hand. ⇨  P. 5-48

<Type 1>

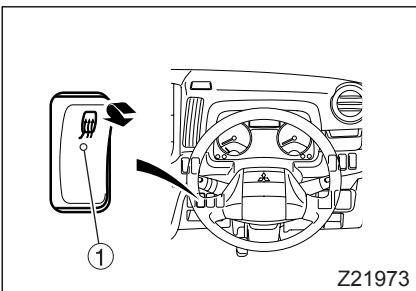


Z21971

<Type 2>



Z21972



Z21973

2 Retracting the rearview mirrors

The rearview mirrors can be retracted for turning a tight corner, for passing an oncoming vehicle on a narrow road, and for parking.

WARNING

Do not drive with the rearview mirrors retracted. The lack of the rearward visibility normally provided by the rearview mirrors could cause an accident.

Push the rearview mirrors inward by hand to retract them. When returning each rearview mirror to its original position, move it outward until the mirror stay locks.

Mirror heater switch

<Vehicles with a mirror heater switch>

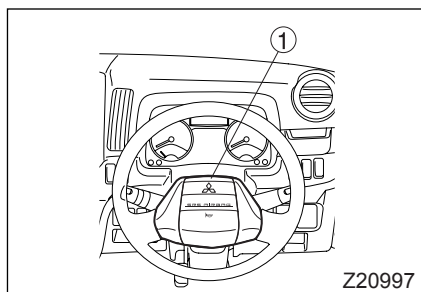
The mirror heater can be operated with the starter switch in the "ON" position.

When the mirrors are misted up, turn ON the switch to activate the mirror heaters. The lamp ① in the switch will illuminate at this time. Turn OFF the switch when the mirrors are clear.

The heaters are automatically turned off in about 30 minutes if the switch is left on.

CAUTION

Do not use the mirror heaters unless the engine is running. Otherwise, the battery may become drained, making it impossible to start the engine.



Horn switch

WARNING

On a vehicle with SRS air bags, do not apply excessive force, such as hitting the steering pad, to the storage areas of the SRS air bags. This may cause incorrect functioning of the SRS air bags and serious injuries.

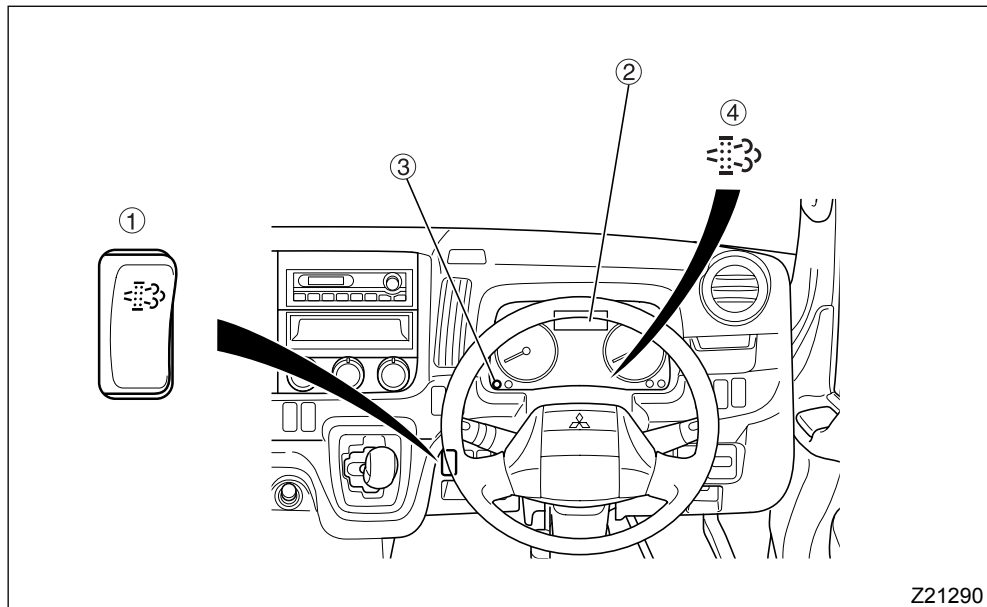
Press the horn switch pad ① at the center of the steering wheel to sound the horn.

Regeneration controlling DPF system

<Vehicle with a regeneration controlling DPF system>

- The regeneration controlling DPF system collects particulate matter (PM) in exhaust gases with a ceramic filter located inside the muffler and burns the PM on the filter utilizing the effect of the front oxidation catalyst (continuous DPF regeneration).
- Continuous filter regeneration is impossible under certain conditions such as low-speed driving. Under these conditions, the system automatically raises the exhaust temperature to burn the PM to regenerate the filter (automatic DPF regeneration). However, even automatic DPF regeneration is sometimes impossible if the vehicle is repeatedly driven very slowly and the engine is frequently started and stopped. The DPF must then be regenerated by burning the PM under manual control (parked DPF regeneration).

1 Controls and indicators



Z21290

① **DPF cleaning switch**

Use this switch for parked DPF regeneration to burn PM in the DPF.

② **Multi-information display**

The multi-information display indicates the amount of PM in the DPF, a prompt for performing parked DPF regeneration, the predicted time until completion of parked DPF regeneration, and warnings.

③ **MODE switch**

Use this switch for selecting and setting indications on the multi-information display.

④ **DPF indicator lamp**

This lamp lights or flashes to indicate the state of the DPF.

2 PM indicator

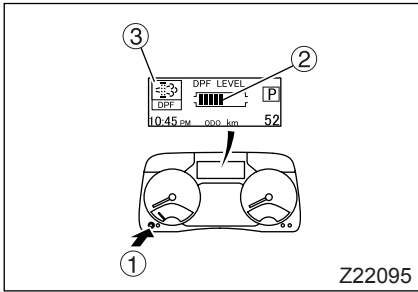
If you select the DPF monitor on the multi-information display, you can check the amount of PM collected in the DPF.

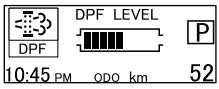
- Select the DPF monitor mode by pressing the MODE switch ① to see the PM indicator ②.
- The PM indicator shows the amount of PM in 9 degrees. The number of segments increases or decreases as the amount of PM changes. In addition, the color of the symbol ③ changes as follows:

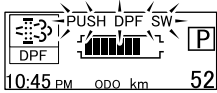


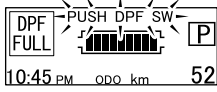


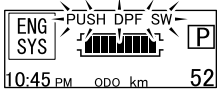



- Green: When the number of displayed segments is 1 to 6
- Amber: When the number of displayed segments is 7 to 9

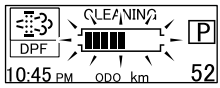


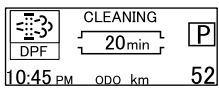

3 PM indicator and warning/indicator lamp

- The PM indicator and warning/indicator lamp either light or flash according to the amount of PM in the DPF.
- Perform parked DPF regeneration if prompted by the warning/indicator lamp as well as by the PM indicator on the multi-information display.




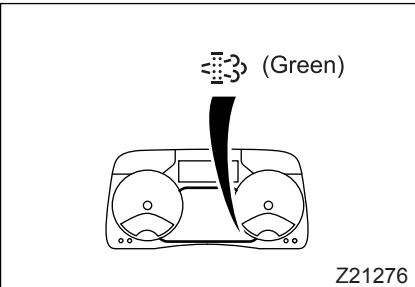
| Indication by PM indicator | Warning/indicator lamp | Parked/automatic regeneration | Ref. page |
|---|------------------------|-------------------------------|-----------|
| When the number of displayed segments is 1 to 6:  <p>Z22096</p> | - | - | - |

| Indication by PM indicator | Warning/indicator lamp | Parked/automatic regeneration | Ref. page |
|--|--|---|-------------|
| <p>When the number of displayed segments is 7 or 8:</p>  <p style="text-align: right;">Z22097</p> <ul style="list-style-type: none"> • The “PUSH DPF SW” message flashes. • The  symbol turns from green to amber. | <p>The  lamp (amber) flashes slowly (0.5-second intervals).</p> | <p>Perform parked DPF regeneration within 50 km or 1 hour, whichever earlier, after the lamp starts flashing.</p> | <p>5-58</p> |
| <p>When the number of displayed segments is 9:</p>  <p style="text-align: right;">Z22098</p> <ul style="list-style-type: none"> • The “PUSH DPF SW” message flashes. • The  warning is displayed. | <p>The  lamp (amber) flashes quickly (0.25-second intervals).</p> | <p>Immediately stop the vehicle in a safe place and perform parked DPF regeneration.</p> | <p>5-58</p> |
| <p>When the DPF is overloaded with PM:</p>  <p style="text-align: right;">Z22099</p> <ul style="list-style-type: none"> • The “PUSH DPF SW” message flashes. • The  warning is displayed. | <p>The  lamp (amber) flashes quickly (0.25-second intervals).</p> | <p>Immediately stop the vehicle in a safe place and perform parked DPF regeneration. The engine power is automatically reduced when the  warning is displayed.</p> | <p>5-58</p> |

| Indication by PM indicator | Warning/indicator lamp | Parked/automatic regeneration | Ref. page |
|---|---|---|-------------|
| <p>When automatic DPF regeneration is in progress:</p>  <p style="text-align: right;">Z22100</p> <ul style="list-style-type: none"> The “CLEANING” message is displayed. PM amount segments flash. | <ul style="list-style-type: none"> The  lamp (green) lights. If a prompt for parked DPF regeneration has been issued following indication of 7 or more PM amount segments, the  lamp lights in green and amber alternately. | <p>Automatic DPF regeneration is in progress.</p> | <p>5-56</p> |
| <p>When parked DPF regeneration is in progress:</p>  <p style="text-align: right;">Z22101</p> <p>The predicted time until completion of parked DPF regeneration is indicated.</p> | <p>The  lamp (amber) lights.</p> | <p>Parked DPF regeneration is in progress.</p> | <p>5-58</p> |

4 Automatic DPF regeneration

- If the DPF becomes so heavily loaded with PM that it cannot be regenerated by continuous DPF regeneration, the system initiates automatic DPF regeneration (regeneration by burning PM). The  indicator lamp (green) lights while the DPF is being regenerated by this method. You can operate the vehicle as usual even during automatic DPF regeneration although the engine operating sound and idling speed will change due to the higher exhaust temperature.






- If you select the DPF monitor mode on the multi-information display during automatic DPF regeneration, the “CLEANING” message is displayed above the PM indicator, and the PM indicator flashes.


**WARNING**

If the vehicle must be stopped during automatic DPF regeneration, do so after checking that there are no flammable materials, such as dead grass or paper, near the exhaust pipe and muffler. As the exhaust gas as well as the exhaust pipe and muffler are extremely hot, nearby flammable materials could ignite and cause a fire.

NOTE:

- *During automatic DPF regeneration, the engine operating sound will change and, when the vehicle is stopped, the idling speed will rise (to 800 rpm) and the exhaust valve will be activated. These are normal conditions.*
- *During automatic DPF regeneration, the idling stop and start (ISS) system does not operate (vehicles with idling stop and start (ISS) system).*
- *Automatic DPF regeneration does not take place when the PTO is used (vehicles with a PTO).*
- *During automatic DPF regeneration when the  indicator lamp is flashing in amber (or the PM indicator is showing 7 or more segments), if you continue pressing the DPF cleaning switch until the lamp lights in amber, the system discontinues automatic DPF regeneration and initiates parked DPF regeneration.*
- *No automatic DPF regeneration takes place while the  and  warnings (amber) are being displayed alternately.*

5 Parked DPF regeneration (performed following illumination of the (amber) indicator lamp)

The system sometimes cannot automatically remove the DPF trapped PM by burning, typically when you drive the vehicle at very low speeds or start and stop the engine frequently during operation. The system informs you of such a condition by flashing the  (amber) indicator lamp to prompt you to manually remove the DPF trapped PM by burning. The flashing interval of the indicator lamp differs depending on the amount of the PM accumulated in the DPF.

NOTE:

If the vehicle is used in any of the following conditions, there will be a higher risk of automatic DPF regeneration not working, and so the indicator lamp will flash more frequently to prompt you to perform parked DPF regeneration.

- The vehicle is mainly driven at 20 km/h or lower speeds.
- Operation of the vehicle involves frequent starting and stopping of the engine at short intervals (less than 10 minutes).
- The vehicle is repeatedly driven for short distances (less than 10 km).
- The engine is used for such short times that it is shut off before having had time to warm up.

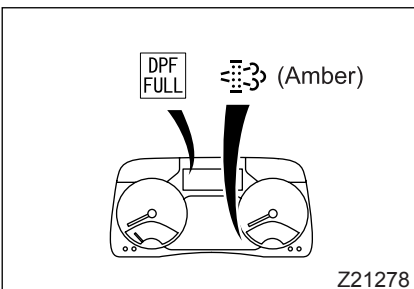
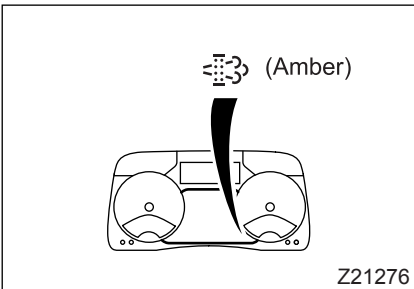
- Slow flashing (0.5-second interval)

You must use the DPF cleaning switch within 50 km or 1 hour of driving after the start of the flashing of the indicator lamp to perform the parked DPF regeneration in order to remove the PM inside the DPF by burning.



When the PTO is being used, suspend the PTO operation and perform the parked DPF regeneration.

- Fast flashing (0.25-second interval)


You must bring the vehicle to a stop in a safe place as soon as possible, then use the DPF cleaning switch to perform the parked DPF regeneration in order to remove the PM inside the DPF by burning.



 **CAUTION**

If the  (amber) indicator lamp flashes quickly or the  warning appears on the multi-information display, promptly perform parked DPF regeneration by using the DPF cleaning switch to remove PM in the DPF by burning. Continuing to drive with an overloaded DPF will result in system failure.

6 How to perform the parked DPF regeneration

The parked DPF regeneration steps you should follow upon flashing of the relevant indicator, warning and  (amber) indicator lamp are indicated below. The parked DPF regeneration time is shown on the multi-information display. The parked DPF regeneration time is as a general rule 20 minutes although it varies with the conditions in which the vehicle is operated.


 **WARNING**

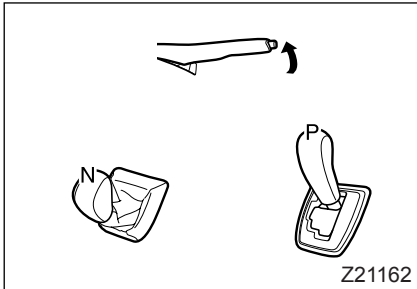
- Do not perform the parked DPF regeneration in a poorly ventilated garage or other closed area. Exhaust gas contains carbon monoxide, which is toxic and very dangerous.
- Avoid the following areas when performing parked DPF regeneration:
 - On painted road surfaces: Hot exhaust gas will discolor the paint.
 - Near a hedge: Vegetation may be killed by the hot exhaust gas.
 - Place with flammable materials, such as dead grass or paper: A fire may occur.
- Keep all people away from the exhaust pipe and muffler.
- Prevent anyone from touching the exhaust pipe and muffler or being exposed to the exhaust gas.


NOTE:

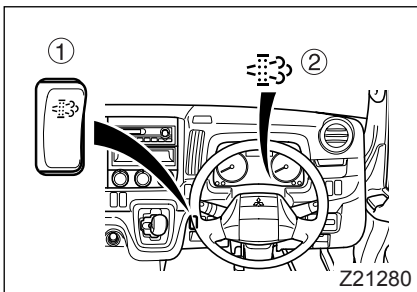
Parked DPF regeneration is impossible in the following conditions:




- Within 10 seconds after starting the engine (manual transmission vehicles)
- Within 30 seconds after starting the engine (vehicles with a DUONIC system)
- When the coolant indicator shows the temperature by up to 5 segments (Perform parked DPF regeneration after warming up the engine.)
- When the PTO switch is in the "ON" position (vehicles with a PTO)
- While the accelerator pedal or brake pedal is being depressed
- While the vehicle is moving
- When the gearshift lever is in any position other than "P" or "N" (vehicles with a DUONIC system)
- When the clutch pedal is depressed (manual transmission vehicles)

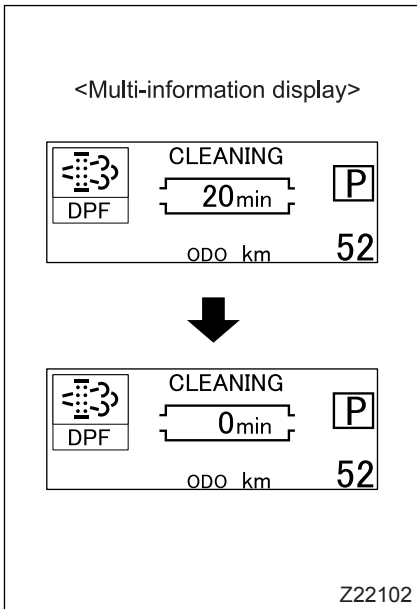
When the  (amber) indicator lamp is flashing or during parked DPF regeneration, the idling stop and start (ISS) system does not operate (vehicles with idling stop and start (ISS) system).




1. Park the vehicle in a safe place and warm up the engine.
2. Firmly apply the parking brake and place the gearshift lever in the neutral position. If your vehicle is equipped with a DUONIC system, place the gearshift lever in the "P" or "N" position and then wait for at least 30 seconds.
3. If your vehicle is equipped with an engine idling control volume, make sure the engine idling control volume is in the "AUTO" position.
4. If your vehicle is equipped with a PTO, make sure the PTO is disengaged.  P. 8-2



5. With the engine still in operation, continuously press the "ON" side of the DPF cleaning switch  (1) until the  (amber) indicator lamp  (2) stops flashing and shifts to continuous illumination. The engine will increase its idling speed (to approx. 1,500 rpm) to start the parked DPF regeneration. When the parked DPF regeneration is started, the predicted time until completion of the regeneration is indicated on the multi-information display. The exhaust brake valve may also operate during the parked DPF regeneration.



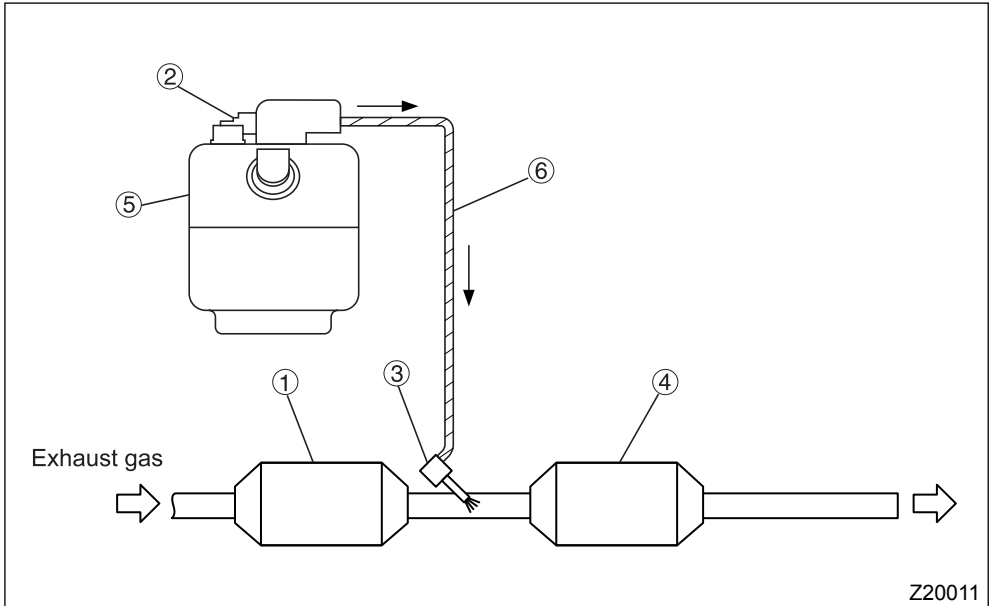
6. The predicted time indication shows a time near 0 minute, the idling speed of the engine returns to the original idling speed (approx. 650 rpm), and the  (amber) indicator lamp ② goes out. Once the parked DPF regeneration is completed, you may drive the vehicle normally.
7. If you need to suspend the parked DPF regeneration before completion of the sequence, do either of the following:
 - Press the “ON” side of the DPF cleaning switch again.
 - Depress the accelerator pedal.
 - Depress the clutch pedal (manual transmission vehicles).

NOTE:

- When you deliberately suspend the parked DPF regeneration, complete the remaining part of the sequence without delay by performing the above steps again.
- If the PM amount is indicated by 7 or more segments, you can start parked DPF regeneration even during automatic DPF regeneration by using the above method.

BlueTec® system

<Vehicles with a BlueTec® system>



- ① **DPF muffler**
- ② **Pump module**
- ③ **Dosing module**
- ④ **Muffler with SCR/Oxidation catalyst**
- ⑤ **Urea tank**
- ⑥ **Urea tube**

- The BlueTec® system is a combination of the regeneration controlling DPF system and the BlueTec® exhaust gas aftertreatment.
- The regeneration controlling DPF system collects particulate matter (PM) in exhaust gases with a ceramic filter located inside the muffler and burns the PM on the filter utilizing the effect of the front oxidation catalyst (continuous DPF regeneration).

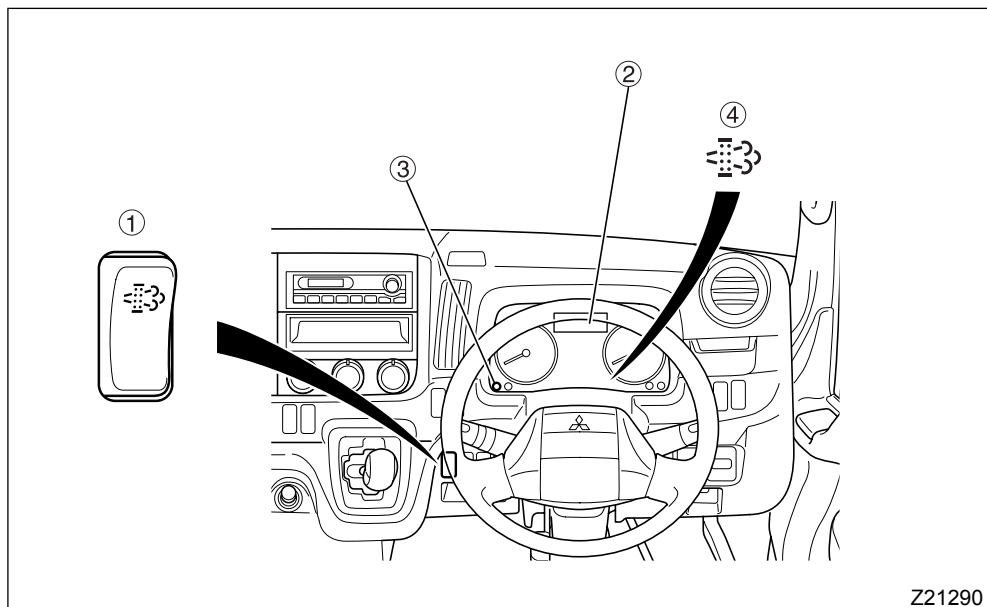
- Continuous filter regeneration is impossible under certain conditions such as low-speed driving. Under these conditions, the system automatically raises the exhaust temperature to burn the PM to regenerate the filter (automatic DPF regeneration). However, even automatic DPF regeneration is sometimes impossible if the vehicle is repeatedly driven very slowly and the engine is frequently started and stopped. The DPF must then be regenerated by burning the PM under manual control (parked DPF regeneration).
- The BlueTec[®] exhaust gas aftertreatment reduces nitrogen oxides (NOx) by adding (spraying) AdBlue[®] (urea) to an area upstream of the selective catalytic reduction (SCR) catalyst to decompose NOx into water and nitrogen.

NOTE:

- *BlueTec[®] is a registered trademark of Daimler AG.*
- *DPF stands for Diesel Particulate Filter.*
- *SCR stands for Selective Catalytic Reduction.*
- *The urea tank and urea tube are provided with a heater to thaw AdBlue[®] (urea) and keep it warm in cold weather.*
- *When the AdBlue[®] (urea) temperature is low, the idling speed may slightly increase. When the AdBlue[®] (urea) becomes warm, the idling speed returns to normal.*

1 Regeneration controlling DPF system

1.1 Controls and indicators



Z21290

① **DPF cleaning switch**

Use this switch for parked DPF regeneration to burn PM in the DPF.

② **Multi-information display**

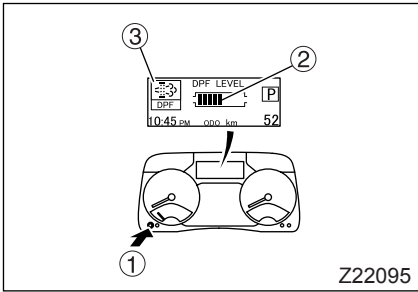
The multi-information display indicates the amount of PM in the DPF, a prompt for performing parked DPF regeneration, the predicted time until completion of parked DPF regeneration, and warnings.

③ **MODE switch**

Use this switch for selecting and setting indications on the multi-information display.

④ **DPF indicator lamp**

This lamp lights or flashes to indicate the state of the DPF.



1.2 PM indicator

If you select the DPF monitor on the multi-information display, you can check the amount of PM collected in the DPF.

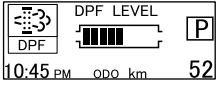
- Select the DPF monitor mode by pressing the MODE switch ① to see the PM indicator ②.
- The PM indicator shows the amount of PM in 9 degrees. The number of segments increases or decreases as the amount of PM changes. In addition, the color of the symbol ③ changes as follows:

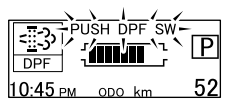


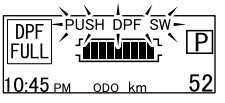


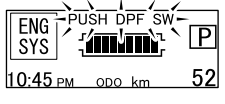



Green: When the number of displayed segments is 1 to 6

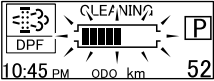


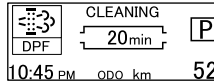

Amber: When the number of displayed segments is 7 to 9

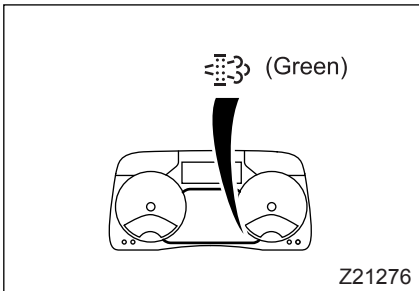
1.3 PM indicator and warning/indicator lamp

- The PM indicator and warning/indicator lamp either light or flash according to the amount of PM in the DPF.
- Perform parked DPF regeneration if prompted by the warning/indicator lamp as well as by the PM indicator on the multi-information display.


| Indication by PM indicator | Warning/indicator lamp | Parked/automatic regeneration | Ref. page |
|--|------------------------|-------------------------------|-----------|
| <p>When the number of displayed segments is 1 to 6:</p>  <p>Z22096</p> | - | - | - |

| Indication by PM indicator | Warning/indicator lamp | Parked/automatic regeneration | Ref. page |
|--|--|---|-------------|
| <p>When the number of displayed segments is 7 or 8:</p>  <p style="text-align: right;">Z22097</p> <ul style="list-style-type: none"> • The “PUSH DPF SW” message flashes. • The  symbol turns from green to amber. | <p>The  lamp (amber) flashes slowly (0.5-second intervals).</p> | <p>Perform parked DPF regeneration within 50 km or 1 hour, whichever earlier, after the lamp starts flashing.</p> | <p>5-69</p> |
| <p>When the number of displayed segments is 9:</p>  <p style="text-align: right;">Z22098</p> <ul style="list-style-type: none"> • The “PUSH DPF SW” message flashes. • The  warning is displayed. | <p>The  lamp (amber) flashes quickly (0.25-second intervals).</p> | <p>Immediately stop the vehicle in a safe place and perform parked DPF regeneration.</p> | <p>5-69</p> |
| <p>When the DPF is overloaded with PM:</p>  <p style="text-align: right;">Z22099</p> <ul style="list-style-type: none"> • The “PUSH DPF SW” message flashes. • The  warning is displayed. | <p>The  lamp (amber) flashes quickly (0.25-second intervals).</p> | <p>Immediately stop the vehicle in a safe place and perform parked DPF regeneration. The engine power is automatically reduced when the  warning is displayed.</p> | <p>5-69</p> |

| Indication by PM indicator | Warning/indicator lamp | Parked/automatic regeneration | Ref. page |
|---|---|---|-------------|
| <p>When automatic DPF regeneration is in progress:</p>  <p style="text-align: right;">Z22100</p> <ul style="list-style-type: none"> • The “CLEANING” message is displayed. • PM amount segments flash. | <ul style="list-style-type: none"> • The  lamp (green) lights. • If a prompt for parked DPF regeneration has been issued following indication of 7 or more PM amount segments, the  lamp lights in green and amber alternately. | <p>Automatic DPF regeneration is in progress.</p> | <p>5-67</p> |
| <p>When parked DPF regeneration is in progress:</p>  <p style="text-align: right;">Z22101</p> <p>The predicted time until completion of parked DPF regeneration is indicated.</p> | <p>The  lamp (amber) lights.</p> | <p>Parked DPF regeneration is in progress.</p> | <p>5-69</p> |



1.4 Automatic DPF regeneration




- If the DPF becomes so heavily loaded with PM that it cannot be regenerated by continuous DPF regeneration, the system initiates automatic DPF regeneration (regeneration by burning PM). The  indicator lamp (green) lights while the DPF is being regenerated by this method. You can operate the vehicle as usual even during automatic DPF regeneration although the engine operating sound and idling speed will change due to the higher exhaust temperature.

- If you select the DPF monitor mode on the multi-information display during automatic DPF regeneration, the “CLEANING” message is displayed above the PM indicator, and the PM indicator flashes.


**WARNING**

If the vehicle must be stopped during automatic DPF regeneration, do so after checking that there are no flammable materials, such as dead grass or paper, near the exhaust pipe and muffler. As the exhaust gas as well as the exhaust pipe and muffler are extremely hot, nearby flammable materials could ignite and cause a fire.

NOTE:

- *During automatic DPF regeneration, the engine operating sound will change and, when the vehicle is stopped, the idling speed will rise (to 800 rpm) and the exhaust valve will be activated. These are normal conditions.*
- *During automatic DPF regeneration, the idling stop and start (ISS) system does not operate (vehicles with idling stop and start (ISS) system).*
- *Automatic DPF regeneration does not take place when the PTO is used (vehicles with a PTO).*
- *During automatic DPF regeneration when the  indicator lamp is flashing in amber (or the PM indicator is showing 7 or more segments), if you continue pressing the DPF cleaning switch until the lamp lights in amber, the system discontinues automatic DPF regeneration and initiates parked DPF regeneration.*
- *No automatic DPF regeneration takes place while the  and  warnings (amber) are being displayed alternately.*

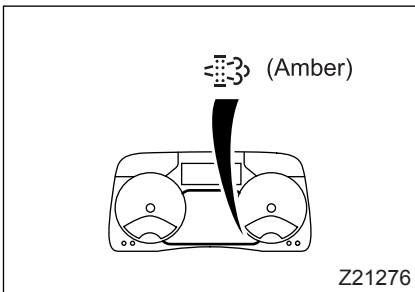
1.5 Parked DPF regeneration (performed following illumination of the (amber) indicator lamp)

The system sometimes cannot automatically remove the DPF trapped PM by burning, typically when you drive the vehicle at very low speeds or start and stop the engine frequently during operation. The system informs you of such a condition by flashing the  (amber) indicator lamp to prompt you to manually remove the DPF trapped PM by burning. The flashing interval of the indicator lamp differs depending on the amount of the PM accumulated in the DPF.

NOTE:

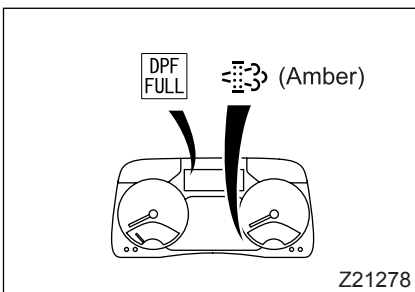
If the vehicle is used in any of the following conditions, there will be a higher risk of automatic DPF regeneration not working, and so the indicator lamp will flash more frequently to prompt you to perform parked DPF regeneration.

- *The vehicle is mainly driven at 20 km/h or lower speeds.*
- *Operation of the vehicle involves frequent starting and stopping of the engine at short intervals (less than 10 minutes).*
- *The vehicle is repeatedly driven for short distances (less than 10 km).*
- *The engine is used for such short times that it is shut off before having had time to warm up.*





- **Slow flashing (0.5-second interval)**
You must use the DPF cleaning switch within 50 km or 1 hour of driving after the start of the flashing of the indicator lamp to perform the parked DPF regeneration in order to remove the PM inside the DPF by burning.

When the PTO is being used, suspend the PTO operation and perform the parked DPF regeneration.




- **Fast flashing (0.25-second interval)**
You must bring the vehicle to a stop in a safe place as soon as possible, then use the DPF cleaning switch to perform the parked DPF regeneration in order to remove the PM inside the DPF by burning.

 **CAUTION**

If the  (amber) indicator lamp flashes quickly or the  warning appears on the multi-information display, promptly perform parked DPF regeneration by using the DPF cleaning switch to remove PM in the DPF by burning. Continuing to drive with an overloaded DPF will result in system failure.

1.6 How to perform the parked DPF regeneration

The parked DPF regeneration steps you should follow upon flashing of the relevant indicator, warning and  (amber) indicator lamp are indicated below. The parked DPF regeneration time is shown on the multi-information display. The parked DPF regeneration time is as a general rule 20 minutes although it varies with the conditions in which the vehicle is operated.


 **WARNING**

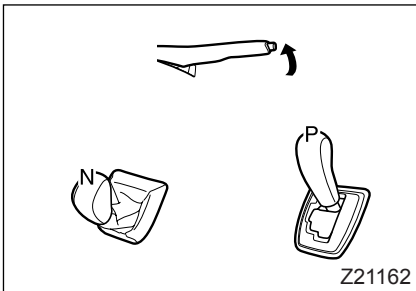
- Do not perform the parked DPF regeneration in a poorly ventilated garage or other closed area. Exhaust gas contains carbon monoxide, which is toxic and very dangerous.
- Avoid the following areas when performing parked DPF regeneration:
 - On painted road surfaces: Hot exhaust gas will discolor the paint.
 - Near a hedge: Vegetation may be killed by the hot exhaust gas.
 - Place with flammable materials, such as dead grass or paper: A fire may occur.
- Keep all people away from the exhaust pipe and muffler.
- Prevent anyone from touching the exhaust pipe and muffler or being exposed to the exhaust gas.



NOTE:

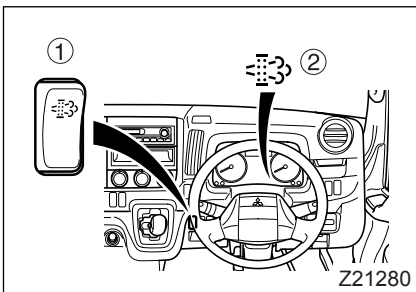
Parked DPF regeneration is impossible in the following conditions:




- Within 10 seconds after starting the engine (manual transmission vehicles)
- Within 30 seconds after starting the engine (vehicles with a DUONIC system)
- When the coolant indicator shows the temperature by up to 5 segments (Perform parked DPF regeneration after warming up the engine.)
- When the PTO switch is in the “ON” position (vehicles with a PTO)
- While the accelerator pedal or brake pedal is being depressed
- While the vehicle is moving
- When the gearshift lever is in any position other than “P” or “N” (vehicles with a DUONIC system)
- When the clutch pedal is depressed (manual transmission vehicles)

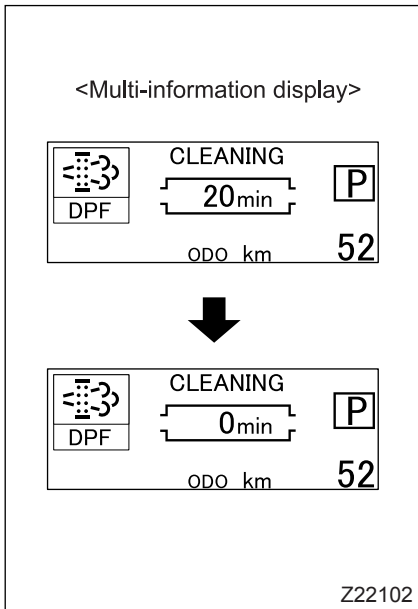
When the  (amber) indicator lamp is flashing or during parked DPF regeneration, the idling stop and start (ISS) system does not operate (vehicles with idling stop and start (ISS) system).




1. Park the vehicle in a safe place and warm up the engine.
2. Firmly apply the parking brake and place the gearshift lever in the neutral position. If your vehicle is equipped with a DUONIC system, place the gearshift lever in the “P” or “N” position and then wait for at least 30 seconds.
3. If your vehicle is equipped with an engine idling control volume, make sure the engine idling control volume is in the “AUTO” position.
4. If your vehicle is equipped with a PTO, make sure the PTO is disengaged.   P. 8-2



5. With the engine still in operation, continuously press the “ON” side of the DPF cleaning switch  until the  (amber) indicator lamp  stops flashing and shifts to continuous illumination. The engine will increase its idling speed (to approx. 1,500 rpm) to start the parked DPF regeneration. When the parked DPF regeneration is started, the predicted time until completion of the regeneration is indicated on the multi-information display. The exhaust brake valve may also operate during the parked DPF regeneration.



6. The predicted time indication shows a time near 0 minute, the idling speed of the engine returns to the original idling speed (approx. 650 rpm), and the  (amber) indicator lamp ② goes out. Once the parked DPF regeneration is completed, you may drive the vehicle normally.
7. If you need to suspend the parked DPF regeneration before completion of the sequence, do either of the following:
 - Press the “ON” side of the DPF cleaning switch again.
 - Depress the accelerator pedal.
 - Depress the clutch pedal (manual transmission vehicles).





NOTE:



- When you deliberately suspend the parked DPF regeneration, complete the remaining part of the sequence without delay by performing the above steps again.
- If the PM amount is indicated by 7 or more segments, you can start parked DPF regeneration even during automatic DPF regeneration by using the above method.

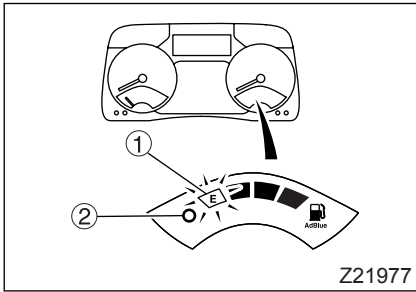
2 BlueTec® exhaust gas aftertreatment

2.1 Warnings for BlueTec® exhaust gas aftertreatment

Four different combinations (patterns) of warning lamp/indicator lamp operation warn you of the different abnormal conditions with the BlueTec® exhaust gas aftertreatment as shown below.

| Warning pattern | Warning/indicator lamp | Problem condition | Ref. page |
|-----------------|---|---|-----------|
| 1 |  <p>Lights</p> <p>Z21974</p> | Quantity of AdBlue® in the tank has fallen too low. | 5-74 |
| 2 | <p>Blink fast</p>  <p>Lights</p> <p>Z21974</p> | Quantity of AdBlue® in the tank has fallen further. | 5-74 |
| 3 |  <p>Lights</p> <p>Z21976</p> | <ul style="list-style-type: none"> • Urea tank has become empty. • A driving restriction automatically engages. | 5-74 |
| 4 |  | <ul style="list-style-type: none"> • Abnormality in exhaust gas is detected or BlueTec® exhaust gas aftertreatment is faulty. • Engine power is restricted depending on the type of fault or abnormality. <p>*1</p> | 5-74 |

*1: When you have driven the vehicle for 36 hours after the  warning lamp first came on, the  warning lamp comes on and remains lit, and the engine power is restricted.

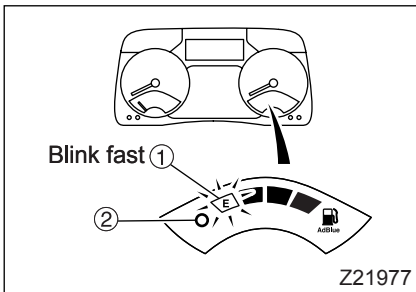


2.2 Excessively low AdBlue® quantity (warning pattern 1)

If the quantity of AdBlue® in the tank becomes too low, you are warned of the condition by the following. Refill the tank with the AdBlue® immediately.

⇒ P. 1-9

- The E segment ① of the urea level indicator, which has been lit, starts flashing slowly (at 0.5-second intervals).
- The urea level warning lamp ② comes on.



2.3 Further reduced AdBlue® level (warning pattern 2)

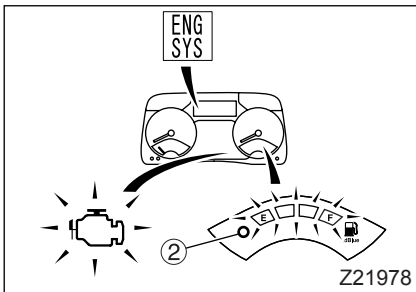
If the AdBlue® level drops further, you are warned of the condition as follows. Refill the tank with the AdBlue® immediately.

⇒ P. 1-9

- The E segment ① of the urea level indicator, which has been flashing slowly, starts flashing quickly (at 0.25-second intervals).
- The urea level warning lamp ② comes on.

⚠ CAUTION

Do not let the urea tank become empty. If the tank becomes empty, the engine power is automatically restricted.

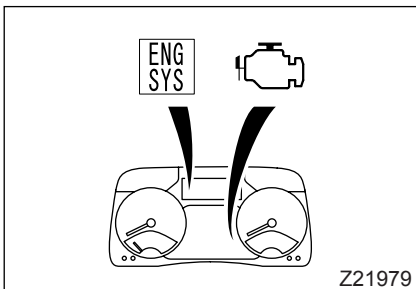


2.4 Empty urea tank (warning pattern 3)

If the urea tank becomes completely empty, the following warning is issued. Refill the tank with the AdBlue® immediately.

⇒ P. 1-9

- The urea level warning lamp ② continues to flash.
- All segments from F to E of the urea level indicator flash quickly (at 0.25-second intervals).
- The warning lamp starts flashing.
- The 'ENG SYS' indication (red) is displayed on the multi-information display and the engine power is restricted.




2.5 When an abnormality in exhaust gas is detected or BlueTec® exhaust gas after-treatment is faulty (warning pattern 4)

When an abnormality in exhaust gas is detected or the BlueTec® exhaust gas after-treatment is faulty, the warning lamp comes on.

Immediately have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.

 **CAUTION**

Driving the vehicle with the warning lamp lit could not only increase nitrogen oxide (NOx) emissions which damage the environment, but also cause damage to the BlueTec[®] exhaust gas aftertreatment.

- Depending on the type of fault or abnormality, the  indication (red) is displayed and the engine power is restricted when you have driven the vehicle for about 36 hours.
- If you inadvertently add fluid other than the specified AdBlue[®] (water, low-density AdBlue[®], etc.), turn the starter switch to the “LOCK” position, and immediately contact an authorized MITSUBISHI FUSO distributor or dealer to have the added fluid drained and your vehicle inspected.

3 Precautions for inspection and maintenance

- **Urea dosing system**
The urea dosing system (pump module plus dosing module) continues to operate for about 2 minutes after the starter switch has been put in the “LOCK” position. Wait for at least 2 minutes before disconnecting the battery and electrical system connectors in order to carry out an inspection, maintenance and so on.
- **Muffler**
The muffler incorporates a catalyst and ceramic filter.

 **WARNING**

Do not touch the water that comes out from the muffler. The water is weakly acidic because of the action of the catalyst inside the muffler. If it comes in contact with your skin, wash it off with lots of water.

 **CAUTION**

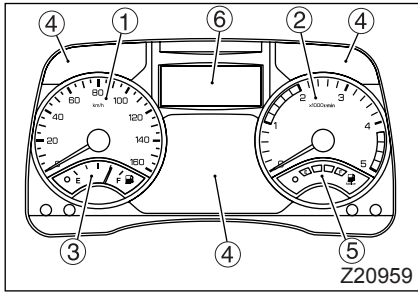
- Each muffler contains a catalyst and ceramic filter, so do not kick or strike the muffler because you may damage the catalyst and/or the ceramic filter.
- Depending upon the way in which the vehicle is used, a large amount of rust may be generated from the exhaust pipe and the suspension bracket, even at an early stage. Visually inspect the muffler, and if there is any abnormality, contact an authorized MITSUBISHI FUSO distributor or dealer and have the vehicle inspected.
- Do not change the length or direction of the exhaust pipe or muffler because this may cause the following problems. If modification is necessary, consult an authorized MITSUBISHI FUSO distributor or dealer.
 - Fire or burns since hot gas is exhausted when removing soot in the DPF by burning
 - Adverse effect on the exhaust gas cleaning function

NOTE:

- *Because the exhaust gas is cleaned before it is emitted, the odor of the exhaust gas will be different from that of a conventional diesel vehicle.*
- *When starting the engine, or moving off immediately after starting it in cold weather, white smoke (water vapor) may be emitted from the muffler, however this does not indicate an abnormality.*

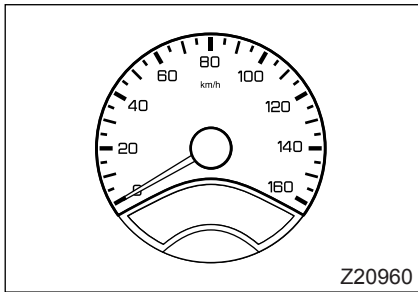
6. Instruments and warning lamps

| | |
|--|------|
| Arrangement of instruments and warning lamps | 6-2 |
| Speedometer | 6-2 |
| Tachometer | 6-2 |
| Water temperature gauge | 6-3 |
| Fuel gauge | 6-4 |
| Urea level indicator | 6-5 |
| Multi-information system | 6-7 |
| Warning/indicator telltale | 6-21 |
| Warning/indicator lamps | 6-27 |



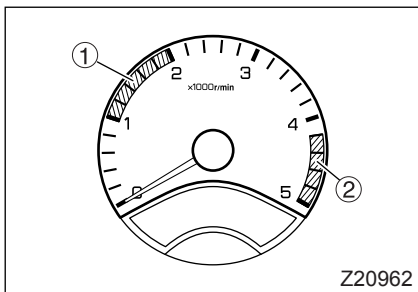
Arrangement of instruments and warning lamps

- ① Speedometer
- ② Tachometer
- ③ Fuel gauge
- ④ Warning/indicator lamps
- ⑤ Urea level indicator <Vehicles with BlueTec® system>
- ⑥ Multi-information display



Speedometer

The speedometer indicates vehicle speed in kilometers per hour.



Tachometer

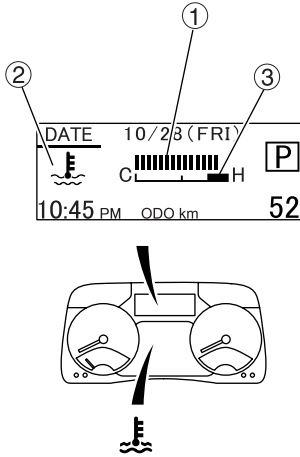
- The tachometer indicates engine speed in revolutions per minute.
- The green zone ① indicates the engine speed that is a rough guide for economic operation.
- If the needle enters the red zone ②, the engine is overrevved. Reduce the vehicle speed sufficiently during downhill driving or downshifting to keep the needle from entering this zone.

⇒ P. 7-13





CAUTION

The term “overrev” refers to rotation of the engine at an RPM exceeding the maximum limit. This occurs when the engine is driven by the wheels during downhill driving or downshifting. Persistent overrevving can lead to an engine breakdown.

Water temperature gauge

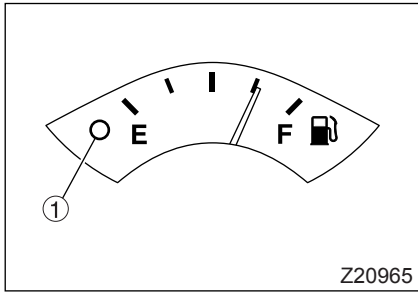


Z22074

- The water temperature gauge is displayed on the multi-information display and indicates the temperature of the engine coolant.
- With the engine running normally, the coolant temperature indicator ① will indicate around the middle point of the scale.
- If the coolant temperature becomes abnormally high, the multi-information display ② will show  in amber.
- If the engine overheats, the  warning lamp will light up and the multi-information display will show  in red. The coolant temperature indicator will show the 13th gradation or above, indicating the overheating zone.
- When the engine has overheated, perform the checks and corrective steps described on this reference page: ⇒  P. 13-10

CAUTION

Be sure to stop the engine only after letting it run at a speed slightly above the idling RPM until the coolant cools down. Turning off the engine immediately after stopping will cause the coolant temperature to rise quickly and may cause the engine to seize up.



Fuel gauge

The fuel gauge indicates the amount of fuel still remaining in the fuel tank.

F: Full
E: Empty

When the Low-fuel warning lamp ① is illuminated, the approximate quantity of fuel remaining in the tank is as indicated below.

| Quantity of fuel remaining in tank | |
|------------------------------------|-------------------|
| Tank capacity | Quantity |
| 70 liters | Approx. 9 liters |
| 100 liters | Approx. 13 liters |

When the needle approaches the “E” mark or Low-fuel warning lamp is illuminated, refuel as soon as possible.

If the vehicle completely runs out of fuel, air must be bled out of the fuel system. ⇒ P. 13-36

CAUTION

Be careful not to allow the engine to run out of fuel. Engine stall resulting from an empty tank could cause damage to the fuel injection system.

NOTE:

If the vehicle runs out of fuel, air will enter the fuel system. Before an engine that has run out of fuel can be started again after refueling, the air must be bled out of the fuel system. Keep the starter switch in the “ON” position for 30 to 60 seconds after refueling. Fuel will fill the system and expel the air from it.

Urea level indicator

<Vehicles with BlueTec[®] system>

CAUTION

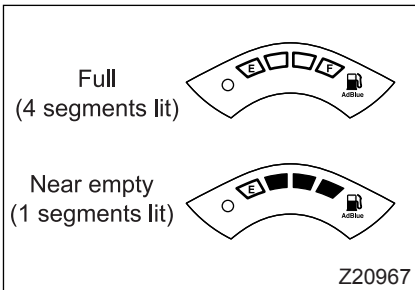
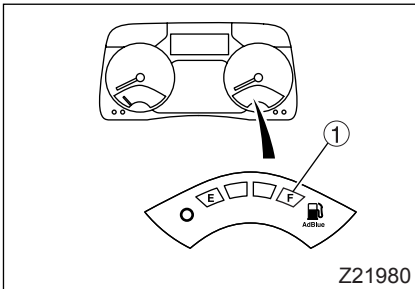
Do not let the urea tank become empty. If the tank becomes empty, the engine power is restricted.


We recommend that you carry AdBlue[®] in a portable container in your vehicle in case the urea tank becomes empty.

1 Urea level indicator


- The urea level indicator ① shows the level of the AdBlue[®] in the urea tank.

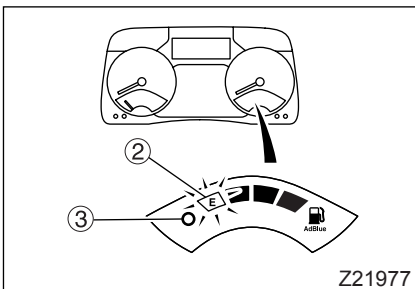
F (all 4 segments are on): Full
E (only 1 segment is on): Replenish the AdBlue[®].

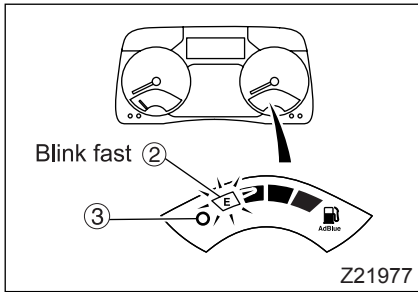


- When the tank is full, all 4 segments of the urea level indicator are lit. As the AdBlue[®] level drops, the segments go out one by one.
- If only the E segment of the urea level indicator is lit, the AdBlue[®] level has fallen too low. Replenish it. ⇒  P. 1-8

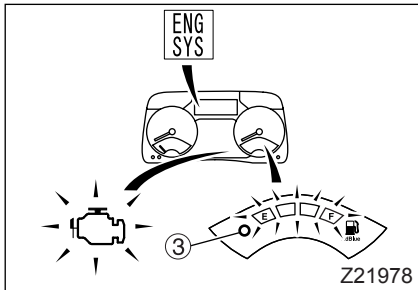
2 When the AdBlue[®] level is too low



- When the AdBlue[®] level has fallen too low, a warning is issued as follows:
 - The E segment ② of the urea level indicator, which has been lit, starts flashing slowly (at 0.5-second intervals).
 - The urea level warning lamp ③ comes on.
- If this condition happens, replenish the AdBlue[®] immediately. ⇒  P. 1-8





- When the AdBlue® level has dropped further, a warning is issued as follows:
 - The E segment (2) of the urea level indicator, which has flashed slowly, starts flashing quickly.
 - The urea level warning lamp (3) is on.
- If this condition happens, replenish the AdBlue® immediately.



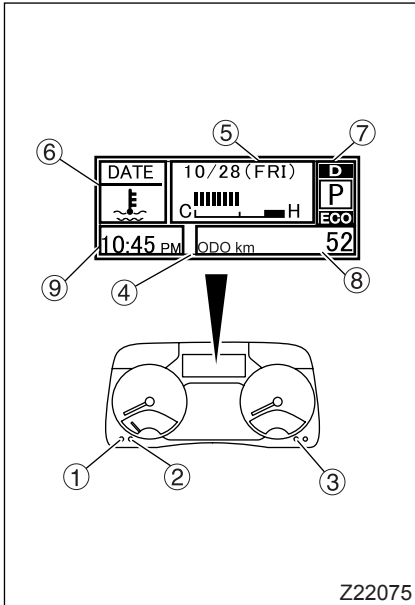
- When the urea tank becomes completely empty, a warning is issued as follows:
 - The urea level warning lamp (3) is on.
 - All segments from F to E of the urea level indicator flash quickly.
 - The  warning lamp flashes.
 - The  indication (red) is displayed on the multi-information display and the engine power is restricted.

Replenish the AdBlue®. The restriction on engine power is then cancelled.

Multi-information system

1 Outline of multi-information system

- ① MODE switch
- ② SELECT switch
- ③ SET/RES switch
- ④ Multi-information display
- ⑤ Information area
- ⑥ Warning/indicator area
- ⑦ Transmission information area
- ⑧ Odometer/trip meter area
- ⑨ Time/outside temperature area (outside temperature indication is available for vehicles with a fully automatic air conditioner)



The multi-information system indicates the following types of information on the multi-information display located on the meter cluster.

- Information area: coolant temperature, amount of PM in the DPF, and vehicle-related information including the maintenance schedule.
- Warning/indicator area: various warnings and indicators. ⇨ P. 6-21
- Transmission information area: gear positions selected by the DUONIC system and other transmission-related information. ⇨ P. 5-24
- Odometer/trip meter: total running distance and individual trip distance.
- The MODE, SELECT, and SET/RES switches are used for selection, setting, and confirmation on each screen.

2 Odometer/trip meter

When the starter switch is turned to “ON”, either “ODO” (odometer) or “TRIP” (trip meter) is displayed. The display toggles between “ODO” and “TRIP” each time the ODO/TRIP switch ① is pressed.

- **ODO (odometer)**

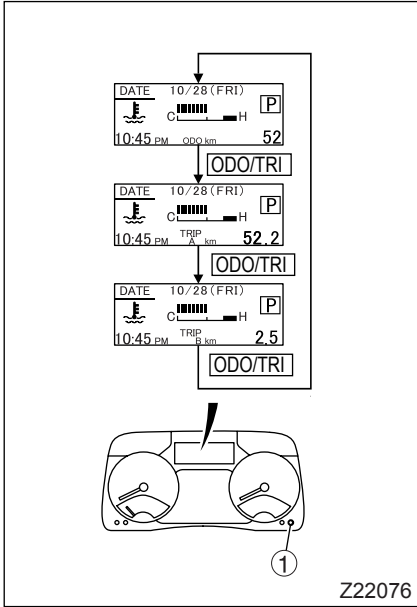
Indicates the total distance covered by the vehicle to the nearest kilometer.

- **TRIP (trip meter)**

Indicates the distance covered by the vehicle from a selected point to the present point to the nearest 0.1 kilometer.

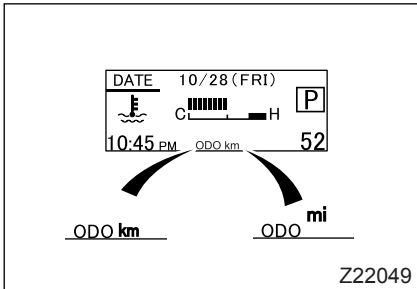
The trip meter has two options: TRIP “A” and TRIP “B”. The indications are independent of each other.

To reset the trip meter to zero, press the ODO/TRIP switch for at least 1 second. The count of only the currently displayed option will return to “0.0”.



NOTE:

If the unit of fuel mileage is changed, the unit for the odometer and trip meter indication changes accordingly. For information on the fuel mileage display unit, see page 6-14.

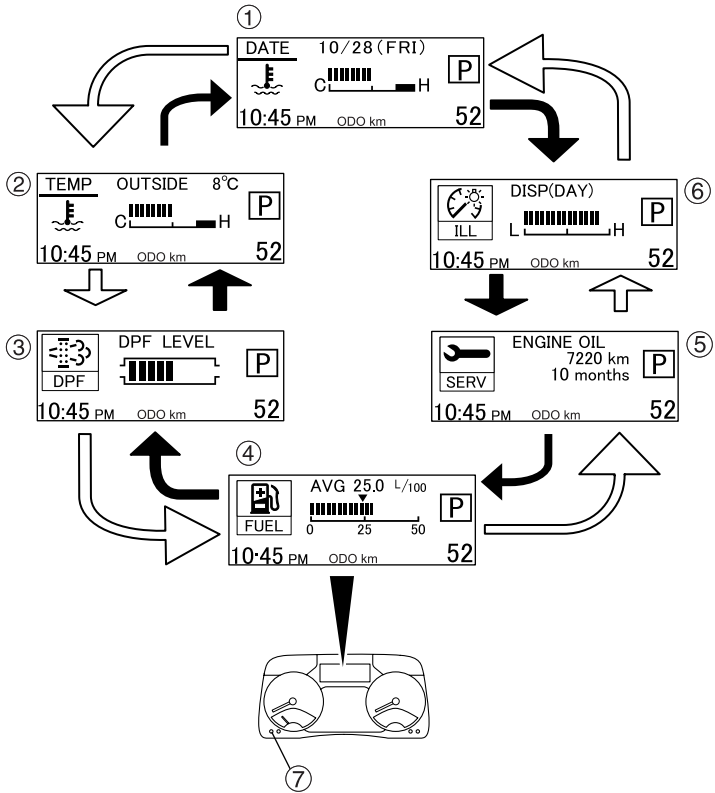


3 Display mode selection and settings

3.1 Display mode selection

You can select a desired display mode by pressing the MODE switch ⑦.

Display modes



← : Short press (up to 1 second) on MODE switch

← : Long press (1 second or longer) on MODE switch

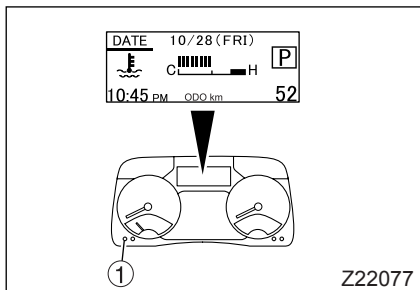
Z21981

| No. | Display mode | Ref. page |
|-----|---|-----------|
| ① | Calendar and clock | 6-10 |
| ② | Outside air temperature (vehicles with fully automatic air conditioner) | 6-12 |
| ③ | DPF monitor | 6-13 |
| ④ | Fuel mileage information | 6-14 |
| ⑤ | Maintenance information | 6-16 |
| ⑥ | Illumination intensity (brightness adjustment) | 6-19 |

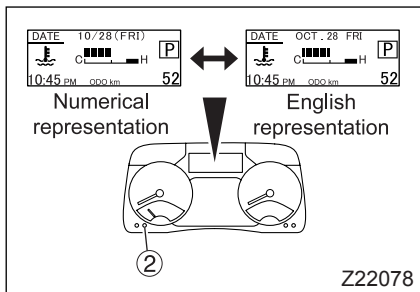
3.2 Calendar and clock

- **Date/time**

Press the MODE switch ① to display the date and time on the screen.

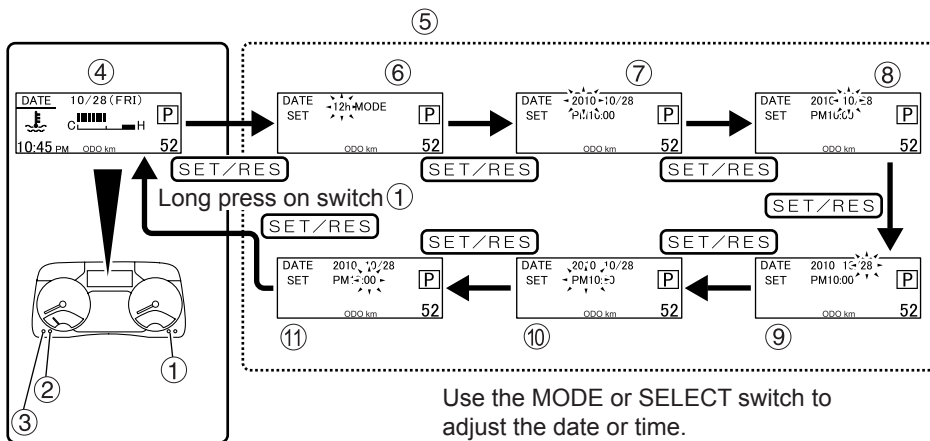


- If you press the SELECT switch ② while the date and time are displayed on the screen, the month part of the date will change from numerical representation to English representation.



- **Date and time adjustment**

Example: 12-hour clock



Use the MODE or SELECT switch to adjust the date or time.

1. Give a long press on the SET/RES switch ① while the date and time indication ④ is displayed on the screen. The adjustment screen ⑤ will appear.
2. Each time you press the SET/RES switch, one of the indication items is selected in the sequence shown below with the selected item flashing. The cycle repeats if you press the switch repeatedly.
Initial display screen (date/time display) ④ → Time display mode ⑥ → Year ⑦ → Month ⑧ → Day ⑨ → Hour ⑩ → Minute ⑪ → Initial display screen
While the item you want to set is flashing, press the MODE switch ③ or SELECT switch ② to make adjustments.
- The 12-hour clock will be displayed if you select "12 h" on the time display mode screen; selecting "24 h" will change the display to the 24-hour clock.
- Press the SELECT switch to advance the indication. Each long press (0.5 second or longer) will move the value forward by 2 years, 2 months, 2 days, or 10 minutes.
- Press the MODE switch to retard the indication. Each long press (0.5 second or longer) will move the value backward by 2 years, 2 months, 2 days, or 10 minutes.
3. After completing necessary adjustments, press the SET/RES switch.
4. Press the SET/RES switch as many times as necessary to go back to the initial display screen.

- **Adjusting the clock to time signals**

While the display is in the calendar and clock mode, you can adjust the clock to a time signal by pressing the SET/RES switch and releasing the switch simultaneously with a time signal.

Example:

The clock will be adjusted to 11:00
if its current indication is between 11:00 and 11:29.

The clock will be adjusted to 12:00
if its current indication is between 11:30 and 11:59.

NOTE:

- *If the date is set, the day of the week will be automatically adjusted to the new date.*
- *The calendar can be adjusted for the period between January 1, 2009 and December 31, 2039.*

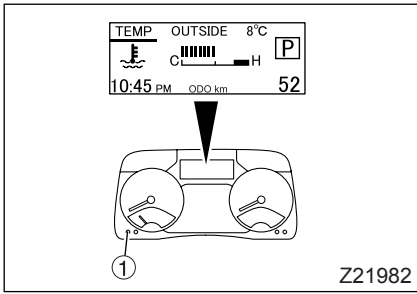
3.3 Outside air temperature <vehicles with fully automatic air conditioner>

If you select the outside air temperature mode by pressing the MODE switch ①, the outside air temperature around the front of the cab is indicated.

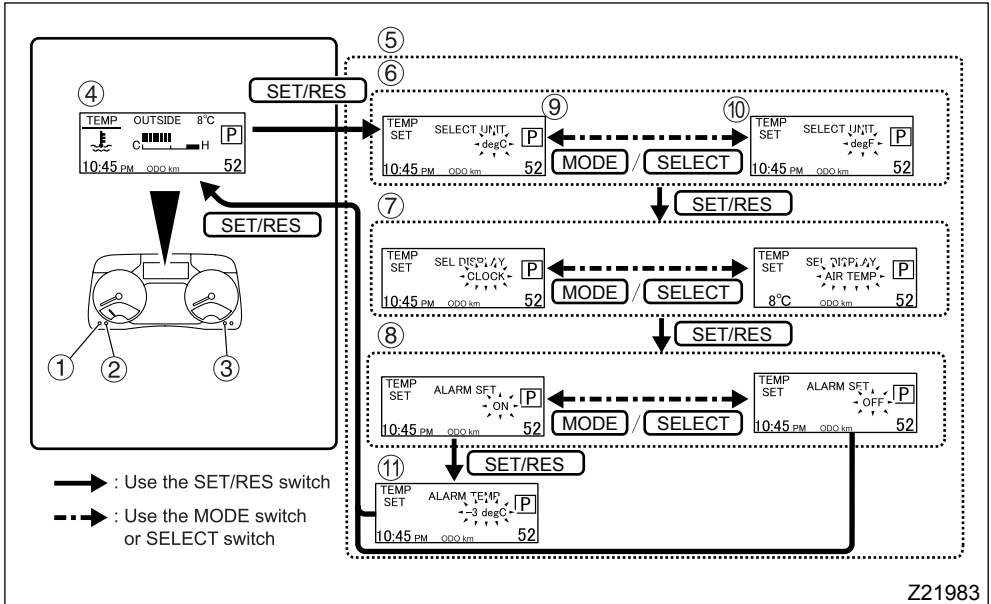
NOTE:

As the temperature is sensed at the outside air inlet on the cab, the indicated temperature may differ from the actual outside air temperature under certain traffic or air conditioner operating conditions.

- The following selections and settings are possible for the outside air temperature mode:
 - Selecting the unit of temperature display between degree Celsius (°C) and degree Fahrenheit (°F)
 - Selecting the bottom-left display on the screen between temperature and time
 - Setting an alarm when the outside air temperature falls below a preset temperature
- **Selections and settings in outside air temperature mode**

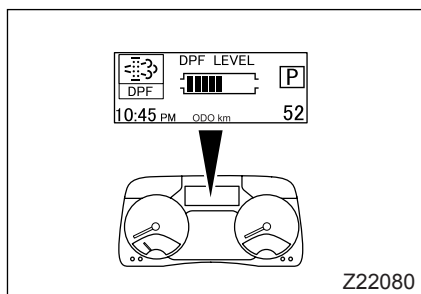


Z21982



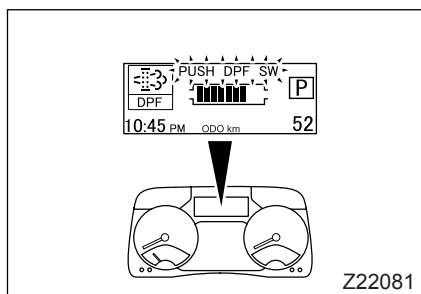
Z21983

1. Select the outside air temperature mode ④ by pressing the MODE switch ①.
Give a long press on the SET/RES switch ③ to display the adjustment screen ⑤.
2. Select the adjusting/setting item using the SET/RES switch. Each time you press the SET/RES switch, the display changes in the following sequence:
 - Temperature unit selection ⑥ → Time/temperature selection ⑦ → Temperature alarm on/off setting ⑧
 - The temperature unit can be changed between degree Fahrenheit (°F) ⑨ and degree Celsius (°C) ⑩ by pressing the MODE switch or SELECT switch ② on the temperature unit selection screen ⑥.
 - The bottom-left display can be changed between temperature and time indications by pressing either the MODE switch or SELECT switch on the time/temperature selection screen ⑦.
 - Method for setting temperature alarm on/off
On the temperature alarm on/off setting screen ⑧, press the MODE switch to activate the outside air temperature alarm and press the SELECT switch to deactivate the alarm. Once the alarm is activated, you can set an alarm temperature between -5°C and 5°C ⑪ (23°F and 41°F). The alarm is issued by the temperature indication at the bottom-left on the screen flashing for about 1 minute when the set temperature is reached.



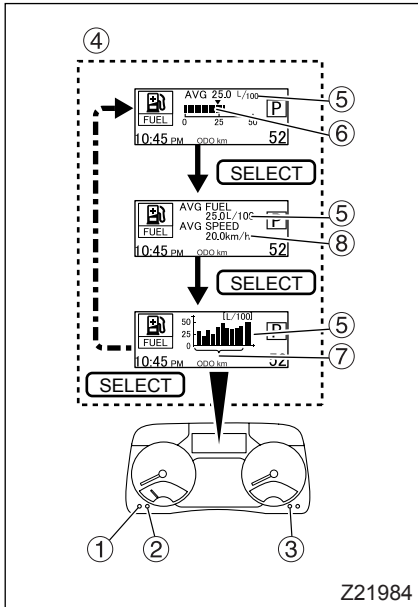
3.4 DPF monitor

This display mode indicates the amount of PM in the DPF, a prompt for performing parked DPF regeneration, and the predicted time until completion of parked DPF regeneration. If the situation requires, the DPF monitor also provides the driver with necessary warnings and indications.



- If the DPF contains PM equivalent to 7 or more segments of the indicator, a message is displayed prompting you to perform the parked DPF regeneration.

See page 5-52 or 5-62 (vehicles with a BlueTec® system) for details about the DPF.



3.5 Fuel mileage information

The fuel mileage information includes: average fuel mileage ⑤, real-time fuel mileage ⑥, instantaneous fuel mileage ⑦, and average speed ⑧.

- The average fuel mileage indicates the average of the fuel mileage from the time it was last reset to the present.
- The real-time fuel mileage indicates the fuel mileage in the last 0.5-second period.
- The average vehicle speed indicates the average speed at which the vehicle has been driven since the last reset.
- The instantaneous fuel mileage is the fuel mileage over the past 1-minute period.

• How to switch the display

1. Press the MODE switch ① to select the fuel mileage information mode ④.
2. Press the SELECT switch ② to change the display. Each time you press the SELECT switch, the following pairs of information will be displayed one after another.

- Average mileage and real-time mileage
- Average mileage and average vehicle speed
- Instantaneous mileage and average mileage

• How to reset the mileage and speed data

You can reset both the average vehicle speed and average mileage data by giving a long press (1 second or more) on the SET/RES switch ③.

• Adjusting the correction coefficient for fuel mileage data and selecting the unit of fuel mileage display

If necessary, you can change the correction coefficient for fuel mileage data and the unit of fuel mileage display as follows.

- Usually, there is no need to change the correction coefficient for fuel mileage data. However, the coefficient should be changed if you notice any significant difference between the actual and indicated fuel mileages. Increasing the correction coefficient value will result in larger indications for all of the average, real-time, and instantaneous fuel mileages. Reducing the value decreases them.

| | |
|---|------|
| Default value of correction coefficient | 1.00 |
|---|------|

NOTE:

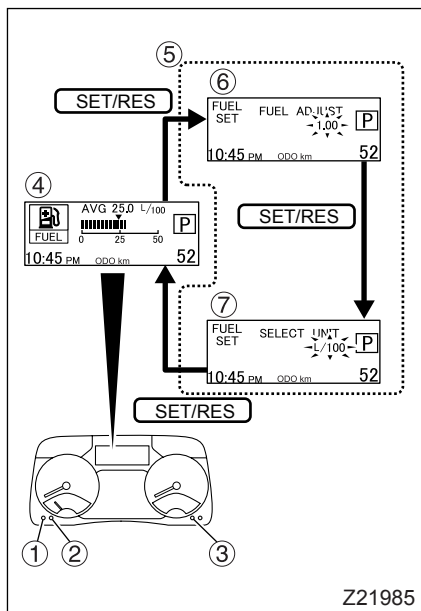
If you press the SET/RES switch for more than 1 second in the correction coefficient change screen, the coefficient will return to the default value.

- The fuel mileages can be indicated in units of “l/100 km”, “mpg”, or “km/l”.
- “l/100 km” indicates the amount of fuel in liters that the vehicle has consumed to cover a distance of 100 kilometers.
- “mpg” indicates the miles covered by the vehicle on one gallon of fuel.
- “km/l” indicates the kilometers covered by the vehicle on one liter of fuel.

NOTE:

If the unit for fuel mileage is changed, the unit for the odometer and trip meter indication changes accordingly.

- If “l/100 km” or “km/l” is selected, the unit for the odometer and trip meter indication becomes “km”.
- If “mpg (USA)” or “mpg (UK)” is selected, the unit for the odometer and trip meter becomes “mi (mile)”.

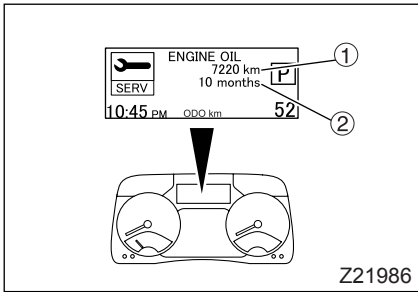


Z21985

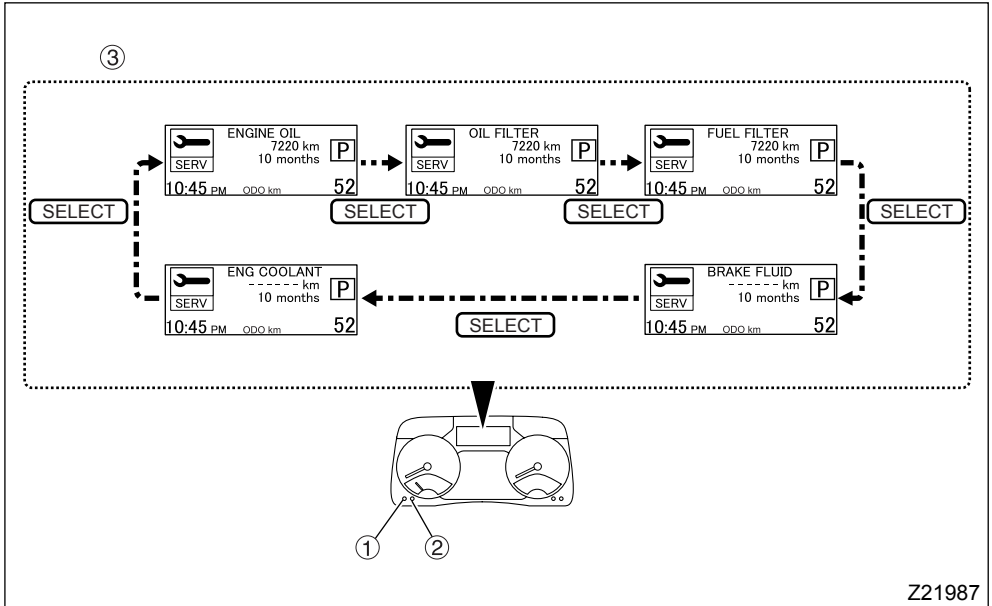
1. Press the MODE switch ① to select the fuel mileage information mode ④.
2. Press the SET/RES switch ③ to display the adjustment screen ⑤, then press the SET/RES switch. Each time you press the switch, the display toggles between the fuel mileage correction coefficient (FUEL ADJUST) ⑥ and the fuel mileage unit (SELECT UNIT) ⑦.
3. With the desired display selected, press the SELECT switch ② or MODE switch to change the correction coefficient or fuel mileage unit.
- Press the SELECT switch to increase the correction coefficient, or the MODE switch to decrease it. Continue to press each switch if you want to change the value quickly.
- Use the SELECT switch to change the fuel mileage unit. The unit changes in the following sequence each time you press the switch: “l/100 km” → “mpg (USA)” → “mpg (UK)” → “km/l”
4. Press the SET/RES switch to return to the initial display screen.

3.6 Maintenance information

If you select this mode, the multi-information display indicates the running distance ① and the number of months ② since the distance was last reset after replacing oils, fluids, or filter elements according to your selection of screen.



• Selection of maintenance information screens

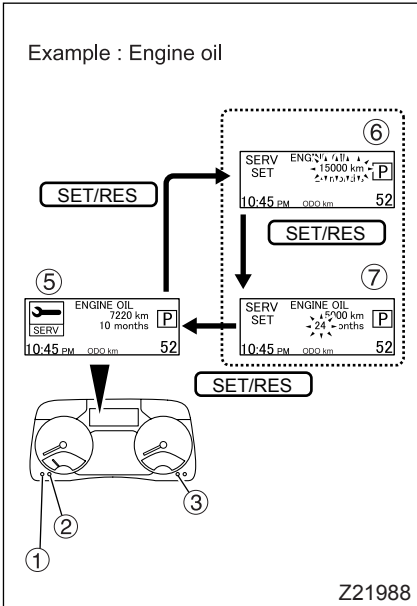


1. Press the MODE switch ① to select the maintenance information mode ③.
2. Press the SELECT switch ②. Each time you press the switch, the screen changes to the one for a new replacement item in the following sequence, beginning with the previously displayed screen:
ENGINE OIL → OIL FILTER (engine oil filter) → FUEL FILTER → BRAKE FLUID → AIR FILTER → T/M OIL (transmission oil and clutch control fluid in a vehicles with a DUONIC system) → HUB GREASE (wheel hub bearing grease) → DIFF OIL (differential oil) → P/S OIL (power steering oil) → ENG COOLANT (engine coolant)

• **How to set replacement intervals**

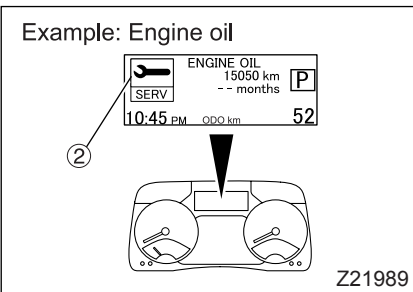
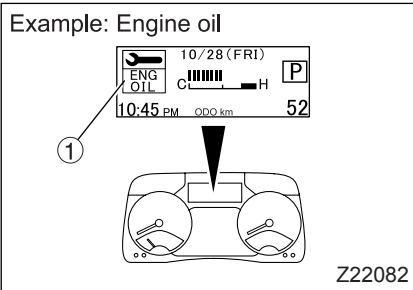
Set the replacement interval for each replacement item according to the table below.

| Item | Replacement interval |
|---|------------------------------------|
| Engine oil | Every 30,000 km or every 12 months |
| Engine oil filter (OIL FILTER) | Every 30,000 km or every 12 months |
| Fuel filter (FUEL FILTER) | Every 30,000 km or every 12 months |
| Brake fluid | Every 24 months |
| Air filter | Every 30,000 km or every 12 months |
| Transmission oil and clutch control fluid in a vehicle with a DUONIC system (T/M OIL) | Every 60,000 km or every 24 months |
| Wheel hub bearing grease (HUB GREASE) | Every 60,000 km or every 12 months |
| Differential gear oil (DIFF OIL) | Every 60,000km or every 24 months |
| Power steering oil (P/S OIL) | Every 50,000 km or every 12 months |
| Engine coolant (ENG COOLANT) | Every 24 months |

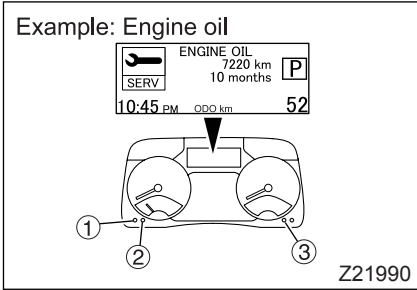


1. Press the MODE switch ① to select the maintenance information mode ⑤.
2. Press the SELECT switch ② to select the screen for the replacement item for which you want to set the interval.
3. Press the SET/RES switch ③ to select the interval distance setting screen ⑥ (with "km" indicated). The numerals indicating the distance blink once this screen is selected.
4. Press the SELECT switch or MODE switch to change the distance.
 - Each time you press the SELECT switch, the distance value increases by 1,000 km.
 - Each time you press the MODE switch, the distance value decreases by 1,000 km.
 - A long press on the SELECT or MODE switch increases or decreases the distance value by 5,000 km, respectively.
 - If the replacement interval is controlled by the period of time (not by the distance), leave the distance space blank ("---- km").
5. Press the SET/RES switch ③ to select the interval period setting screen ⑦ (with "month" indicated). The numerals indicating the period of time blink once this screen is selected.
6. Press the SELECT switch or MODE switch to change the value of the period.
 - Each time you press the SELECT switch, the period increases by 1 month.

- Each time you press the MODE switch, the period decreases by 1 month.
 - A long press on the SELECT or MODE switch increases or decreases the period by 2 months, respectively.
 - If the replacement interval is controlled by the distance (not by the period of time), leave the period space blank (“-- month”).
7. Press the SET/RES switch to return to the initial display screen.
 8. In the initial display screen, give a long press on the SET/RES switch until “0 km” and “0 months” are indicated.



- **Maintenance alarm indication**
- For each item for which you have set the replacement interval, an alarm ① is indicated at 1,000 km or 1 month before the set distance or period of time is reached. If this condition is met for an item, an alarm will be indicated for the item every time the starter switch is turned to “ON”. The alarm indication goes out as soon as the parking brake is released. If there are multiple alarms to indicate, they are indicated one after another, each being indicated for 3 seconds.
- If a periodic replacement item is used continuously even after the set distance or period is reached, the maintenance information symbol will turn to amber ②.



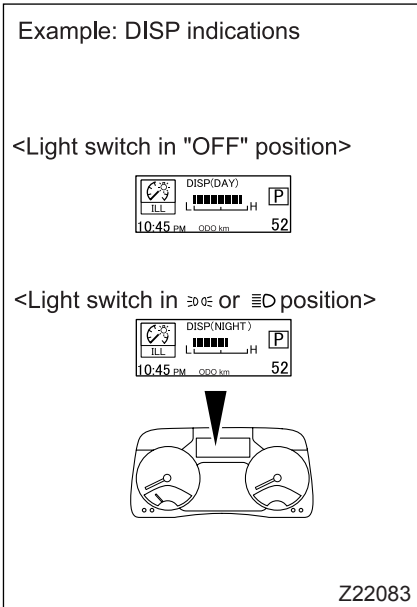
• **Resetting of maintenance information**

After replacing a periodic replacement item such as the oil, filter element, or engine coolant, reset the maintenance information for the item as follows:

1. Press the MODE switch ① to select the maintenance information mode.
2. Press the SELECT switch ② to select the item for which the maintenance information is to be reset.
3. Give a long press (1 second or more) on the SET/RES switch ③ to reset the maintenance information.

NOTE:

Do the same procedure after replacing any periodic replacement item.

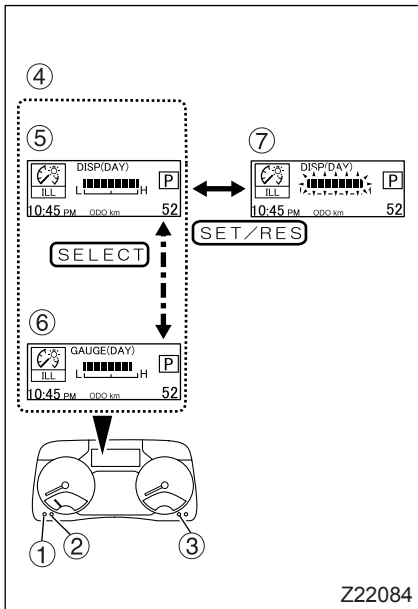


3.7 Illumination intensity (brightness adjustment)

• **Selection and adjustment of illumination intensity**

Both the illumination intensity screen and the adjustment screen provide different displays between the time when the light switch is in the "OFF" position and the time when the switch is in the ③ or ④ position as follows:

- When the light switch is in the "OFF" position, the multi-information display indicates "DISP (DAY)" or "GAUGE (DAY)". In this state, the brightness of the displays or gauges under no illumination condition (day-time) is adjustable.
- When the light switch is in the ③ or ④ position, the multi-information display indicates "DISP (NIGHT)" or "GAUGE (NIGHT)". In this state, the brightness of displays or gauges when lit (nighttime) can be adjusted.
- The brightness of the following display and gauges can be adjusted as follows.
 - When "DISP (DAY)" or "DISP (NIGHT)" is displayed:
Multi-information display
 - When "GAUGE (DAY)" or "GAUGE (NIGHT)" is displayed:
Urea level indicator
 - When "GAUGE (NIGHT)" is displayed:
Illumination of the air conditioner and heater control panel and the scales of the speedometer, tachometer, and fuel gauge (when the light switch is in the ③ or ④ position)



1. Press the MODE switch ① to select the illumination intensity mode ④.
2. Press the SELECT switch ②. Each time you press the switch, the display toggles between "DISP (DAY)" ⑤ and "GAUGE (DAY)" ⑥. When the light switch is in the $\Rightarrow 0 \Leftarrow$ or $\equiv 0$ position, the display toggles between "DISP (NIGHT)" and "GAUGE (NIGHT)".
3. With the item to be adjusted displayed on the screen, press the SET/RES switch ③ to advance to the adjustment screen ⑦.
4. Adjust the brightness using the MODE switch or SELECT switch.
 - Press the MODE switch to reduce the brightness.
 - Press the SELECT switch to increase the brightness.
5. Return to the illumination intensity display by pressing the SET/RES switch.

Z22084

Warning/indicator telltale

The warning/indicator telltale function provides warning and indicator indications on the multi-information display in the following situations:

- When a problem occurs with a vehicle system
- When a system is activated
- When the distance/period remaining before the replacement time becomes short

1 Telltale indications

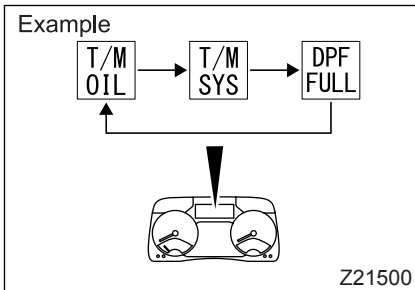
1.1 Indication colors

Warnings or indicators are displayed in any of the following colors according to their categories:

- Red
- Amber
- Black

1.2 If there are multiple warnings

If there are multiple warnings to display, all of these warnings are displayed one after another and repeatedly, each being displayed for 3 seconds.



2 Categories of warnings and indicators















WARNING

Red indications require you to immediately stop the vehicle at a safe place and take necessary actions. Continuing to drive without taking necessary actions could lead to a serious accident.














CAUTION

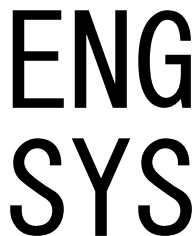
Amber indications alert you to a malfunction or degraded functionality of components. You should continue to drive carefully for the rest of the trip and then take necessary actions as soon as possible.

2.1 Red and amber indications

| Indication | Warning/indicator | Condition for lighting/flashing | Ref. page |
|---|--|--|-----------|
|  (red) | Engine system warning | Engine power is being automatically restricted. | 6-24 |
|  (amber) | Engine system warning | Engine must be inspected. | 6-24 |
|  (red) | Transmission oil temperature warning <Vehicles with DUONIC system> | Clutch control fluid temperature is too high. | 6-24 |
|  (red) | Transmission control warning <Vehicles with DUONIC system> | DUONIC system is faulty. | 6-24 |
|  (amber) | Transmission control warning <Vehicles with DUONIC system> | DUONIC system is faulty (but automatic or manual gear shifting is possible). | 6-24 |
|  (red) | Cab tilt warning <Vehicles other than Crew-cab models> | Cab tilt lock is not completely engaged. (A buzzer will sound at a vehicle speed of 5 km/h or higher.) | 12-7 |
|  (red) | SAM warning | Failure has occurred in electric control system of SAM. | 6-25 |
|  (amber) | SAM warning | Failure has occurred in electric control system of SAM (a failure that requires inspection of exterior lamps). | 6-25 |
|  (amber) | Overloaded DPF warning | DPF contains too much PM. | 5-58 |
|  (amber) | Meter cluster warning | Electrical system of meter cluster is faulty. | 6-26 |
|  (amber) | Engine oil level warning | The amount of fuel mixed with engine oil has exceeded the upper limit. (Some fuel is intentionally mixed with engine oil to burn PM in DPF.) | 6-26 |
|  | SRS air bag warning <Vehicles with SRS air bags> | The electrical system of SRS air bags is faulty. | 4-10 |
|  (amber) | Fuel filter warning | Water in fuel filter has increased. | 12-58 |
|  | Battery equalizer warning <Vehicles with battery equalizer> | The electrical balance between the main battery and battery for body equipment is abnormal. | 6-26 |

2.2 Black indications

| Indication | Warning/indicator | Condition for lighting/flashing | Ref. page |
|---|---|--|-----------|
|  | Dump indicator <Dump trucks> | The dump lever is in the raised position. | 8-6 |
|  | PTO indicator <Vehicles with transmission PTO> | Lights when transmission PTO is engaged. | 8-4 |
|  | PTO engagement preparation indicator <Vehicles with DUONIC system and PTO> | Lights when transmission PTO is preparing to engage. | 8-4 |
|  | Engine oil replacement alert indicator | Distance or period remaining before scheduled engine oil replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Engine oil filter replacement alert indicator | Distance or period remaining before scheduled engine oil filter replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Fuel filter replacement alert indicator | Distance or period remaining before scheduled fuel filter replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Brake fluid replacement alert indicator | Distance or period remaining before scheduled brake fluid replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Air cleaner replacement alert indicator | Distance or period remaining before scheduled air cleaner replacement time has become shorter than 1 month | 6-16 |
|  | Transmission oil replacement alert indicator | Vehicles with DUONIC system: Distance or period remaining before scheduled clutch control fluid and transmission oil replacement time has become shorter than 1,000 km or 1 month Manual transmission vehicles: The distance or time remaining before the scheduled transmission oil replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Wheel hub bearing grease replacement alert indicator | Distance or time remaining before scheduled wheel hub bearing grease replacement has become shorter than 1,000 km or 1 month | 6-16 |
|  | Differential gear oil replacement alert indicator | Distance or period remaining before scheduled differential gear oil replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Power steering oil replacement alert indicator | Distance or period remaining before scheduled power steering oil replacement time has become shorter than 1,000 km or 1 month | 6-16 |
|  | Engine coolant replacement alert indicator | Distance or period remaining before scheduled engine coolant replacement time has become shorter than 1,000 km or 1 month | 6-16 |



Z21711

2.3 Engine system warning

- **Red warning**

If an engine system warning is shown, have the vehicle inspected by the nearest authorized MITSUBISHI FUSO distributor or dealer.

- **Amber warning**

If an engine system warning is shown, have the vehicle inspected by the nearest authorized MITSUBISHI FUSO distributor or dealer.



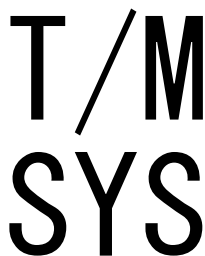
Z21712

2.4 Transmission oil temperature warning <Vehicles with DUONIC system>

This warning is displayed when the clutch control fluid temperature is too high.

If this indication appears while driving, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and move the gearshift lever to "P".
2. Run the engine at a speed slightly higher than the idling speed. If the indication goes out, you may continue driving. If the indication remains displayed, contact your nearest authorized MITSUBISHI FUSO distributor or dealer.



Z21713

2.5 Transmission control warning <Vehicles with DUONIC system>

- **Red warning**

The red transmission control warning is displayed when the DUONIC system is faulty.

If this indication appears while driving, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and move the gearshift lever to "P".
2. Turn the starter switch to "ACC" or "LOCK".
3. Turn the starter switch to "ON".
4. If the indication remains displayed, avoid continuing to drive and contact your nearest authorized MITSUBISHI FUSO distributor or dealer.

- **Amber warning**

The amber transmission control warning is displayed when the DUONIC system is faulty (but automatic or manual gear shifting is possible).

- If driving in the automatic shift mode is possible, you may continue to drive but must have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.
- If no automatic gearshift takes place when driving in the automatic gearshift mode, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and move the gearshift lever to "P".
2. Turn the starter switch to "ACC" or "LOCK".
3. Turn the starter switch to "ON".
4. If the warning remains displayed but driving in the manual gearshift mode is possible, take the vehicle to an authorized MITSUBISHI FUSO distributor or dealer for inspection as soon as possible.
5. If the warning remains displayed and gear shifting is impossible in the manual gearshift mode, contact your nearest authorized MITSUBISHI FUSO distributor or dealer.

2.6 SAM warning

NOTE:

SAM, which stands for Signal Detect and Actuation Module, is a module that integrates the control and power distribution functions for the electric equipment of the cab and truck body.

• Red warning

The red SAM warning is displayed when a failure occurs in the electric control system of the SAM.

If this warning appears while driving, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and place the gearshift lever in the neutral position (manual transmission vehicles) or in the "P" position (vehicles with a DUONIC system).
2. Turn the starter switch to "LOCK".
3. Turn the starter switch back to "ON". If the indication goes out, there are no problems. If the warning remains displayed, contact your nearest authorized MITSUBISHI FUSO distributor or dealer immediately.

• Amber warning

The amber SAM warning is displayed when a failure (of a type that requires inspection of exterior lamps) occurs in the electric control system of the SAM.

If this warning appears while driving, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and place the gearshift lever in the neutral position (manual transmission vehicles) or in the "P" position (vehicles with a DUONIC system).
2. Turn the starter switch to "LOCK".
3. Check the exterior lamps for abnormalities. Replace a blown lamp if any. ⇨ □ P. 13-20
4. Turn the starter switch back to "ON".



Z21714

5. Switch on the replaced lamp. If the warning goes out, there is no remaining problem with the SAM.
6. If the warning remains displayed, contact an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.

2.7 Meter cluster warning


This warning is displayed when the electrical system of the meter cluster is faulty.

If this warning appears while driving, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and place the gearshift lever in the neutral position (manual transmission vehicles) or in the "P" position (vehicles with a DUONIC system).
2. Turn the starter switch to "LOCK".
3. Turn the starter switch back to "ON". If the warning goes out, there are no problems.
4. If the warning remains displayed, do not continue to drive but contact your nearest authorized MITSUBISHI FUSO distributor or dealer immediately.

2.8 Engine oil level warning

This warning is displayed when the amount of fuel mixed with engine oil has exceeded the limit.

- If this warning is displayed, replace the engine oil as soon as possible.
- If even more fuel is mixed with engine oil, this warning and the  (amber) warning are alternately displayed. If this happens, replace the engine oil immediately.

2.9 Battery equalizer warning

<Vehicles with battery equalizer>

This warning is displayed when the electrical balance between the main battery and the battery for body equipment becomes abnormal.

If this warning appears while driving, stop the vehicle in a safe place and do the following:

1. Firmly apply the parking brake and place the gearshift lever in the neutral position (manual transmission vehicles) or in the "P" position (vehicles with a DUONIC system).
2. Turn the starter switch to "LOCK".
3. Turn the starter switch back to "ON". If the warning goes out, there are no problems.
4. If the warning remains displayed, contact an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.



METER

Z21715



ENG
OIL

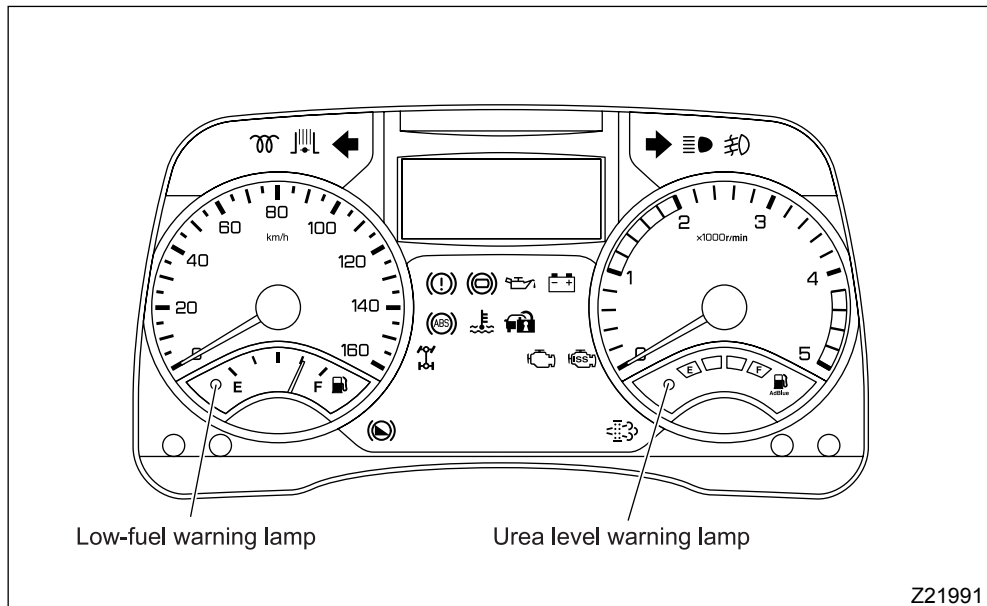
Z21719



BAT
EQ

Z21502

Warning/indicator lamps



The illustration shows the standard arrangement of the warning and indicator lamps. Some lamps shown here, however, may not be installed on your vehicle.














Illumination of certain warning lamps is accompanied by sounding of a buzzer.






CAUTION

The red warning lamps, if illuminated, warn you of vehicle component failures and possible danger of accident. Never drive the vehicle while a red warning lamp is illuminated. If any of them light up, stop the vehicle as soon as it is safe to do so and make checks for locating the cause. If necessary, have your vehicle repaired by an authorized MITSUBISHI FUSO distributor or dealer.

NOTE:

The red warning lamps may also come on if the engine is started when the battery's performance has decreased. In this event, either charge the battery or replace the battery with a new one.










| Lamp symbol | Warning/indicator lamp | If illuminates or flashes | Ref. page |
|--|---|--|------------|
| • | Fuel level warning lamp | Level of fuel in fuel tank excessively low | 1-7 6-4 |
|  | Turn signal indicator lamp | Turn signal or hazard warning lamps flashing | 5-42 |
|  | Headlamp high beam indicator lamp | Headlamp high beams illuminated | 5-42 |
|  | Exhaust brake indicator lamp | Exhaust brake activated | 5-43 |
|  | Fog lamp indicator lamp | Fog lamps illuminated | 5-46 |
|  | Engine preheat indicator lamp | Engine being preheated | 5-6 |
|  | Vacuum pressure warning lamp <Other than FEA0> | Excessively low vacuum in vacuum tank | 6-31 |
|  | Brake warning lamp | Brake fluid at an excessively low level or parking brake activated | 6-32 |
|  | Charge warning lamp | Problem in battery charging system | 6-32 |
|  | Engine oil pressure warning lamp | Excessively low engine oil pressure | 6-33 |
|  | Engine control warning lamp | <ul style="list-style-type: none"> • Fault in engine control system • Exhaust gas is abnormal or BlueTec[®] exhaust gas aftertreatment is faulty. <Vehicles with BlueTec [®] system> | 6-33 |
|  | 4WD indicator lamp <FG> | Four-wheel drive (4WD) mode selected | 8-13 |
|  | ABS warning lamp | Fault in antilock braking system (ABS) | 6-34 |
|  | Engine overheating warning lamp | Engine overheating (*) | 6-34 |

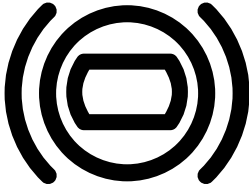
| Lamp symbol | Warning/indicator lamp | If illuminates or flashes | | Ref. page | |
|---|---|--|--|---|------|
|  | DPF indicator lamp | Slow flashing (0.5-second interval; amber) | DPF contains a lot of PM | 5-52 5-64 | |
| | | Fast flashing (0.25-second interval; amber) | | | |
| | | Illumination (amber) | Parked DPF regeneration in progress | | |
| | | Illumination (green) | Automatic DPF regeneration in progress | | |
|  | Urea level warning lamp <Vehicles with BlueTec® system> | Quantity of AdBlue® in urea tank has fallen too low | | 5-73 | |
|  | Engine immobilizer warning lamp | <ul style="list-style-type: none"> • Disturbed communication with engine immobilizer starter key • Fault in engine immobilizer | | 6-35 | |
|  | ISS indicator lamp <Vehicles with idling stop and start (ISS) system> | ISS is operating | Fast flashing (0.5-second interval) | Preparation for automatic engine stop in progress | 5-13 |
| | | | Slow flashing (2-second interval) | Automatic engine stop in progress | |
| | | | Illuminated • Buzzer sounds | Automatic engine start is cancelled. (Door is opened during automatic engine stop.) | |
| | | | Illuminated | System failure | |
|  | (Green) Hill start assist system indicator lamp <Vehicles with hill start assist system> | Hill start assist system is operating | | 8-20 | |
| | (Amber) Hill start assist system warning lamp <Vehicles with hill start assist system> | Hill start assist system is faulty | | | |

NOTE:

Illumination of any warning lamp marked () is accompanied by sounding of a buzzer.*

The warning lamps shown below come on when the starter switch is turned from the "ACC" position to the "ON" position but almost immediately go off.

| Lamp symbol | Warning lamp | Operation |
|--|---|---|
|  | Brake warning lamp | Goes off when the parking brake is released. However, when the engine is not in operation, this lamp does not go off even if the parking brake is released. |
|  | Vacuum pressure warning lamp <Other than FEA0> | Goes off when engine is started. |
|  | Charge warning lamp | Goes off when engine is started. |
|  | Engine oil pressure warning lamp | Goes off when engine is started. |
|  | Engine control warning lamp | Goes off when engine is started. |
|  | ABS warning lamp | Goes off a few seconds after starter switch is turned to the "ON" position. |
|  | Engine immobilizer warning lamp | Goes off a few seconds after the starter switch is turned to the "ON" position. |
| • | Urea level warning lamp <Vehicles with BlueTec® system> | Goes off a few seconds after the starter switch is turned to the "ON" position. |
|  | Urea level indicator lamp <Vehicles with BlueTec® system> | Goes off a few seconds after the starter switch is turned to the "ON" position. |
|  | (Amber) Hill start assist system warning lamp <Vehicles with hill start assist system> | Goes off a few seconds after the starter switch is turned to the "ON" position. |



Z22250

1 Vacuum pressure warning lamp

<Other than FEA0>

WARNING

Braking is dangerously sluggish when the vacuum warning lamp is illuminated. For safety, never drive with the vehicle in this condition.

This lamp illuminates when the starter switch is turned to the "ON" position. As long as the lamp goes out when the engine is started, the vehicle may be driven. If illuminated while the engine is running, this lamp signals that the vacuum level in the brake vacuum tank has dropped below the safe limit.

This lamp, when illuminated, signals that the vacuum level in the brake vacuum tank has dropped below the safe limit.

Since braking becomes sluggish under this condition, depress the brake pedal with full force to slow down the vehicle, then pull off the road as soon as it is safe to do so, and perform the following checks:

1. Let the engine run at intermediate RPM until the warning lamp goes out.
2. Check piping and its connections for vacuum leaks.
3. If the lamp does not go out or comes on again soon after it has gone out, the vacuum system is defective and must be repaired. Call an authorized MITSUBISHI FUSO distributor or dealer.



Z10836


2 Brake warning lamp

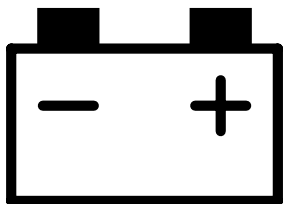
WARNING

If the brake warning lamp comes on owing to an excessively low level of brake fluid, the brakes will not be fully effective and driving will thus be dangerous. Do not drive the vehicle in this condition.

This lamp lights up when the parking brake lever is pulled or when the brake fluid level drops below the safe limit. Should the lamp remain illuminated even after the parking brake lever has been released or light up during driving, pull off the road as soon as it is safe to do so, and perform the checks below.

With the starter switch in the "ON" position and the engine not running, the warning lamp will stay on even if the parking brake lever is released. The lamp will go out if the engine is started.

1. Check the brake fluid level.
Replenish the reservoir if the level is too low.
⇒  P. 12-38
2. Pump the brake pedal several times to make sure that the fluid level does not drop.
3. If the fluid level drops, it indicates fluid leakage. Call an authorized MITSUBISHI FUSO distributor or dealer.




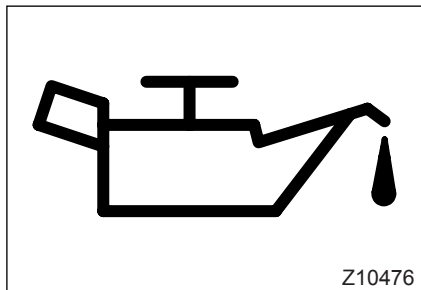
Z10484

3 Charge warning lamp

The charge warning lamp lights up when the starter switch is turned to the "ON" position and goes out as soon as the alternator starts charging the battery after the engine has turned over.

The lamp also lights up if a problem occurs in the battery charging system while the engine is running. If this occurs, pull off the road as soon as it is safe to do so, and perform the following checks.

1. Check the V-belt for breakage and excessive deflection.
⇒  P. 12-70
2. If both the above checks have turned out normal, the problem is probably in the battery charging system. Call an authorized MITSUBISHI FUSO distributor or dealer.



4 Engine oil pressure warning lamp

The engine oil pressure/level warning lamp lights up when the starter switch is turned to the "ON" position and goes out as soon as the engine is turned over. If the lamp lights up while the engine is running, the cause may be an excessively low engine oil pressure. Pull off the road as soon as it is safe to do so, and perform the following checks.

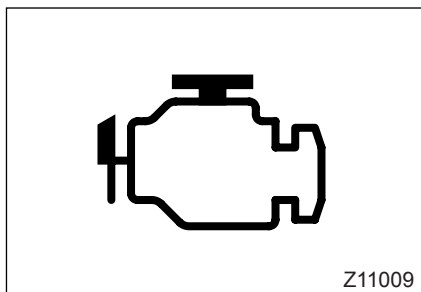
1. Check the engine oil level. Add if insufficient. ⇒ P. 12-26
2. Check various parts of the engine for any sign of oil leaks.
3. If the oil level is normal and there are no oil leaks, the problem is in the lubrication system. Call an authorized MITSUBISHI FUSO distributor or dealer.

CAUTION

Never continue driving with the lamp illuminated. The engine could seize up.

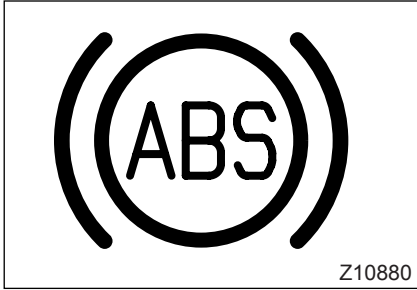
5 Engine control warning lamp

This lamp comes on when the starter key is turned to "ON". It should go out when the engine starts.



If this lamp comes on at any other time, there is a fault in the exhaust gas aftertreatment. Have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.

On vehicles with the BlueTec[®] system, this lamp flashes when the urea tank becomes empty. If this happens, replenish the AdBlue[®]. ⇒ P. 1-9



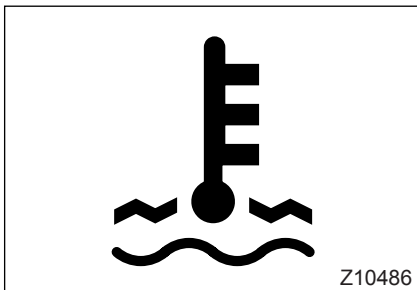
6 ABS warning lamp

This lamp comes on when the starter key is turned to "ON". It should go out a few seconds later. If the lamp comes on again, this indicates there is a malfunction in the antilock braking system (ABS). Should this lamp illuminate during driving, stop the vehicle in a safe place and perform the following inspection.


1. Turn the starter key to the "OFF" position and then to the "ON" position again.
2. Determine the system condition as follows:
 - The system is normal if the warning lamp goes out a few seconds later.
 - The system is faulty if the warning lamp stays on for longer than a few seconds or it goes off but comes on again.
 - The system is normal if the warning lamp goes off in a few seconds after the starter key is turned to "ON". The system is also normal if the warning lamp does not go off a few seconds but then goes off as soon as the vehicle is started.
3. If the system is found to be faulty, have the system repaired by an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.

NOTE:


Even with the ABS faulty and the warning lamp remaining lit, the normal brake system is still functioning satisfactorily. Only the ABS function is lost. Drive with great care on slippery surfaces with the vehicle in this condition.



7 Engine overheating warning lamp

When the engine overheats, this lamp illuminates, the  indication (red) is displayed on the multi-information display and a buzzer sounds. If engine overheating occurs, the coolant temperature indicator will indicate the overheat zone. The buzzer will stop sounding if you apply the brakes by pulling the parking lever.

Promptly stop the vehicle, then run the engine at a speed slightly higher than the idling speed until the coolant has cooled down. Also, take other steps that are necessary following overheating of the engine.

⇒  P. 13-10

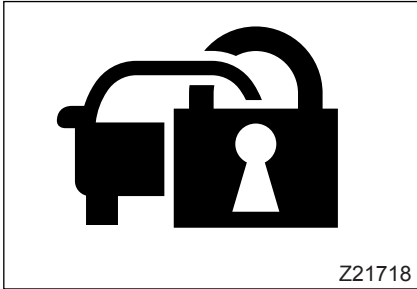


WARNING

Driving with an overheated engine can damage the engine or even cause a fire.

CAUTION



Be sure to stop the engine only after letting it run at a speed slightly above the idling RPM until the coolant cools down. Turning off the engine immediately after stopping will cause the coolant temperature to rise quickly and may cause the engine to seize up.





8 Engine immobilizer warning lamp

This lamp should normally come on when the starter switch is turned to “ON” and go out a few seconds later. If the lamp fails to go out, communication with the engine immobilizer starter key may be obstructed or the engine immobilizer itself may be faulty. In this case, perform the following inspection.

8.1 When the engine cannot be started

- Check whether a metal piece or another key is in contact with the engine immobilizer starter key. If you find any metal piece or another key touching the starter key, separate them, turn the starter switch back to “ACC” or “LOCK”, and then try starting the engine.
- The engine immobilizer is normal if the engine can be started and the  warning lamp goes out.
- If the engine cannot be started and the  warning lamp remains lit, try starting the engine using another registered starter key. If you still cannot start the engine, the engine immobilizer is probably faulty; contact an authorized MITSUBISHI FUSO distributor or dealer.

8.2 When the engine can be started

- Turn the starter switch back to “ACC” or “LOCK” and then restart the engine.
- If the  warning lamp goes out, the engine immobilizer is normal.
- If the engine cannot be started and the  warning lamp remains lit, the engine immobilizer is probably faulty. Contact an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.

7. Starting and driving

| | |
|--|------|
| Precautions when setting the vehicle in motion | 7-2 |
| Precautions for driving | 7-3 |
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Precautions when setting the vehicle in motion

- Check the immediate area around the vehicle, using mirrors as necessary: there should be no persons or obstacles under, in front of, on either side, or behind the vehicle.
If you wish to reverse but cannot confirm safety behind the vehicle using the mirrors, get out of the vehicle and perform the check.
- Check that none of the red warning lamps are lit and no warnings are indicated on the multi-information display.
- Fully release the parking brake.
- Always set the vehicle in motion slowly. Sudden starts and partially depressing the clutch pedal can damage the clutch.


WARNING

Do not perform the following operations in a vehicle with a DUONIC system. The vehicle could abruptly start moving, resulting in a serious accident.

- When setting the vehicle in motion, do not operate the gearshift lever with the accelerator pedal pressed.
- Do not rev the engine while the vehicle is stationary. If, by some chance, the gearshift lever is in a position other than “P” or “N”, the vehicle may abruptly start moving.

CAUTION

- When the gearshift lever of a vehicle with a DUONIC system is placed in the “R” or “D” position, a phenomenon known as creep causes the vehicle to start moving unless the brakes are applied. When operating the gearshift lever, keep the brake pedal firmly pressed. Release the parking brake after (not before) operating the gearshift lever. Otherwise, the vehicle will unexpectedly start moving, resulting in an accident.

- In a vehicle with a DUONIC system, keep the brake pedal firmly pressed even while the gear position indicator is flashing. If the vehicle were on a slope and you released the brake pedal with the gear position indicator flashing, the absence of creep force would allow the vehicle to roll downhill, resulting in an accident.
- In a vehicle with a DUONIC system, the gear-shift lever cannot be moved from the “P” to “N” positions, from the “N” to “P” positions, or from the N” to “R” positions if the brake pedal is not pressed.
- Familiarize yourself with the methods for controlling a vehicle with a DUONIC system before starting to drive it. ⇒  P. 5-21

Precautions for driving

Observe the following precautions while driving. Should you notice anything unusual about the vehicle, immediately stop the vehicle and inspect the relevant sections to find the cause of the trouble. If you are unable to identify the cause of the trouble or unable to do the repairs yourself, call your nearest authorized MITSUBISHI FUSO distributor or dealer.

- Do not stop the engine while the vehicle is moving.


 **WARNING**

- **Never place the starter switch in any position other than the “ON” position while operating the vehicle.**

If you turn the starter switch to the “ACC” position, the engine will stop. This is dangerous.

If the engine stops during driving:

- **The braking force reduces extremely.**
- **The power steering system becomes inoperative, rendering steering dangerously sluggish.**
- **The fuel injection system could suffer a failure.**
- **The electrical circuits of the warning lamps, meters, etc. become inoperative, causing electric components to malfunction.**
- **Never use a slope to move the vehicle with the engine stopped. This practice is very dangerous and could lead to an accident because when the engine is stopped, the steering wheel becomes difficult to operate and the brakes become much less effective.**
- **Removing the starter key causes the steering wheel to lock, making it impossible to steer the vehicle.**

- Should the engine stall while the vehicle is in motion, do not panic. Simply depress the brake pedal to slow the vehicle, and pull off the road as soon as it is safe to do so.
- If a red warning lamp comes on or a warning is indicated on the multi-information display, the buzzer sounds, or the vehicle behaves abnormally, stop the vehicle in the nearest safe place and investigate the cause. ⇒  P. 6-27
If you cannot identify the cause or cannot rectify the problem, contact an authorized MITSUBISHI FUSO distributor or dealer.
- Avoid making sharp turns and braking hard except in emergencies. Doing so during high-speed driving could cause the vehicle to tip over.
- On vehicles with DUONIC system, be sure to press the brake pedal with the right foot. Operating the brake pedal with the unaccustomed left foot may delay your reaction in emergencies and cause unforeseen accidents.

-
- If you notice a strange noise, vibration, or smell, or if steering or braking feels unusual, pull the vehicle off the road as soon as it is safe to do so and check for the source of the trouble. If you cannot determine the cause of the problem and/or cannot rectify it, contact the nearest authorized MITSUBISHI FUSO distributor or dealer.
 - When driving on narrow streets or when making a turn, keep in mind that the tracking of the front and rear inner wheels is different, and also make sure of rearward safety using the rearview mirrors.
 - Remember that the mirrors protrude from the vehicle body. Be careful not to hit pedestrians and obstructions with the mirrors when driving on narrow roads.

Looking at the mirrors while driving causes your line of vision to move significantly. Be sure to keep paying attention to safety ahead of the vehicle.

- Do not keep the steering wheel turned fully to either side for more than 10 seconds. Doing so could cause the power steering system to malfunction.
- Do not try to forcefully turn the steering wheel when the front wheels are stuck against a curbstone or other object. Doing so could cause the steering gearbox to fail.
- Continuous high-speed driving burdens the engine and other vehicle parts. Allow yourself enough time that you do not need to push the vehicle too hard.
- Perform your pre-operation checks with particular care when you expect to drive at high speeds.

When continuously driving at high speeds, your sense of speed may become dull. Pay constant attention to your speed, and maintain an adequate distance from the preceding vehicle.


- If a tire bursts or gets punctured while you are driving, do not panic. Keep a firm grip on the steering wheel and gradually reduce your speed. Stop the vehicle in the nearest safe place. Do not brake sharply. Braking sharply would be dangerous because the steering wheel would be pulled to one side with great force.
- Do not drive your vehicle if a tire has been punctured. Failure to observe this precaution will expose the wheel bolts to excessive force, and this in turn could lead to bolt or wheel damage.

- When driving at high speeds in the rain, it sometimes happens that the tires ride on a film of water and lose contact with the road surface. This is known as “hydroplaning”. If this should happen, you will lose control of both steering and braking. Therefore, be sure to maintain moderate speeds on rainy days. Hydroplaning can easily occur if tire tread is worn to the point where the tread pattern is very shallow.
- Do not use a mobile telephone while driving. If you wish to use a mobile telephone, first stop the vehicle in a safe place. Using a mobile telephone while driving could distract your attention from the vehicle and from the road ahead, resulting in an accident.
- Operate the radio and other items of equipment in the cab when the vehicle is stationary. It is dangerous to operate such items of equipment or use a carphone (other than a hands-free type) while driving.
- Do not allow a child to touch the driver’s controls and other equipment. A child’s interference could cause a fault or accident.

1 When driving a manual transmission vehicle

- Do not operate the vehicle with the clutch disengaged or the gearshift lever in neutral. Doing so will render the engine braking and exhaust brake features ineffective, forcing you to rely only on the service brakes and overusing them in the process.
- Do not slip the clutch. Clutch-slipping occurs when you partially depress the clutch pedal while the vehicle is in motion. This will shorten the service life of the clutch.

2 When driving a vehicle with DUONIC system


- For normal driving, select the “D” position.  P. 5-21
- Do not move the gearshift lever to the “N” or “P” position while the vehicle is in motion. If the gearshift lever were moved to the “N” or “P” position with the vehicle in motion, abnormal sounds and vibration would occur. Also, transmission components could be broken, resulting in a serious accident. Always stop the vehicle before placing the gearshift lever in the “N” or “P” position.

- If the system judges that a manual upshift or downshift would put the engine speed out of the normal rpm range, the gearshift does not take place.
Adjust the vehicle speed with the accelerator or brakes before making an upshift or downshift with the gearshift lever.
- If you stop the vehicle momentarily, for example, at a red light, be sure to keep the brake pedal depressed. Without the brakes applied, the vehicle will move, although only very slowly, even if the accelerator pedal is not depressed. If you must wait for longer than expected, select the “N” or “P” position and pull the parking brake lever.
- If you stop temporarily when driving uphill, depress the brake pedal and pull the parking brake lever. Do not attempt to stop the vehicle from rolling backwards with the accelerator pedal.

Tips for improving fuel economy

Observe the following precautions to achieve maximum fuel economy and to extend tire life.

- A time of 1 to 2 minutes will be sufficient for warming up the engine.
- Avoid racing the engine as doing so not only wastes fuel but also harms the engine.
- Avoid sudden starts, sudden acceleration, and sudden braking.
- When accelerating, do not wind the engine out before changing gears; instead, change gears before engine speed reaches a high RPM.
Fuel consumption can be minimized by keeping the tachometer needle in the 1,000 to 2,000 rpm range.
- On vehicles with DUONIC system, fuel consumption can be further minimized by setting the economy mode switch to ON.
- Always shut off the engine when the vehicle is in a stop. Never park the vehicle or leave it with the engine running, even for a short time.
- Try to drive at moderate and constant speeds. Unnecessary acceleration and deceleration causes fuel waste.

- Do not keep the exhaust brake switch in the activation position at all times. Keeping the switch in the activation position worsens fuel consumption, as doing so causes the exhaust brake to work frequently and thus the vehicle to decelerate and accelerate frequently. Save fuel by using the exhaust brake switch appropriately according to road and traffic conditions.
- Always keep the air pressure in tires correctly adjusted.
- Use tires of the specified size only. Use of the wrong size tires can interfere with correct DUONIC (transmission) shift timing and result in poor fuel economy (Vehicles with DUONIC system).
- Try to load cargo in a way that minimizes wind resistance. ⇒  P. 7-19
- Be sure to perform the pre-operational checks and periodic inspections.

Braking



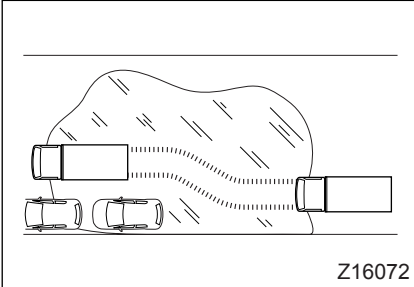
WARNING

- When warning lamps (⊙) and/or (ⓘ) light up, immediately stop the vehicle and perform necessary checks. → P. 6-27
- Avoid sudden braking except in emergency. Sudden application of the brakes generates a large shock, which could cause an accident. Sudden braking will wear down tires and could cause malfunctions in other sections of the vehicle.
- Avoid overusing the service brakes as the resultant overheating could cause undesirable fading, which contribute to poor braking.
- Do not use the exhaust brake on a wet, frozen, snow-covered, or otherwise slippery road surface when the vehicle is lightly loaded or not loaded. Using the exhaust brake under such conditions could cause the tires to slip on the road surface, resulting in a skid. The tires are particularly liable to slip when the vehicle is traveling downhill.
- Reduce speed sufficiently before negotiating a curve. When negotiating a curve with the exhaust brake applied, if the tires slip due to the slippery road surface or a step in the road, the ABS may function, causing the exhaust brake to be temporarily released, which may result in a serious accident.
- Except in an emergency, never apply the parking brake while the vehicle is moving since the vehicle could spin and/or overturn.
- If the brake is faulty or if brake oil is leaking, do not continue to drive the vehicle. Since braking is sluggish, continuing to drive could lead to a serious accident.

1. Use engine braking and exhaust brake to decelerate sufficiently before applying the brakes.
2. Depressing the brake pedal in two or three stages contributes to stable braking.
3. Remember that the braking distance varies with vehicle speed, load weight, and road conditions.

NOTE:

Engine braking is a braking effect realized when the accelerator pedal is released during vehicle operation. The lower the transmission gear, the more powerful the engine braking.

Antilock braking system (ABS)

If a vehicle is driven on a slippery road or it is running with no or only light load, the wheels can lock and then skid when the brake pedal is strongly depressed. The ABS is a computer-controlled system that deters the wheels from locking by controlling the braking force on each wheel.

The ABS is combined with EBD, which appropriately distributes the braking force according to the weight on each axle and can delay operation of the ABS to the point beyond which all wheels will lock.

! WARNING

- **The ABS is not intended to make it possible to drive in a manner exceeding the vehicle's performance limits. It is your responsibility to take sufficient care to assure safety when driving on a slippery road.**
- **The ABS does not always shorten the braking distance. Do not depend too much on the system, but keep safe following distances.**

! CAUTION

If you intend to install radio equipment, please contact an authorized MITSUBISHI FUSO distributor or dealer beforehand.

1 Driving tips

NOTE:

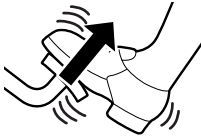
- *If the ABS is malfunctioning and the ABS warning lamp stays on, no ABS functions are available. Even if this condition happens, the brakes work normally. If the warning lamp stays on, have the vehicle repaired by an authorized MITSUBISHI FUSO distributor or dealer as soon as possible.*
- *EBD stands for “Electronic Brake force Distribution”.*
- *To be able to take prompt actions in any situation involving ABS operation, you should know its operational characteristics, which are as follows:*
 - *On an ordinary road surface, the ABS may work even when you do not apply heavy braking.*

The ABS may work only on the rear wheels at the time of relatively strong braking on a dry road surface if the vehicle is not laden or carrying a light load. This does not indicate an abnormal condition. If the brake pedal is further depressed after ABS works on the rear wheels, the braking force on the front wheels increases, thus shortening the stopping distance.
 - *The ABS works even while the wheels are not locking.*

The system performs the necessary control by sensing the vehicle speed and the degree of acceleration, in order to prevent complete lockup of the wheels.
 - *While the ABS is in operation, it is not necessary to pump the brake pedal (depressing the pedal two or three times), as the system automatically adjusts the braking forces. If you pump the brake pedal, the braking distance will increase as the pedal must be released during pumping.*



DO: Continue depressing the brake pedal even if it is vibrating.



DON'T: Release the brake pedal.

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1.1 Brake pedal operation

Hold the brake pedal depressed as necessary even when the ABS is in operation.

When the ABS is working, you may feel very slight or slow vibration through the brake pedal, but this does not indicate an abnormal condition. Continue depressing the brake pedal.

You may also feel slight vibration of the vehicle body or hear the sound of a motor running. These conditions are caused by normal operation of the system, and are not a fault.

1.2 Braking distance

The braking distance varies with the road surface condition. On a gravel road or a road covered with deep, fresh snow, the braking distance may be longer with ABS-equipped vehicles than with vehicles without ABS.

1.3 Steering wheel operation

In the case of hard braking, you may feel the vehicle pulling slightly to the right or left. If this occurs when the wheels on one side are on ice or another slippery surface and the wheels on the other side are not, you may have to correct the direction with the steering wheel.

1.4 Illumination of ABS warning lamp

If the ABS warning lamp comes on while driving, the system is faulty. Although the ABS function is not available under this condition, the brake system operates normally.

⇒ P. 6-34

On uphill and downhill roads

1 Uphill roads

On manual transmission vehicles or vehicles with DUONIC system in manual shift mode, downshift early if the vehicle speed begins to drop to minimize the load on the engine.

2 Downhill roads

- If you are going to drive down a steep road or a road with a long downhill grade, test the service brakes and exhaust brake in advance to make sure that they are functioning well.
- Place the vehicle in the gear used when driving uphill and use engine braking and exhaust brake to help slow the vehicle. Never drive downhill at high speeds.



WARNING

- **Never coast with the clutch disengaged or the gearshift lever in the neutral position (manual transmission vehicles) or the gearshift lever in the “N” position (vehicles with a DUONIC system). There would be no engine braking and no exhaust braking, so there would be an excessive burden on the service brakes.**
- **Avoid overusing the service brakes as the resultant overheating could cause undesirable vapor lock and fading, both of which contribute to poor braking.**

NOTE:

- *“Vapor lock” refers to the condition in which the brake system overheats, causing the brake fluid to boil and form bubbles that weaken hydraulic pressure, resulting in poor braking.*
- *“Fading” refers to the condition in which the brake pads or brake linings overheat to the point where friction is significantly reduced. This also results in poor braking.*

 **WARNING**

Except in an emergency, never apply the parking brake while the vehicle is moving since the vehicle could spin and/or overturn.

- First decelerate the engine sufficiently before downshifting.
In a vehicle with DUONIC system, shifting down will be prohibited by a safety device if the vehicle is driving fast. In such cases, depress the brake pedal and reduce the vehicle speed.

 **CAUTION**

Do not let the engine overrev on downhill roads as this could generate excessive stress in various parts of the engine and damage it. Control the vehicle speed so that the needle of the tachometer does not enter the red zone.

NOTE:

“Overrev” refers to an operating state of the engine in which it rotates at an RPM higher than the recommended maximum RPM. Overrevving the engine could lead to an engine failure.

On rough roads and in bad weather **WARNING**

On vehicles with DUONIC system, use the manual shift mode when driving on slippery surfaces (such as a wet or frozen road). Using the automatic shift mode on slippery roads could cause an accident for the following reasons:

Skidding is more likely to be caused by automatic shift-downs that take place normally when driving in the automatic shift mode.

Skidding also may occur easily due to automatic shift-downs following full or quick operation of the accelerator pedal.

Even while driving using the manual shift mode, the vehicle is likely to skid if you suddenly depress the accelerator pedal or quickly shift down the gear.

- Use a low gear and try to drive at a constant speed when driving on gravel roads or muddy roads.
- Do not race the engine when attempting to move out of mud. Racing the engine is useless and even worsens the condition as the spinning wheels will make ruts deeper. Instead, place thick cloth, gravel or the like under tires, and select the 1st or reverse gear alternately or, in a vehicle with DUONIC system, shift the gearshift lever into the “D” and “R” positions alternately to move the vehicle back and forth until you can drive out.

 **CAUTION**

Do not operate a vehicle with DUONIC system in this way for more than 5 minutes since it causes the transmission oil to heat up rapidly.

- Drive very slowly on bumpy roads and take care not to allow the undercarriage to bottom out. If the muffler strikes a rock or other obstacle, its catalyst or other internal elements may be damaged. Have it checked by an authorized MITSUBISHI FUSO distributor or dealer.
- Avoid sudden steering and sudden braking on roads which are slippery from rain. Conditions are especially dangerous just after it begins to rain. Use engine braking and the exhaust brake together with the wheel brakes to decelerate. Note, however, that sudden engine braking can cause a skid. Drive at a speed at which you can stay comfortably in control of the vehicle.
- When the vehicle is driven through puddles or washed with water, braking performance can be reduced by water entering the brake drums or working areas of the brake discs (depending whether the vehicle has drum brakes or disc brakes). In this event, drive slowly with light pressure on the brake pedal to dry out the brakes. Pay attention to nearby vehicles while doing so.

- Do not drive on flooded roads. If you unavoidably drive on a flooded road and water gets into the vehicle, immediately have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer. Water in the vehicle can cause a number of problems:
 - If water gets into the engine, it can cause engine damage.
 - If water gets into the high-current fuse box, it can cause a short circuit, resulting in a fire.
 - If water gets into the wheel bearings, king-pins, or tie-rod ends, it can cause rust, resulting in problems such as bearing seizure.
 - If water gets into the muffler, the catalyst and ceramic filter could be damaged.
- In fog, turn on the fog lamps <vehicles with fog lamps> and drive carefully at low speeds, paying attention to the center line and the vehicle ahead of you.
- When driving in snow or on frozen roads, use tire chains, snow tires or winter-use tires and drive at a moderate speed. Avoid sudden braking and sharp turns.

Parking

WARNING

- Park the vehicle on the flattest available surface.
Avoid parking on slopes.
If it is unavoidable to park the vehicle on a slope, do the following: Firmly apply the parking brake while fully depressing the brake pedal. On vehicles with DUONIC system, place the gearshift lever in the “P” position, and chock the wheels. You can further improve safety by leaving the steering wheel turned so the vehicle will roll toward an obstacle (for example, a curbstone) in the unlikely event of movement.
- On vehicles with DUONIC system, do not park the vehicle only with the gearshift lever placed in the “P” position; always firmly engage the parking brake. If you park the vehicle on a steep slope only by placing the gearshift lever in the “P” position without also engaging the parking brake, the gearshift lever will become extremely difficult to move or, in the worst case, it may be impossible to release the transmission from the locked state. If this happens, shift the gearshift lever into the “N” position and then, after making sure the gear position indicator shows “N”, move the lever to the “D” position.
- The engine and exhaust pipe are extremely hot immediately after the vehicle has been driven. Do not park the vehicle in any place where there is dry grass, waste paper, or other flammable material.
- Always stop the engine before sleeping in the cabin. You could otherwise cause an accident by unintentionally moving the accelerator pedal or shift lever while sleeping. Also, you could suffer carbon-monoxide poisoning from exhaust gases if the vehicle is parked in a closed space.

 **WARNING**

- **Never leave lighters, cans of carbonated drink, and spectacles in the cabin when parking the vehicle in hot sunshine. The cabin will become extremely hot, so lighters and other flammable items may catch fire and unopened drink cans (including beer cans) may rupture. The heat may also affect plastic spectacle lenses and other spectacle parts that are made of plastic. For example, the coating on the lenses may crack and the lenses themselves may become deformed.**
- **The body as well as inside equipment and controls of a vehicle parked in sunshine for a long time could become hot enough to burn you. Do not touch hot parts directly with bare hands; use a cloth or appropriate material in between.**
- **Illumination of the (ⓘ) warning lamp does not necessarily mean that the parking brake is sufficiently activated. Always pull the parking brake lever up all the way.**
- **Always use the mirrors to confirm safety before opening a door. Suddenly opening a door is dangerous because the door may obstruct cars, motorcycles, bicycles, and pedestrians coming from behind.**

1. Stop the vehicle on the flattest available surface.
2. Pull the parking brake lever all the way while fully depressing the brake pedal.
3. On a manual transmission vehicle, place the gearshift lever in the neutral position. On a vehicle with a DUONIC system, place the gearshift lever in the "P" position.
4. After allowing the engine to idle for three minutes, stop it.
5. To help prevent theft and needless consumption of electricity from the battery, be sure to remove the starter key and lock the doors.

NOTE:



On vehicles with DUONIC system, a buzzer sounds continuously if the driver's door or assistant driver's door is opened while the engine is running and the gearshift lever is in the "D" position.

The buzzer stops if the gearshift lever is moved to the "P" or "N" position, the engine is stopped, or the door is closed.

If the gearshift lever is moved to the “R” position while the engine is running, the buzzer sounds intermittently.

Always stop the engine with the gearshift lever in the “P” position.

CAUTION

- **Before stopping the engine, allow it to idle so the coolant temperature comes down. Engine parts are particularly hot immediately after the vehicle has been driven uphill or on an expressway. Let the engine idle for at least three minutes.**   **P. 5-11**
 - **Leaving the vehicle to stand a long time with the starter switch in the “ON” or “ACC” position could result in a dead battery.**
 - **Be sure to turn off all lights after parking to prevent drainage of the battery.**
6. If parking on a slope is unavoidable, block the wheels securely with chocks and take any other necessary measures to prevent the vehicle from moving.

Loading cargo

1 Avoid overloading the vehicle.

Overloading the vehicle causes braking performance to deteriorate and can thus cause an accident. Also, overloading the vehicle places excessive stress on vehicle parts, shortening their service lives.

Some local regulations specify the maximum gross vehicle weight (GVW). You should strictly observe these regulations.

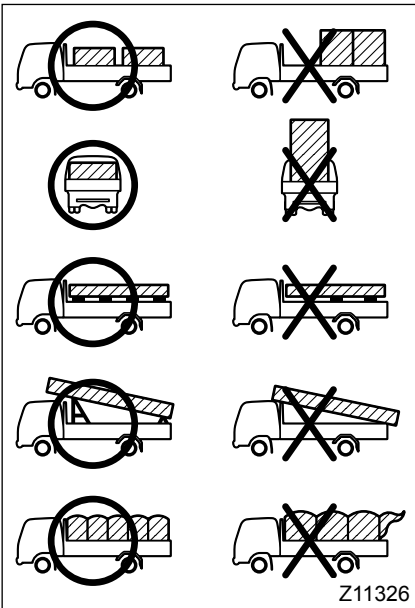
2 How to load cargo

Improperly loaded cargo not only is unstable but also may result in uneven weight distribution which could damage the cargo deck and frame.

WARNING

- When roping up cargo or covering it with a tarpaulin, make sure that neither the rope nor the end of the tarpaulin hang down between the cab and the cargo deck as a loosely hanging rope or tarpaulin could catch fire from the engine heat.
- When spreading the tarpaulin, take care not to let it cover or be drawn into the engine air intake duct.
- When loading heavy cargo, take adequate measures to stop it from slipping. Also use wire to secure it.
- Do not place wooden boards or other items between the cargo bed and frame. The heat from the exhaust pipe could set fire to them.

- Place the cargo evenly on deck.
- If cargo is piled high, the vehicle is at risk of rolling over upon being hit with a side wind or making a turn.
- If you place supports under the cargo, position them at equal intervals.
- Use suitable supports when loading long objects. Avoid supporting long objects only with the gate and the rear edge of the cargo deck.
- To prevent cargo from falling, strap it down securely and cover it with a tarpaulin. Secure the tarpaulin ends neatly so they do not flap.




8. Handling special equipment

| | |
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| Power take-off switch | 8-2 |
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| 4WD system – FG models | 8-12 |
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| Hill start assist system | 8-20 |

Power take-off switch

<Vehicles with transmission PTO>

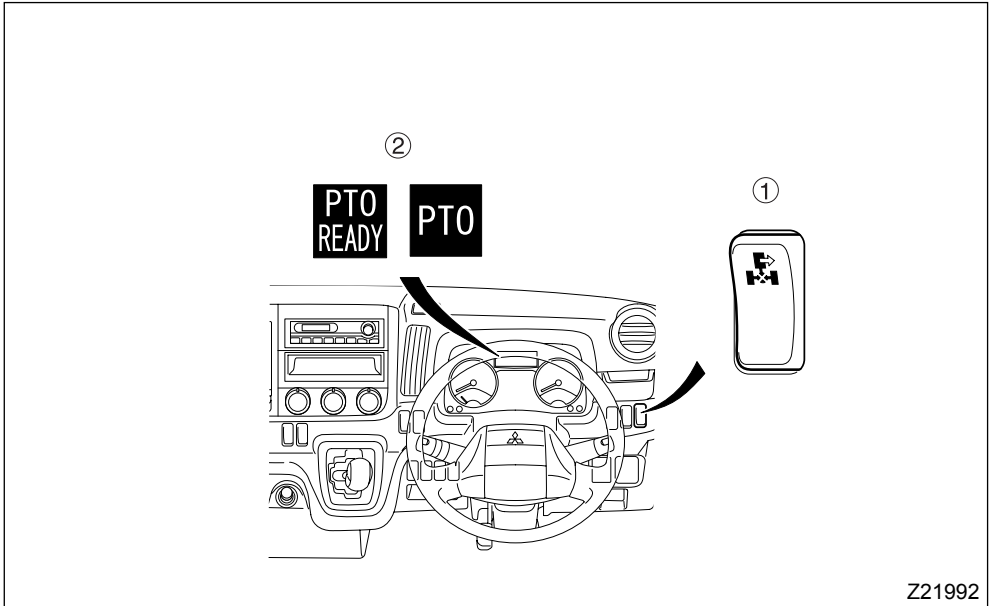
CAUTION

- While using the PTO, check that the  indicator lamp is not flashing. If the PTO is used for a long time with the indicator lamp flashing, the engine output can change, resulting in an accident. If the indicator lamp is flashing before you use the PTO, first perform parked DPF regeneration. If the indicator lamp starts flashing while you are using the PTO, stop work and perform parked DPF regeneration. Refer to “Parked DPF regeneration” on page 5-58.
- Before operating the PTO, be sure to apply the parking brake and, if the vehicle has a DUONIC system, place the gearshift lever in the “P” position. The PTO will work with the gearshift lever in the “N” position, but you should use it with the gearshift lever in the “P” position for safety. If the gearshift lever is in any position other than “P” or “N”, the vehicle may move, resulting in an accident. Making sure the parking brake is applied and, if the vehicle has a DUONIC system, that the gearshift lever is in the “P” position is particularly important when you control the engine from outside the vehicle while using the PTO.
- Disengage the PTO before driving the vehicle. Driving the vehicle with the PTO engaged could cause the body-mounted equipment to operate, resulting in an accident. It could also cause the body-mounted equipment to break down.

NOTE:

- The transmission power take-off (PTO) is a device that enables power to be taken from the transmission and used to drive a hydraulic pump or other equipment.
- Automatic DPF regeneration and parked DPF regeneration are not possible while the PTO is being used.
- With a vehicle that has a DUONIC system, moving the gearshift lever to any position other than “P” or “N” while the PTO is engaged or pushing the PTO switch while the vehicle is being driven

causes the **PTO** indicator to come on and a buzzer to sound a warning.




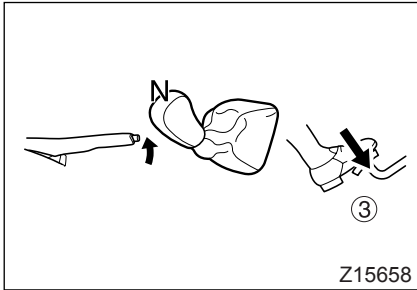
1 Controls and indicators


- ① PTO switch
 - The PTO switch is used to engage and disengage the PTO.
- ② Multi-information display indicator
 - The **PTO READY** indicator is on when the PTO switch is used to engage the PTO. (Vehicles with a DUONIC system)
 - The **PTO** indicator is on while the transmission PTO is engaged.

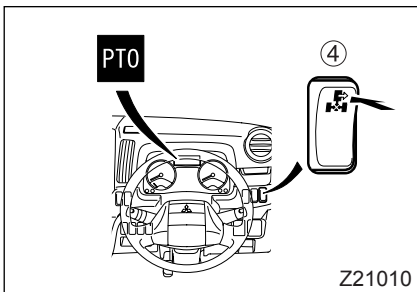
2 Manual transmission vehicles

2.1 Engaging the PTO


1. Make sure the parking brake is applied.
2. Make sure the gearshift lever is in the neutral position.
3. Hold down the clutch pedal ③ and start the engine. When the engine has warmed up, keep it idling.
4. Check that the  indicator lamp is not flashing. If it is flashing, perform parked DPF regeneration before engaging the PTO.

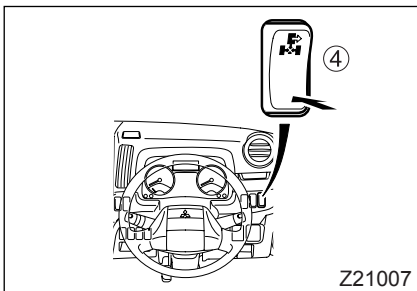


5. Hold the clutch pedal down fully and push the PTO switch ④ to turn it on.
6. Check that the  indicator on the multi-information display has come on, then slowly release the clutch pedal to engage the PTO.




2.2 Disengaging the PTO

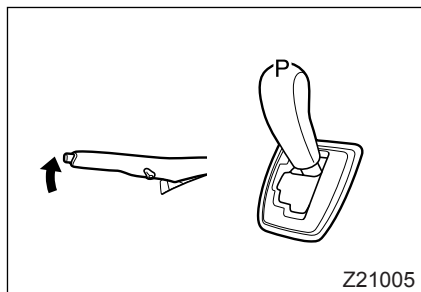
1. Hold the clutch pedal down fully and push the PTO switch ④ to turn it off.
2. Check that the  indicator on the multi-information display goes off.






3 Vehicles with a DUONIC system


3.1 Engaging the PTO

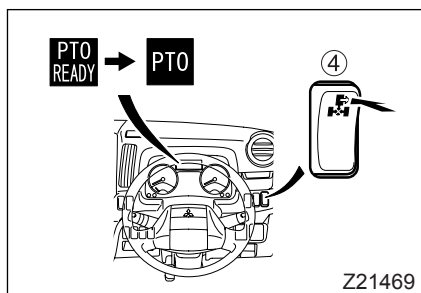
1. Make sure the parking brake is applied.
2. Make sure the gearshift lever is in the "P" position.
3. Hold down the brake pedal and start the engine. When the engine has warmed up, keep it idling.
4. Check that the  indicator lamp is not flashing. If it is flashing, perform parked DPF regeneration before engaging the PTO.






5. Push the PTO switch  to turn it on.
6. The  indicator on the multi-information display will come on. When PTO engagement is complete, the  indicator will come on.

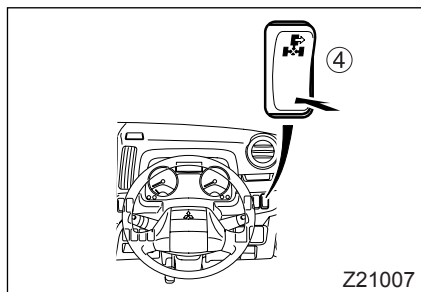
NOTE:

Depending on conditions, the  indicator may not come on. This phenomenon does not mean there is an abnormality.



3.2 Disengaging the PTO

Push the PTO switch  to turn it off. Check that the  and  indicators on the multi-information display go off.

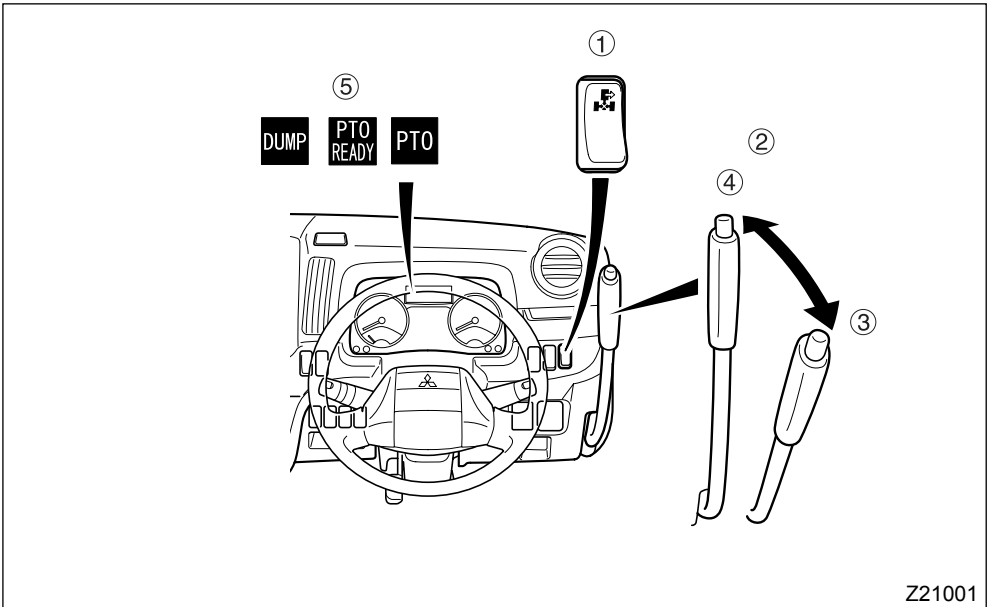


Dump truck

<Dump truck>

This section contains instructions for using a dump truck. For instructions on using the dump body equipment, please refer to the body manufacturer's instruction manual.

1 Controls and indicators



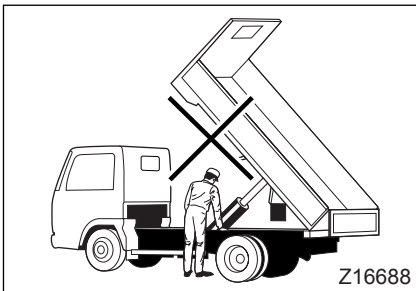
Z21001

- ① PTO switch <Vehicles with a DUONIC system>
This switch is used to turn on and off the PTO, which draws power from the transmission.
- ② Dump lever
This lever is used to raise and lower the dump body.
Hold down the button and move the lever to the "up" position ③ to raise the dump body. Hold down the button and move the lever to the "down" position ④ to lower the dump body. To temporarily stop the dump body while raising or lowering it, hold the lever mid-way between the "up" and "down" positions.

- ⑤ Multi-information display indicators
- In a manual transmission vehicle, placing the dump lever in the “up” position and engaging the transmission PTO cause the **PTO** indicator to come on.
 - In a vehicle with a DUONIC system, turning on the PTO switch and engaging the PTO causes the **PTO** indicator to come on.
 - The **PTO READY** indicator is on when the PTO switch is used to engage the PTO. (Vehicles with a DUONIC system)
 - The **DUMP** indicator is on while the dump lever is in the “up” position.

2 Operation

This section contains general instructions for operating a dump truck. For detailed instructions on using the dump body, please refer to the body manufacturer’s instruction manual.



! WARNING

- **Never get under the dump body while it is moving upward or downward. You could get trapped and have a serious accident.**
 - **When operating the dump body, make sure the vicinity of the vehicle and dump body is clear of people and obstructions. The presence of people and/or obstructions in the vicinity of the vehicle and dump body could lead to a serious accident. If you must unavoidably get under the dump body for inspections or maintenance, be sure to take safety precautions.**
- ⇒ P. 8-11
- **Never leave the vehicle unattended with the dump body raised. The dump body could come down unexpectedly, causing a serious accident.**

! CAUTION

- **Only ever operate the dump body with the vehicle on a level surface. Operating the dump body with the vehicle on sloping or soft ground could cause the vehicle to tip over. It could also twist components of the dump mechanism, causing the mechanism to fail.**
- **Never drive the vehicle with the dump body raised. Doing so could damage the dump body and result in an accident.**

- On a vehicle with an ISS (idling stop & start) system, be sure to press the ISS cutoff switch. Even if you do not press the cutoff switch, the ISS system does not activate while the PTO is operating. However, the ISS system may activate unexpectedly after the PTO is disconnected, which could lead to an unexpected accident.

NOTE:

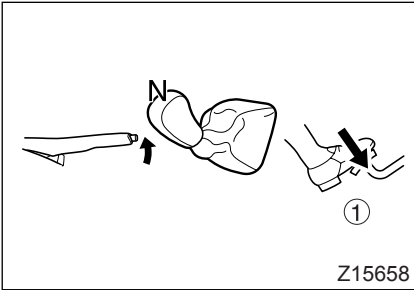
The ISS system does not activate while the PTO is operating.

Use the ISS cutoff switch if you find that the ISS cutting off the engine before the PTO activates is troublesome.

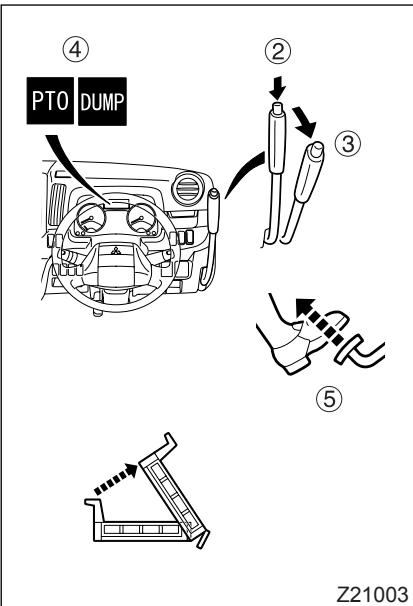
2.1 Raising the dump body

- **Manual-transmission vehicle**

1. Apply the parking brake while holding down the brake pedal.
2. Place the gearshift lever in the neutral position, and keep the engine idling.
3. Fully hold down the clutch pedal ①.



4. Hold down the button ② while moving the dump lever to the “up” position ③. When you release the button, the dump lever will lock in place.
5. Check that the PTO and DUMP indicators on the multi-information display ④ have come on.
6. Gradually release the clutch pedal ⑤ while slowly depressing the accelerator pedal. The dump body will move upward. The dump body will automatically stop when it reaches its highest position.



! **CAUTION**

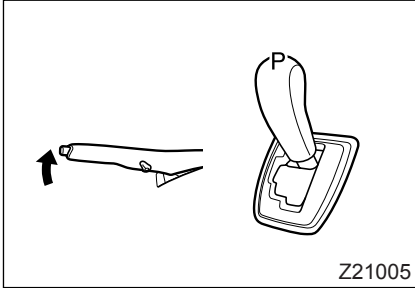
The dump lever does not lock between the “up” and “down” positions. If you temporarily stop the dump body in a part-raised or part-lowered position, do not release the dump lever. If you released the dump lever, the dump body could move upward or downward, resulting in an accident.

NOTE:

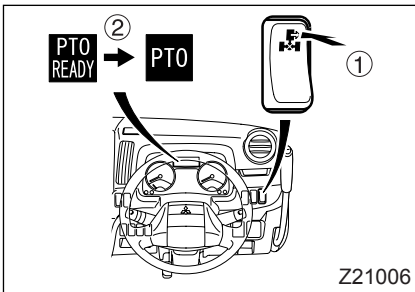
If you wish to temporarily stop the dump body part-way while raising or lowering it, hold the lever between the “up” and “down” positions with the button pressed.

- **Vehicles with a DUONIC system**

1. Apply the parking brake while holding down the brake pedal.
2. Place the gearshift lever in the “P” position, and keep the engine idling.

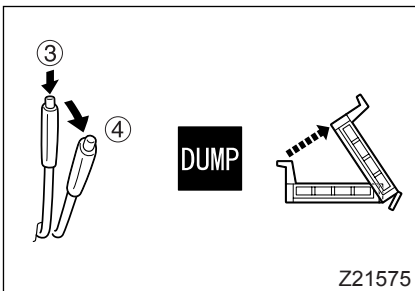


Z21005



Z21006

3. Push the PTO switch ① to turn it on. The **PTO READY** indicator on the multi-information display ② will come on. When PTO engagement is complete, the **PTO** indicator will come on.



Z21575

4. Move the dump lever to the “up” position ④ while pressing the button ③. The **DUMP** indicator will come on, and the dump body will move upward. If you press the accelerator pedal, the dump body will move upward faster. If you release the button, the dump lever will lock in place.

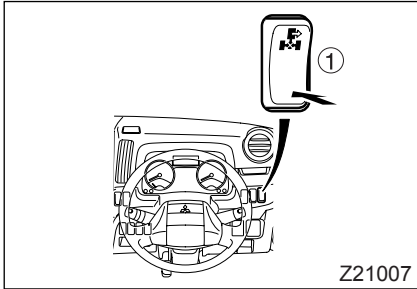
! CAUTION

The dump lever does not lock between the “up” and “down” positions. If you temporarily stop the dump body in a part-raised or part-lowered position, do not release the dump lever. If you released the dump lever, the dump body could move upward or downward, resulting in an accident.

NOTE:

If you wish to temporarily stop the dump body in part-way while raising or lowering it, hold the lever between the “up” and “down” positions with the button pressed.

5. The dump body will automatically stop when it reaches its highest position.
6. Push the PTO switch ① to turn it off.



Z21007

2.2 Lowering the dump body

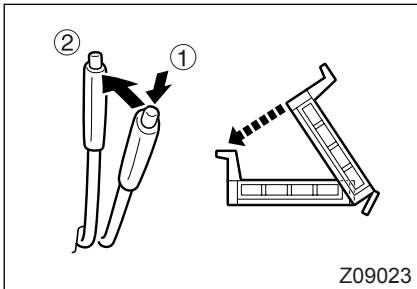
1. Run the engine at idling speed or shut it down.
2. Place the dump lever in the “down” position ② while pressing the button ①. The dump body will move downward. If you release the button, the dump lever will lock in place.

! CAUTION

- The dump lever does not lock between the “up” and “down” positions. If you temporarily stop the dump body in a part-raised or part-lowered position, do not release the dump lever. If you released the dump lever, the dump body could move upward or downward, resulting in an accident.
- Operate the dump lever slowly. Abruptly stopping the dump body or abruptly reversing its movement while it is moving downward could cause the mechanism to malfunction.

NOTE:

To temporarily stop the dump body while it is moving downward, hold the lever mid-way between the “up” and “down” positions with the button pressed.






Z09023

2.3 Driving the vehicle

CAUTION

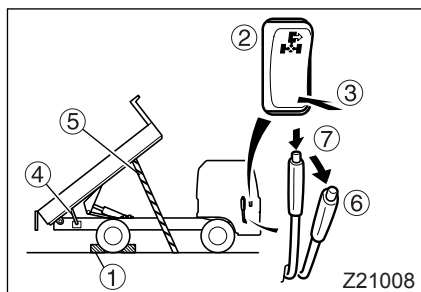
Never drive the vehicle with the dump body raised. Doing so could damage the dump body and result in an accident.

- Make sure the dump body is fully down.
- Make sure the dump lever is in the “down” position. Without pressing the button, try moving the lever to make sure it is locked in place.
- Make sure the  indicator,  indicator and, in a vehicle with a DUONIC system, the  indicator are off.

2.4 Inspections and maintenance

WARNING

If you must unavoidably get under the dump body for inspections or maintenance, make sure the dump body is empty and take the precautions described below. Otherwise you could get trapped and have a serious accident.



1. Securely apply the parking brake. Put chocks ① against the wheels.
2. Raise the dump body. If the vehicle has a DUONIC system, push the PTO switch ② to turn it off ③.
3. Shut down the engine.
4. Put the safety bar ④ in position. Lower the dump body until the safety bar is in the receptacle on the dump body.
5. Prop up the dump body with two sufficiently strong wooden beams ⑤ (one on each side of the dump body) that are each at least 10 cm thick.
6. Place the dump lever ⑥ in the “up” position ⑦.

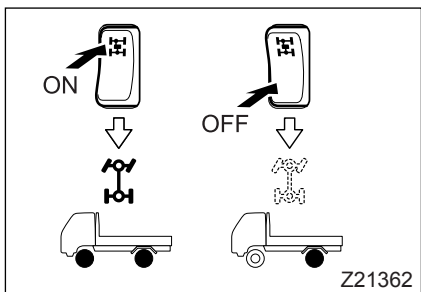
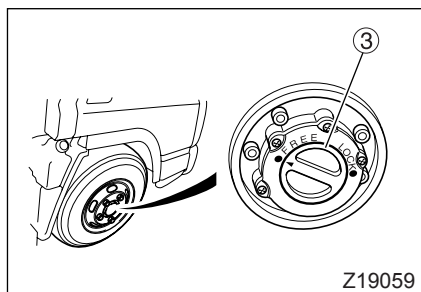
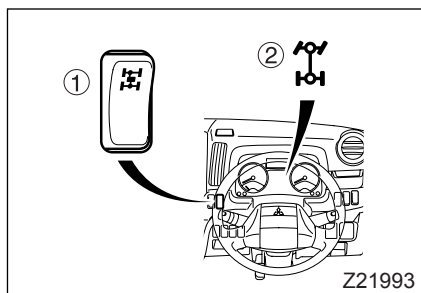
4WD system – FG models

Select the 2WD (rear-wheel-drive) mode or 4WD (all-wheel-drive) mode as necessary for the condition of the road surface. The 4WD mode can be used for extra traction on rough road surfaces and on snow-covered road surfaces (in mountainous regions, for example).

CAUTION

- Your 4WD vehicle is intended to be driven on roads. Do not always drive it on rough surfaces. Always driving it on rough surfaces could damage it.
- With a 4WD vehicle, power is applied to both the front wheels and rear wheels; if incorrect tires are fitted, they can prevent the vehicle from performing to its full potential and can even cause an accident. Incorrect tires can also adversely affect powertrain components. Please observe the following tire-related cautions:
 - Make sure all of the tires are the specified size and are identical in terms of manufacturer, brand, and tread pattern. Be particularly careful when fitting snow tires or other winter-use tires.
 - Use tires that do not differ from each other in terms of the extent of wear.
 - Regularly check the tire inflation pressures and keep them adjusted to the specified values.
 - When tire replacement is necessary, replace all of the tires at the same time.
 - Use genuine wheels. Do not change the wheel size.
 - To ensure that the tires wear evenly, rotate the tires every 30,000 km or every 12 months.
- For towing of the vehicle, raise the front wheels off the ground and disconnect the propeller shaft at the end closer to the rear wheels.

The 4WD mode is not recommended for driving on dry paved roads as the tires may wear down prematurely, the running noise may increase, and more fuel may be consumed. Malfunction of the drive train components may also result. Be sure to drive in the 2WD mode on dry paved roads.



1 Location of control and indicator lamps

- ① Front drive switch
- ② 4WD indicator lamp
- ③ Free-wheeling hub


1.1 Front drive switch

The front drive switch is used to select either the two-wheel drive (2WD) mode that uses only the two rear wheels as driving wheels or the four-wheel drive (4WD) mode in which the engine power is transmitted to all four wheels. Turn this switch "ON" to select the 4WD mode; turn it "OFF" to select the 2WD mode. The 4WD indicator lamp ② lights up when the 4WD mode is selected.

- The mode selection can be performed when the vehicle is stationary and without depressing the clutch pedal.

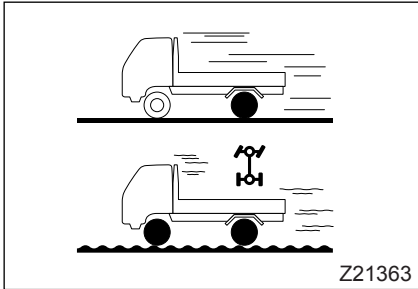
CAUTION

Make sure that the free-wheeling hubs on both the front wheels are in the "LOCK" position when the 4WD mode is selected; in the "FREE" position, the engine power is not transmitted to the front wheels.

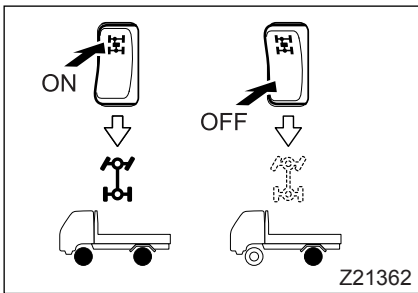
⇒  P. 8-15

1.2 Selecting drive mode-transfer gear range combinations

You can select any desired drive mode and transfer gear range combination from among those shown in the following table. Select the most suitable combination according to the driving conditions.



| Mode-range combination | Illuminated indicator lamp | Driving conditions |
|------------------------|----------------------------|--|
| 2WD | — | Normal road driving |
| 4WD | | Driving on snow-covered, frozen, or sandy roads or other difficult roads where running in the two-wheel drive mode is inappropriate. |



1.3 Switching the mode-range combination

• “2WD” to/from “4WD”

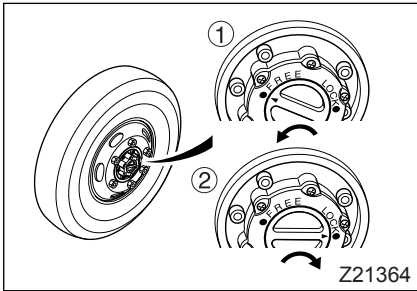
1. Make sure that the free-wheeling hubs on both front wheels are in the “LOCK” position. ⇒ P. 8-15
2. Press the front drive switch either at the “ON” side (4WD) or “OFF” side (2WD) when the vehicle is either in motion or stationary.

NOTE:

- If it is difficult to switch from 2WD mode to 4WD mode and vice versa, release the accelerator pedal and then depress it again lightly. This will facilitate the switching.
- During switching from 4WD mode to 2WD mode, the system may remain in 4WD mode even after the indicator lamp has gone out. If this happens, release the accelerator pedal and depress it again lightly. The switching will then take place.

1.4 Free-wheeling hub

- Even when the 4WD vehicle is running in the two-wheel drive mode with the engine power transmitted only to the rear wheels, the front wheels are always connected to the power train (differential, propeller shaft and transfer). The free-wheeling hub is a device to release the wheels from the power train to allow them to rotate freely, thus saving energy and improving power economy.



- Set the free-wheeling hub as follows:
- For propulsion of the vehicle in the 2WD mode, set each free-wheeling hub to the “FREE” position ①.
- For propulsion of the vehicle in the 4WD mode, set each free-wheeling hub to the “LOCK” position ②.

When the 4WD mode is selected, ensure that the free-wheeling hubs on both front wheels are set in the “LOCK” positions. Should either or both of them be in the “FREE” position, four-wheel driving is not possible.

! WARNING

- **Never drive with one free-wheeling hub in the “FREE” position and the other in the “LOCK” position. Doing so is very dangerous.**
- **The free-wheeling hub may be extremely hot after driving. Do not touch it.**

2 Advice on use of the 4WD mode

When you select the 4WD mode to drive on off-road terrain (sandy or muddy ground) or snow-laden or frozen roads, take sufficient care to avoid inappropriate operation.


2.1 Precautions to be taken when selecting the 4WD mode

- In the 4WD mode, you may feel the steering wheel move differently from the way it does in the 2WD mode. Operate the steering wheel carefully until you get the complete feel of 4WD operation.

- When turning a sharp corner on a dry pavement at a low speed in the 4WD mode, a condition resembling one that would occur during braking can develop. This condition called “sharp corner braking” is caused by the fact that the four tires are moving along circles of different radiuses and is a phenomenon limited to 4WD vehicles. It does not imply that any abnormal condition exists. If you experience this condition, either straighten steering wheel or switch to the 2WD mode.

2.2 Driving on snow-covered or frozen roads

Select the 4WD mode according to the snow or road surface condition. Start out slowly. The use of tire chains or snow tires is recommended.

⇒  P. 11-4



CAUTION

On the FG models, chains may be installed on both the front and rear wheels, but installing them only on the front wheels or the rear wheels should be avoided. Chains must not have any slack, especially those installed on the front wheels. When driving in the two-wheel drive (2WD) mode, chains may be fitted on the rear wheels.

2.3 Driving on sandy or muddy ground

- Select the 4WD mode if you find it appropriate to do so after checking sand or mud conditions. Start out slowly. Drive at low speeds, keeping the speed as constant as possible.
- Avoid quick acceleration, sudden braking and sharp turn as they can cause the vehicle to become stuck in the sand or mud, making it impossible to free the vehicle by yourself.
- Tire chains are effective when driving through deep mud.
- Muddy conditions are generally difficult to judge and there is danger of becoming stuck in deep mud. To prevent this, drive as slowly as possible and, if necessary, get out of the vehicle and check the conditions.

2.4 Climbing steep hills

Select the 4WD mode to make full use of engine torque. Choose the path that has the least stones, sand and bumps. At both the start and end of a climb, moderate slopes are preferable.

2.5 Descending steep hills

- Select the 4WD mode and descend slowly using engine braking so that the wheels do not slip.
- Quick braking can slip the wheels and result in a loss of vehicle control. Check road conditions before descending.
- Avoid gear shifting when descending a hill. Select the best gear in advance, and maintain the gear until the end of the descent.

2.6 Crossing a river



CAUTION

- **Do not drive in water. Driving in water can cause the following problems:**
 - **Water can get into the rear and front axles.**
 - **Water can get into the high-current fuses, resulting in a short circuit that causes a fire.**
- **Never shift gears while crossing a river.**

Although 4WD has many advantageous features, it is not designed for driving in water. If it is absolutely necessary to drive in water, select the 4WD mode and drive as described below to get out of water in the shortest possible time.

After driving in water, promptly have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.


- Choose a path where water is shallowest and drive slowly to avoid making waves.
- After crossing, check the brakes. If the brakes do not operate effectively, drive slowly and lightly depress the brake pedal to dry the brakes while remaining aware of any vehicles in front of or behind you.
- After crossing, check the electric system for any problems that the water may have caused. Also observe the recommendations in the following sub-paragraph describing precautions to be taken when selecting the 4WD mode.

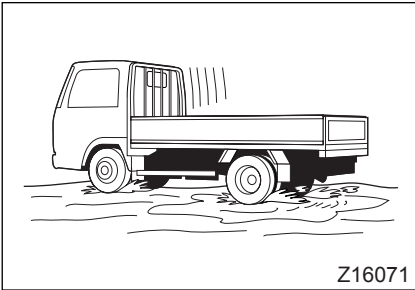
2.7 If you have driven in water by necessity

- If you have driven in water by necessity, promptly have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.
- Immediately check engine, transmission, transfer and differential oil. If the oil looks milky, it is contaminated with water. Be sure to replace it.

- If water has entered the cab, dry the carpet, etc. Leaving them wet can cause rusting.

2.8 After off-road driving, be sure to check the following points:

- Check for damage caused by stones, etc.
- Check the brakes. If the brakes function poorly, have them checked by your nearest authorized MITSUBISHI FUSO distributor or dealer.
- Grease the propeller shaft and also the front and rear suspension springs. ⇒  P. 12-22

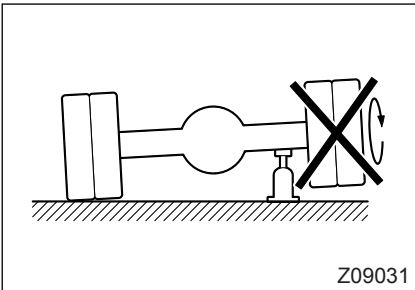


Limited slip differential

<Vehicles with limited slip differential>

The limited slip differential performs a special function in addition to the ordinary differential function which is needed when the vehicle is in a turn. When one wheel begins to spin on a slippery surface, the limited slip differential provides most of the driving force to the wheel which is not spinning, thus automatically stopping the spinning and providing traction to the vehicle.

This function is effective when driving on bumpy or snow laden roads, and useful when moving the vehicle out of mud.

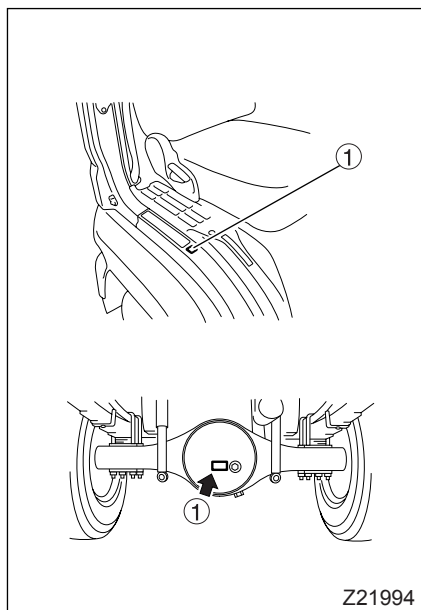


WARNING

When you raise the vehicle on one side for replacing a tire or any other purpose, never rotate the raised wheel. Doing so is dangerous as power is transmitted to the wheel which is on the ground and the vehicle could move.

CAUTION

Use only the special oil destined for limited slip differentials if your vehicle is equipped with a multiple-disc clutch type limited slip differential.

**NOTE:**

A vehicle with limited slip differential can be identified by precautionary stickers ① near its driver's seat and on the rear axle housing.

The limited slip differential actions take place automatically, but you are recommended to pay attention to the following points:

- On slippery road surfaces, excessively depressing the accelerator pedal during a turn may cause the vehicle to skid and lose balance. Keep this in mind for your safety.
- Using tires different in pressure or outside diameter between the right and left wheels may result in pulling the vehicle to one side during acceleration or uneven wear of tires. Check the tires regularly to make sure the right and left ones are inflated to the same pressure and not different in outside diameter.
- Distribute the load weight evenly. If the load is heavier at the rear, the vehicle's tendency to move in a straight line will slightly increase.

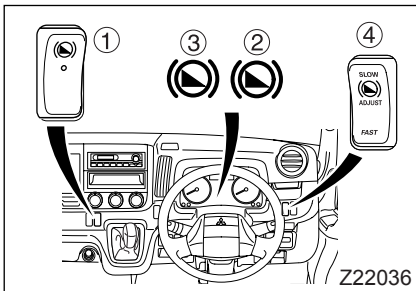
Hill start assist system



<Vehicles with hill start assist system>

When you depress the brake pedal for a short stop on a slope, the hill start assist system automatically maintains the brake fluid pressure thus generated even after you release the brake pedal, holding the vehicle stopped. You can easily restart the vehicle because the brake pressure is automatically released as soon as you start the vehicle again.

WARNING

Be sure to apply the parking brake for a long stop or when you must leave the vehicle. If the hill start assist system is used for too long a time, the brake pressure will drop, possibly resulting in an accident. Remember that the hill start assist system is intended to help the driver to restart the vehicle easily on a slope; it is not a substitute for the parking brake.




- ① Hill start assist system main switch
Press the "ON" side of this switch to activate the system. Press the "OFF" side to deactivate the system.
- ②  indicator lamp (green)
This lamp stays on while the hill start assist system is in operation.
- ③  warning lamp (amber)
 - This lamp should normally come on when the starter switch is turned to the "ON" position and go out in a few seconds. If the lamp fails to come on when the starter switch is turned to "ON" or if it remains on for longer than a few seconds, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.
 - If this warning lamp lights while driving, the hill start assist system is probably malfunctioning. Press the "OFF" side of the hill start assist system main switch and have your vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.
- ④ Hill start assist system adjusting switch
Use this switch to adjust the timing at which the hill start assist system releases the brakes as necessary.

1 Replacing the fuses related with hill start assist system

WARNING

Be sure to set the starter switch to “LOCK” and turn off all other electric switches whenever replacing fuses or high-current fuses. Replacing any fuses or high-current fuses while electric circuits are still live could damage related electric equipment. Especially, if a vehicle with a hill start assist system is stopped on a slope by activating the system and the fuses and the high-current fuse protecting its circuits are inadvertently removed, the pressure holding the brakes will be released and the vehicle will start moving down, possibly causing an accident.

- Refer to the section “When a fuse has blown” for the correct method of replacing the fuses.
⇒  P. 13-11

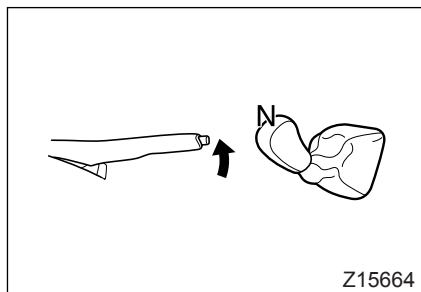
2 Checking operation of hill start assist system

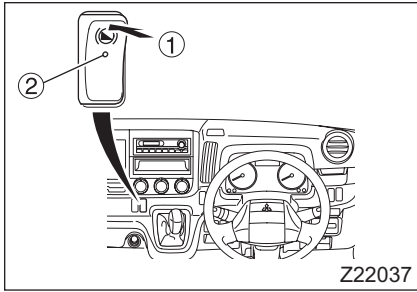
Before using the hill start assist system, check it is working properly as follows.

WARNING

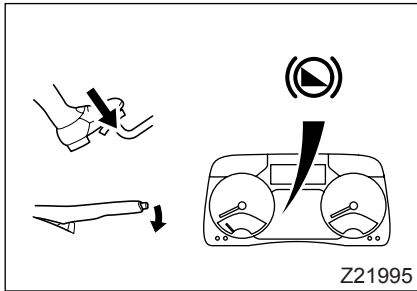
Perform the check on a level surface, only after making sure that the area around the vehicle is safe.

1. Make sure that the parking brake is firmly applied.
2. Make sure that the gearshift lever is in neutral.
3. Start the engine.





4. Press the "ON" side of the hill start assist system main switch ①.
If you press the main switch, the indicator lamp ② comes on.



5. With the brake pedal fully depressed, release the parking brake.
See whether the (▶) indicator lamp (green) comes on. The system is working normally if the lamp comes on.
6. Apply the parking brake and see whether the (▼) indicator lamp (green) goes out. The system is in normal condition if the lamp goes out.

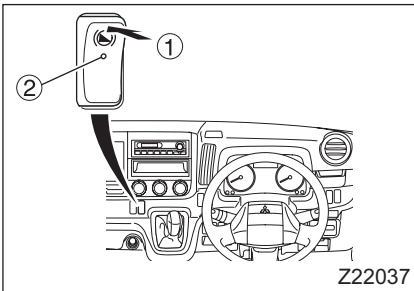
There is a problem with the hill start assist system if the (▶) indicator lamp (green) does not come on when the "ON" side of the hill start assist system main switch is pressed and the brake pedal is depressed or if the (▼) warning lamp (amber) lights. If an abnormal condition is indicated either by operation or loss of operation of these lamps, press the "OFF" side of the hill start assist system main switch and have your vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.

3 How to use hill start assist system

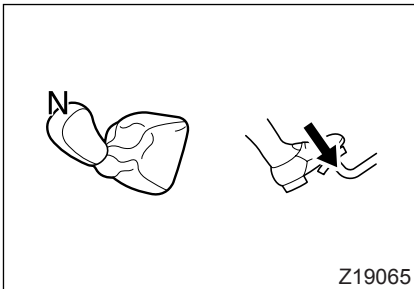
WARNING

Be sure to take the following precautions when the hill start assist system is activated in case of accidental deactivation of the system, which would cause the vehicle to start moving and may cause an accident.

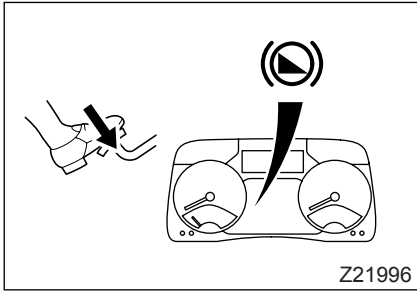
- Do not press the “OFF” side of the hill start assist system main switch.
- Do not apply the parking brake.
- Do not turn the starter switch to the “ACC” or “LOCK” position.
- Do not remove any of the related fuses (including high-current fuse) and do not disconnect the battery.



1. Press the “ON” side of the hill start assist system main switch ①.
If you press the main switch, the indicator lamp ② comes on.



2. Stop the vehicle by depressing the brake pedal.
3. Place the gearshift lever in neutral or keep the clutch pedal fully depressed.



4. Depress the brake pedal and wait until the (🟢) indicator lamp (green) comes on without releasing the pedal.

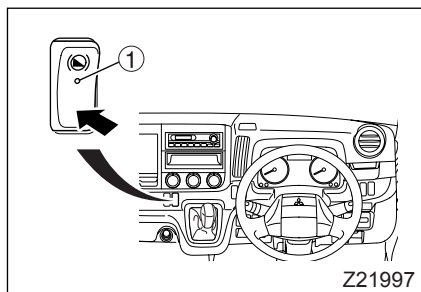
NOTE:

The hill start assist system does not become active unless the brake pedal is kept depressed for longer than one second. It is essential to continue to depress the brake pedal until the (🟢) indicator lamp comes on.

5. Release the brake pedal after confirming that the (🟢) indicator lamp has come on. The vehicle is now held stopped by the system even after you release the brake pedal.
6. To restart the vehicle, first select an appropriate gear while fully depressing the clutch pedal. Then release the clutch pedal and start the vehicle. The brakes are automatically released and the (🟢) indicator lamp goes out at the same time.

NOTE:

- *The brakes may not be released if you attempt to restart the vehicle without fully depressing the clutch pedal.*
- *You can select the timing at which the system releases the brakes following engagement of the clutch. Adjust it if necessary. ⇨ 📖 P. 8-27*
- *A buzzer will warn you of an open door when the hill start assist system is in operation or if the system is left in operation for a long time (more than 10 minutes). The buzzer will stop if the brake pedal is depressed or the hill start assist system is deactivated.*
- *On a steep slope, the vehicle may move even when the hill start assist system is working if the brake pedal has not been depressed adequately. If this happens, depress the brake pedal again or use the parking brake to stop the vehicle. The hill start assist system will be cancelled if you apply the parking brake.*
- *The hill start assist system may not work if the vehicle is stopped by emergency braking or with wheels completely locked. In this case, you should hold the vehicle stopped by either activating the system by depressing the brake pedal or applying the parking brake.*
- *Even while the hill start assist system is in operation, the stop lamps go out when you release the brake pedal.*



4 How to deactivate hill start assist system


Press the “OFF” side of the hill start assist system main switch. The lamp ① inside the switch will go out at the same time.


CAUTION

Avoid using the hill start assist system in the situations listed below because it may make it difficult to control the vehicle.

- When you must move the vehicle back and forth to stop it in a precise position.
(If the hill start assist system is used when moving the vehicle to a loading deck at a distribution center for example, the vehicle may move suddenly if you quickly release the clutch pedal or slam on the accelerator pedal.)
- When driving on a long, congested downhill road, where repeated clutch pedal operation is tiresome.
- When driving on an icy or snow-covered road, where the hill start assist system is prone to operate unintentionally.
(On icy or snow-covered roads, the hill start assist system may operate immediately before the vehicle stops.)

5 If the warning lamp (amber) lights and/or warning buzzer sounds

- Take necessary actions as indicated in the following table.
- If the  warning lamp (amber) lights, first press the “OFF” side of the hill start assist system main switch and then have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.

| Condition | Warning | | Action to take |
|---|--|----------------------|--|
| |  warning lamp (amber) | Buzzer | |
| A door is opened without applying the parking brake while the hill start assist system is in operation. | – | Repeated beeps | Deactivate the hill start assist system by fully applying the parking brake or depressing the brake pedal. |
| The vehicle has moved spontaneously while the hill start assist system is in operation. | – | Repeated beeps | Deactivate the hill start assist system by applying the parking brake or additionally depress the brake pedal. |
| The hill start assist system has been left in operation for a long time (more than 10 minutes). | – | Repeated beeps | Deactivate the hill start assist system by applying the parking brake or depressing the brake pedal. |
| The starter switch is turned to the “ACC” or “LOCK” position, or the “OFF” side of the main switch is pressed while the hill start assist system is in operation. | – | Repeated short beeps | Apply the parking brake or depress the brake pedal, since the hill start assist system has been deactivated. |
| Processing has abnormally terminated in the hill start assist system. | – | Repeated short beeps | Do any of the following: <ul style="list-style-type: none"> • Press the “OFF” side of the hill start assist system main switch. • Apply the parking brake. • Turn the starter switch to the “ACC” or “LOCK” position. |
| The hill start assist system is faulty. | Illuminated | – | Stop the vehicle in a safe place. Press the “OFF” side of the hill start assist system main switch to prevent the system from operating. |

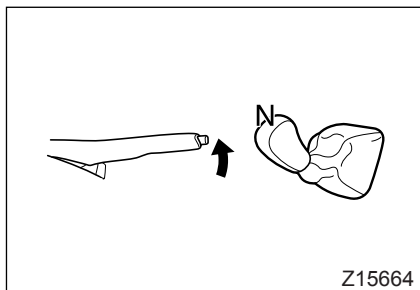
6 Adjusting the brake release timing of hill start assist system

The timing at which the hill start assist system releases the brakes should be adjusted if you experience any of the following conditions when the system is in operation:

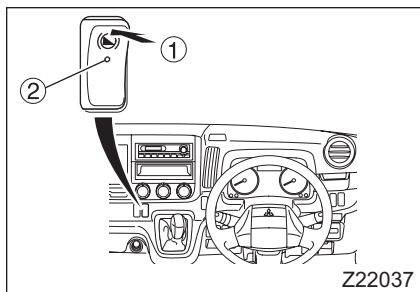
- Brakes drag when the vehicle is restarted (too late release of the brakes).
- The vehicle moves downhill when restarting the vehicle on a slope (too early release of the brakes).
- The brake release timing does not agree with your way of controlling the vehicle.

WARNING

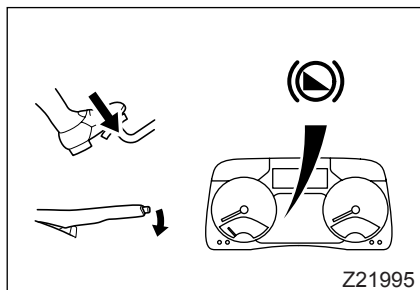
- **Adjust the brake release timing only on a level surface after making sure the area around the vehicle is safe. Performing the adjustment on a slope could result in an accident since the vehicle may move downward.**
- **Always check safety in the area around the vehicle when testing the system operation on a slope after adjusting the brake release timing. Should the vehicle go downhill during the test, stop the vehicle by applying the parking brake or depressing the brake pedal.**
- **Improper adjustment of the brake release timing will lead to premature wear of or damage to the brakes and clutch. Improper adjustment may also lead to an accident since the vehicle can move even when the hill start assist system is normally operating.**



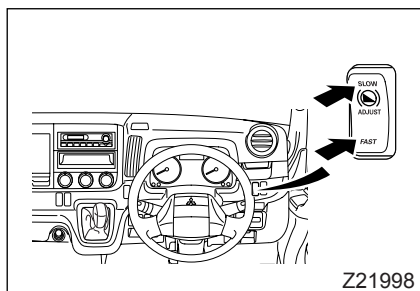
1. Check that the parking brake is fully applied.
2. Check that the gearshift lever is in the neutral position.
3. Start the engine.



4. Press the "ON" side of the hill start assist system main switch ①.
If you press the main switch, the indicator lamp ② comes on.



5. Fully depress the brake pedal and then release the parking brake. Check that the (3) indicator lamp (green) comes on.



6. Use the hill start assist system adjusting switch to change the brake release timing as follows.
 - If the brakes drag when the vehicle is restarted (because of too late release of the brakes), press the "FAST" side of the adjusting switch.
 - If the vehicle moves downhill when restarting it on a slope (because of too early release of the brakes), press the "SLOW" side of the adjusting switch.
 - The hill start assist system adjusting switch provides two settings each on both the "FAST" and "SLOW" sides in addition to the neutral setting at the center. You can identify the selected setting by the number of beeps you hear when the switch is pressed as indicated below.

| Switch | "SLOW" (to retard brake release timing) | | | "FAST" (to advance brake release timing) | |
|-----------------|--|-------------|---------|---|-------------|
| | 2nd setting | 1st setting | Neutral | 1st setting | 2nd setting |
| Number of beeps | 3 | 2 | 1 | 2 | 3 |

- The brake release timing changes more as the number of beeps increases.

-
7. After the adjustment, perform a test by restarting the vehicle on a slope. If the brake release timing is not adjusted as desired, readjust it on a level surface.

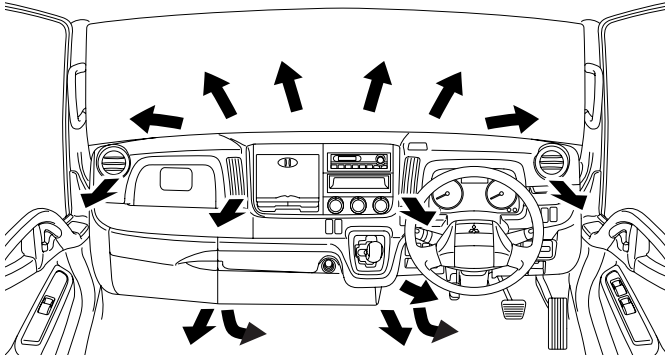
NOTE:

- *If you cannot adjust the brake release timing as desired using the hill start assist system adjusting switch, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.*
- *If you use the hill start assist system about 100 times after setting the brake release timing using the hill start assist system adjusting switch, the system updates its neutral brake release timing to this setting.*
- *After adjusting the brake release timing to the "FAST" side, the brakes may fail to be released if you restart the vehicle without fully depressing the clutch pedal. If this condition happens, depress the clutch pedal as far as it goes. If the brakes are still not released, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.*

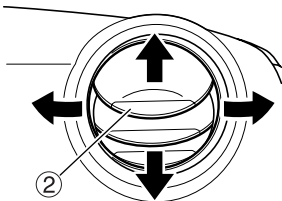
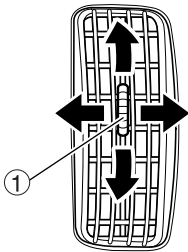
9. Heating and air conditioning

| | |
|---------------------------------------|------|
| Front air outlets | 9-2 |
| Rear air outlets | 9-3 |
| Manual air conditioner | 9-4 |
| Fully automatic air conditioner | 9-10 |
| Heater | 9-17 |
| Rear air conditioner | 9-21 |

Front air outlets



Z20951



Z20952

1 Adjusting the airflow direction

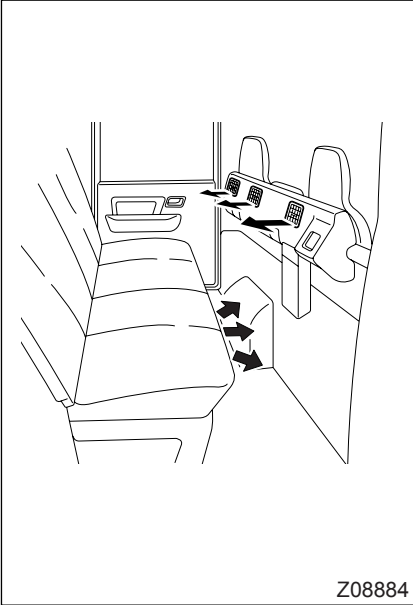
- Adjust the up/down direction of airflow from each outlet as desired by moving the knob ① or fin ②.
- Adjust the left/right direction of airflow from each outlet as desired by pressing the right or left side of the outlet.
- Close each outlet by moving the knob or fin fully downward. The outlet opens if the knob or fin is moved upward.

NOTE:

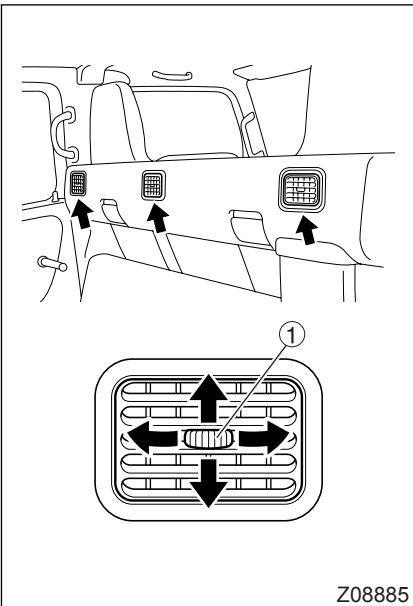
Avoid placing anything between the windshield and instrument panel, as it will block the necessary air-flow toward the windshield.

Rear air outlets

<Vehicles with rear air conditioner>

1 Air outlets in vehicle equipped with rear air conditioner**2 Adjusting the airflow direction**

- Adjust the left/right airflow direction from each outlet as desired by moving the knob to the left or right.
- Adjust the up/down airflow direction from each outlet as desired by pressing the top or bottom of the outlet.



Manual air conditioner

<Vehicles with manual air conditioner>

WARNING

Never leave children alone in the cab especially when the air-conditioning is on. They will suffer from dangerously high interior temperatures should the air conditioning accidentally stop.

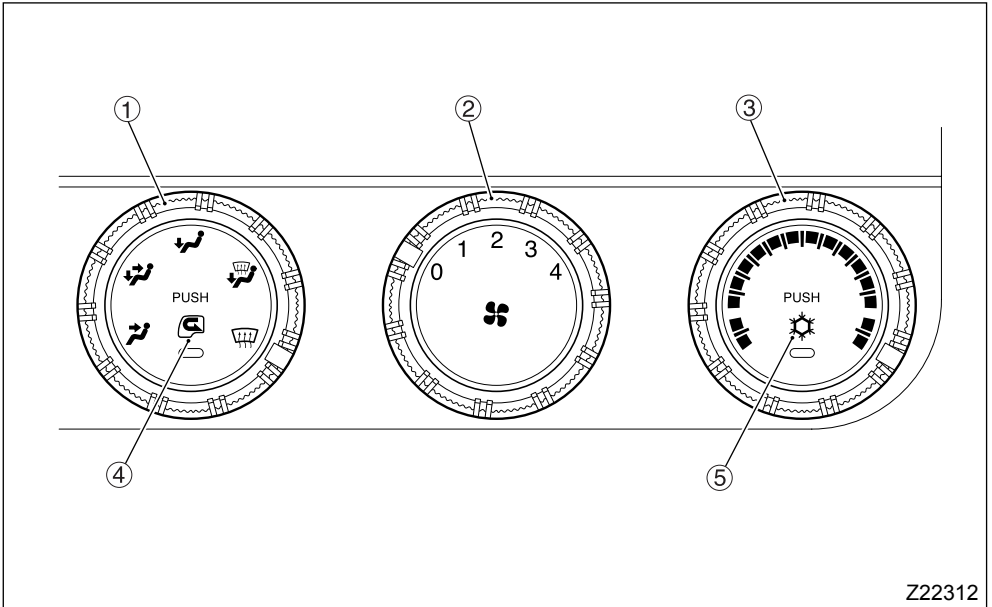
CAUTION

To protect the environment, your vehicle's air conditioning system uses refrigerant HFC-134a which does not harm the ozone layer. Since charging the system with this refrigerant requires a method different from the conventional method, be sure to contact your nearest authorized MITSUBISHI FUSO distributor or dealer if your system needs to be serviced.

NOTE:

- *The heater uses heat produced by the engine coolant. Warm air is, therefore, not available until the coolant temperature becomes sufficiently high.*
- *When you perform the parked DPF regeneration, the engine compartment temperature will rise, probably causing the air conditioning system to stop. You may then feel reduced air conditioning performance, but this does not indicate any abnormality. The air conditioning system will automatically restart functioning normally as soon as the engine compartment temperature drops to a normal temperature following the termination of the DPF regeneration.*
- *A fast idling device increases the engine's idling speed slightly when the air conditioner is used.*
- *Do not release refrigerant into the atmosphere. When necessary because of servicing or scrapping of the vehicle, consult the nearest authorized MITSUBISHI FUSO distributor or dealer in order to have the refrigerant properly removed.*

1 Control panel



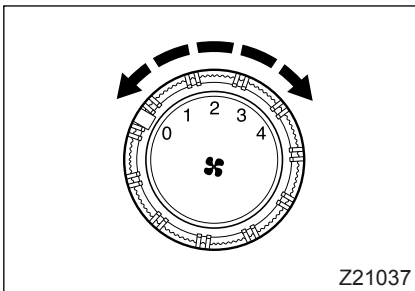
Z22312

- ① Mode selector dial
- ② Fan speed dial
- ③ Temperature adjustment dial
- ④ Air selector switch
- ⑤ Air conditioner switch

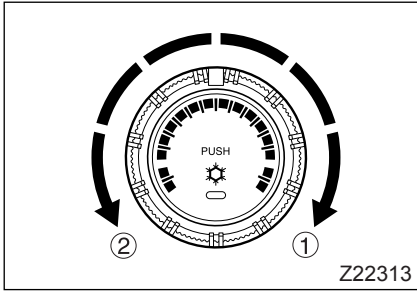
1.1 Fan speed dial

Fan speed dial allows you to select 4 fan speeds. Select the desired speed.

- 0: Turned off
- 1: Breeze
- 2: Weak
- 3: Medium
- 4: Strong

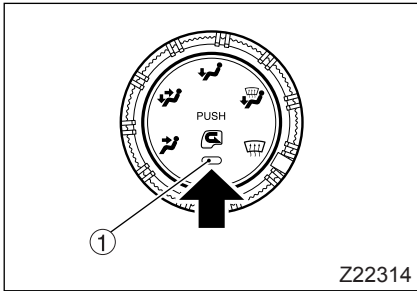


Z21037



1.2 Temperature adjustment dial

Turn the dial in the direction of arrow ① to increase the air temperature and in the direction of arrow ② to reduce it.



1.3 Air selector switch

Pressing the air selector switch allows you to toggle the setting between recirculation of inside air and introduction of outside air. When recirculation is selected, the indicator lamp ① in the switch comes on.

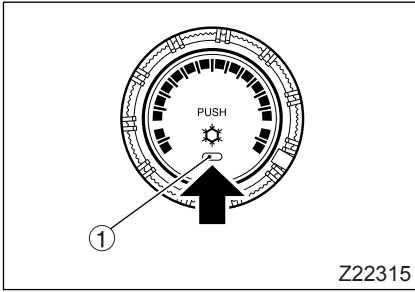
- **Outside air**
Use this setting when driving in normal conditions.
- **Recirculation**
Use this setting when the outside air is dirty. Using this setting when parking enables you to prevent dust from entering the cab.

⚠ CAUTION

Using the recirculation setting for a long time will cause air to become stale. If this happens, switch to the outside air setting.

NOTE:

- *Select outside air when driving in normal conditions.*
- *Using the recirculation setting for a long period when humidity is high makes the windows prone to fogging.*
- *If the air selector switch is pressed with the starter switch at "OFF", the setting will not change until the starter switch is turned to "ON".*

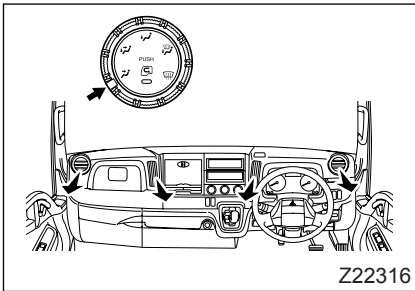


1.4 Air conditioner switch

Pressing the air conditioner switch activates the air conditioner, which has cooling and dehumidifying functions. The indicator lamp ① in the switch comes on at this time. Pressing the air conditioner switch once more stops the air conditioner.

NOTE:

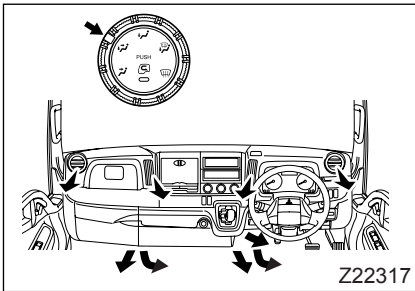
- If the air conditioner switch is pressed with the starter switch at "OFF", the air conditioner will not start until the starter switch is turned to "ON".
- If the air conditioner switch is pressed when the fan speed dial is turned to the "OFF" position, the air conditioner will not start until the fan speed dial is turned to an operating position.



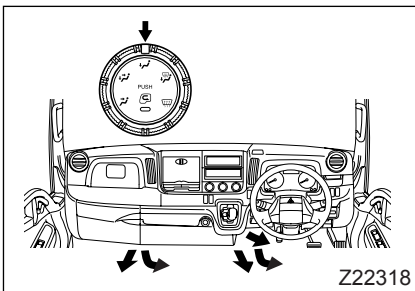
1.5 Mode selector dial

Use the mode selector dial to select outlets as desired.

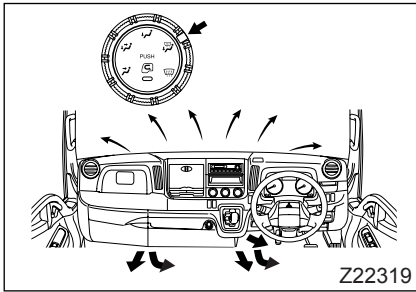
- For airflow toward the upper body
Place the mode selector dial in the position.





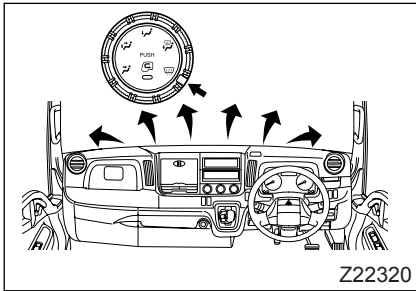
- For airflow toward the upper body and toward the feet
Place the mode selector dial in the position.





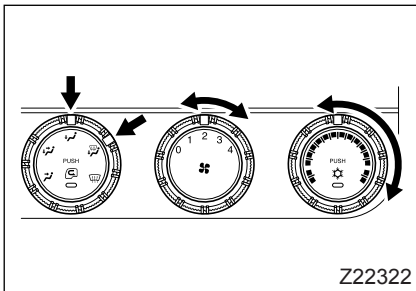
- For airflow toward the feet
Place the mode selector dial in the position.



-  For airflow toward the feet and toward the windshield
Place the mode selector dial in the  position.





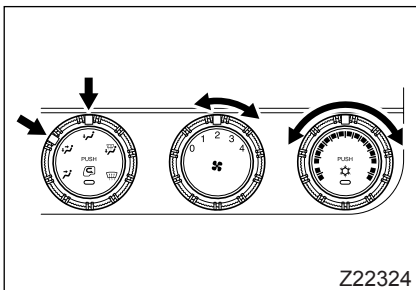
-  For airflow toward the windshield
Place the mode selector dial in the  position.





2 Using the controls

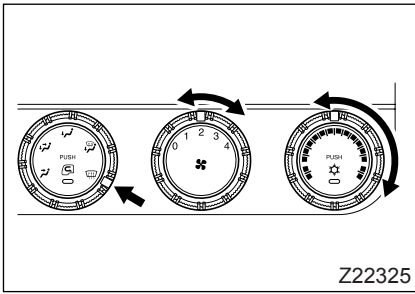
2.1 To heat the cab

Place the mode selector dial in the  position or in the  position.




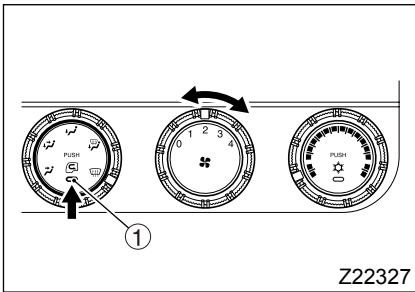
2.2 For cool airflow toward the head and warm airflow toward the feet

Place the mode selector dial in the  position or in the  position.




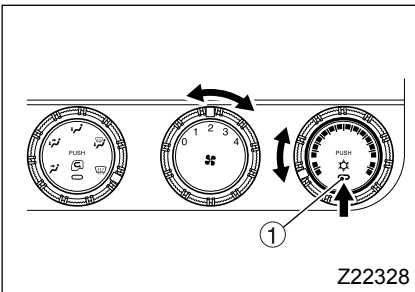
2.3 To defog the windshield

Place the mode selector dial in the  position. If you wish to defog the windshield quickly, use the fan speed dial to select the maximum fan speed and use the temperature adjustment dial to select the maximum temperature.



2.4 To ventilate the cab

Press the air selector switch to select outside air, and place the mode selector dial in the  position. When the mode switches to air recirculation, the indicator lamp ① in the switch goes out.




2.5 To cool the cab

Press the air conditioner switch to activate the air conditioner, then use the temperature control dial to set a comfortable temperature. The indicator lamp ① will be illuminated while the air conditioner is operating.

3 Cleaning the air filter

Clean the air filter every 6 months.

A dust clogged air filter may cause a poor air conditioning performance and blower motor malfunction.

⇒  P. 12-108

Fully automatic air conditioner

<Vehicles with fully automatic air conditioner>

 WARNING

Never leave children alone in the vehicle. If the air conditioner stops for some reason or other, the temperature inside the vehicle will rise, and can cause heat stroke, for example.

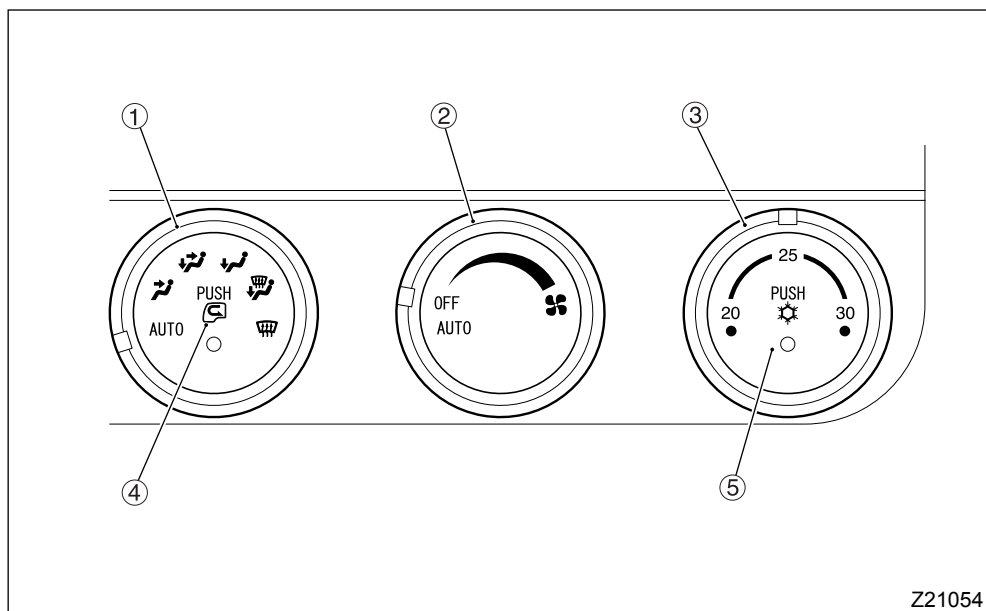
 CAUTION

To protect the environment, your vehicle's air conditioning system uses refrigerant HFC-134a which does not harm the ozone layer.

Since charging the system with this refrigerant requires a method different from the conventional method, be sure to contact your nearest authorized MITSUBISHI FUSO distributor or dealer if your system needs to be serviced.

NOTE:

- *Coolant from the engine is used in the heating unit. If the level of coolant is low, the unit will be unable to generate warm air when required.*
- *Do not release refrigerant into the atmosphere. When necessary because of servicing or scrapping of the vehicle, consult the nearest authorized MITSUBISHI FUSO distributor or dealer in order to have the refrigerant properly removed.*

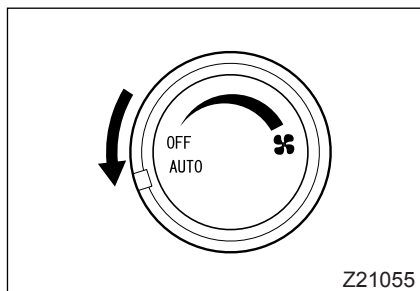


Z21054

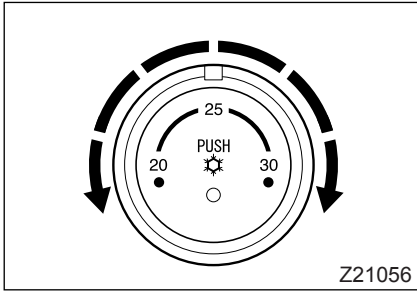
- ① Air outlet selector dial
- ② Air volume adjustment dial
- ③ Temperature adjustment dial
- ④ Air selector switch
- ⑤ Air conditioner switch

1 Using the air conditioner automatically

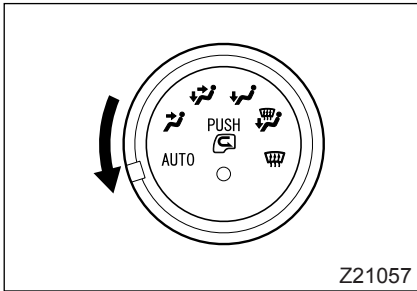
1. Set the air volume adjustment dial to “AUTO”.





Z21055

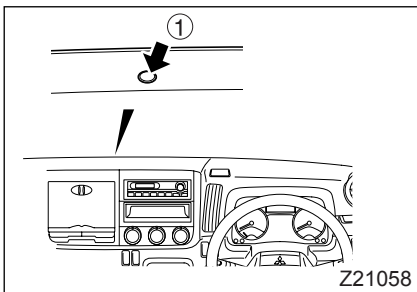


- Set the desired temperature using the temperature adjustment dial.
You can adjust the set temperature to a value between 20°C and 30°C.



- Set the air outlet selector dial to "AUTO".
The air outlet (excluding  and ) air volume, "ON" or "OFF" status of the air conditioner, and air selector are adjusted automatically.

- To stop operation, set the air volume adjustment dial to OFF.

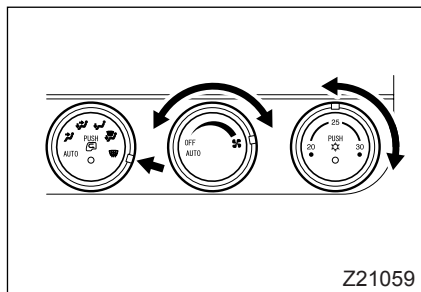


NOTE:


- Do not place objects on the solar radiation sensor ① or cover it because this will prevent the air conditioning operation from taking account of solar radiation.
- During "AUTO" operation, if you operate the air volume adjustment dial, the air outlet selector dial, or the air selector switch, the operated function will take priority. Functions other than the operated one will be controlled automatically.
- The automatic control of the air selector does not work when the air conditioner is turned off.

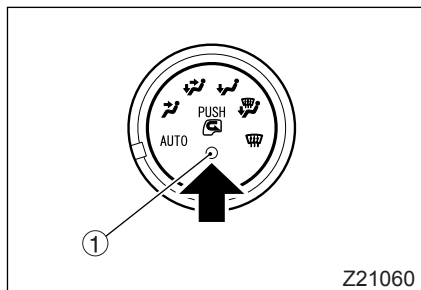
2 Using the air conditioner manually

- Operate each dial as desired.
Even during automatic (AUTO) operation, the operated function will take priority.
- Functions other than the operated one will be controlled automatically.
- To stop operation, set the air volume adjustment dial to OFF.



2.1 Defrosting the windshield

- When you turn the air outlet selector dial to , the air conditioner operates automatically and the air selector is switched to draw in outside air.
- To quickly defrost the windshield, set the air volume adjustment dial to maximum, and then set the temperature to maximum using the temperature adjustment dial.

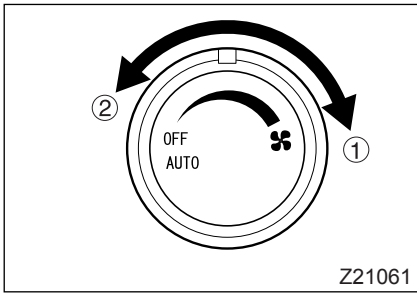


2.2 Preventing contaminated air from entering the vehicle

- Press the air selector switch so as to select air recirculation.
- When the mode switches to air recirculation, the indicator lamp ① in the switch lights.
- Each time you press the switch, the mode switches between outside air ventilation and air recirculation.

NOTE:

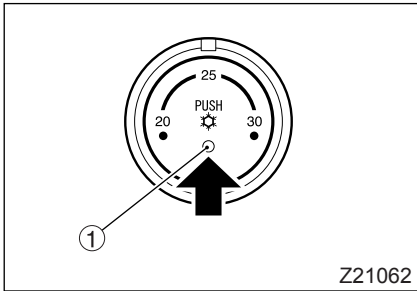
- When the air outlet selector dial and the air volume adjustment dial are in the "AUTO" position, and the air selector switch is operated, the air selector function switches to manual.
- To put the air selector function in "AUTO", turn the air outlet selector dial or the air volume adjustment dial to a position other than "AUTO", then turn it to "AUTO" once again.
- Normally, use the outside air ventilation mode.
- When the humidity is high, if you use the air conditioner in the air recirculation mode for a long period, condensation is likely to occur on the windshield.



2.3 Changing the air volume

To increase the air volume, turn the air volume adjustment dial to the right, and to reduce the air volume, turn the dial to the left.

- ①: Strong
- ②: Weak



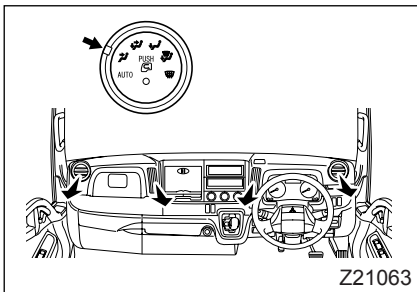
2.4 Dehumidifying and air conditioning

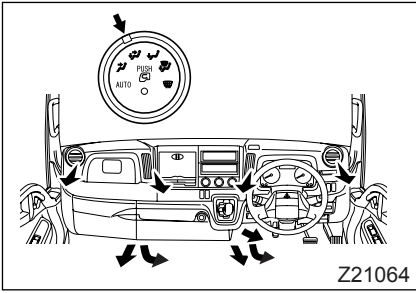
Pressing the air conditioner switch activates the air conditioner, which has cooling and dehumidifying functions. The indicator lamp ① in the switch comes on at this time. Pressing the air conditioner switch once more stops the air conditioner.


2.5 Changing over the selected air outlet

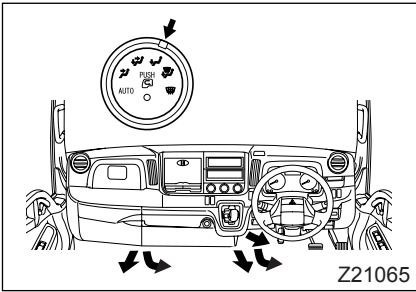
Each time you turn the air outlet selector dial, the selected air outlet changes over.


-  Blowing air toward your upper body

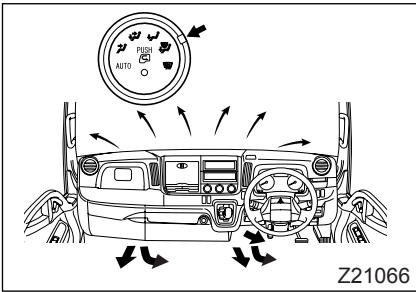





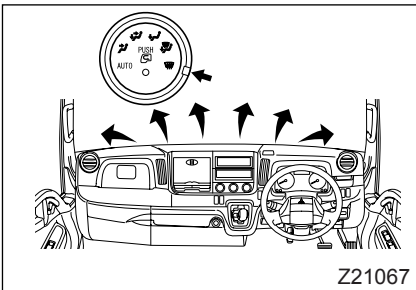
-  Blowing air toward your upper body and feet



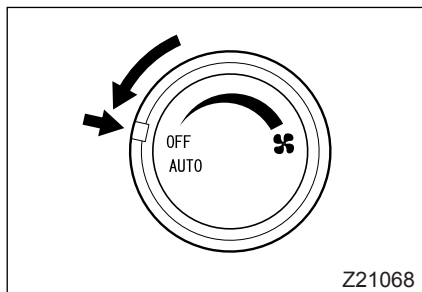
-  Blowing air toward your feet



-  Blowing air toward your feet and the windshield



-  Blowing air toward the windshield




2.6 Stopping all operations

Set the air volume adjustment dial to OFF.

3 Cleaning the air filter

Clean the air filter every 6 months.

A dust clogged air filter may cause a poor air conditioning performance and blower motor malfunction.

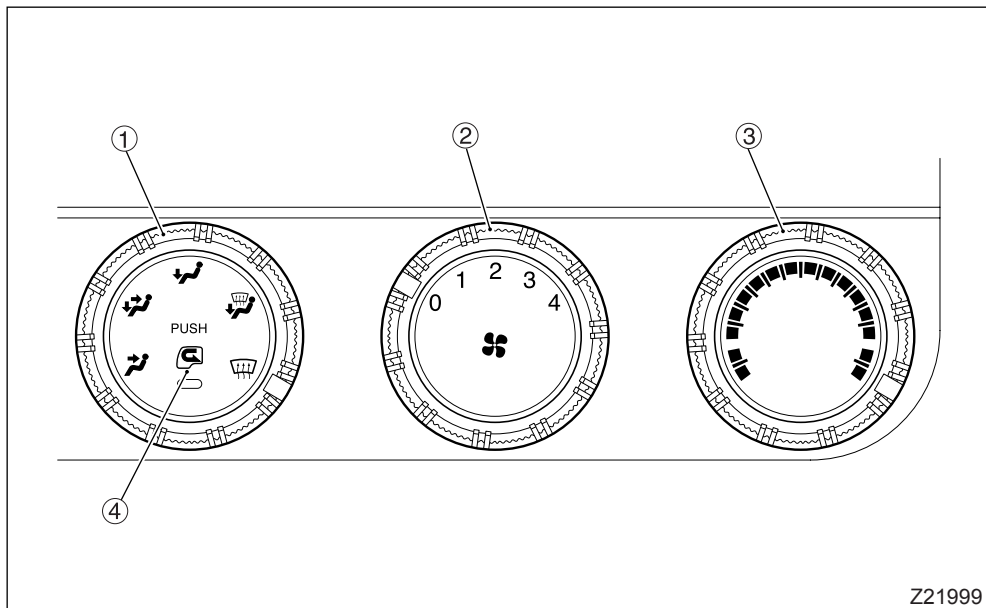
⇒  P. 12-108

Heater

<Vehicles with heater>

NOTE:

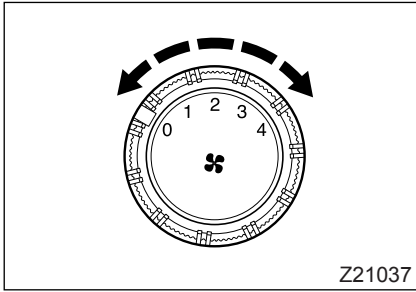
The heater uses heat produced by the engine coolant. Warm air is, therefore, not available until the coolant temperature becomes sufficiently high.



Z21999

1 Control panel

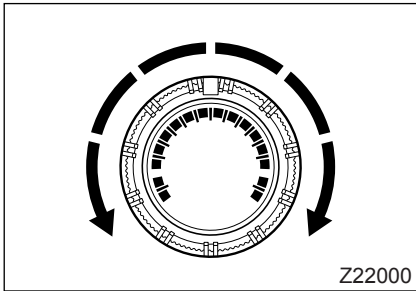
- ① Mode selector dial
- ② Fan speed dial
- ③ Temperature adjustment dial
- ④ Air selector switch



1.1 Fan speed dial

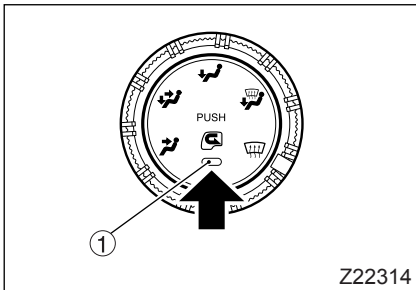
Fan speed dial allows you to select 4 fan speeds. Select the desired speed.

- 0: Turned off
- 1: Breeze
- 2: Weak
- 3: Medium
- 4: Strong



1.2 Temperature adjustment dial

Turn the dial in the direction of arrow ① to increase the air temperature and in the direction of arrow ② to reduce it.



1.3 Air selector switch

Pressing the air selector switch allows you to toggle the setting between recirculation of inside air and introduction of outside air. When recirculation is selected, the indicator lamp ① in the switch comes on.

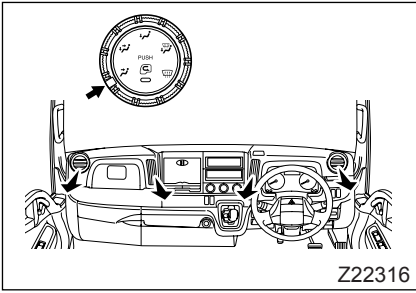
- Outside air
Use this setting when driving in normal conditions.
- Recirculation
Use this setting when the outside air is dirty. Using this setting when parking enables you to prevent dust from entering the cab.

⚠ CAUTION

Using the recirculation setting for a long time will cause air to become stale. If this happens, switch to the outside air setting.



NOTE:

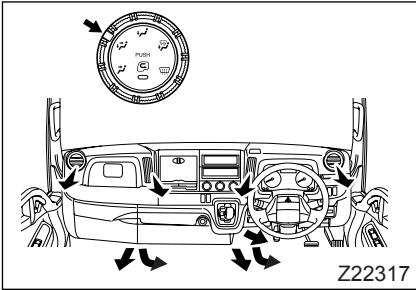
- Select outside air when driving in normal conditions.
- Using the recirculation setting for a long period when humidity is high makes the windows prone to fogging.





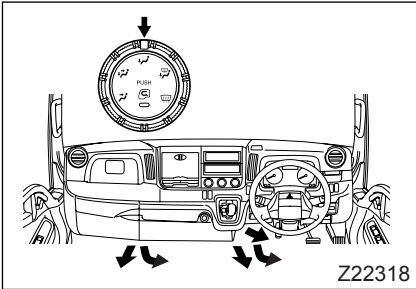
1.4 Mode selector dial



Use the mode selector dial to select outlets as desired.

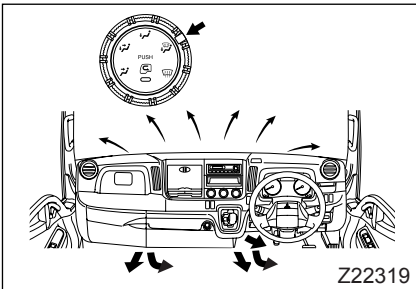
-  For airflow toward the upper body
Place the mode selector dial in the  position.





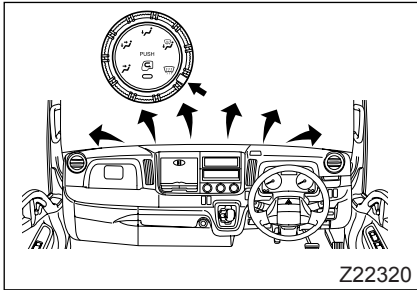
-  For airflow toward the upper body and toward the feet
Place the mode selector dial in the  position.





-  For airflow toward the feet
Place the mode selector dial in the  position.





-  For airflow toward the feet and toward the windshield
Place the mode selector dial in the  position.

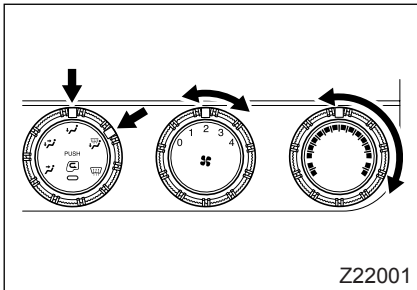


-  For airflow toward the windshield
Place the mode selector dial in the  position.



2 Using the controls

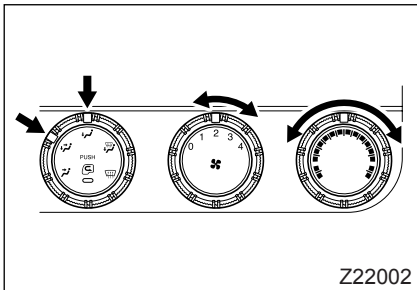
2.1 To heat the cab

Place the mode selector dial in the  position ① or in the  position.




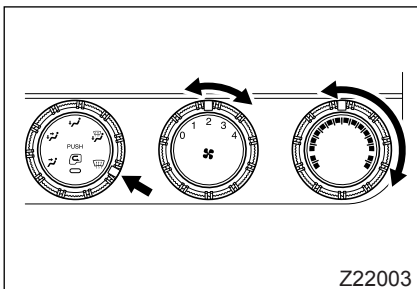
2.2 For cool airflow toward the head and warm airflow toward the feet

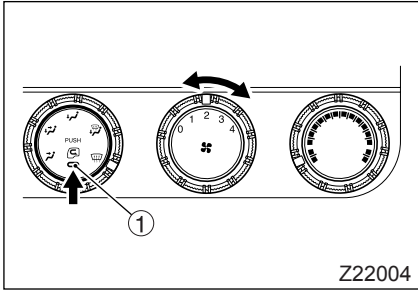
Place the mode selector dial in the  position or in the  position.




2.3 To defog the windshield

Place the mode selector dial in the  position. If you wish to defog the windshield quickly, use the fan speed dial to select the maximum fan speed and use the temperature adjustment dial to select the maximum temperature.






2.4 To ventilate the cab


Press the air selector switch to select outside air, and place the mode selector dial in the  position. When the mode switches to air recirculation, the indicator lamp ① in the switch goes out.


3 Cleaning the air filter

Clean the air filter every 6 months.
 A dust clogged air filter may cause a blower motor malfunction. ⇨  P. 12-108

Rear air conditioner

<Vehicles with rear air conditioner>

 **WARNING**
 Never leave children alone in the cab especially when the air-conditioning is on. They will suffer from dangerously high interior temperatures should the air conditioning accidentally stop.

 **CAUTION**
 To protect the environment, your vehicle's air conditioning system uses refrigerant HFC-134a which does not harm the ozone layer. Since charging the system with this refrigerant requires a method different from the conventional method, be sure to contact your nearest authorized MITSUBISHI FUSO distributor or dealer if your system needs to be serviced.

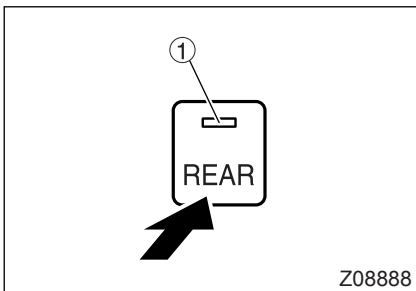
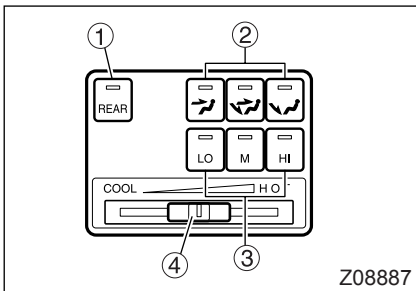
NOTE:

- When using the rear air conditioner, keep the front air conditioner running at the same time. The rear air conditioner cannot cool the air unless the front air conditioner is running.
- Do not release refrigerant into the atmosphere. When necessary because of servicing or scrapping of the vehicle, consult the nearest authorized MITSUBISHI FUSO distributor or dealer in order to have the refrigerant properly removed.
- Both the front and rear air conditioning systems use a common cooling unit. Check the refrigerant level in the cooling unit which is incorporated in the front system if the cooling efficiency has deteriorated.

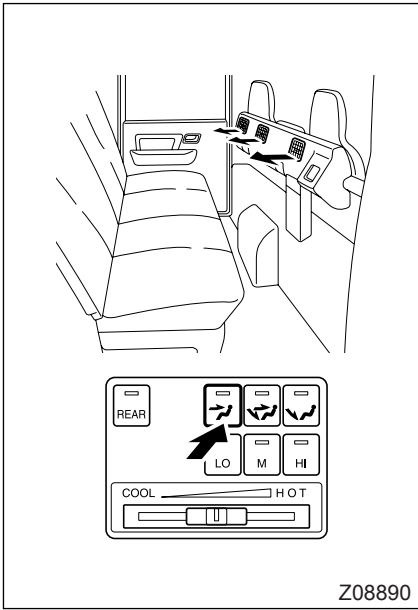
1 Using the controls

- ① Power switch
- ② Mode selector buttons
- ③ Fan speed selector buttons
- ④ Temperature control lever

An inside lamp will light up when any of the above switches or buttons is in the “ON” position.



**1.1 Power switch**

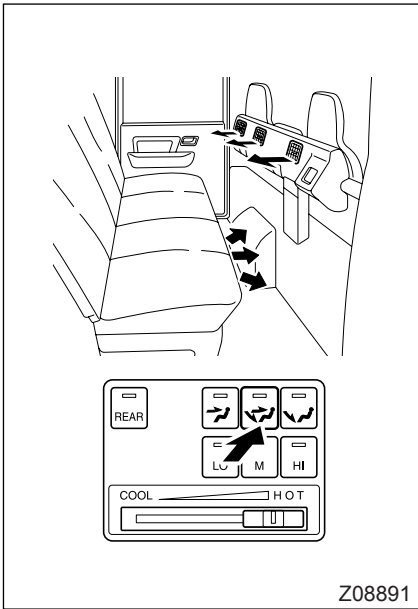
Pressing the power switch activates the rear air conditioner's fan. The lamp ① in the switch comes on at this time. Pressing the switch again stops the fan. The lamp in the switch goes off at this time.







1.2 Mode selector buttons

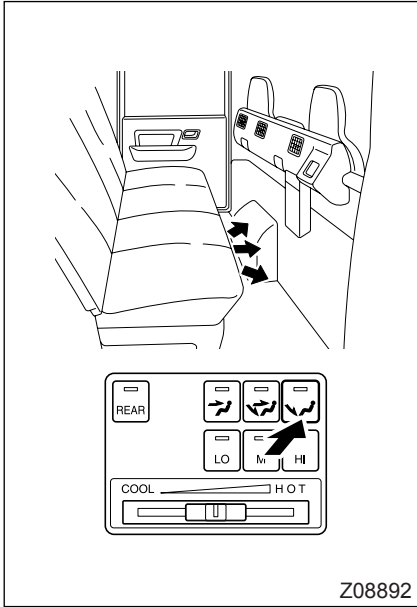
Use the mode selector buttons to select outlets as desired.

-  For airflow toward the upper body
Press the  mode selector button.



-  For airflow toward the upper body and toward the feet
Press the  mode selector button.

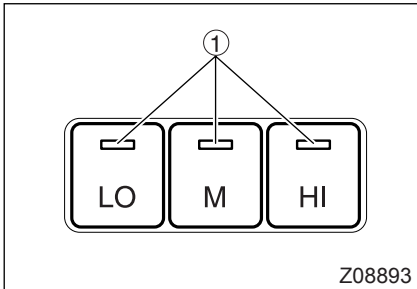
-  For airflow toward the feet
 Press the  mode selector button.



1.3 Fan speed selector buttons

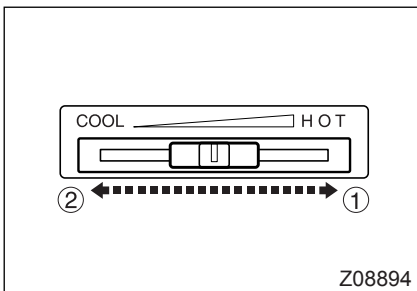
These buttons allow you to select 3 fan speeds. When a button is pressed, the lamp ① in that button comes on.

LO : Weak
 M : Medium
 HI : Strong



1.4 Temperature control lever


Move the temperature control lever toward the ① side to increase the air temperature and toward the ② side to reduce it.

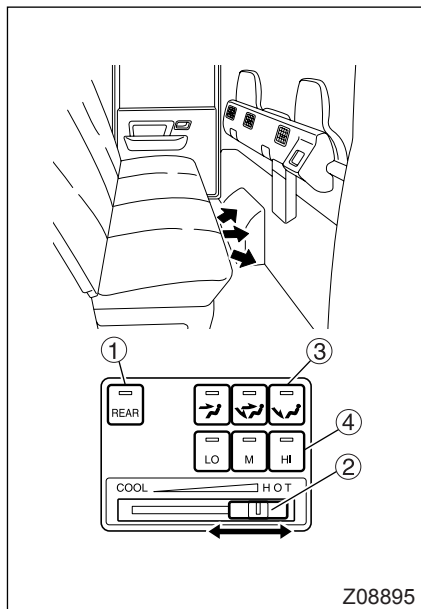


2 Using the controls

2.1 Heating


Warm air is directed toward your feet during the heating operation.

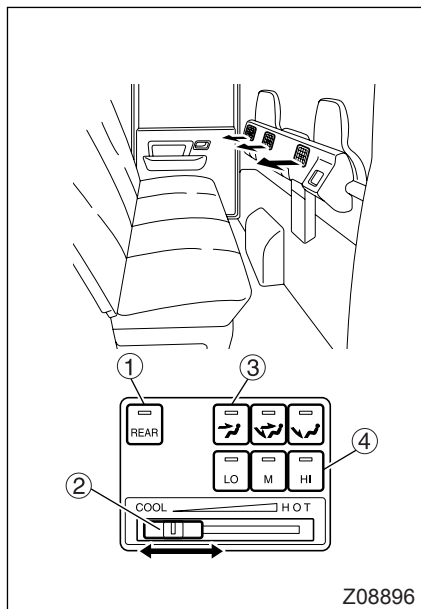
1. Turn ON the power switch ①.
2. Select a comfortable temperature by sliding the temperature control lever ②.
3. Press a mode selector button ③ – normally the  button – to the “ON” position.
4. Adjust the air flow rate by pressing the desired fan speed selector button ④.

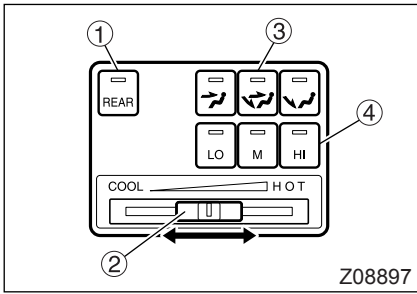


2.2 Cooling

Cool air flows toward your head during the cooling operation.

1. Make sure that the driver's air conditioner switch is in the “ON” position.
2. Turn ON the power switch ①.
3. Slide the temperature control lever ② as necessary for the most comfortable temperature.
4. Press the  mode selector button ③ to the ON position.
5. Adjust the air flow rate by pressing the desired fan speed selector button ④.





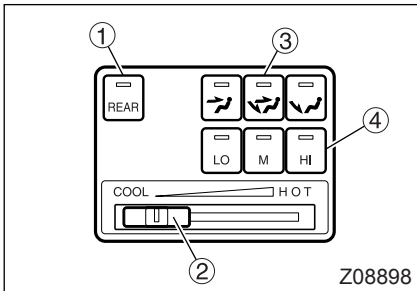
Z08897

2.3 Dehumidifying

The air conditioner cools the air for dehumidification, and warms it again with a heater before it is released through the outlets.

Use this mode of operation when the air feels too humid, for example, in rainy weather.

1. Make sure that the driver's air conditioner switch is in the "ON" position.
2. Turn ON the power switch ①.
3. Move the temperature control lever ② to a middle setting.
4. Select the desired outlets using the mode selector buttons ③ and select the desired fan speed using the fan speed selector buttons ④.



Z08898

2.4 Air circulation

This mode of operation allows the air to circulate inside the cab.

1. Turn ON the power switch ①.
2. Place the temperature control lever ② in a low temperature position.
3. Select desired air outlet combination with the mode selector button ③ and air flow rate with the fan speed selector button ④.

3 Cleaning the air filter

The air filter should be cleaned every 6 months.

A dust clogged air filter may cause a poor air conditioning performance and blower motor malfunction.

⇒ P. 12-108

10. Interior equipment and accessories

| | |
|----------------------------------|-------|
| AM/FM radio | 10-2 |
| AM/FM radio and CD player | 10-11 |
| Using the radio | 10-34 |
| Cigarette lighter | 10-34 |
| Ashtrays | 10-36 |
| Coat hooks | 10-37 |
| Sun visors | 10-37 |
| Interior lamp | 10-38 |
| Step lamp | 10-39 |
| Fluorescent lamp | 10-40 |
| Inside rearview mirror | 10-40 |
| Small article compartments | 10-41 |

AM/FM radio

<Vehicles with AM/FM radio>

You can enjoy listening to the radio when the starter switch is in the "ON" or "ACC" position.

! WARNING

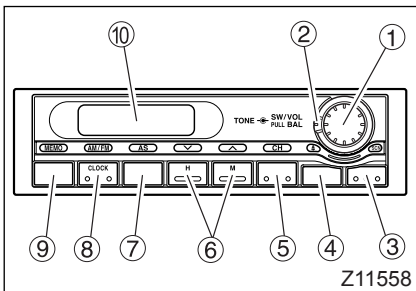
Adjust the speaker volume to a level at which you can still hear sounds outside the vehicle. If the speaker volume is too high, you will be unable to hear sounds that may indicate danger.

! CAUTION

- To avoid draining the battery, do not use the radio and other electrical accessories for extended periods when the engine is not running.
- The audio system may emit noise when radio communication equipment or a mobile telephone is used in the cab. This noise does not indicate a fault. Use mobile telephones as far away from the audio system as possible.
- If a foreign object gets inside the audio system, water splashes on the audio system, or smoke or an abnormal smell is emitted by the audio system, immediately stop using the audio system and have it inspected by an authorized MITSUBISHI FUSO distributor or dealer.

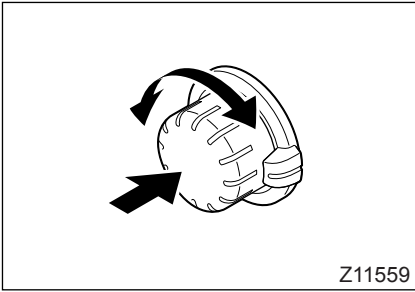
1 Controls and functions

- ① Power switch/volume control knob/balance control knob
- ② Tone control knob
- ③ Scan-tuning button
- ④ Alarm button
- ⑤ Channel selection button
- ⑥ Tuning buttons
- ⑦ AS button
- ⑧ Band selector button
- ⑨ MEMO button
- ⑩ Display



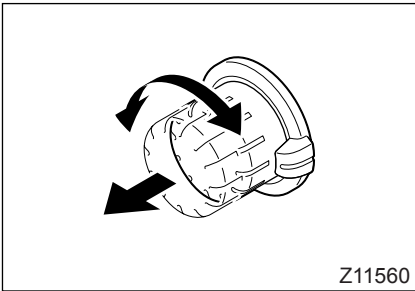
Z11558

The display screen becomes bright when the starter switch is in the "ON" or "ACC" position.

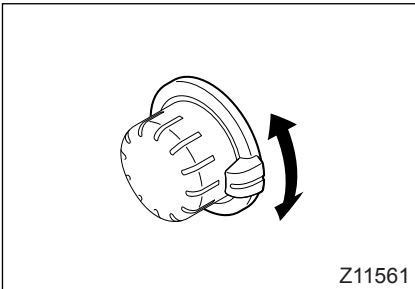


1.1 Power switch/volume control knob/balance control knob

- The radio is turned on or off every time the knob is pressed. A radio station frequency appears in the display when the radio is turned on and five seconds later, it is replaced by a time-of-day display.
- The sound level increases/decreases when the knob is rotated clockwise/counterclockwise.

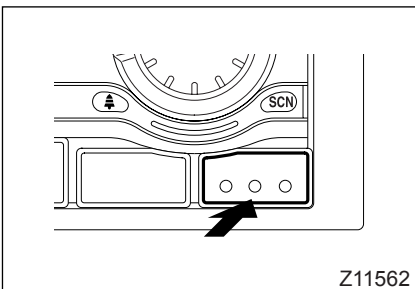


- With the knob pulled out, turning the knob clockwise accentuates the sound from the right-hand speaker and turning it counterclockwise accentuates the sound from the left-hand speaker. After making an adjustment, push the knob back in.



1.2 Tone control knob

Turn the tone control knob clockwise to emphasize high-pitched sounds. Turn it counterclockwise to emphasize low-pitched sounds.



1.3 Scan-tuning button


Pressing this button starts tuning the radio automatically to a station with sufficient signal level for reception. The radio stays tuned to the station for five seconds and then resumes tuning in to the next receivable station of higher frequency.

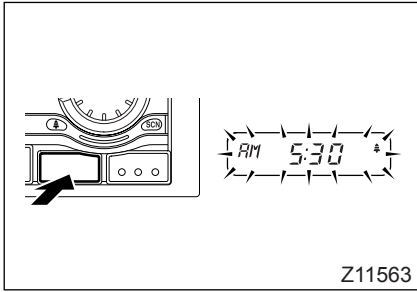
When the radio is tuned to a desired station, press the button once again. The scan-tuning is cancelled and the radio stays tuned to the selected station.

1.4 Alarm button



It is possible to have an alarm sound at a user-selected time.

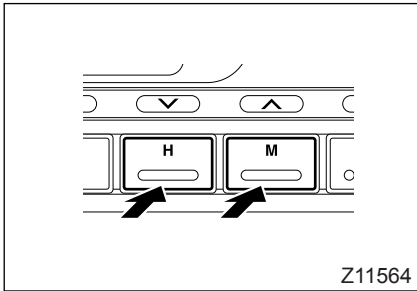
- **Setting the alarm**

1. Press the alarm button for at least two seconds. A beep will be emitted, and the time indication and  mark will start flashing on the display.



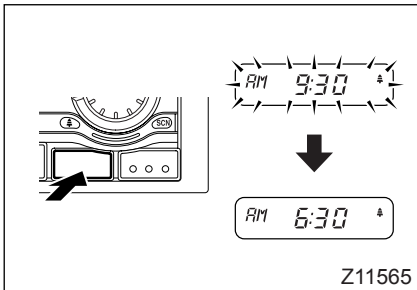
Z11563

2. Use the tuning buttons to set the time at which you want the alarm to sound. Use the  button to set the hour and the  button to set the minutes. If you wish to change the hour or minutes quickly, keep the relevant button pressed.





Z11564

3. Press the alarm button. The alarm will be set, and the flashing of the display will stop and it will return to its original indications.

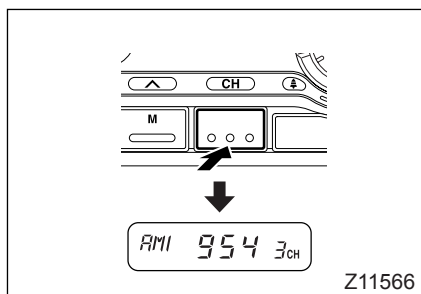


Z11565

- **Turning the alarm ON/OFF**

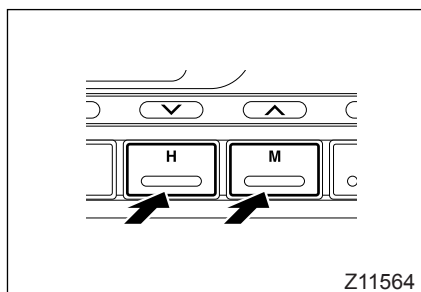
Each time the alarm button is pressed, the alarm toggles from ON to OFF or vice versa. When the alarm is ON, the  mark in the display is illuminated. When the alarm is OFF, the  mark is not illuminated.

When the alarm is ON, it sounds for three minutes from the user-selected time. If you are listening to the radio when the alarm starts sounding, you will hear the alarm together with the radio. To stop the alarm once it has started sounding, press a button other than the power button. If you press the power button, the radio will turn ON/OFF (as relevant).



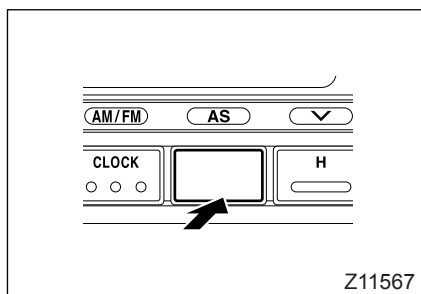
1.5 Channel selection button

Press this button. The radio will tune in to one of the stations programmed in memory. The station's frequency and the number of the associated channel are indicated in the display.



1.6 Tuning buttons

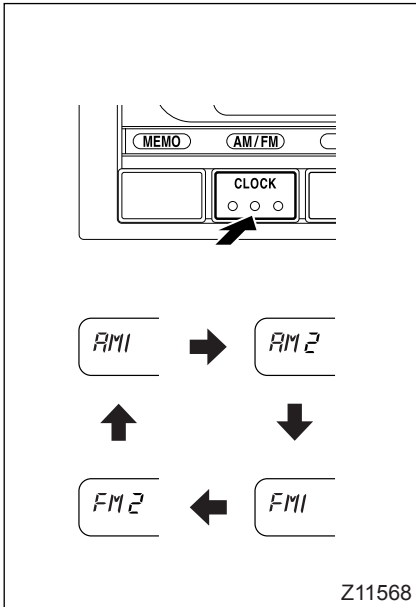
- Every time either button is pressed for a period shorter than one-half second, the frequency changes while being indicated in the display. The frequency changes in either 5-KHz units or 9-KHz units for the AM bands and in 0.1-MHz units for the FM bands. Press the ∇ side of the button to lower the frequency or the \blacktriangle side to raise it.
- When either button is pressed for half a second or longer, a beep is emitted and the radio starts scanning for a station. The radio stops scanning when it finds a station whose signal is good enough for reception.



1.7 AS button

When the AS button is held pressed for two or more seconds, the radio generates a short beep and starts tuning in automatically to receivable stations one after another while programming the stations on the channel selection button, the lowest frequency station first.

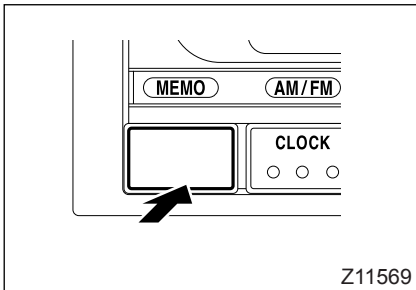
⇒ P. 10-8



1.8 Band selector button

- The radio can receive broadcasts at frequencies within four frequency bands: two AM bands (AM1, AM2) and two FM bands (FM1, FM2). The selected band is indicated in the display.
- Every time the band selector button is pressed for a period shorter than two seconds, the reception mode changes from AM to FM, and vice versa.
- If the button is pressed for a period shorter than two seconds while the radio is receiving a broadcast and the display is showing the time, the indication changes from the time to the frequency. If the button is then not pressed for approximately five seconds, the indication changes back to the time.
- When this button is pressed for two or more seconds, the clock is readied for time setting.

⇒ P. 10-10



1.9 MEMO button

- The MEMO button is used in conjunction with the channel selection button for programming a station into memory (See section 1.10).
- The MEMO button is used also when the clock is set in accordance with a radio time signal.

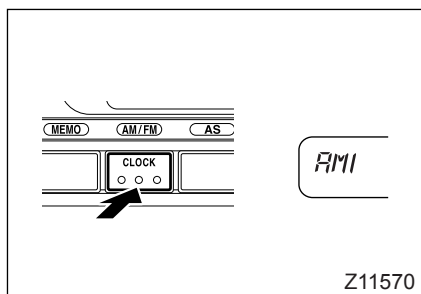
⇒ P. 10-11

1.10 How to program stations

You can program the channel selection button by either of two methods: a method using the MEMO button and a method using the AS button for automatic programming.

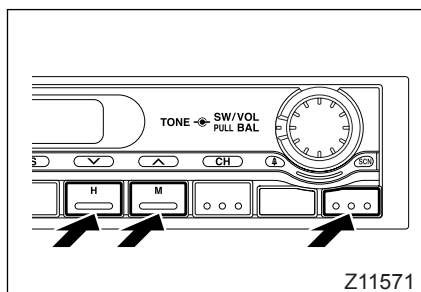
NOTE:

For the AM mode as well as FM mode, a total of twelve stations are programmable on the channel selection button (six stations in the AM1 or FM1 band and six in the AM2 or FM2 band).

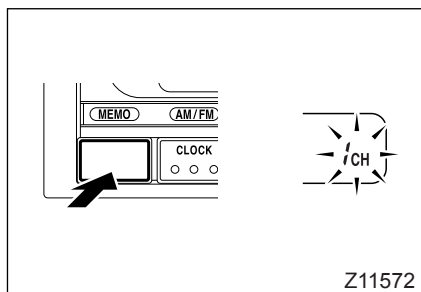


- **Programming by use of MEMO button**

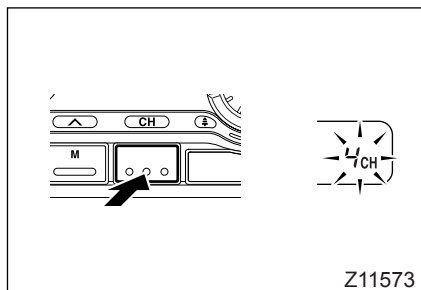
1. Select a desired AM band (AM1 or AM2) or FM band (FM1 or FM2) by pressing the band selector button.



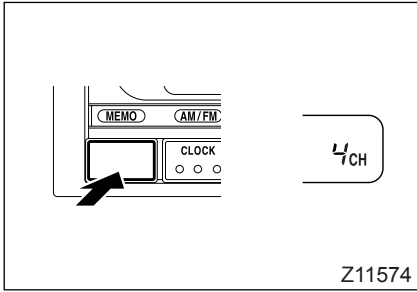
2. Use the tuning or scan-tuning button to tune the radio to a desired station.



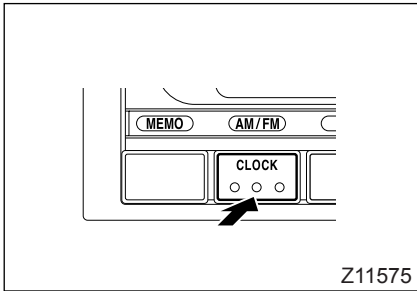
3. Press the MEMO button. The channel indication will start flashing.



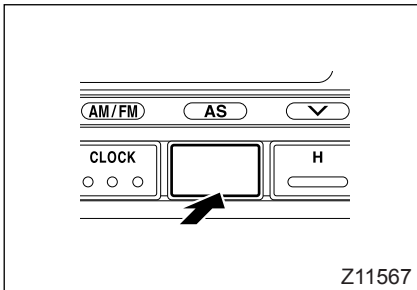
4. Press the channel selection button to display the number of the channel for which you wish to program the station into memory.



5. Press the MEMO button to program the station into memory.



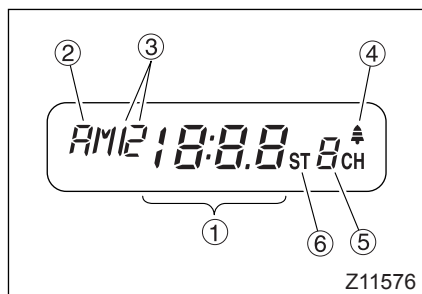
- **Automatic programming by use of AS button**
1. Select a desired AM band (AM1 or AM2) or FM band (FM1 or FM2).



2. Press the AS button for two or more seconds. After a short beep, stations with sufficiently high signal levels are automatically memorized one after another while these stations are being set to each of CH1 to CH6, beginning with the station of lowest frequency. Repeat the same procedure for the remaining bands.

CAUTION

- If the station programming procedure is performed for a channel to which another station is already programmed, the previously memorized station will automatically be cancelled and the newly programmed station will be assigned to the channel.
- The stations programmed in each channel are erased if the battery or fuse is disconnected for an extended time. In this case, you will need to repeat the station programming procedure.



1.11 Display

① Time-of-day/frequency

This area normally displays the time-of-day. When the radio is turned on or an automatic tuning button is pressed, a radio station frequency appears in this area for approximately five seconds. When the radio is turned off, only the time-of-day is displayed.

② AM/FM/PM

• AM

“AM” appearing in this area during the time-of-day display indicates “before noon”.

During the station frequency display, “AM” means that the radio is in the AM broadcast receiving mode.

• FM

“FM” appears in this area when the radio is in the FM broadcast receiving mode.

• PM

“PM” appearing in this area indicates “after noon”.

③ 1, 2

“1” and “2” represent frequency bands 1 and 2. During an AM broadcast reception, either “AM1” or “AM2” is displayed according to the frequency band selected.

The display in this area becomes “FM1” or “FM2” when the radio is in the FM broadcast receiving mode.

④

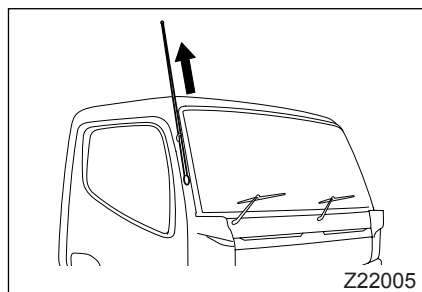
Indicates that the alarm is ON.

⑤ CH

Indicated in this area is the number of the channel selection button corresponding to the station the radio is currently tuned to.

⑥ ST

“ST” appears in this area when an FM stereo broadcast is being received.



2 To listen to the radio

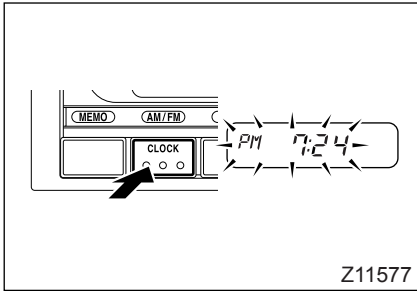
1. Extend the antenna.
2. Press the power switch/volume control knob/balance control knob to turn on the radio. Turn the knob to adjust the volume.
3. Select either AM or FM mode by pressing the band selector button.
Select a desired frequency band from among AM1, AM2, FM1 and FM2 when you use the channel selection button for tuning.
4. Tune the radio to a desired station by using any of the following buttons:
 - Tuning button

- Scan-tuning button
 - Channel selection button
5. Adjust the balance of sound level between the right and left speakers with the power switch/volume control knob/balance control knob and the bass and treble with the tone control knob.
 6. To turn off the radio, press the power switch/volume control knob/balance control knob once again.

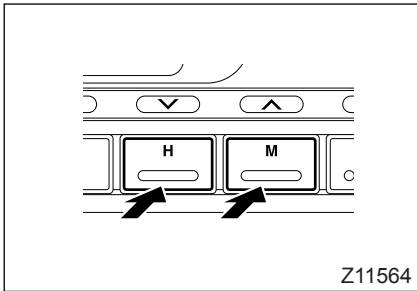
3 Clock

3.1 Setting the time

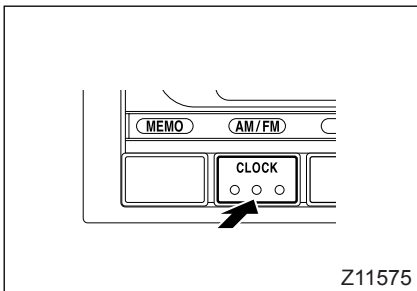
1. Press the band selector button for two or more seconds; a short beep will be heard and the time-of-day display will start flashing.
 2. Press the tuning button to adjust the time. Use the ∇ side to set the hour and press the \blacktriangle side to set the minutes. If you want to change the hour or minutes quickly, keep the button pressed.



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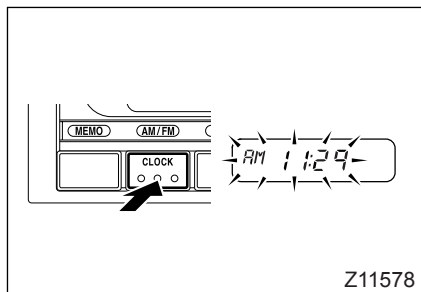


Z11575

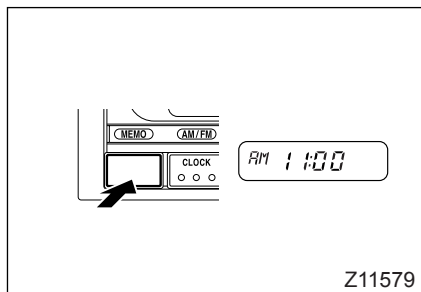
3. After the time has been set, press the band selector button.

NOTE:

- Seconds cannot be adjusted.
- The time can be adjusted even if the radio is turned off as long as the starter switch remains in the "ACC" or "ON" position. If adjusted when the radio is turned off, however, the clock does not produce any beep.
- When the time indication in the display has flashed for 15 seconds, the indicated time is set.



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3.2 Setting the time by radio time signal

1. Press the band selector button for two or more seconds; a short beep will be heard and the time-of-day display will start flashing.

2. Press the MEMO button simultaneously with a radio time signal. The time-of-day display will change as shown in the following example.

Example:

If the time displayed is between 11:00 and 11:29, it will change to 11:00.

If it is between 11:30 and 11:59, it will change to 12:00.

NOTE:

If the battery is disconnected or fuse removed for an extended time, the time indicated changes to "AM 1:00". In this case, you must re-set the clock to the correct time.

AM/FM radio and CD player

<Vehicles with AM/FM radio and CD player>

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

1 Before using the AM/FM radio and CD player

WARNING

- Operate the controls of the audio system only when the vehicle is stopped. Operating them while driving could lead to an accident.
- Adjust the speaker volume to a level that allows you to hear sounds outside the vehicle. If the speaker volume is too high, you may be unable to hear warning sounds and an accident could result.

 **CAUTION**

- Do not put coins or any other objects in the disc slot of the CD player.
- Press the buttons gently; pressing them roughly could cause system malfunctions. Also, avoid touching the display screen (LCD).
- In the event of a trouble with the system (such as foreign objects slipping inside the system, water splashing onto the system, smoke or strange smell from the system, etc.), stop using the system and have it inspected by an authorized MITSUBISHI FUSO distributor or dealer. Do not attempt to repair the system yourself or to continue using it.

NOTE:

- *After parking for a long time in direct sunlight, the CD player may not work normally if its internal parts have become too hot. In this case, wait until the CD player cools down before using it.*
- *Just after turning on the heater or when the cab is very humid, condensation may form inside the audio system and cause the CD player to malfunction. If this happens, remove the CD and leave the player as it is with the power turned on for several minutes to let the condensation evaporate.*

1.1 Tips on using CDs

- Specially shaped CDs, such as square or octagonal CDs, cannot be played using this player. Only use round CDs.
- Store CDs in their cases. Do not expose them to direct sunlight, and do not keep them in a humid or hot place.
- Fingerprints on the shiny side (non-label side) of the CD can impair sound reproduction. Always hold the CD between your two fingers, one in the center hole and the other on the outer edge.
- Use a soft cloth to remove dirt from the disc. Wipe it in straight lines from the center toward the outer edge. Never use thinner or antistatic fluid to clean a CD.
- Do not use cracked or evidently warped CDs. Also avoid using CDs with a printable label surface. Using these CDs may cause the player to malfunction.
- Do not mark the CD with a ballpoint pen or the like. Also do not stick paper or a label on its surface.

- New CDs may have rough inner and/or outer edges (formed by excess material during production). CDs with rough edges may not be inserted into the player or may cause the reproduced sound to skip. If you find any roughness on the edges of a new CD, remove it using a ballpoint pen or other appropriate object before inserting it into the player.

1.2 Discs and files

The audio system on your vehicle can play both music CDs (CD-R, CD-RW and CD-ROM) and MP3/WMA file CDs (CD-R and CD-RW).

• Discs

If the disc is a CD-R or CD-RW, the player cannot play it if the recording technology used to write data to the disc and its physical format are inappropriate for the system.

The following discs cannot be played by this system:

- Warped, damaged or contaminated discs
- Discs with broken data
- Discs with data recorded by packet writing
- Discs not finalized

NOTE:

- *Packet writing is one of the technologies used for recording data on CD-R/CD-RW.*
- *Finalization involves writing data which indicates that the medium (such as CD-R/CD-RW) will not accept any more data written to it, in order to make it compatible with reproduction systems. For details on finalization, please refer to the instruction manual of your CD-R/CD-RW writing software or CD-R/CD-RW recorder.*

• MP3/WMA files

- MP3 (MPEG1/2 Audio Layer III) is a standard coding format for digital audio data compression.
- WMA (Windows Media® Audio) is the coding format for digital audio data compression developed by Microsoft Corporation.

NOTE:

- *Windows is a registered trademark of Microsoft Corporation in the United States and other countries.*
- *Windows Media is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.*

• **File specifications**

| | |
|---------------------------------------|---------------------------------------|
| Bit rate | MPA: 8 – 320 kbps |
| | WMA: 64 – 161 kbps (VBR) |
| Sampling frequency | MPEG-1 LAYER2/3: 32, 48, 44.1 (kHz) |
| | MPEG-2 LAYER2/3: 16, 22.05, 24 (kHz) |
| | MPEG-2.5 LAYER3: 8, 141.025, 12 (kHz) |
| Format | ISO/IEC 11172-3.13818-3 |
| Maximum number of layers of directory | 8 |
| Maximum number of folders | 200 |
| Maximum number of files | 512 |

- This audio system recognizes files as MP3/WMA files and reproduces them only if their file names have the extension “.mp3” or “.wma” representing MP3 or WMA.
- The system supports VBR (variable bit rate) encoded audio files.
- The system supports multi-session files. However, it will not reproduce any session that is not closed.

NOTE:

- *Bit rate is the amount of data (number of bits) processed per second. Variable bit rate (VBR) is a method in which the bit rate is varied during the data encoding process.*
- *Sampling frequency refers to the number of times that analog signals are converted into digital signals (AD conversion) in one second.*
- *Multisession is a writing format applicable to recordable CDs (such as CD-R). Closing means the process to record a session closing statement at the end of writing.*
- The system cannot reproduce the following files:
 - MP3i and MP3PRO format files
 - MP3 files in an inappropriate format
 - Layer 1/Layer 2 format files
 - When reproducing WMP 10/WMP 9 encoded WMA files, those parts with functional expansion from WMA 8 (i.e., Pro, Lossless and Voice) are not supported.
 - WMA files with validated digital rights management (DRM)
 - Other audio files such as WAVE

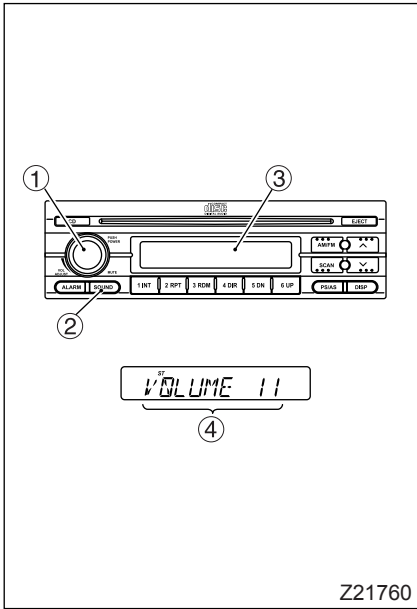
-
- If a CD concurrently contains music CD (CD-DA) data and MP3/WMA files, only the data that is first detected is reproduced. If such a CD is played, abnormal reproduction may result, including no sound.
 - When a VBR encoded file is played back, the system may not display the correct playing time. The difference between the actual and displayed playing times may increase after fast-forward or fast-reverse operation.

NOTE:

- *MP3i and MP3PRO are data compression formats derived from MP3.*
- *WAVE is the standard audio file format of Windows.*
- *ID3 tag/WMA tag*
 - *You can write additional character data, called ID3 tags, to MP3 files in order to record track titles, artists' names, etc. The system supports ID3 tags of Versions 1.0, 1.1, 2.2, 2.3 and 2.4.*
 - *As with MP3 files, you can write additional character data, called WMA tags, to WMA files in order to record track titles, artists' names, etc.*
- *The number of characters that can be used for file/folder names varies depending on the file system and format of each CD. The system supports the following standards. (The number of characters shown here includes the extension.)*
 - *ISO 9660 Level 1: 12 characters maximum*
 - *ISO 9660 Level 2: 31 characters maximum*
 - *Romeo: 128 characters maximum*
 - *Joliet: 64 characters maximum*
 - *Long File Name: 128 characters maximum*

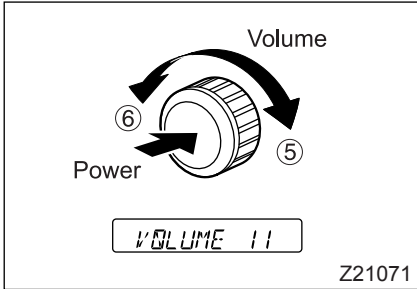
2 Some advice on use of CDs

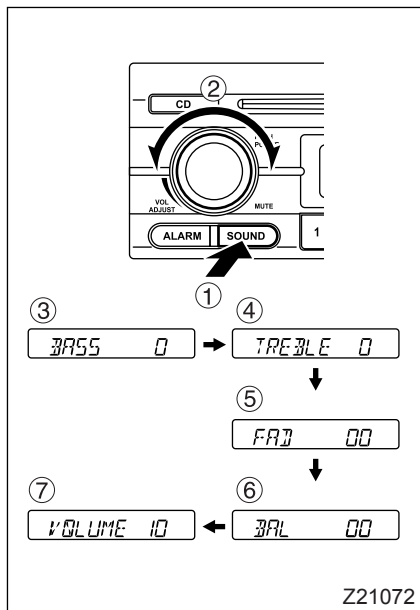
- ① Power/volume knob
- ② SOUND button
- ③ Display
- ④ Volume/adjustment mode indication



2.1 Volume

- Use the power/volume knob to adjust the volume.
- Press the knob to turn on the audio system. Give the knob a long press to turn off the system.
- Turn the knob clockwise ⑤ to increase the volume, or counterclockwise ⑥ to reduce it.
- The volume is adjustable from levels 0 to 41.
 - The volume/adjusting mode display shows the selected volume level.
Example: Volume level 11
- With the system switched on, briefly pressing the knob mutes the sound, and pressing it again turns the sound on.
 - The display will show "MUTE".





2.2 Adjusting the tone and fade/balance

Use both the “SOUND” button ① and power/volume knob ② to adjust the tone of the sound and the fader (front-rear audio level balance)/balance (right-left audio level balance).

1. Press the “SOUND” button to select the desired adjustment mode.
 - Each time the “SOUND” button is pressed, the adjustment mode will change as follows: “BASS” ③ → “TREBLE” ④ → “FAD” (fader) ⑤ → “BAL” (balance) ⑥ → “VOLUME” ⑦

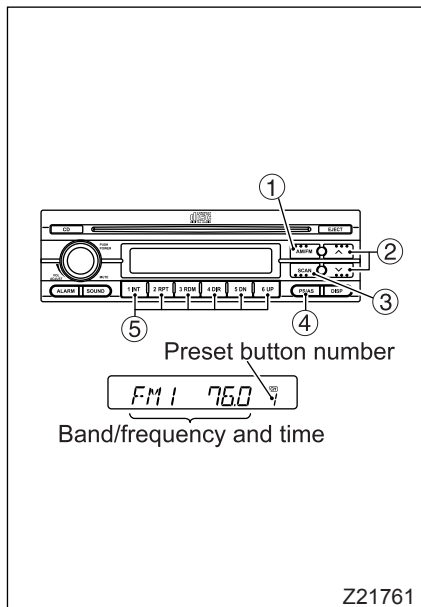
If you do no operation in the 5-second period after selecting a mode, the mode will be automatically cancelled.
2. Make adjustments as desired in the selected mode by turning the power/volume knob.

• **Adjustment modes**

| Adjustment mode | Display indication | Adjustable range | Description |
|------------------------|--------------------|------------------|--|
| Bass tone adjustment | BASS | -5 to +5 | If the displayed number has a minus sign, bass tone is de-emphasized as the number increases; bass tone is emphasized if the number has a plus sign. The number 0 represents the neutral adjustment. |
| Treble tone adjustment | TREBLE | -5 to +5 | If the displayed number has a minus sign, treble tone is de-emphasized as the number increases; treble tone is emphasized if the number has a plus sign. The number 0 represents the neutral adjustment. |
| Fader adjustment | FAD | R15 to F15 | If the displayed number is preceded by "FAD F", the audio level of the front speakers increases while that of the rear speakers decreases as the number increases. The result is the reverse if the number is preceded by "FAD R". |
| Balance adjustment | BAL | R15 to L15 | If the displayed number is preceded by "BAL L", the audio level of the left speakers increases while that of the right speakers decreases as the number increases. The result is the reverse if the number is preceded by "BAL R". |

NOTE:

If the audio system has no rear speakers connected, selecting an increased "FAD R" number in the fader adjustment mode will result in too small overall sound volume. Select the neutral adjustment or an appropriate "FAD F" number instead.

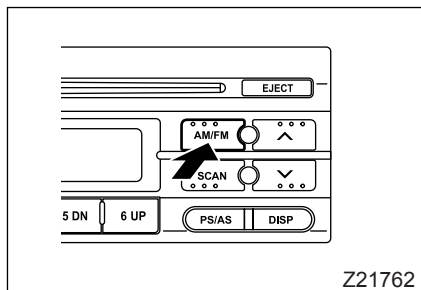


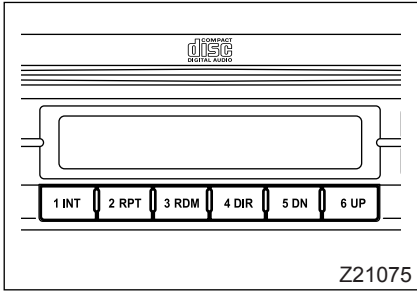
3 Radio

- ① “AM/FM” button (FM1/FM2/AM1/AM2 selector button)
- ② “^” and “v” tuning buttons
- ③ Scan search button
- ④ “PS/AS” button (automatic tuning/memory button)
- ⑤ Preset buttons

3.1 To listen to the radio

1. Extend the antenna. ⇒ P. 10-34
2. With the starter switch in the “ACC” or “ON” position, press the power/volume knob or the “AM/FM” button to turn on the radio.
Give the power/volume knob a long press to turn off the radio.
3. Tune to the desired station.
 - Press the “AM/FM” button.
If the audio system has been in the CD player mode, it will switch to the radio mode.
If the system has been switched to the radio mode, the band changes in the following sequence each time you press the button:
FM1 → FM2 → AM1 → AM2.





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- To tune to a preset station, use either of the following methods:
 - Press one of the preset buttons “1” to “6”.
 - Press the “PS/AS” button. The radio will automatically tune to a preset station and receive signals from the station for 10 seconds before tuning to the next preset station. Press the button a second time during the 10-second period to stay tuned to a desired station.
 - To tune to a non-preset station, press the “^” or “v” button.
 - The display indicates “ST” when tuned to a stereo broadcasting station.
4. Adjust the volume using the power/volume knob.
 5. Make the fader, balance and tone adjustments using the “SOUND” button and power/volume knob.

3.2 Manual tuning

Use the “^” or “v” button.

^: Press this button for higher frequencies.

v: Press this button for lower frequencies.

If you keep pressing one of these buttons, the frequency changes quickly upward or downward.

3.3 Automatic tuning using the “^” and “v” buttons

Give the “^” or “v” button a long press (more than 1 second) and then release it.

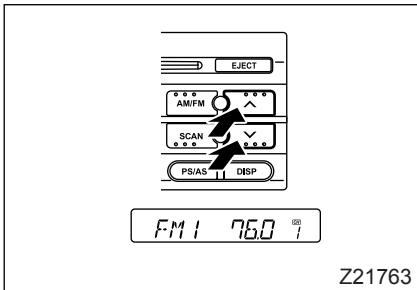
After a short beep, the radio starts automatic tuning. It will then stay tuned to the first station with good reception.

^: Press this button for higher frequencies.

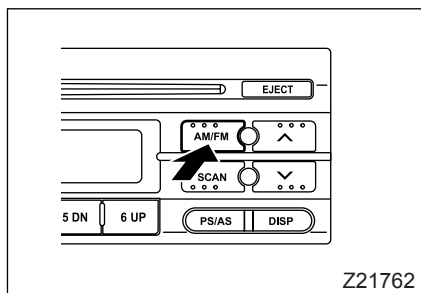
v: Press this button for lower frequencies.

NOTE:

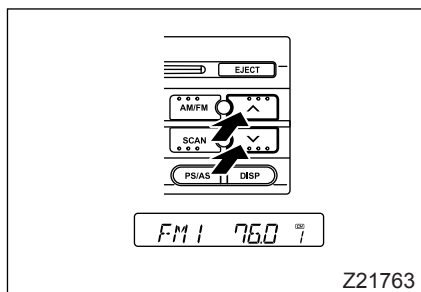
Use manual tuning if you cannot tune to a desired station by automatic tuning due to poor signal reception.



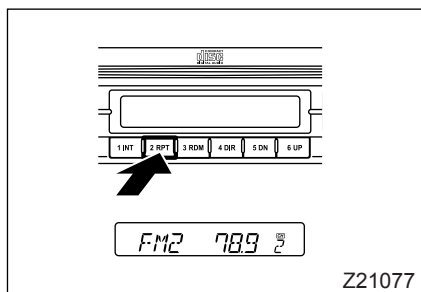
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3.4 Programming stations to preset buttons

• Manual programming

1. Select the desired band from FM1, FM2, AM1 and AM2 using the “AM/FM” button.

2. Make the frequency of your desired station appear on the display by using the “^” or “v” tuning button.

^: Press this button for higher frequencies.

v: Press this button for lower frequencies.

If you give the “^” or “v” button a long press (more than 1 second) and then release it, the radio starts automatic tuning after a short beep and will then stay tuned to the first receivable station.

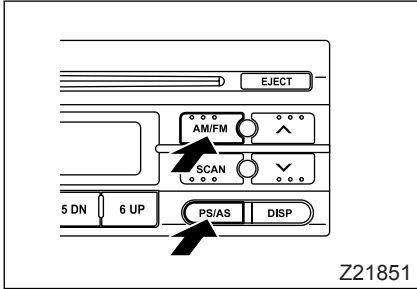
NOTE:

Use manual tuning if you cannot tune to a desired station by automatic tuning due to poor signal reception.

3. Give the desired preset button a long press. A short beep will sound indicating that the selected station has been programmed to the button.

NOTE:

- If you program a new station to a preset button to which another station has previously been programmed, the original station will be automatically cancelled.
- If the battery is disconnected or the associated fuse is removed, all stations programmed to preset buttons are erased from memory and you will need to program the stations again.



• **Automatic programming**

1. Select the desired band from FM1, FM2, AM1 and AM2 using the “AM/FM” button.
2. Give the “PS/AS” button a long press.
The radio will start automatic tuning. Each time the radio tunes to a station with good reception, the station is automatically programmed to a preset button. The lowest frequency station is programmed to button “1” and the highest frequency station is programmed to button “6”.

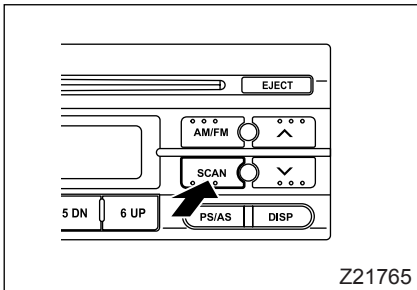
NOTE:

If the number of stations with good enough reception for automatic tuning is smaller than the number of preset buttons, the remaining buttons may maintain the original memory.

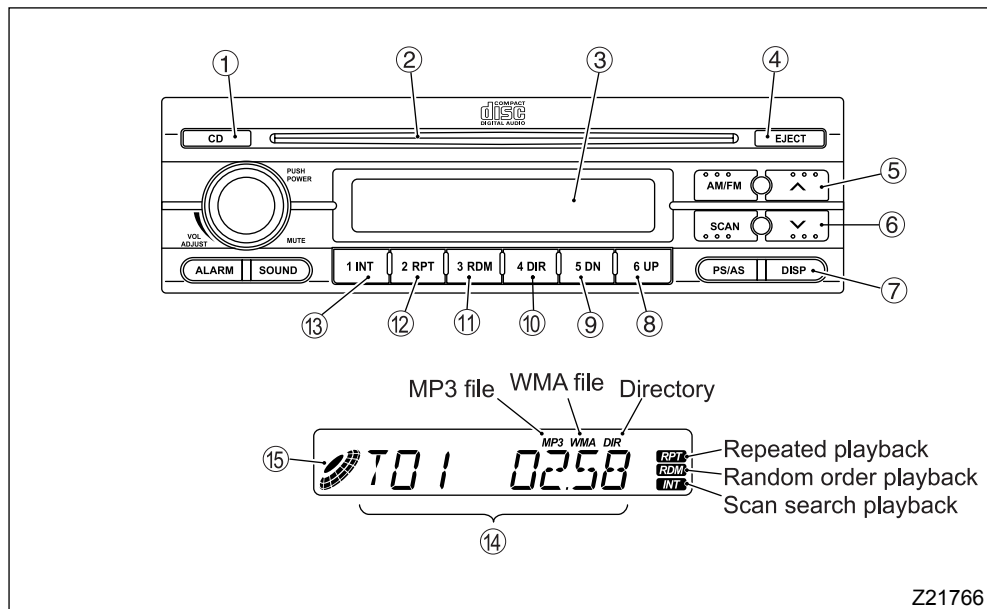
3. After completing the automatic programming, the radio will tune to all the memorized stations one after another, receiving the broadcast from each station for 10 seconds. If you press the “PS/AS” button another time, the radio stays tuned to the station being received at that time.

3.5 Automatic tuning using the “SCAN” button

- Press the “SCAN” button. The radio will automatically tune to a station of a higher frequency.
- The radio receives the broadcast from the station for 10 seconds. After the 10-second period, the radio will start the next scan tuning.
- To stop the scan tuning, press any other button.



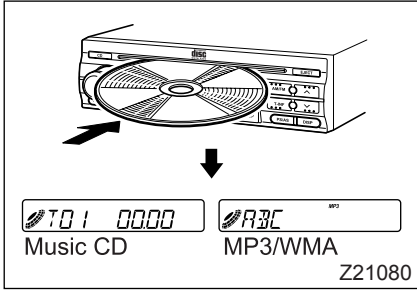
4 CD player



Z21766

- ① "CD" button
- ② Disc slot
- ③ Display
- ④ Disc eject button
- ⑤ Upward track search button/fast forward button
- ⑥ Downward track search button/fast reverse button
- ⑦ "DISP" button (display selector button)
- ⑧ Upward folder search button (MP3/WMA)
- ⑨ Downward folder search button (MP3/WMA)
- ⑩ Directory button (MP3/WMA)
- ⑪ Random play button
- ⑫ Repeat button
- ⑬ Scan search playback button
- ⑭ Music information and time display
- ⑮ "Disc in" indication

- The CD player turns on if you press the power/volume knob or "CD" button, or if you insert a disc into the disc slot when the starter switch is in the "ACC" or "ON" position.
- Inserting a disc into the disc slot will switch the audio system to the CD player mode even while you are listening to the radio.



4.1 Playing a CD

1. Insert the CD into the disc slot with the labeled surface facing up.
2. The CD player will automatically turn on and start playback.
 - In the case of a music CD, the track number and the playing time are displayed.
 - In the case of an MP3 or WMA file CD, "MP3" or "WMA" will be displayed in addition to the file name, directory or playing time.

CAUTION

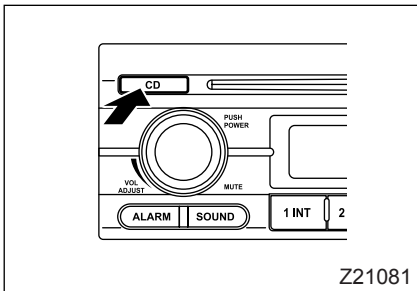
Do not try to play an 8 cm (3-inch) CD with this system. An adapter used with it may cause the CD player to become faulty.

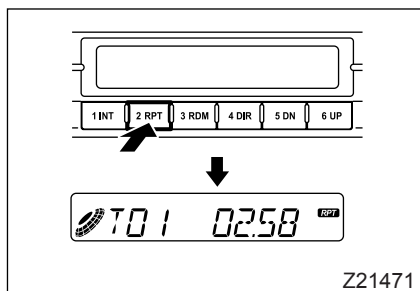
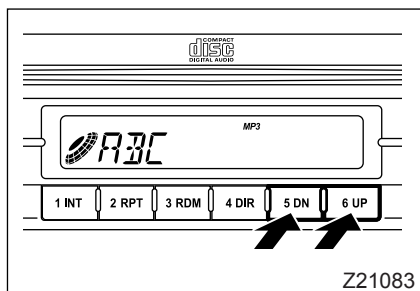
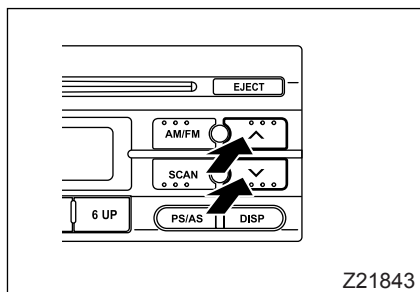
NOTE:

- A "disc in" message is displayed when a CD is already inside the player.
- After inserting a CD, the player takes several seconds to read data before starting playback. It will usually take longer for a CD-RW than for other types of CD.

4.2 Switching to CD playing while listening to the radio

If you press the "CD" button while a CD is inside the player, playback will start beginning with the track segment just after the one at which the previous playback stopped.





4.3 Basic operations

• Fast forwarding/fast reversing

- Press the “^” or “v” tuning button for as long as necessary. Rapid disc reading continues forward or backward until the button is released.

^: Press this button for fast forwarding.

v: Press this button for fast reversing.

- Playback starts as soon as you release the button.

• Track searching

Press the “^” or “v” tuning button until the display indicates the desired track number.

^: Press this button for a higher track number.

v: Press this button for a lower track number.

• Folder searching (MP3/WMA file CDs)

Press the “5” or “6” preset button as many times as necessary to make the desired file title appear on the display.

5: Press this button once for the next file.

6: Press this button once for the preceding file.

The display will indicate the title of the folder and then the title of the first file.

• Pausing the playback

The currently playing track is paused if you press the “CD” button. Press the button another time to cancel the pause mode.

NOTE:

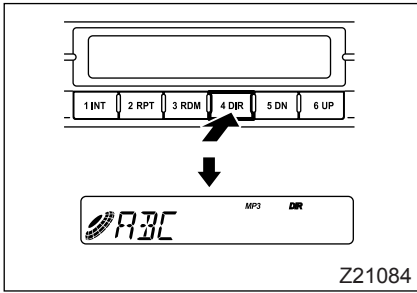
- Track searching is possible within the same folder for an MP3/WMA file CD.
- While an MP3/WMA file is being fast-forwarded or fast-reversed, the sound will be reproduced only intermittently.

4.4 Repeating the same track

- Press the “2” preset button.
- The display will show “RPT”. (Playback of the next track will be repeated if you press the button between two tracks.)
- Pressing the same button again cancels the repeated playback mode.

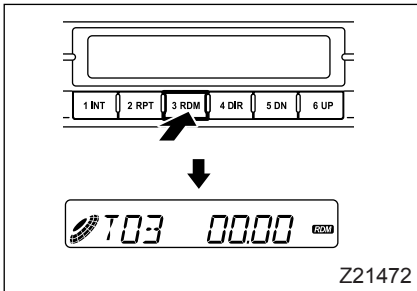
4.5 Repeating the music programs in a folder (MP3/WMA file CDs)

- Press the “4” preset button.
- The display will show “DIR”.
- Pressing the same button again cancels the repeated playback mode.



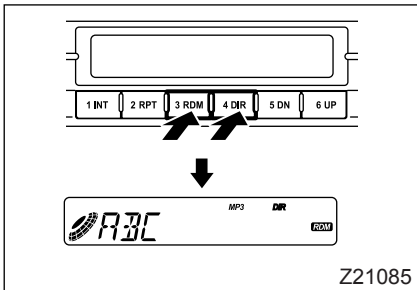
4.6 Playing the tracks in random order

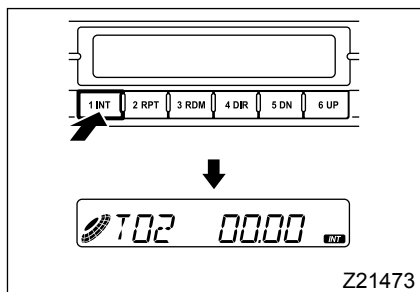
- Press the “3” preset button.
The tracks on the CD will be played back in a different order from the recorded order.
- The display will show “RDM”.
- Pressing the same button again cancels the random playback mode.



4.7 Playing the music programs in a folder in random order (MP3/WMA file CDs)

- Press the “4” preset button to make “DIR” appear on the display, then press the “3” preset button.
Alternatively, press the “3” preset button to make “RDM” appear on the display, then press the “4” preset button.
- The display shows both “DIR” and “RDM” simultaneously.
- Pressing the “3” preset button again plays the programs in a folder in repeated playback mode. Pressing the “4” preset button again plays the programs in random playback mode.



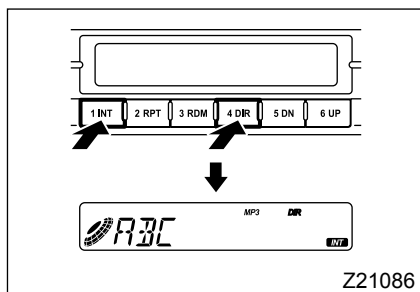


4.8 Scan search playback

The player plays back the first 10-second part of each track one after another.

This function is useful for finding your favorite piece of music.

- Press the “1” preset button.
- The display shows “INT”, and the player starts playing the first 10-second part of each of the next and following tracks one after another.
- Pressing the same button again cancels the scan search playback mode.



4.9 Scan search playback for programs in folder (MP3/WMA file CDs)

- Press the “4” preset button to make “DIR” appear on the display, then press the “1” preset button.

Alternatively, press the “1” preset button to make “INT” appear on the display, then press the “4” preset button.

- The display shows both “DIR” and “INT” simultaneously, and the player starts playing the first 10-second parts of the programs in a folder one after another.
 - Pressing the “1” preset button again plays the programs in the folder in repeated playback mode.
- Pressing the “4” preset button again resumes the scan search playback mode.

4.10 Selecting information items on the display (MP3/WMA file CDs)

- Each time you give the “DISP” button a long press, the display toggles among information items in the following sequence:

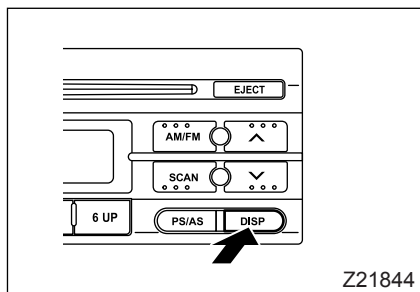
File title → File number → ID3 tag → Folder title

- When the ID3 tag display is selected, the following items are displayed sequentially and repeatedly:

Title name → Artist name → Album name

NOTE:

ID3 tag is not displayed if it contains no entries.



4.11 Ejecting a disc

- If you press the “EJECT” button, the player stops playback and ejects the disc.
- As soon as you remove the disc, the radio starts receiving the station you last listened to.

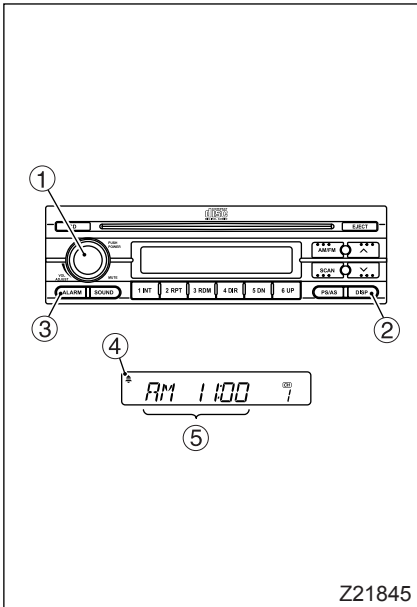
NOTE:

To protect the disc from dust or other contamination, the disc is drawn back inside the player automatically if it is left in the ejected state for 10 seconds. Automatic playback does not start in this case.

5 Clock

- ① Power/volume knob
- ② “DISP” button (display selector button)
- ③ “ALARM” button
- ④ Alarm symbol
- ⑤ Time

The clock is always displayed when the starter switch is in the “ACC” or “ON” position and the audio system is turned off.

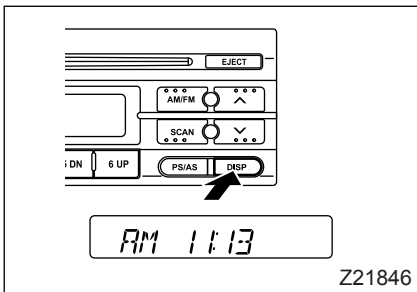


Z21845

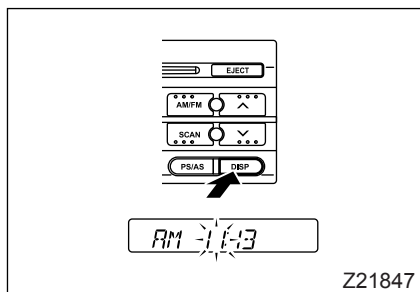
5.1 To display the clock in other conditions

- When the starter switch is in the “ACC” or “ON” position and the audio system is turned on, the clock can be displayed by pressing the “DISP” button.

When the starter switch is in the “LOCK” position or the key is removed from the starter switch, give the “DISP” button a long press to make the clock appear on the display.

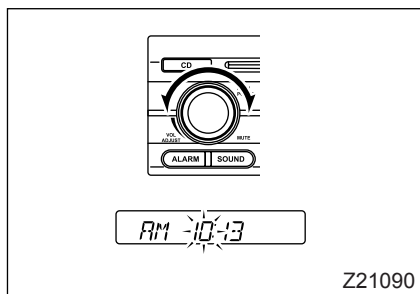


Z21846

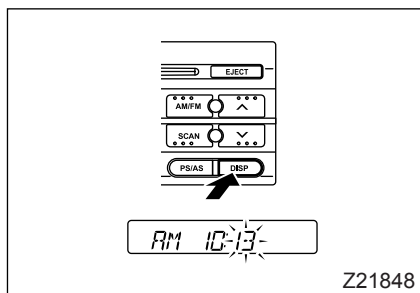


5.2 Setting the clock

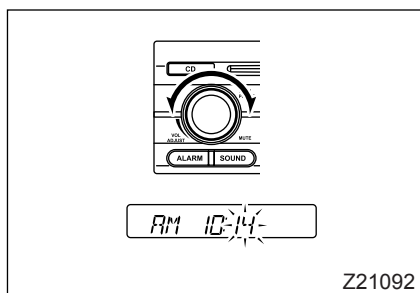
1. Give the “DISP” button a long press while the display is showing the time of day. A short beep will sound, and the hour part of the time display will start flashing.



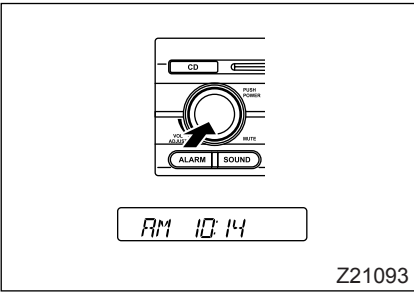
2. Adjust the hour by turning the power/volume knob.
Clockwise: The hour increases.
Counterclockwise: The hour decreases.



3. Press the “DISP” button. A short beep will sound, and the minute part of the time display will start flashing.



4. Adjust the minutes by turning the power/volume knob.
Clockwise: The minutes increase.
Counterclockwise: The minutes decrease.



- Press the power/volume knob to complete the clock setting. The original display will resume about 5 seconds later.

6 Alarm

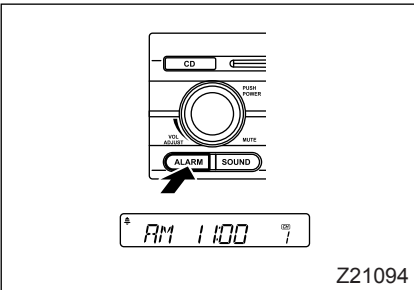
If you set the alarm to the desired time, a buzzer will sound at the preset time.

NOTE:

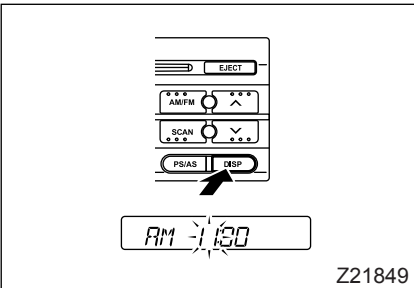
The alarm time setting is cancelled if the battery is disconnected or the associated fuse is removed. You will then need to set the alarm time again.

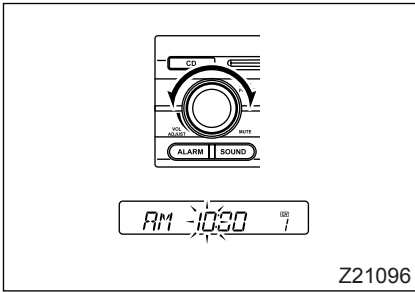
6.1 Setting the alarm time

- Press the “ALARM” button to switch to the alarm time display.

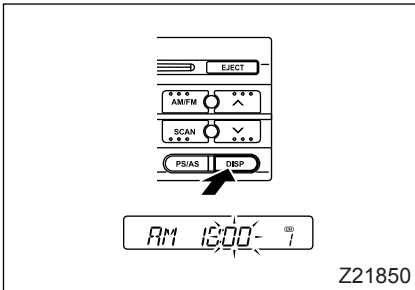


- With the alarm time appearing on the display, give the “DISP” button a long press. A short beep will sound, and the hour part of the alarm time display will start flashing.

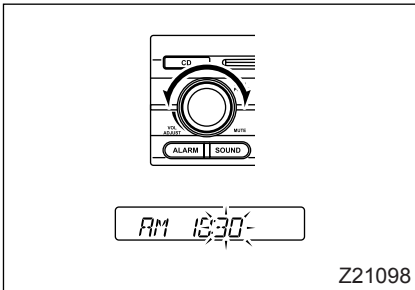




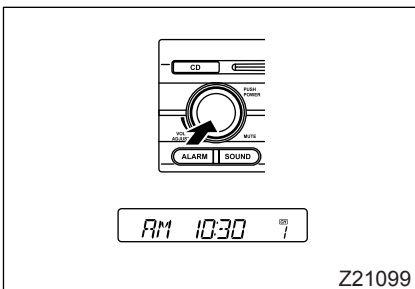
3. Adjust the hour by turning the power/volume knob.
Clockwise: The hour increases.
Counterclockwise: The hour decreases.



4. Press the "DISP" button. A short beep will sound, and the minute part of the time display will start flashing.



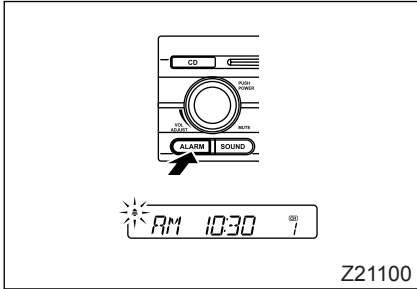
5. Adjust the minutes by turning the power/volume knob.
Clockwise: The minutes increase.
Counterclockwise: The minutes decrease.



6. Press the power/volume knob to complete the alarm time setting.
The original display will resume about 5 seconds later.

NOTE:


Even with the starter switch in the "LOCK" or "ACC" position, you can display the preset alarm time by pressing the "ALARM" button.



6.2 Activating the alarm

- Giving the "ALARM" button a long press activates (arms) the alarm; giving another long press deactivates (disarm) the alarm. A short beep sounds every time the alarm is activated or deactivated.

If the alarm time is not yet set, the display automatically changes to the alarm time setting screen. You should then set the alarm time according to the procedure described in the preceding paragraph.

- Alarm symbol  appears when the alarm is activated. It disappears when the alarm is deactivated.
- The alarm buzzer sounds even during radio reception or CD playback, the beep being superimposed on the radio or CD sound.
- The alarm buzzer sounds at the preset time and the beep lasts 3 minutes. To stop the beep, push any button other than the power/volume knob. If you push the power/volume knob, the alarm stops and the radio turns on or off.

NOTE:

- *You can activate or deactivate the alarm by giving the "ALARM" button a long press even when the starter switch is in the "LOCK" or "ACC" position.*
- *The set alarm time will be cleared if you do not operate any radio/CD player control for one week or you do not operate the vehicle (i.e. the starter switch is not turned to the "ON" or "ACC" position) for one week.*
- *The alarm is triggered regardless of the starter switch position. We recommend deactivating the alarm when not using it.*

7 Audio system problems, probable causes and actions

• General problems

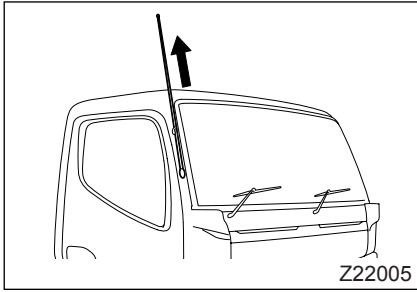
| Symptom | Probable cause | Action |
|---------------------------|--|---|
| System produces no sound. | <ul style="list-style-type: none"> • The mute is turned on. • Fader adjustment is inappropriate. | <ul style="list-style-type: none"> • Turn off the mute. • Adjust the fader appropriately. |
| Poor sound quality | There is a mobile phone or other device producing interfering radio waves near the audio system. | Move the device away from the system. If the condition persists, contact an authorized MITSUBISHI FUSO distributor or dealer. |

• Radio

| Symptom | Probable cause | Action |
|---|--|--|
| Poor sound quality | Poor signal reception | Retune to an analog broadcasting station. |
| Automatic preset button programming takes too long. | Number of good receiving stations is less than 6. | Move the vehicle to a place where 6 or more good receiving stations are available and perform automatic preset button programming again. |
| No stations can be programmed to preset buttons. | This symptom occurs rarely during preset button programming using manual tuning. | Use automatic tuning for preset button programming. |

• CD and player

| Symptom | Probable cause | Action |
|--|--|---|
| CD cannot be played back. CD cannot be inserted. | <ul style="list-style-type: none"> • CD is inserted upside down. • CD is cracked. • There is a foreign object inside the CD slot. • Inappropriate data written to CD. • Of a disc having both music data and MP3/WMA files, an MP3/WMA file is played back. | <ul style="list-style-type: none"> • Reinsert the CD correctly. • Use a CD without cracks. • Remove the foreign object. • Check the CD data format is appropriate. • Skip a non-reproducing track. |
| A CD-R/CD-RW cannot be reproduced with your vehicle's system although it can be played back with another audio system. | MP3/WMA files have been produced using an improper combination of CD-R/CD-RW writing software and CD-R/CD-RW recorder. | Reconfirm information on MP3/WMA and use a proper combination of software and recorder. |
| Sound skips. Noise in sound. | <ul style="list-style-type: none"> • CD is cracked. • There is a foreign object inside the CD slot. | <ul style="list-style-type: none"> • Use a CD without cracks. • Remove the foreign object. |
| CD cannot be ejected. | Label of the CD inside player is peeling off. | Contact an authorized MITSUBISHI FUSO distributor or dealer. |



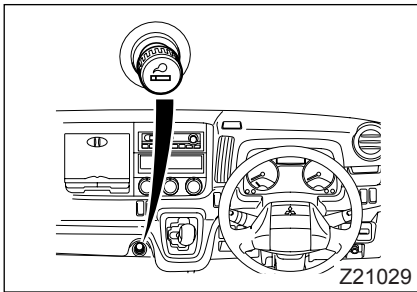
Using the radio

The radio (optional) can be used with the starter switch in the "ON" position or "ACC" position.

CAUTION

Using the radio for an extended period without the engine running could drain the battery.

- Extend the antenna before using the radio. Retract the antenna when it is likely to cause an obstruction, for example, when tilting the cab.



Cigarette lighter

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

Push the cigarette lighter all the way in. It will soon pop back to the original position with its core red hot. Pull out and use.

**WARNING**

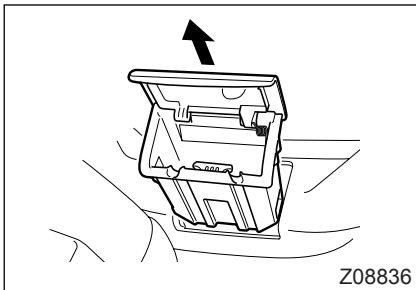
- Do not hold the cigarette lighter in the pushed-in position as this can cause the lighter to overheat.
- Something is wrong with the lighter if it does not pop out within approx. 30 seconds. If this should happen, pull it out manually as leaving it in the socket could cause a fire.
If the cigarette lighter stops working properly, stop using it and have it fixed immediately by the nearest authorized MITSUBISHI FUSO distributor or dealer.
- Do not leave your vehicle with the cigarette lighter pushed in. Doing so could result in a fire.
- Do not allow a child to touch the cigarette lighter. The child could get burned.
- Do not touch the metallic parts of the cigarette lighter. You could get burned.
- Never use a cigarette lighter from another vehicle. Your vehicle's cigarette lighter is designed for a 12 V power supply. Do not use a 24 V cigarette lighter.
- If the cigarette lighter becomes deformed, you must replace it with a MITSUBISHI FUSO genuine replacement lighter. A deformed lighter will not pop out properly and could cause a fire.
- Do not use electrical devices designed to be plugged into the cigarette lighter socket, as this could overload the circuitry and overheat the wiring. This could also damage the inside of the cigarette lighter socket.
- If water gets into the cigarette lighter socket, it could cause a short circuit, resulting in a fire. Have the cigarette lighter socket cleaned by an authorized MITSUBISHI FUSO distributor or dealer.

Ashtrays

Remove and empty the ashtrays when they become full.

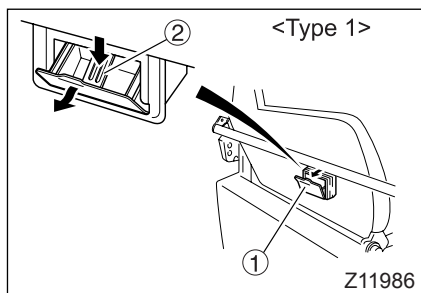
WARNING

- Be sure to put out cigarettes and matchsticks before putting them in the ashtrays. Close ashtrays completely. Leaving an ashtray open could cause a fire, as the heat from cigarettes or matchsticks may ignite things in the ashtray.
- Put only cigarette stubs and matchsticks in the ashtray. Empty the ashtray before it becomes full completely as too many stubs crammed into the ashtray could catch fire.
- Do not throw cigarette ends out of the windows since this is environmentally irresponsible and could start a fire.
- When cleaning the ashtray, do not strike it with a hard object since it could break. If the ashtray breaks, stop using it and replace it with a new one. Using a broken ashtray could cause a fire.



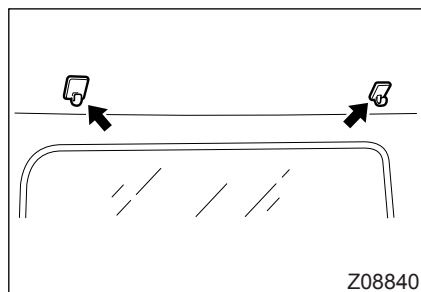
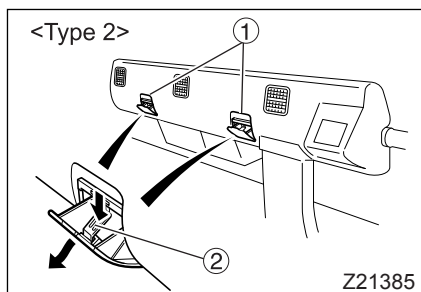
1 **Driver's door ashtray and assistant driver's door ashtray**

- Raise the lid to use the ashtray.
- When you wish to empty the ashtray, hold the lid and pull the entire ashtray upward to remove it.



2 Rear ashtray in Crew-cab model

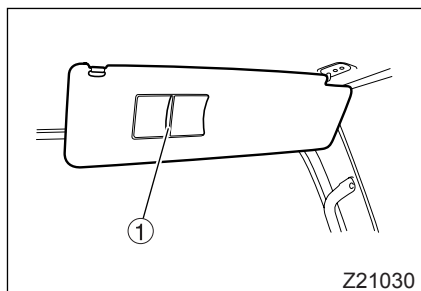
- Pull the lid of the ashtray ① toward you for use.
- When you wish to empty the ashtray, push down the spring ② and pull the ashtray out toward you.
- To refit the ashtray, insert its bottom into the groove then hold down the spring ② and push the ashtray into place.



Coat hooks

<Other than Crew-cab models>

Use the coat hooks if you wish to hang up clothing or similar items.



Sun visors

The sun visor screens your eyes from sunlight. Change its angle as needed. Unhook the inside edge of the sun visor and swing it sideways to reduce glare from the side. There is a ticket holder ① on the back of the driver's sun visor.

Interior lamp

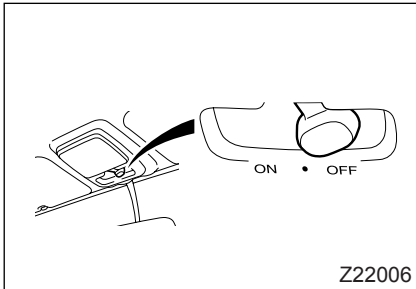
The interior lamp(s) can be used with the starter switch in any position.

WARNING

Do not leave the interior lamp or spot lamps lit while driving. Otherwise, the light reflected by interior surfaces will form images on the windshield which will disturb your forward vision, increasing the risk of an accident.

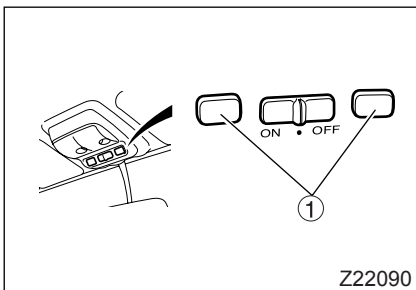
CAUTION

Leaving an interior lamp illuminated for a long time with the engine not running can drain the battery to such an extent that the engine cannot be started.



1 Interior lamp

- **“ON” position**
The lamp is illuminated regardless of the door positions.
- **“•” position**
The lamp comes on when a door is opened and goes off when the door is closed. If the engine is stopped, the lamp will gradually dim and go out 10 seconds after closing the door.
- **“OFF” position**
The lamp is off regardless of the door positions.

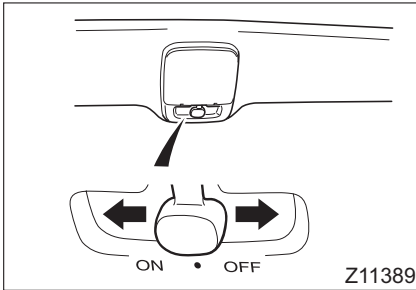


2 Interior lamp with built-in spot lamps

<Vehicles with interior lamp with built-in spot lamps>

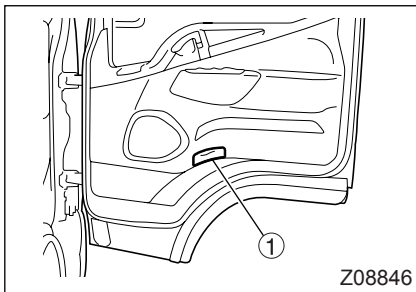
- **“ON” position**
The interior lamp is illuminated regardless of the door positions.
- **“•” position**
The interior lamp comes on when a door is opened and goes off when the door is closed. If the engine is stopped, the lamp will gradually dim and go out 10 seconds after closing the door.
- **“OFF” position**
The interior lamp is off regardless of the door positions.
Spot lamp switches ①

If one of these switches is pressed, the spot lamp on the side of the pressed switch comes on. The lamp goes out when the switch is pressed again.



3 Rear interior lamp – Crew-cab models

- **“ON” position**
The lamp is illuminated regardless of the door positions.
- **“•” position**
The lamp comes on when a door is opened and goes off when the door is closed. If the engine is stopped, the lamp will gradually dim and go out 10 seconds after closing the door.
- **“OFF” position**
The lamp is off regardless of the door positions.



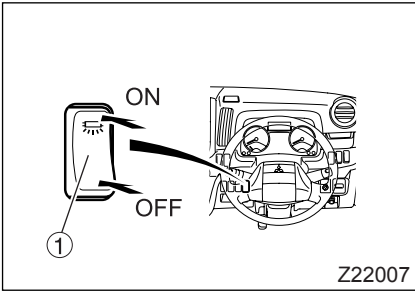
Step lamp

<Vehicles with step lamps>

- When a door is opened, the step lamp ① on the door comes on. The lamp goes out when the door is closed.
- The step lamp goes out about 5 minutes after opening the door under either of the following conditions:
 - The starter key is removed.
 - The brake pedal is not depressed.

NOTE:

The step lamp does not go out while the hazard warning lamps are flashing.



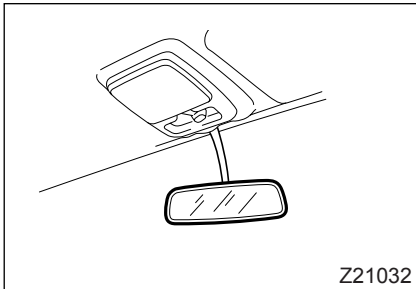
Fluorescent lamp

<Vehicles with fluorescent lamp>
The fluorescent lamp can be used with the starter switch in any position.

CAUTION

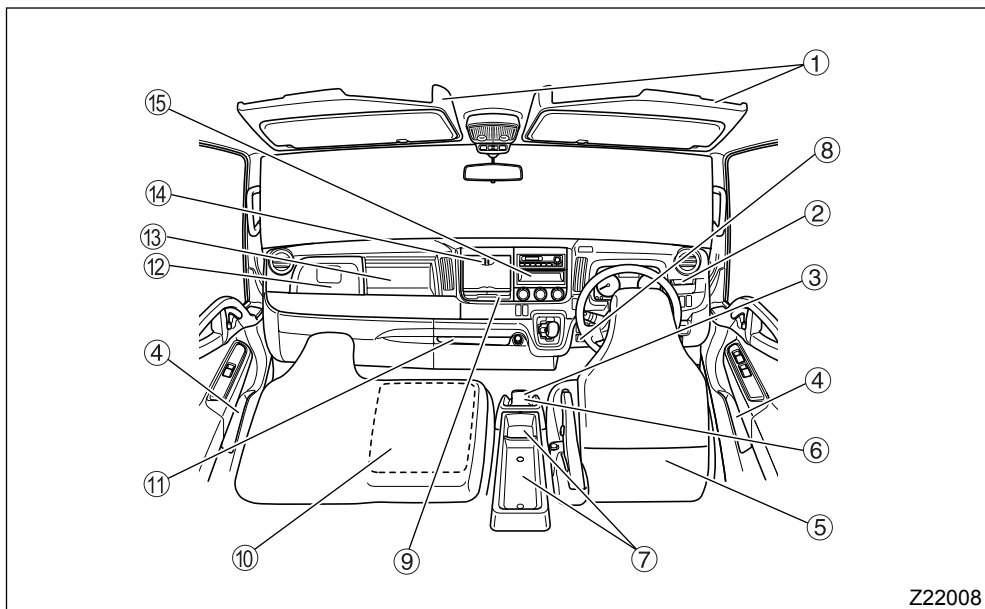
Leaving an fluorescent lamp illuminated for a long time with the engine not running can drain the battery to such an extent that the engine cannot be started.

- To turn on the fluorescent lamp, turn the fluorescent lamp switch ① to "ON". To turn the lamp off, turn the switch to "OFF".



Inside rearview mirror

Adjust the mirror to the position where the best rear view can be obtained.



Z22008

Small article compartments

⚠ WARNING

Do not use the console and tray to hold items that are prone to rolling while the vehicle is moving. Such items could create a hazard by impeding driving.

⚠ CAUTION

Do not splash water on the glove compartment ② and tray ③, and do not put wet objects in them.

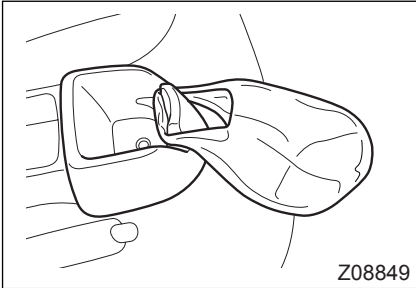
Fuses, relays, and other electrical components are stored underneath the glove compartment and tray. If these components are exposed to water, your vehicle's electrical system could be damaged.

- ① Overhead shelf <Vehicles with overhead shelf>

! WARNING

Do not use the overhead shelf to hold items that are heavy and/or prone to rolling. Such items could fall down and cause injuries as the vehicle starts and stops moving.

- ② Vertical compartment
- ③ Hook <Vehicles with center tray>

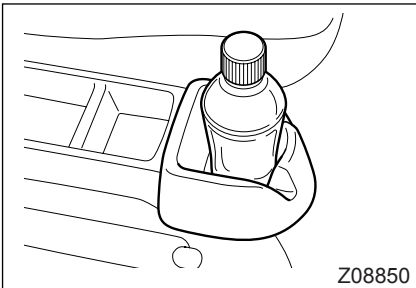


- ④ Door pocket
- ⑤ Seatback pocket

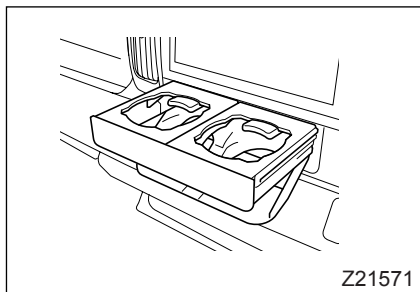
! CAUTION

Avoid cramming things in the seatback pocket or pulling on it with undue force. Doing so could break the seat covering.

- ⑥ Center tray <Vehicles with center tray>



- ⑦ Center console box <Vehicles with center console box>
- ⑧ Small article compartment



⑨ Cup holder

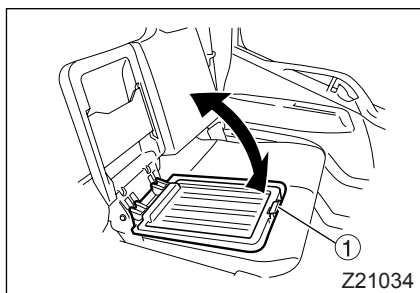
Pull out the cup holders to use them. Keep them pushed in when they are not being used.

⚠ WARNING

The contents in a cup or can held in the cup holder may spill during movement of the vehicle. Be careful of scalding if they contain hot beverages.

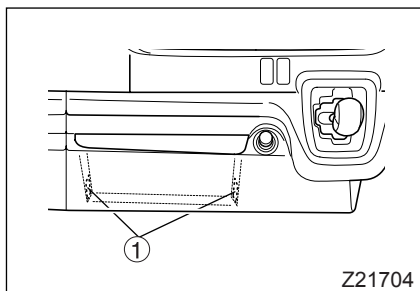
⚠ CAUTION

- Take care not to spill drinks when using the cup holder. Immediately wipe up any drinks that are spilled.
- Do not spill any water or drink over the switches and electrical equipment around the driver's seat, as wet electrical devices could malfunction and even cause a fire. If you spill a drink or water over electrical devices, have your vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.



⑩ Center tray with magazine rack <Vehicles with center tray with magazine rack>

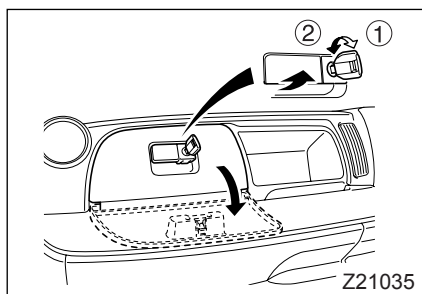
Pull the lever ① on the center seat to fold the seatback. You will then be able to use the center tray and magazine rack.



⑪ Lower pocket

NOTE:

If you accidentally drop something like a pen into the lower pocket, take it out through one of the holes ① that open at both sides of the pocket's inside bottom using a long, thin rod or similar object.



⑫ **Key-locked glove compartment <Vehicles with key-locked glove compartment>**

- ① Lock
- ② Unlock

⑬ **Tray <Vehicles with tray>**

⑭ **Box with lid (2DIN)**

⑮ **Pocket**

11. In cold weather


| | |
|---|------|
| Coolant | 11-2 |
| Engine oil | 11-2 |
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| When parking the vehicle after replenishing the AdBlue® | 11-3 |
| Other recommendations for cold weather operation | 11-3 |
| Installing tire chains | 11-4 |

Coolant

- When vehicles are shipped from the factory, MITSUBISHI genuine FUSO DIESEL LONGLIFE COOLANT is added to the coolant in their cooling systems.


This additive combines both antifreeze and anti-rust capabilities to sufficiently protect the cooling system from freezing up. However, for added safety, it is recommended that you have your nearest authorized MITSUBISHI FUSO distributor or dealer check that the coolant has a proper concentration of the additive before winter begins.

- Be sure to use coolant added with the FUSO DIESEL LONGLIFE COOLANT or an equivalent to the recommended concentration.

⇒  P. 12-60

Engine oil

The viscosity of the engine oil increases in cold temperatures, sometimes making it hard to start the engine, especially early in the morning. Therefore, use an engine oil of a viscosity which suits the weather conditions.

⇒  P. 12-26


Fuels

Ordinary diesel fuel gels in freezing temperatures, making it impossible to start the engine.



If you are bound for a cold area, it is recommended that you fuel your vehicle so that it burns more than half the fuel by the time you reach your destination. This allows you to refuel with a grade of diesel fuel appropriate to the colder weather conditions.

When parking the vehicle after replenishing the AdBlue®

When the urea tank becomes empty in cold weather and you are going to park the vehicle, perform the following procedure before parking.

- Turn the starter switch to the “ON” position.
- Wait until the warning/indicator lamps go out.
- After the warning/indicator lamps go out, remove the starter key. ⇒  P. 1-8

Other recommendations for cold weather operation

- If the engine fails to start, turn the starter switch back to the “ACC” position or “LOCK” position and wait for the battery to recover before trying to start the engine again.
- As the temperature falls, battery performance decreases. Check the battery electrolyte level and its specific gravity. ⇒  P. 12-103
- Special lubricants/hydraulic fluids must be used in cold regions where the ambient temperature could drop below -25°C .
For details, consult your nearest authorized MITSUBISHI FUSO distributor or dealer.
- Use the windshield washer fluid containing additive at a concentration suitable for the cold weather. ⇒  P. 12-101
- Occasionally check the undercarriage and fender wells, and if necessary remove snow and ice taking care not to damage vehicle parts as you do so. There is ABS equipment, electrical wiring, and so on at the inside of the tires, so be careful not to damage them when removing snow and ice from the tires.
- The brakes may be frozen up when the vehicle is driven on snow-laden roads or during parking in cold weather. Since frozen brakes are sluggish to function, drive your vehicle carefully while paying attention to vehicles behind as well as in front and checking normal function of the brakes from time to time by slightly depressing the brake pedal. If the brakes are sluggish, depress the brake pedal repeatedly while driving at a low speed until normal braking returns.
- Avoid parking on a slope. Select a level, flat surface not directly exposed to wind or snow as far as possible. If there is wind, turn the front of the vehicle away from the wind.

- Do not apply the parking brake in extremely cold conditions that could cause it to freeze up and become impossible to release. In such conditions, take the following steps:
 1. Stop the vehicle and pull the parking brake lever. Never park on a slope.
 2. Block the wheels securely with chocks.
 3. In a manual transmission vehicle, put the gearshift lever in the 1st or reverse position. In a vehicle with DUONIC system, put the gearshift lever in the "P" position.
 4. Release the parking brake lever.
- Operate the air conditioner at least once a month to maintain its functions even during the cold season when it is not being used.

NOTE:

- *If the doors freeze up, melt the ice using hot water, then wipe off the water to prevent further freezing. Do not force the doors open since their rubber seals may be ripped or otherwise damaged.*
- *In cold weather, the key holes and door opening rubber parts can freeze so that the key cannot be inserted and the doors cannot be opened. Carefully wipe off all water after the vehicle is washed, and spray the key holes and door opening rubber parts with silicone or some other substance that effectively prevents freezing.*

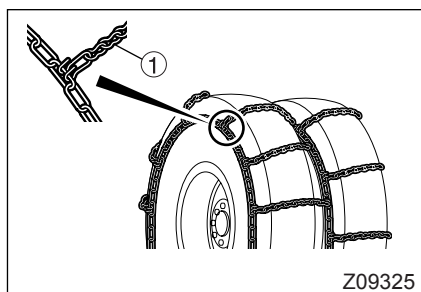
Installing tire chains

- Make sure that tire chains are installed properly so that they do not become loose and interfere with other vehicle parts while the vehicle is in motion.
- Use tire chains corresponding to the tire size. The example below is the procedure to be followed when installing triple chains.

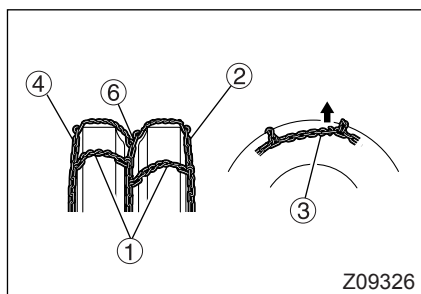
**CAUTION**

- **Do not use chains on the front wheels on any models except for the FG models; instead, use of snow tires is recommended. On the FG models, chains may be installed on both the front and rear wheels, but installing them only on the front wheels or the rear wheels should be avoided. When driving in the two-wheel drive (2WD) mode, chains may be fitted on the rear wheels.**

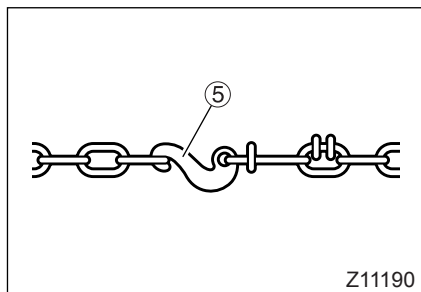
- When you use tire chains, be sure to install them without any slack.
- When fitting tire chains, refer to the instructions supplied with them.
- Drive at low speeds, desirably at speeds lower than 30 km/h, when chains are installed on wheels.
- Driving on a dry road with chains installed may damage the chains as well as the road surface. Avoid doing so as far as possible.
- Make sure that the chains and their spring bands are not excessively worn or otherwise damaged.
- If you hear an abnormal noise while driving, stop the vehicle in the nearest safe place and check the tire chains.



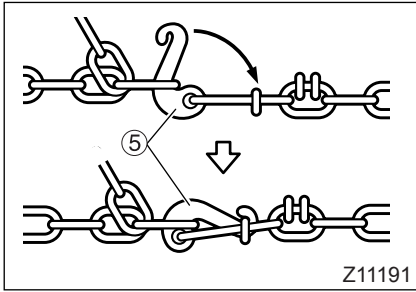
1. Place the chains over the tires with the hook ends of cross chains ① facing outward.



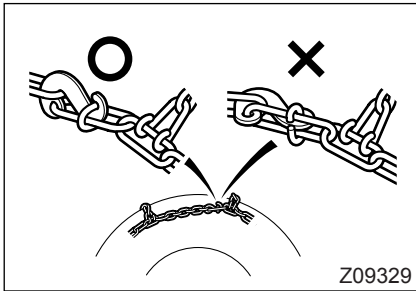
2. Connect the hook ③ of inside chain ②, leaving no excess links. Then, take up the slack in the inside chain by pulling cross chains ① for the inside tire outward.



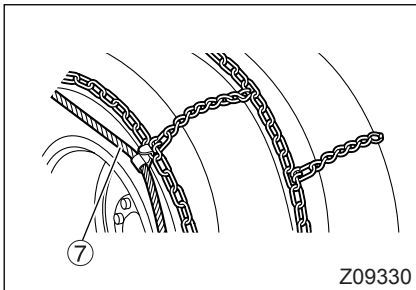
3. Temporarily connect hook ⑤ of outside chain ④ as shown.



4. Pull the middle chain ⑥ as far as possible and connect its hook.
5. Pull both ends of outside chain ④ as far as possible and connect hook ⑤.



6. Ensure that hooks ③ and ⑤ are flat on the tire sidewalls. Also make sure that the chains are not twisted.
7. Fasten extra chain links with a metal wire to prevent them from hitting against other vehicle parts.



8. Fit spring band ⑦. Attach the hooks of spring band on the chain at even intervals with the hook ends facing outward.
9. After driving the vehicle for 5 to 10 minutes, check the chains for looseness or disconnected hooks.

12. Simple inspection and service

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General precautions for servicing the vehicle

- Be sure to stop the engine and remove the starter key.
- Set the parking brake firmly and place the gear-shift lever in the neutral position (manual transmission vehicles) or the “P” position (vehicles with DUONIC system).
- Work with the vehicle parked on level ground.
- Block the wheels with chocks.
- Engine parts are extremely hot immediately after you have driven the vehicle. Take care not to burn yourself. If possible, service the vehicle only when the engine is cool.
- Be careful not to drop things in the air intake duct.
- Do not climb onto the engine. Stepping on engine pipes or accessories could cause damage and malfunctions.
- After you have completed the service job, check that you have left no rags, paper, or tools in the engine compartment. Flammable things in particular should not be left inside the engine compartment as they could cause a fire.
- After carrying out inspections and maintenances, check that there are no oil, fluid or water leaks.
- Be careful not to hurt yourself on the corners of the body when performing inspections.
- When inspecting the oil or coolant, be sure to make ready a container suitable for catching drained fluid.
- Dispose of drained oil, coolant, tire and battery in the specified manner. Disposing of them irresponsibly could cause environmental harm.

 **WARNING**

- Do not run the engine for a long period in any poorly ventilated place. Particularly in an enclosed area such as the inside of a garage or other building, a buildup of exhaust gases can cause carbon-monoxide poisoning.
- Be sure to stop the engine before performing inspections with the cab tilted or engine access opening opened. If the engine was running and your hands, clothes, or other items touched or came into close proximity to the engine's rotating parts, they could be dragged into the mechanism, resulting in injuries.
If you must unavoidably perform inspections with the engine running, do not on any account touch the fan or any other rotating part.
- The fuel injection system includes a high-voltage circuit. You could receive an electric shock if inspections are performed with the starter switch in the "ON" position. If it is unavoidable to perform inspections with the starter switch turned "ON", be careful not to touch the electric wiring or connectors.

 **CAUTION**

- Do not remove the covers around the engine as they help to reduce noise.
- Always use MITSUBISHI genuine parts for replacements such as filters or filter elements. Also, oil and grease should be those recommended by MITSUBISHI FUSO TRUCK & BUS CORPORATION. →  P. 14-3
- The muffler contains a catalytic converter and a ceramic filter. Do not kick or knock the muffler since the catalytic converter or ceramic filter could be damaged.
Water emitted from the exhaust pipe may slightly acidic and should not be touched. If you touch this water, rinse it off under a faucet.

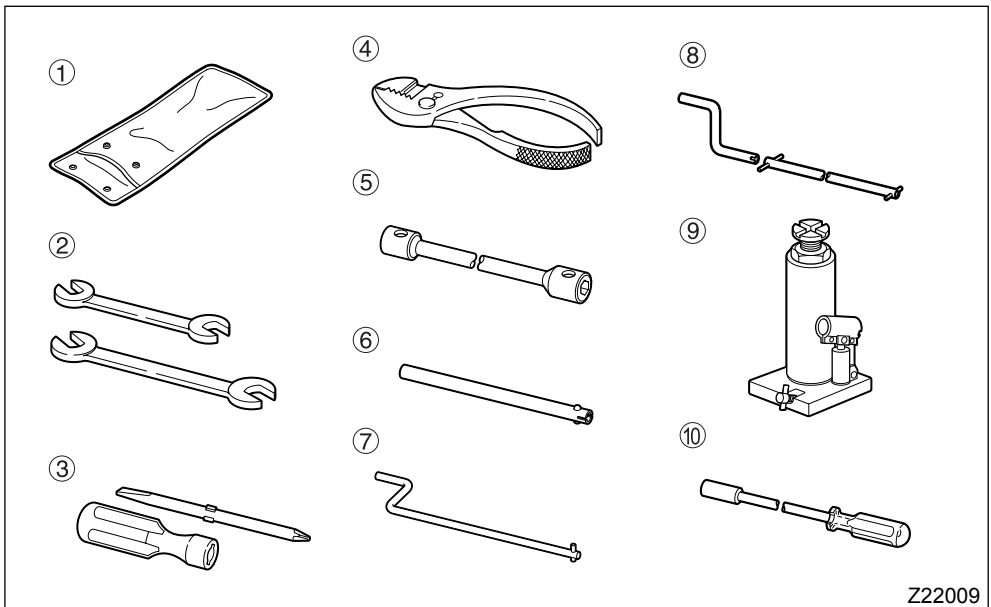
- The urea dosing system continues to operate for about 2 minutes after the starter switch has been put in the “LOCK” position. Wait for at least 2 minutes before disconnecting the battery and electrical system connectors in order to carry out an inspection, maintenance and so on.

NOTE:

Special lubricants/hydraulic fluids must be used in cold regions where the ambient temperature could drop below -25°C .

For details, consult your nearest authorized MITSUBISHI FUSO distributor or dealer.

Onboard tools



1 Onboard tool list

Your vehicle is equipped with the following tools for use in regular inspection and servicing.

CAUTION

Each of the onboard tools is designed for a specific task. Be sure to use the right tool for every job.

NOTE:

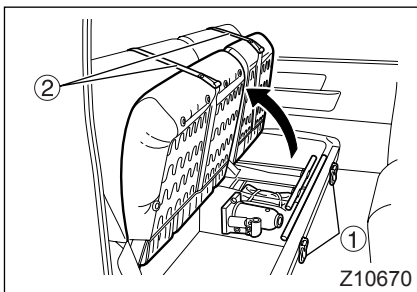
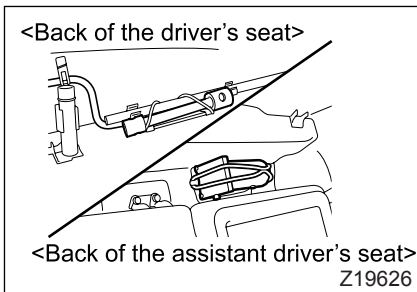
Onboard tools are different according to models.

- ① Tool bag
- ② Spanners (set of two)
- ③ Screwdriver
- ④ Pliers
- ⑤ Socket wrench (for wheel nuts)
- ⑥ Wrench handle (for wheel nut wrench and hydraulic jack)
- ⑦ Spare tire handle (for removal and installation of spare tire) <Other than the following vehicles>
- ⑧ Spare tire handle (for removal and installation of spare tire) <Standard width single-cab models (excluding FEA0)>
- ⑨ Hydraulic jack
- ⑩ Tire valve cap tool (for removal and installation of tire valve cap) <Except vehicles for some markets>

2 Tool storage location

<All models except Crew-cab models>

- The onboard tools are stowed at the back of the driver's seat and assistant driver's seat. When you wish to use them, fold the seatbacks forward to gain access to them.



To reach the access opening

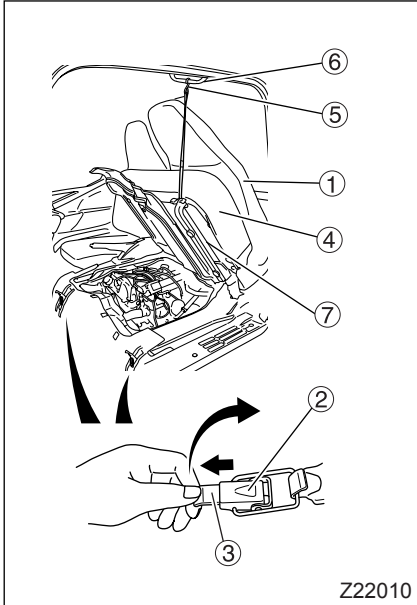
<Vehicles with access opening>

1 Engine access opening

There is an opening under the assistant driver's seat which provides access to the engine for inspection and servicing.

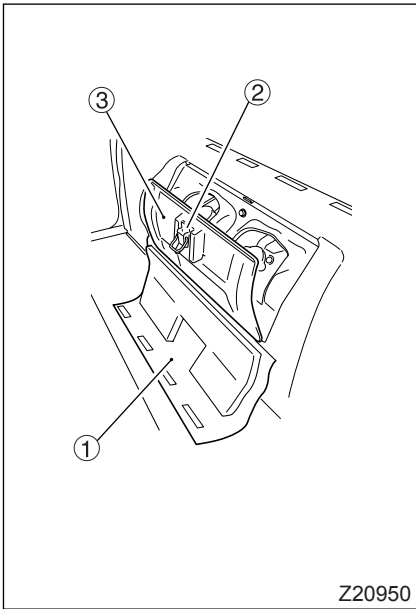
Uncover and cover the opening as follows:

- To uncover the opening
 1. Tip the seatback ① forward.
 2. Fold back the floor mat. Next, release the two clamps ② by first pulling down their handles ③ and then raising the handles while still pulling only on their ends.
 3. Raise the seat cushion ④, then release the retaining hook ⑤ on the bottom of the seat cushion.
 4. Attach the retaining hook to the grip ⑥ beside the assistant driver's seat to hold the seat in place.
- To cover the opening
 1. Remove the retaining hook from the grip while supporting the seat cushion to prevent it from dropping.
 2. Attach the retaining hook to the spring ⑦ on the bottom of the seat cushion to hold the hook in place.
 3. Gently lower the seatback and seat cushion, then fasten the clamps to retain it.
 4. Return the floor mat and seatback to their original positions.



! CAUTION

- **Be careful not to trap the seat belt or floor mat when covering the engine access opening.**
- **Completely fasten the clamps after covering the engine access opening.**



2 Power steering fluid and engine coolant level inspection opening

In front of the rear seat, there is an opening for inspecting and replenishing the power steering fluid and engine coolant.

Uncover and cover the opening as follows:

1. Remove the cover ①.
2. Raise the clamp ② to unhook it and then swing down the inspection opening cover ③.

Perform the above procedure in reverse to cover the opening.

Tilting the cab

<Other than Crew-cab models>

NOTE:

A Crew-cab cannot be tilted.

WARNING

When tilting the cab, do so correctly using the method shown in this manual. If you raise or lower the cab using an incorrect method, you may get your hands or other body parts trapped. Also, the cab may not lock completely, with the result that it shakes free and rises while the vehicle is in motion, causing a serious accident.

1 Preparation

WARNING

- Before tilting the cab, stop the vehicle on level ground and stop the engine.
- Before tilting or lowering the cab, make sure that the area around the cab is clear of people and obstructions. Also make sure there is nobody in the cab.
- The cab will move too quickly under the effect of inertia if it is tilted on a slope, possibly causing damage to various vehicle components. Doing so is dangerous as the hook may not engage completely when the cab is lowered.

Never tilt the cab when the vehicle is on any kind of slope.

- Never tilt the cab with persons inside.
- To ensure safety, two people should work together to tilt the cab if it has a roof deck or other heavy item attached to it. One person working alone could become unable to support the cab and have an accident as a result.
- If any heavy item of cargo is on the roof deck or in the cab, remove it before tilting the cab. Otherwise, its weight could cause the cab to move suddenly during tilting, resulting in an accident.
- Do not touch the steering wheel, gearshift lever, parking brake lever, or any other control in the cab while the cab is tilted.

CAUTION

If any item of cargo is in the cab, retain or remove it. Otherwise, it may tip or fall and get damaged when the cab is tilted.

NOTE:

Turn off the air conditioner before tilting the cab. Tilting the cab with the air conditioner running would cause the water that drains out of the air conditioner to leak into the cab.

- Park the vehicle on a flat and level surface and stop the engine.
- Set the parking brake securely.
Chock the wheels for added safety.

- In a manual transmission vehicle, place the gearshift lever in neutral.
In a vehicle with DUONIC system, place the gearshift lever in the "P" position.
- Remove water or other liquids from inside the cab before tilting. Also remove from the cup holders any beverage that has an open lid.
- Close both doors completely.
- Before tilting the cab, make sure there is adequate clearance in front of the cab and above it.

| | |
|------------------------|-----------|
| Clearance in front (m) | 1 or more |
| Clearance above (m) | 1 or more |

If there are any obstructions within the clearance areas shown above, remove them.

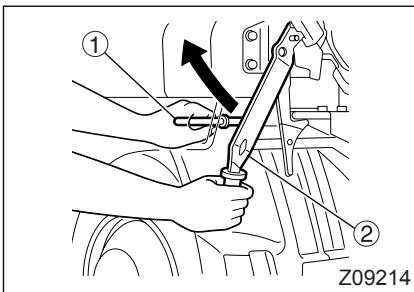
- Lower the radio antenna.

2 Tilting the cab

CAUTION

Raise the cab gently. Raising it quickly with great force could damage the cab tilt mechanism.

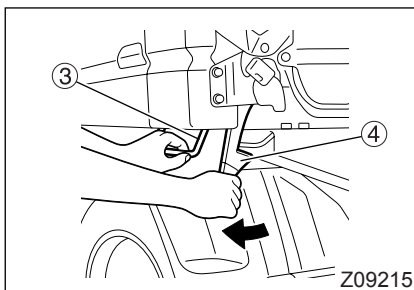
1. Pull lever A ①. With lever A still pulled, pull up lever B ②. Keep lever A pulled until the lever B has been fully raised.

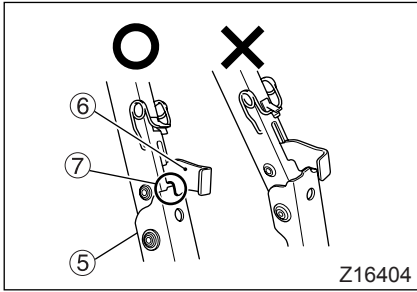


CAUTION

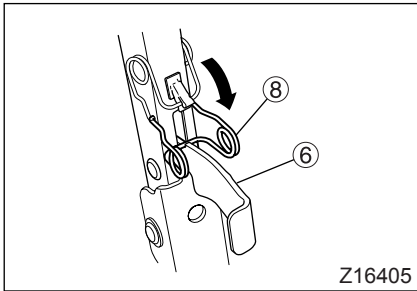
Lever B must only be raised when lever A has been pulled. If an attempt is made to raise lever B by force, it may be damaged as a result.

2. Grasp tilt grip ③ and pull lever C ④. The cab will rise slightly.





3. Hold the tilt grip and raise the cab until the end of cab stay (5) engages with the notch (7) of the lock lever (6). The cab is secured when they are engaged.



4. Still holding the tilt grip, insert the stopper (8) into the notch of the lock lever.

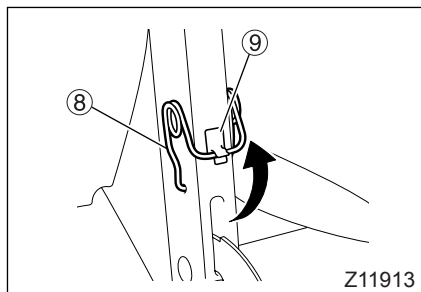
! WARNING

- Be sure to fit the stopper into the notch in the lock lever to prevent the cab from dropping.
- Do not raise the cab holding lever B or lever C. Failure to observe this precaution can lead to the cab-tilt mechanism being damaged or to incomplete locking when the cab is lowered back down.

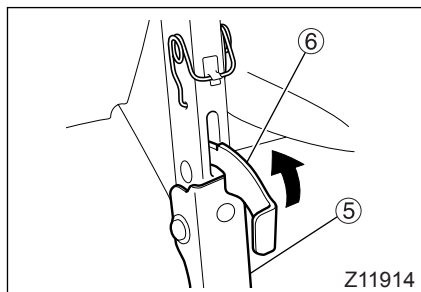
3 Lowering the cab

! WARNING

- Before lowering the cab, make sure that you have not left rags, tools, etc. in the engine compartment. Flammable objects left inside the engine compartment can cause fires.
- To ensure safety, two people should work together to tilt the cab if it has a roof deck or other heavy item attached to it. One person working alone could become unable to support the cab and have an accident as a result.



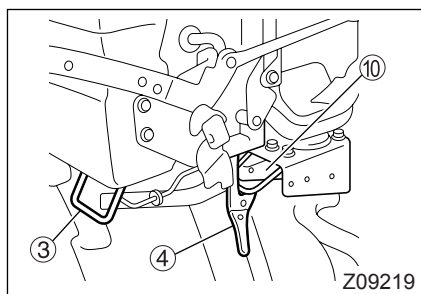
1. Release the stopper (8) and retain it in the clip (9).



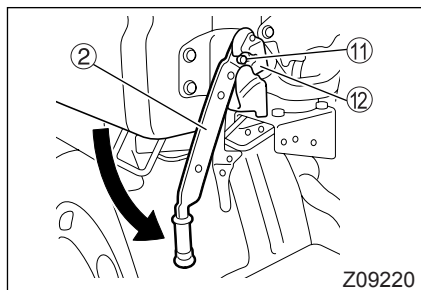
2. Hold the tilt grip to support the cab. Lift the lock lever (6) and fold the cab stay (5).

! WARNING

- When you have unlocked the cab stay, immediately move your hands away from the lever. The cab stay will tip toward the rear of the vehicle, so your hands could otherwise get trapped.
- Do not lower the cab holding lever B or lever C. Failure to observe this precaution can lead to the cab-tilt mechanism being damaged or to incomplete locking of the lowered cab.



3. Still holding the tilt grip (3), lower the cab until the hook on lever C (4) engages with the cab mount (10).




4. Push down lever B (2) until the pin (11) engages with the latch (12).

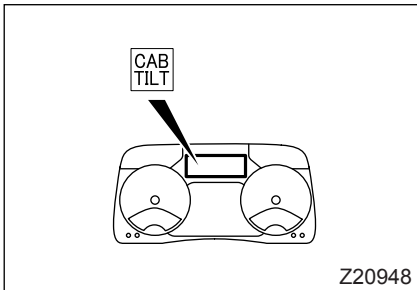
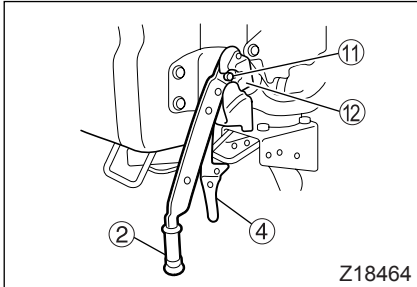
4 Checking locking of the cab

When the cab is lowered down, the state of locking should be checked as follows. If incomplete locking is identified, repeat the cab tilting procedure and lower once again. If incomplete locking still exists, never drive the vehicle and contact your nearest authorized MITSUBISHI FUSO distributor or dealer.



1. Confirm that the latch ⑫ is fully engaged with the pin ⑪. Also confirm that lever B ② does not move when it is pulled.

2. Confirm that the cab does not rise up when lever C ④ is pulled.

3. Turn the starter switch to the "ON" position, then make sure the multi-information display does not indicate the  warning.



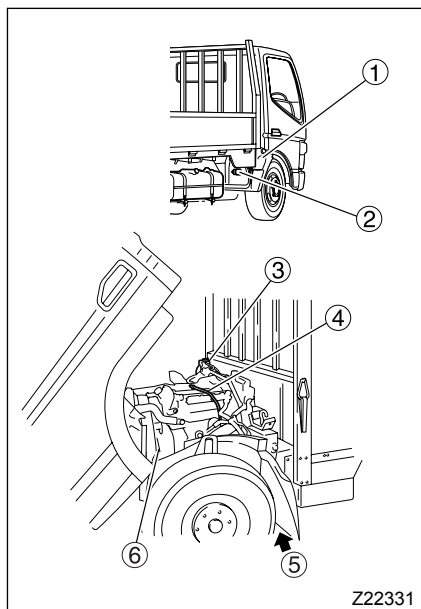
WARNING

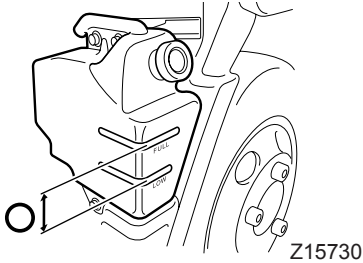

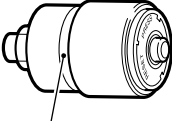

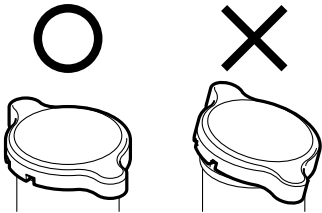
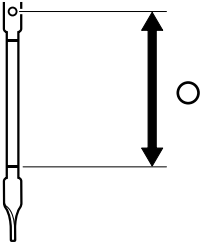

Do not drive the vehicle while the multi-information display is showing . Vibration could cause the cab to rise. If the multi-information display is showing , tilt the cab again.

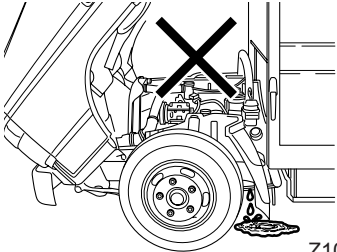
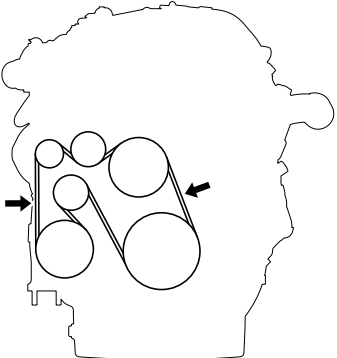
Pre-operational checks

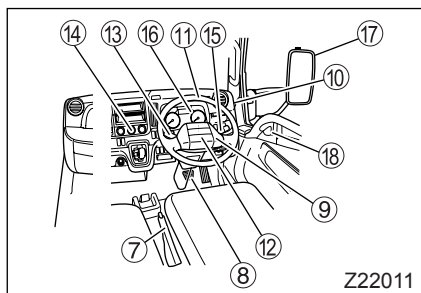
Be sure to perform the pre-operational checks for the items listed below at the start of each day's operation in order to ensure safe and comfortable driving. If you find anything unusual which you are unable to repair yourself, you should have this corrected at your nearest authorized MITSUBISHI FUSO distributor or dealer before operating the vehicle.

1 Before starting the engine



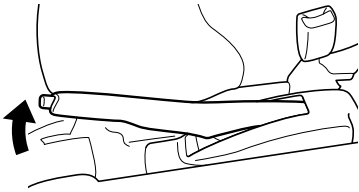

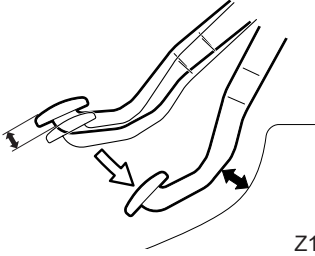

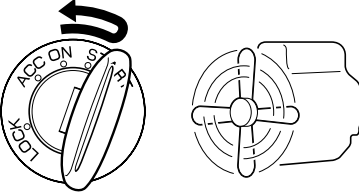
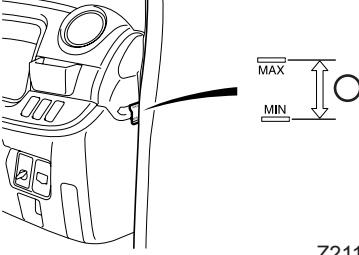

| | | |
|---|---|---|
| ① |  <p>Z15730</p> | <p>Coolant level Check that the coolant level is between the “FULL” and “LOW” marks on the reservoir tank.</p> <p>⇒  P. 12-64</p> |
| ② |  <p>Window</p> <p>Z22468</p> | <p>Air cleaner element condition Check that the dust indicator’s window shows a red signal.</p> <p>⇒  P. 12-51</p> |
| ③ |  <p>Z19637</p> | <p>Pressure cap condition Make sure the pressure cap is tightly fitted.</p> |
| ④ |  <p>Z21399</p> | <p>Engine oil level Check that there is sufficient engine oil using the oil level gauge. Change the engine oil if its level is above the circle mark on the oil level gauge.</p> <p>⇒  P. 12-28</p> |

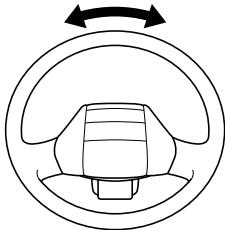

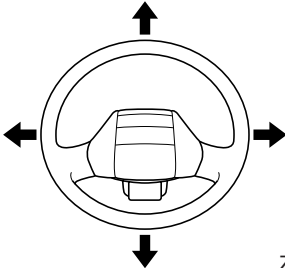

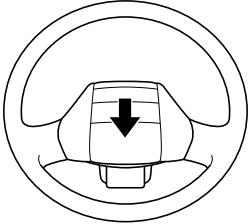
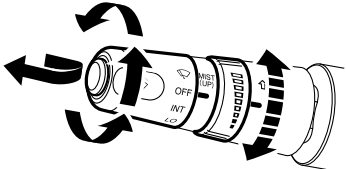

| | | |
|----------|---|---|
| <p>⑤</p> |  <p>Z10751</p> | <p>Leakage of coolant, fuel and oil Check the underneath of the vehicle for any sign of leakage.</p> |
| <p>⑥</p> |  <p>Z22041</p> | <p>V-belt tension and damage Push the belt at either of the locations indicated by the arrows to check that the tension is appropriate. Also, check the belt for damage.</p> |

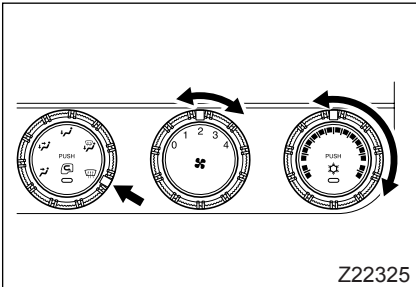

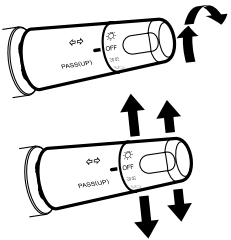

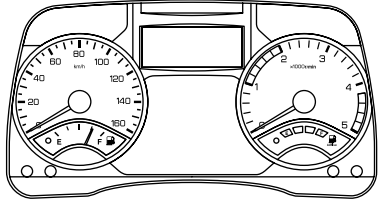

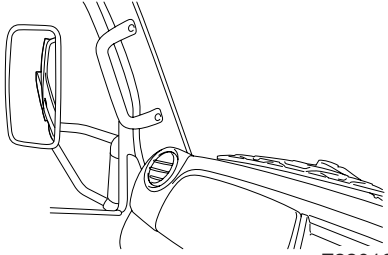



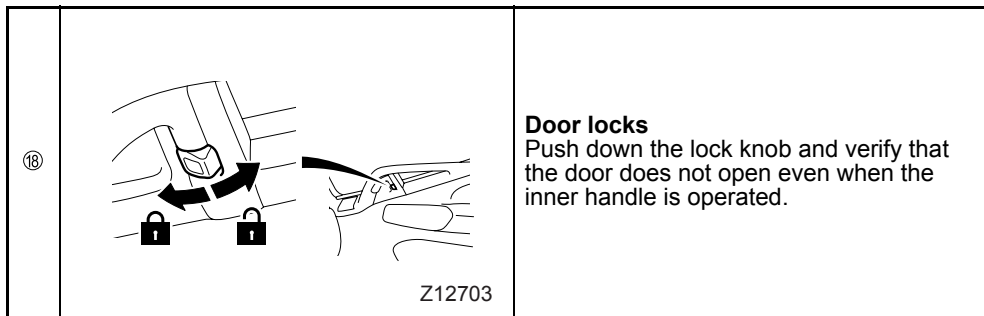
2 In the driving post

Start the engine and perform the following checks ⑦ and after while allowing it to warm up.

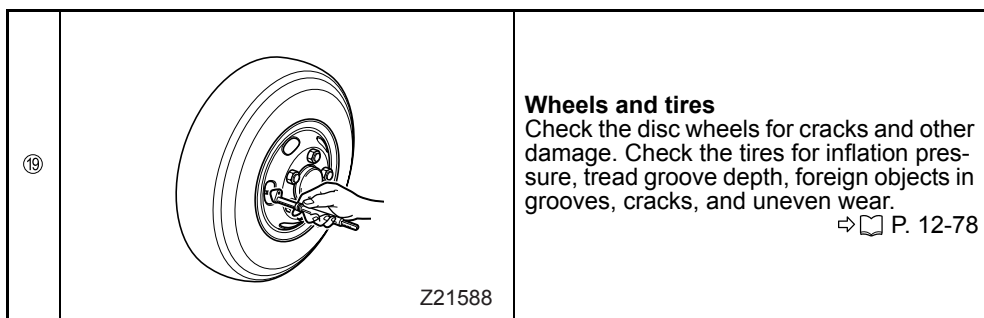
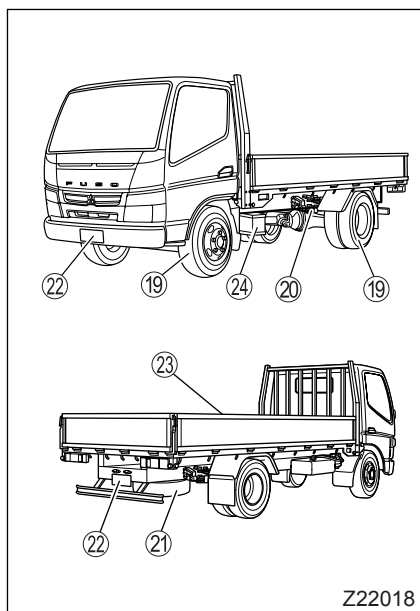
| | | |
|----------|---|---|
| <p>⑦</p> |  <p>Z10681</p> | <p>Parking brake lever stroke Check that the parking brake lever stroke is 7 to 9 notches when the lever is pulled with a force of 294 N (30 kgf). ⇨  P. 12-77</p> |
| <p>⑧</p> |  <p>Z11955</p> | <p>Service brake pedal Make sure that the brake pedal has 0.1 to 3 mm free play when pressed by finger. Check also that when the brake pedal is fully depressed, there is a gap of 10 mm or more between the pedal and the floor. ⇨  P. 12-75</p> |
| <p>⑨</p> |  <p>Z09197</p> | <p>Engine conditions Check the engine for smooth starting and quiet running.</p> |
| <p>⑩</p> |  <p>Z21102</p> | <p>Brake fluid level Check that the brake fluid level is between the "MAX" and "MIN" marks on the reservoir tank. ⇨  P. 12-38</p> |

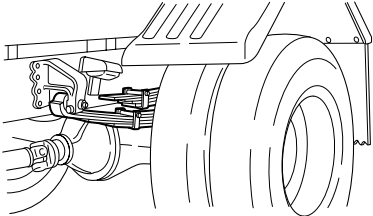
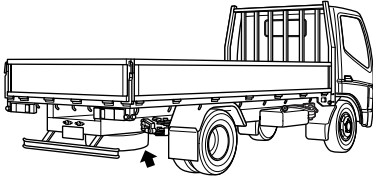
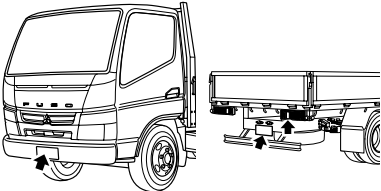
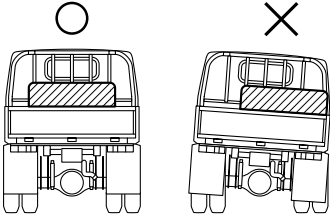
| | | | | | | | | | | | |
|---------------------------|---|---|---------------------------|-------------------------------------|---------------|--|------------------------------------|-------------|-----------------------|--|------------|
| <p>⑪</p> |  <p>Z11947</p> | <p>Steering wheel free play Lightly turn the steering wheel both when the engine is turned off and when it is idling and check that the free play of the steering wheel conforms to the following specifications.</p> <table border="1"> <tr> <td>When engine is turned off</td> <td>Front independent suspension models</td> <td>20 mm or less</td> </tr> <tr> <td></td> <td>Front rigid leaf suspension models</td> <td>10 to 20 mm</td> </tr> <tr> <td colspan="2">When engine is idling</td> <td>5 to 50 mm</td> </tr> </table> <p style="text-align: right;">⇒  P. 12-72</p> | When engine is turned off | Front independent suspension models | 20 mm or less | | Front rigid leaf suspension models | 10 to 20 mm | When engine is idling | | 5 to 50 mm |
| When engine is turned off | Front independent suspension models | 20 mm or less | | | | | | | | | |
| | Front rigid leaf suspension models | 10 to 20 mm | | | | | | | | | |
| When engine is idling | | 5 to 50 mm | | | | | | | | | |
| |  <p>Z09290</p> | <p>Steering wheel looseness Try moving steering wheel up and down and also right and left to check for excessive looseness.</p> <p style="text-align: right;">⇒  P. 12-73</p> | | | | | | | | | |
| <p>⑫</p> |  <p>Z11948</p> | <p>Horn operation Press the horn button to check that the horn is working properly.</p> | | | | | | | | | |
| <p>⑬</p> |  <p>Z22013</p> | <p>Windshield wiper and washer operation Check the washer for proper fluid spray direction and the wipers for normal action.</p> <p style="text-align: right;">⇒  P. 5-44</p> | | | | | | | | | |

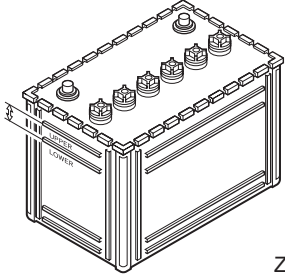

| | | |
|-----------|---|---|
| <p>14</p> |  <p>Z22325</p> | <p>Defroster Make sure that warm air blows properly onto the windshield.</p> <p>⇒  P. 9-17</p> |
| <p>15</p> |  <p>Z22014</p> | <p>Lighting system Make sure that each lamp lights up or flashes properly. Check lamp lenses for dirt and damage.</p> <p>⇒  P. 12-116</p> |
| <p>16</p> |  <p>Z22015</p> | <p>Gauge, warning/indicator lamp operation Check that gauges, warning lamps and indicators are working properly.</p> <p>⇒  P. 6-2</p> |
| <p>17</p> |  <p>Z22016</p> | <p>Rearview mirrors Seating in the driver's seat, adjust the angles for clear views of the sides and rear. Make sure the mirrors are clean.</p> <p>⇒  P. 5-47</p> |



3 While walking around the vehicle

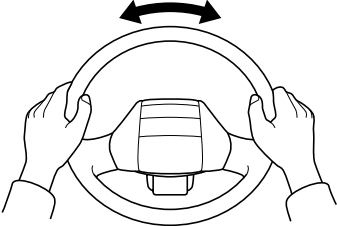

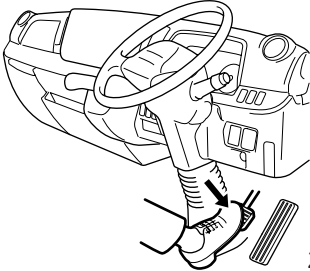



| | | |
|----------|---|--|
| <p>⑳</p> |  <p>Z10753</p> | <p>Suspension springs Check for broken springs and tilt of vehicle body toward either side.</p> |
| <p>㉑</p> |  <p>Z12707</p> | <p>Spare tire stowage condition Make sure that the spare tire carrier is free from damage and the tire is held securely on the carrier.</p> |
| <p>㉒</p> |  <p>Z22019</p> | <p>License plate and reflector condition Check the license plate and reflectors for loose installation, damage, and dirt.</p> |
| <p>㉓</p> |  <p>Z10755</p> | <p>Condition of cargo on cargo deck Make sure that the cargo is loaded evenly on the cargo deck and not tilted. Cover the load with a tarpaulin and fasten with straps or roping as conditions require.</p> |

| | | |
|----|---|--|
| 24 |  <p>Z15361</p> | <p>Battery fluid level Check that the battery fluid level is between the "UPPER" and "LOWER" level lines on the sides of the battery case.</p> <p>⇒  P. 12-103</p> |
|----|---|--|

4 While driving at slow speeds

Perform the following checks while driving in a safe place at speeds lower than 20 km/h.

| | | |
|----|--|---|
| 25 |  <p>Z11954</p> | <p>Steering wheel operation Check that the steering wheel does not vibrate or pull to one side and that it is not unduly heavy. Also make sure that the steering wheel returns to its neutral position smoothly.</p> <p>⇒  P. 12-73</p> |
| 26 |  <p>Z22020</p> | <p>Brake performance Depress the brake pedal and check that the brakes work effectively and evenly on all wheels.</p> <p>⇒  P. 12-76</p> |

Greasing

1 Grease nipples

Remove all dust and dirt from the grease nipples before using them. Always use the recommended grease.

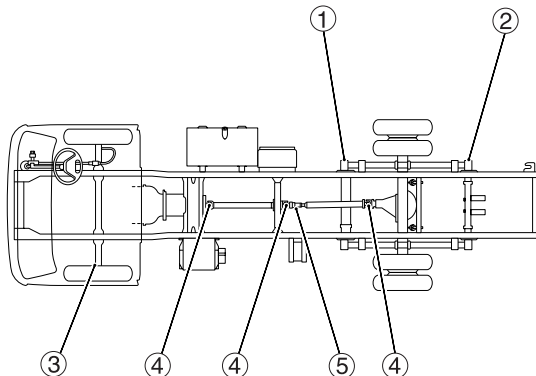
CAUTION

Wipe away any grease that sticks to wires or rubber hoses and any grease that overflows from the grease nipples.

| | |
|--------------------|---------------------------------|
| Greasing intervals | Every 30,000 km or 12 months |
|--------------------|---------------------------------|

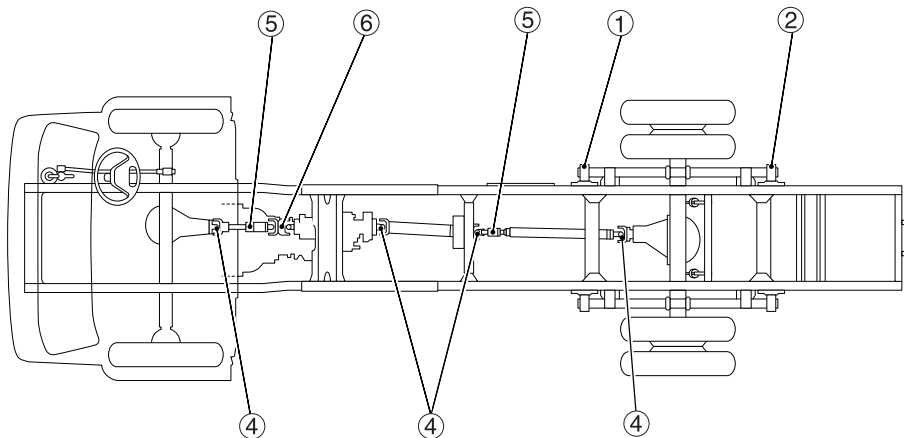
The first greasing of the propeller shaft slip joints and double cardan joint <FG models> during the run-in period should be performed at the first 2,000 km.

<FE>



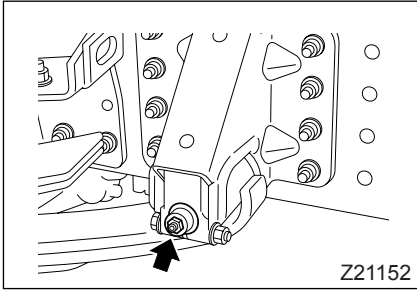
Z21151

<FG>

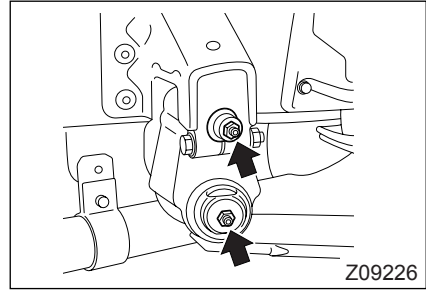


Z22021

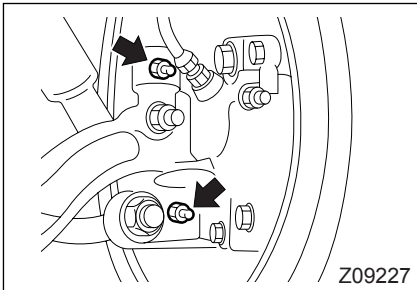
①



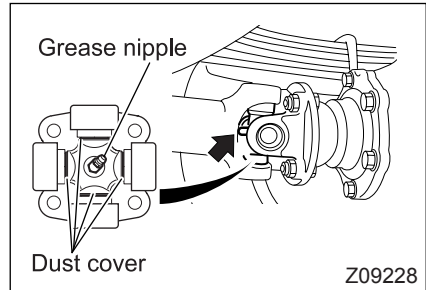
②



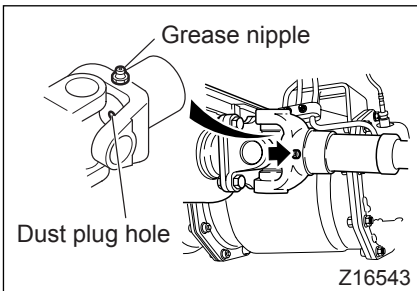
③



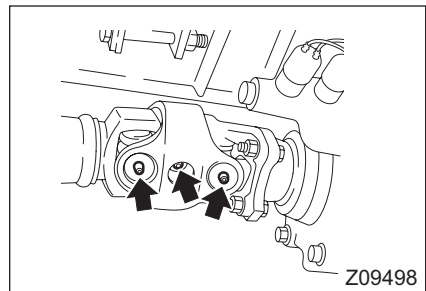
④



⑤



⑥



**Recommended lubricant:
Chassis grease
NLGI No.1 (Li soap)**

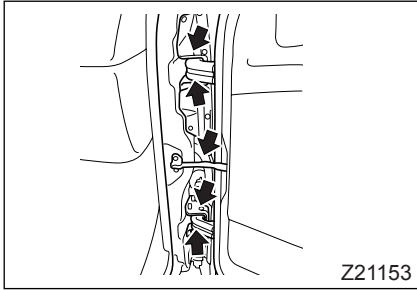
- ① Rear spring pin, front (2 points each on both sides)
- ② Rear spring pin, rear (4 points each on both sides)
- ③ King pin bearing (4 points in total on both sides)
<Rigid leaf suspension models>

Recommended lubricant:
Wheel bearing grease
NLGI No.2 (Li soap)

- ④ Propeller shaft universal joint
Supply grease until it emerges from the dust covers (four places) on the universal joint.
- ⑤ Propeller shaft slip joint
Supply grease until it emerges from the slip joint dust plug hole.
- ⑥ Propeller shaft double cardan joint <FG models>

NOTE:

The number of greasing points on the propeller shaft differs from model to model.



Z21153

2 Door hinge (total six places on right and left doors, 12 places on Crew-cab models)

| | |
|--------------------|------------------------------|
| Greasing intervals | Every 30,000 km or 12 months |
|--------------------|------------------------------|

The first door hinge greasing during the run-in period should be performed at the first 5,000 km.

Recommended lubricant:
Chassis grease
NLGI No. 1 (Li soap)

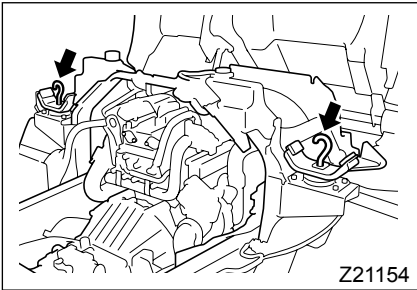
3 Anchor hooks (two places)

<Not applicable to Crew-cab models>

| | |
|--------------------|------------------------------|
| Greasing intervals | Every 30,000 km or 12 months |
|--------------------|------------------------------|

Recommended lubricant:
Chassis grease
NLGI No. 1 (Li soap)

Apply grease to the top of each anchor hook.



Z21154




Oils and fluids

1 Engine oil

Performance, life, and startability of the engine depend to a large degree on the engine oil. Always use oil of the specified grade and viscosity.

| | |
|-----------------------|------------------------------|
| Replacement intervals | Every 30,000 km or 12 months |
|-----------------------|------------------------------|


CAUTION

- If the  warning is displayed, replace the engine oil as soon as possible.
- If the  warning and  warning (amber) are displayed alternately, replace the engine oil immediately. If the same oil is used even after the warning, the engine may suffer various problems, including uncontrolled revving of the engine in an extreme case.

Recommended lubricant:

Engine oil

| Classification | SAE viscosity number |
|----------------|----------------------|
| ACEA-C2 | 5W-30 |


CAUTION

- Use only the specified engine oil. Any other oils may contain substances that cause the ceramic filter inside the DPF to be loaded with particulate matter (PM) prematurely to the capacity and thus shorten the effectively functioning period of the DPF.
- Change the engine oil at the specified intervals. During the regeneration process of the DPF, part of the fuel may mix into the engine oil while the PM is being removed by burning. If the engine oil is not changed at the specified intervals, it may excessively deteriorate due to mixing of fuel and could cause engine failure. In the worst case, the engine could spontaneously run at an abnormally high speed.

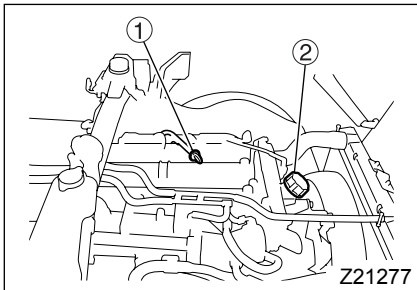
Quantity required:

| | |
|----------|--------------------|
| Quantity | Approx. 6.2 liters |
|----------|--------------------|

1.1 Check

NOTE:

- Check the engine oil level with the vehicle parked on a level place and the engine stopped. A correct engine oil level cannot be determined when the vehicle is tilted, or if the engine is running or the time after stopping the engine is too short. Let the engine stand at least 10 minutes after stopping it before checking the oil level.
- The quantity of engine oil may increase due to the fuel that may have mixed with it when the DPF trapped PM is removed by burning. This does not indicate any abnormality. For the same reason, the engine oil can smell like fuel; this also does not indicate any abnormality.



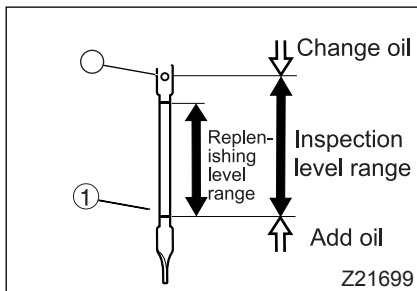
1. Do either of the following.
 - Tilt the cab. ⇨ P. 12-7
 - Uncover the inspection opening under the assistant driver's seat. ⇨ P. 12-6

If your vehicle's cab cannot be tilted, uncover the engine inspection opening.

2. Remove oil level gauge ① and wipe off oil with a cloth.
3. Fully insert the oil level gauge in the crankcase, and gently draw it out.

4. The oil level marked on the oil level gauge should be within the "inspection level range" indicated in the figure (between the lower notch and circle mark).

If necessary, add engine oil to a level within the "replenishing level range" indicated in the figure. Change the oil if its level is above the circle mark on the oil level gauge. The engine oil must also be changed if it is extremely dirty.



⚠ CAUTION

If the oil level is above the circle mark on the oil level gauge, change the engine oil immediately. Because this is a sign of deteriorated engine oil performance, continued use of the same oil will cause engine failure and could even cause uncontrolled revving of the engine.

5. After the check, insert the oil level gauge into position and secure it properly.

1.2 Adding oil

1. Clean the area around oil filler cap ② to prevent dust and dirt from entering the engine.
2. Remove the oil filler cap and add the specified oil as necessary.
3. Make sure that the oil level is correct. If the oil level is checked immediately after adding, the reading may be lower than the actual level because all added oil may have not yet reached the oil pan. Wait for at least 5 minutes after adding oil. If you add too much oil, remove the drain plug on the oil pan to drain excessive oil and achieve the correct level.
4. Install the oil filler cap.



WARNING

Take care not to spill engine oil as engine oil on the exhaust manifold or other hot sections of engine could catch fire. Wipe clean the oil if spilt.



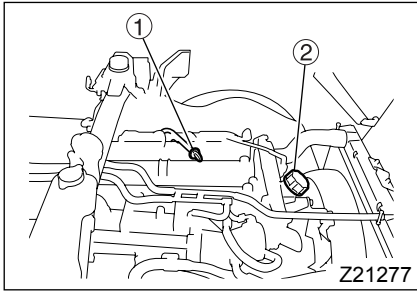
CAUTION

- The added oil should be of the same grade and viscosity as the oil originally placed in the engine.
- Take care not to add more than the specified quantity of oil. The engine can be severely damaged if the correct engine oil level is not maintained.
- When adding engine oil, take care not to spill it. If oil is spilled on a belt, the belt will slip on pulleys.

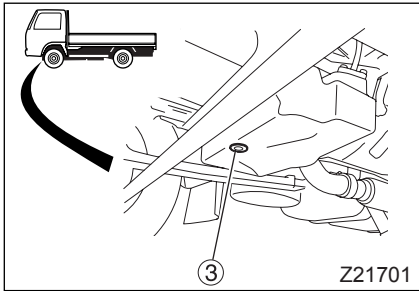
1.3 Replacement

NOTE:

You must reset the engine control unit every time after replacing the engine oil. See 1.4 "Resetting the engine control unit" for details of the method. If you cannot do it yourself, have it done by an authorized MITSUBISHI FUSO distributor or dealer.



1. Do either of the following.
 - Tilt the cab. ⇒ P. 12-7
 - Uncover the inspection opening under the assistant driver's seat. ⇒ P. 12-6
 If your vehicle's cab cannot be tilted, uncover the engine inspection opening.
2. Clean the surfaces around the oil filler cap ② and remove the oil filler cap.



3. Place a container under the oil pan drain plug ③.
4. Remove drain plug from the oil pan to remove the oil. Replace the oil filter at the same time. ⇒ P. 12-43

WARNING

The engine oil is extremely hot immediately after the vehicle has been operated. Take care to avoid being scalded when draining hot oil. Give the oil time to cool before draining it.

NOTE:

Oil removal is quicker if performed not so long after the vehicle has been stopped and while the oil is still warm.

5. After oil has been drained out, clean the area around the drain plug hole.
6. Replace the drain plug gasket with a new one; install it with the side indicated by the arrow toward the oil pan. Install the drain plug with the new gasket on the oil pan and tighten it to the torque indicated below.

| | |
|-------------------|--------------------|
| Tightening torque | 20 N·m (2.0 kgf·m) |
|-------------------|--------------------|

7. Carefully pour fresh engine oil through the oil filler.
8. Wait for more than 5 minutes and check the oil level using the oil level gauge ①.
9. Crank the engine in accordance with the procedure on page 5-8 before starting it.

10. Let the engine idle allowing oil to circulate throughout the engine parts. Then, stop the engine and wait for more than 10 minutes before checking the oil level again. Also check for possible oil leaks.
11. After adding oil to the correct level, ensure that the drain plug, oil filler cap and oil level gauge are securely installed.
12. Reset the engine control unit. See 1.4 “Resetting the engine control unit” for the method.

CAUTION


- **Take care not to add more than the specified quantity of oil. The engine can be severely damaged if the correct engine oil level is not maintained.**
- **If the engine is frequently run at high speeds or under heavy loads, the engine oil will deteriorate quickly and must be replaced sooner than specified.**
- **When adding engine oil, take care not to spill it. If oil is spilled on a belt, the belt will slip on pulleys.**

WARNING

Take care not to spill engine oil as engine oil on the exhaust manifold or other hot sections of engine could catch fire. Wipe clean the oil if spilt.

1.4 Resetting the engine control unit

1. Turn the starter switch to “ON”. Do not start the engine.
2. Depress the accelerator pedal to the floor and keep it there for at least 20 seconds.
3. While still keeping the accelerator pedal depressed to the floor, pump the brake pedal at least 6 times.

When the engine control unit is reset, the  indicator (amber) appears on the display for about 10 seconds.

NOTE:

The engine control unit calculates the engine oil replacement time. The steps above are necessary in order to reset the data used for determining the engine oil replacement time.

2 Clutch control fluid <Vehicles with DUONIC system>

| | |
|-----------------------|------------------------------|
| Replacement intervals | Every 60,000 km or 24 months |
|-----------------------|------------------------------|

Recommended oil:
FUSO ATF SP III

Clutch control fluid quantity

| | |
|-------------------|------------|
| Quantity required | 2.0 liters |
|-------------------|------------|

2.1 Check, addition, and replacement

Have the clutch control fluid checked, added, or replaced by an authorized MITSUBISHI FUSO distributor or dealer.

3 Transmission gear oil <Including vehicles with DUONIC system>

| | |
|-----------------------|------------------------------|
| Replacement intervals | Every 60,000 km or 24 months |
|-----------------------|------------------------------|

Recommended oil:
Gear oil

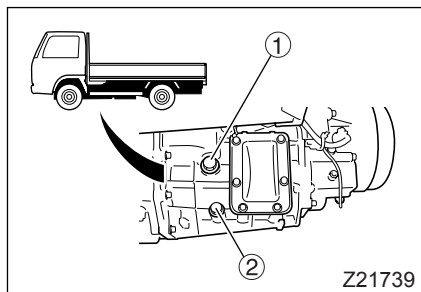
| Classification | Viscosity | |
|----------------|-----------------|----------------------|
| | Condition | SAE viscosity number |
| API GL-3 | General | 80 |
| | Warm region | 90 |
| API GL-4 | Tropical region | 90 |

Engine oil

| Classification | Viscosity | |
|----------------|-----------------------------------|----------------------|
| | Condition | SAE viscosity number |
| API CC | Long period of high-speed driving | 30 or 40 |

Quantity required:

| | |
|-------------------|---|
| Quantity required | Approx. 3.5 liters Plus approx. 0.2 liters for vehicle with standard PTO, or plus approx. 0.3 liters for vehicle with large-capacity PTO |
|-------------------|---|

**3.1 Replacement**

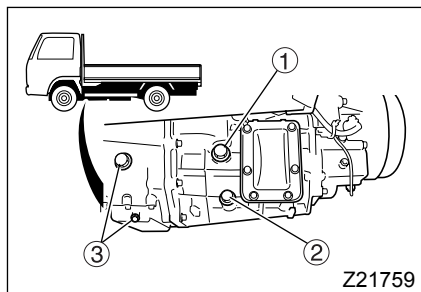
1. Place a container under the drain plug ②.
2. Remove inspection plug ① and drain plug to let the oil flow out.

! WARNING

The gear oil is extremely hot immediately after the vehicle has been operated. Take care to avoid being scalded when draining hot oil. Give the oil time to cool before draining it.

NOTE:

- Oil removal is quicker if performed not so long after the vehicle has been stopped and while the oil is still warm.
- Do not confuse the transmission oil inspection plug ① and drain plug ② with the clutch control fluid inspection plug and drain plug ③, which are located nearer to the front of the vehicle than the transmission oil inspection plug and drain plug.

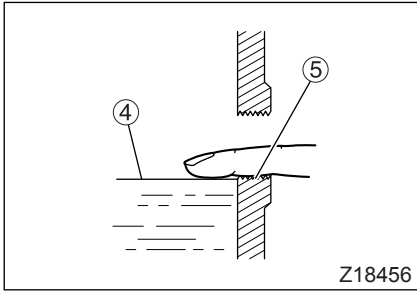


3. The drain plug is fitted with a magnet. Wipe off any metal particles sticking to the magnet. Replace the plug's gasket with a new one, coat the threads on the plug with sealant, and then install and tighten the plug.

| | |
|---------|----------------|
| Sealant | ThreeBond 1105 |
|---------|----------------|

| | |
|-------------------|--------------------------------------|
| Tightening torque | 68.6 ± 14.7 N·m (7.0 ± 1.5 kgf·m) |
|-------------------|--------------------------------------|

4. After transmission oil has drained out completely, install and tighten the drain plug.



5. Add oil through the inspection plug hole until it reaches the opening of the hole.
Put your finger straightly into the inspection plug hole after one minute has passed, and check that the oil surface ④ reaches the opening of the hole ⑤.
6. Like with the drain plug, replace the gasket of the inspection plug with a new one, coat the threads on the plug with sealant, and then install and tighten the plug.

| | |
|---------|----------------|
| Sealant | ThreeBond 1105 |
|---------|----------------|

| | |
|-------------------|--------------------------------------|
| Tightening torque | 68.6 ± 14.7 N·m (7.0 ± 1.5 kgf·m) |
|-------------------|--------------------------------------|

4 Transfer gear oil <FG models>

| | |
|-----------------------|---------------------------------|
| Replacement intervals | Every 60,000 km or 24 months |
|-----------------------|---------------------------------|

Recommended oil:

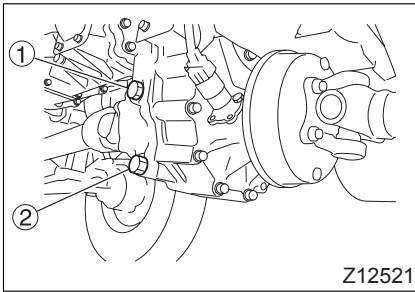
Gear oil

| Classification | Viscosity | |
|----------------|-------------|----------------------|
| | Condition | SAE viscosity number |
| API GL-4 | General | 80 |
| | Warm region | 90 |
| API GL-4* | General | 80 |
| | Warm region | 90 |

*: Use API GL-4 oil with vehicles for Australia and New Zealand.

Quantity required:

| | |
|----------|--------------------|
| Quantity | Approx. 3.6 liters |
|----------|--------------------|



Z12521

4.1 Replacement

1. Place a container under the drain plug ②.
2. Remove inspection plug ① and drain plug ② to let the oil flow out.

! WARNING

The gear oil is extremely hot immediately after the vehicle has been operated. Take care to avoid being scalded when draining hot oil. Give the oil time to cool before draining it.

NOTE:

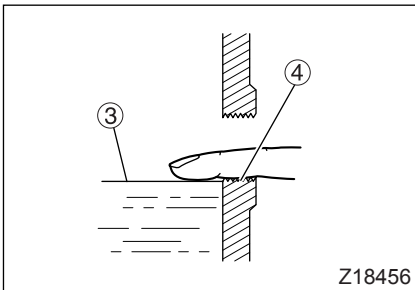
Oil removal is quicker if performed soon after the vehicle has been stopped and while the oil is still hot.

3. Wipe off any metal particles sticking to the drain plug. Replace the plug's gasket with a new one, coat the threads on the plug with sealant.

| | |
|---------|----------------|
| Sealant | ThreeBond 1105 |
|---------|----------------|

4. After transfer oil has drained out completely, install and tighten the drain plug.

| | |
|-------------------|------------------------------------|
| Tightening torque | 68.6 ± 14.7 Nm (7.0 ± 1.5 kgfm) |
|-------------------|------------------------------------|



Z18456

5. Add oil through the inspection plug hole until it reaches the bottom of the hole ④. Put your finger straightly into the inspection plug hole after one minute has passed, and check that the transfer oil surface ③ reaches the opening of the hole.
6. Like with the drain plug, replace the gasket of the inspection plug with a new one, coat the threads on the plug with sealant, and then install and tighten the plug.

| | |
|---------|----------------|
| Sealant | ThreeBond 1105 |
|---------|----------------|

| | |
|-------------------|------------------------------------|
| Tightening torque | 68.6 ± 14.7 Nm (7.0 ± 1.5 kgfm) |
|-------------------|------------------------------------|

5 Differential gear oil

| | |
|-----------------------|---------------------------------|
| Replacement intervals | Every 60,000 km or 24 months |
|-----------------------|---------------------------------|

Recommended oil:

Gear oil

| Classification | Viscosity | |
|----------------|-------------------------|----------------------|
| | Atmospheric temperature | SAE viscosity number |
| API GL-5 | Below 40°C | 90 |
| | Above 40°C | 140 |



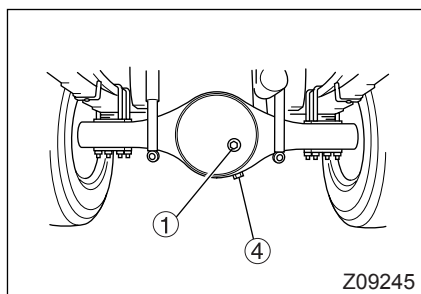
CAUTION

- Use oil conforming to GL-5, SAE140 if the vehicle is to be driven under heavy load conditions as for example driving up long uphill grades. Remember, however, that this oil is to be used only when the temperature is higher than 10°C.
- On vehicles with a limited slip differential, fill the differential with MITSUBISHI Genuine Gear Oil, Part No. 8149630EX (GL-5, SAE90).

Quantity required:

| Destination | Model | Quantity | |
|------------------------------|--------|--------------------|--------------------|
| Australia/ New Zealand | FEA21 | Approx. 2.7 liters | |
| | FEB21 | | |
| | FEA61 | | |
| | FEB51 | | |
| | FGB71 | Front | Approx. 2.2 liters |
| | | Rear | Approx. 4.5 liters |
| | Others | Approx. 4.5 liters | |
| Hong Kong | Others | Approx. 4.5 liters | |
| | FEA21 | Approx. 2.7 liters | |
| Singapore | FEA01 | Approx. 2.2 liters | |
| | FEB21 | Approx. 2.7 liters | |
| | FEB51 | | |
| | FEB71 | Approx. 4.5 liters | |
| | FEC91 | | |

These oil quantities are given only as guidelines. Be sure to check the correct oil level by removing the inspection plug as indicated below.

**5.1 Replacement**

1. Place a container under the drain plug ④.
2. Remove inspection plug ① and drain plug to let the oil flow out.

! WARNING

The gear oil is extremely hot immediately after the vehicle has been operated. Take care to avoid being scalded when draining hot oil. Give the oil time to cool before draining it.

NOTE:

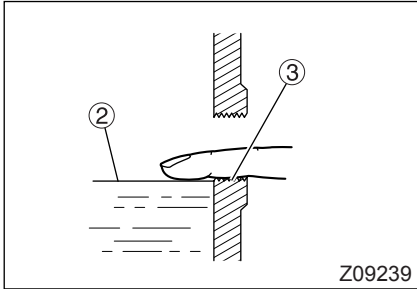
Oil removal is quicker if performed not so long after the vehicle has been stopped and while the oil is still warm.

3. Replace the plug's gasket with a new one and then install and tighten the plug.

| | |
|-------------------|-----------------------------------|
| Tightening torque | 98 to 115 N·m (10 to 12 kgf·m) |
|-------------------|-----------------------------------|

4. Add oil through the inspection plug hole until it reaches ② the bottom of the hole ③.
5. Like with the drain plug, replace the gasket of the inspection plug with a new one and then install and tighten the plug.

| | |
|-------------------|-----------------------------------|
| Tightening torque | 98 to 115 N·m (10 to 12 kgf·m) |
|-------------------|-----------------------------------|



6 Brake fluid

| | |
|-----------------------|--------------------------------------|
| Inspection intervals | At the time of pre-operational check |
| Replacement intervals | Every 24 month |

Have the brake fluid replacement performed by your nearest authorized MITSUBISHI FUSO distributor or dealer.

Recommended fluid:
Brake fluid SAE J1703
FMVSS No.116, DOT3

NOTE:

With a manual transmission vehicle, the brake fluid serves also as clutch fluid.

 **WARNING**

- Be sure to use the recommended brake fluid.
- Use only one brand of recommended brake fluid. Mixing of different brands or types of fluid will change the properties of the fluid possibly resulting in a lower fluid boiling point and damaged brake components.

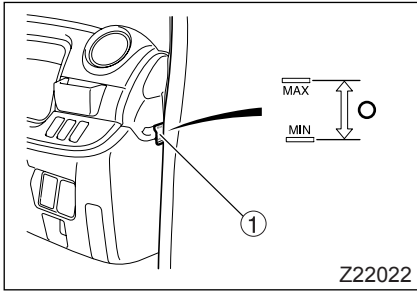
If you wish to change the brand of brake fluid, replace all the existing fluid in the brake system with the new brand fluid.

- Never allow engine oil, diesel fuel, gear oil, automatic transmission fluid, or any other mineral oil to mix with the brake fluid. When mixed with the brake fluid even very small in amounts, such oils will cause the rubber parts of the brake system to swell, and could cause brakes to become sluggish or to drag. Also, do not use containers which have been used for mineral oil for brake fluid.
- Because brake fluid is highly hygroscopic, it should be kept in a dry place both during refilling and storage. If brake fluid absorbs moisture, the boiling point is lowered, a condition which could result in vapor lock. This is very dangerous.
Do not open the reservoir tank cap when checking the brake fluid.
- If the brake fluid is used over long periods, its boiling point drops significantly due to the moisture it has absorbed, thereby increasing the likelihood of dangerous vapor lock. Therefore, be sure to change the brake fluid at the specified replacement intervals.

 **CAUTION**

Brake fluid dissolves paint. If you spill the fluid, wipe it clean or flush it off with water.

If not cleaned off, brake fluid can cause discoloration, corrosion, or cracks in the paintwork.



6.1 Check

The fluid level should be between the “MAX” and “MIN” lines on reservoir tank ①. Check whether the reservoir tank contains foreign matter. If you see foreign matter in the reservoir tank, have the reservoir tank inspected and cleaned by your nearest authorized MITSUBISHI FUSO distributor or dealer.

NOTE:

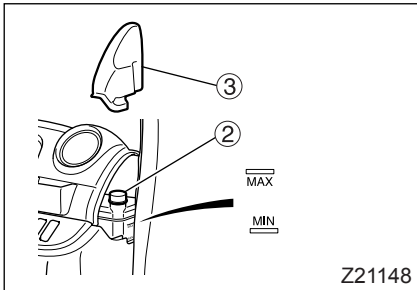
The (ⓘ) warning lamp is illuminated when the brake fluid level drops below the “MIN” line.

⚠ CAUTION

Do not open cap ② of reservoir tank for inspection purposes.

6.2 Adding fluid

1. If the fluid level is lower than the “MIN” line, remove cover ③, clean the surfaces around cap of reservoir tank, open cap ②, and add the recommended brake fluid up to the “MAX” line.
2. Close the cap firmly.



⚠ WARNING

- The container used for adding brake fluid should be a clean one free of moisture, mineral oil, and dust.
- Be extremely careful not to let dust and other foreign matter enter the reservoir tank, as foreign matter in the tank could cause a failure of the brake system. If you see foreign matter in the reservoir tank, have it checked and cleaned by your nearest authorized MITSUBISHI FUSO distributor or dealer.
- If the fluid level is unusually low, there is a fluid leak in the brake line. In this case, have your vehicle inspected at your nearest authorized MITSUBISHI FUSO distributor or dealer.

⚠ CAUTION

Be careful not to exceed the “MAX” line when adding brake fluid.

7 Power steering fluid

| | |
|-----------------------|------------------------------------|
| Replacement intervals | Every 50,000 km or every 12 months |
|-----------------------|------------------------------------|

Have your nearest authorized MITSUBISHI FUSO distributor or dealer replace the fluid.

Recommended fluid:

Automatic transmission fluid DEXRON II or DEXRON III type

 **CAUTION**

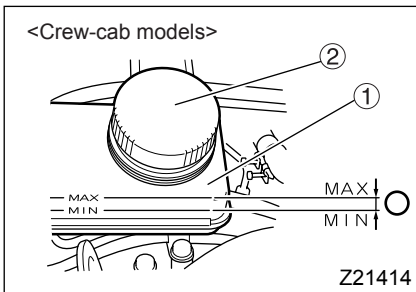
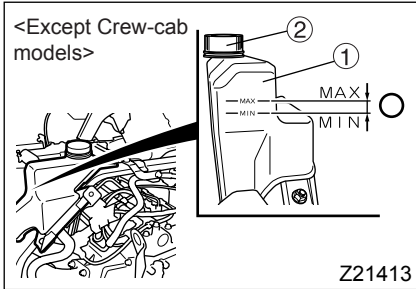
When adding power steering fluid, be sure to use fluid of the same brand as the existing fluid. Mixing two or more different fluids will change their properties and could cause a failure.

NOTE:

Inspect the power steering fluid level after stopping the engine and allowing the power steering fluid to cool. Increases in the fluid temperature cause increases in the fluid level, so an accurate inspection of the level is not possible unless the fluid is cold.

7.1 Inspecting and adding fluid

1. Make sure the parking brake is securely applied.
2. Manual transmission vehicles:
Place gearshift lever in the neutral position.
Vehicles with DUONIC system:
Place gearshift lever in the "P" position.
3. With the vehicle parked on level ground, place the front wheels in the straight-ahead position and stop the engine.
4. Apply chocks to the wheels.
5. Tilt the cab. ⇒ P. 12-7
If the vehicle is a Crew-cab model vehicle, uncover the power steering fluid and engine coolant level inspection opening. ⇒ P. 12-6
6. Observe the power steering fluid level in the reservoir tank ①. If the fluid level is between the "MAX" and "MIN" lines, it is acceptable. Also, check whether the power steering fluid is dirty. If it is dirty, have it replaced by an authorized MITSUBISHI FUSO distributor or dealer.
7. If the fluid level is below the "MIN" line, clean the reservoir tank's cap ② and the surrounding area then open the cap and add power steering fluid until it reaches the "MAX" line.
8. Securely fit the cap.



WARNING

- Close the tank cap firmly; otherwise power steering fluid will leak and could catch fire. Also wipe clean spilt fluid.
- If the power steering fluid level becomes abnormally low, fluid may be leaking. Have the steering system inspected by your nearest MITSUBISHI FUSO distributor or dealer.

CAUTION

- Use a clean container when adding the power steering fluid. Never use a container that has held any other types of oil or fluid. Foreign matter in the fluid could result in a failure.
- Avoid adding more fluid than specified.
- Insufficient oil can make the steering heavy or noisy and can damage power steering components.

Filter elements

1 Oil filter replacement

| | |
|-----------------------|---------------------------------------|
| Replacement intervals | Every 30,000 km or every 12 months |
|-----------------------|---------------------------------------|

CAUTION

- Oil filter element must not be cleaned and reused. Always replace the filter element with a new one.
- Replace the oil filter element simultaneously with engine oil change.
- When installing filter cases and air plugs, be careful not to let the O-ring twist and be damaged.

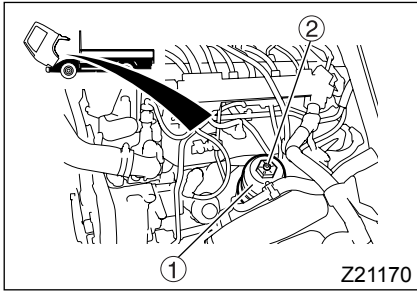
WARNING

- Spilt engine oil should be wiped off clean. Oil remaining on the engine surface could catch fire.
- Do not replace the oil filter immediately after operating the vehicle since the engine, transmission, exhaust pipe, engine oil, and other items will be extremely hot. If you try to replace the oil filter immediately after driving the vehicle, you may be scalded. Give the engine time to cool before starting the job.

1. Make sure that the parking brake is firmly applied.
2. Chock the wheels.
3. If the engine is cold, warm it up until the engine oil temperature reaches approximately 40°C. (It takes approximately 20 minutes of idling to raise the engine oil temperature from 0°C to 40°C.)

NOTE:

Be sure to warm up the engine. Unless you warm up the engine, engine oil may spill out when you remove the oil filter case.

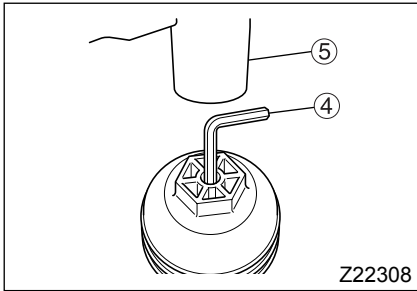


4. Tilt the cab. ⇒ P. 12-7
 With a Crew-cab model, uncover the engine inspection opening. ⇒ P. 12-6
5. Clean the area surrounding the oil filter case to prevent dirt from entering the new filter element.
6. Turn the oil filter case ① counterclockwise (about two and a half turns) to loosen it.
7. Remove the air plug ② of the oil filter case by turning it counterclockwise. Replace the removed air plug with a new plug. Wait for at least 5 minutes after removing the air bleeder plug to let oil inside the case drain out completely.

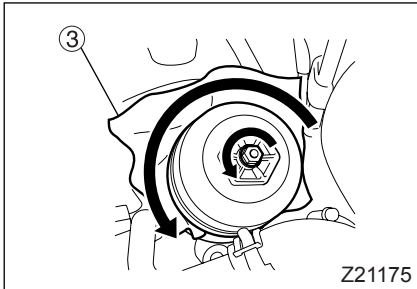
When replacing engine oil, remove the oil filler cap and then the drain plug.

⇒ P. 12-29

8. Remove the oil filter case by turning it counterclockwise. Use a rag ③ to prevent oil from dripping down.
9. Remove the filter element ⑧ from the filter case. If the claw of the filter element is too firmly engaged to remove the element, insert an Allen wrench ④ and tap it with a hammer ⑤ to remove the element.

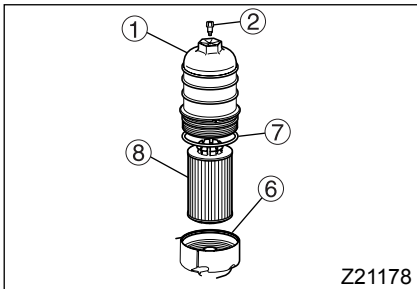


10. Clean the O-ring contact surface of the oil filter support ⑥ and the O-ring groove of the oil filter case.
11. Replace the O-ring ⑦ of the oil filter case with a new one. Apply a light coat of engine oil to the new O-ring before installing it.



CAUTION


- Use only the O-ring supplied with a new replacement filter element.
 - Do not tighten the air plug beyond the specified torque.
12. Install the new filter element with its holed end facing down. Be sure to use a MITSUBISHI genuine filter element.



13. Install a new air bleeder plug to the oil filter case.

Use a new air bleeder plug provided with a new element.

| | |
|-------------------|--|
| Tightening torque | $1.5 \pm 0.6 \text{ N}\cdot\text{m}$ (0.15 to 0.06 kgf·m) |
|-------------------|--|

If the engine oil is replaced, add the necessary quantity of engine oil. \Rightarrow  P. 12-29

14. Tighten the oil filter case.

| | |
|-------------------|------------------------------------|
| Tightening torque | 25 to 30 N·m (2.5 to 3.0 kgf·m) |
|-------------------|------------------------------------|

15. After cranking the engine according to the instructions on page 5-8, start the engine.
16. Start the engine and check for oil leakage.
17. Stop the engine and, after letting it stand for more than 10 minutes, check the oil level.

2 Fuel filter replacement

| | |
|-----------------------|------------------------------------|
| Replacement intervals | Every 30,000 km or every 12 months |
|-----------------------|------------------------------------|

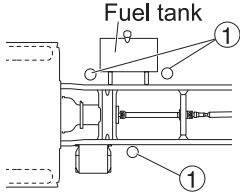
WARNING

- Fuel is highly flammable and should be kept away from hot objects and open flames owing to the risk of fire or explosion. Wipe up any spilt fuel.
- Do not replace the fuel filter element immediately after the vehicle has been driven as the filter will be hot and could burn you. Wait until the filter cools down.
- After installing the fuel filter, confirm that no fuel is leaking out. Leaking fuel could cause a fire or explosion.
- Use only the fuel filter specified for your vehicle. Use of other filters could cause fuel to leak and cause a fire or explosion.
- When replacing the fuel filter element, be sure to use the special tool to remove and reinstall the fuel filter case. If the fuel filter case is inappropriately reinstalled, fuel could leak and the filter itself could become damaged, possibly resulting in a fire and/or explosion. If you do not have the special tool, please contact an authorized MITSUBISHI FUSO distributor or dealer.
- Be careful not to damage the filter case, as this could cause fuel leakage.
- Keep cigarettes and other sources of heat away from the vehicle while replacing the fuel filter. They are dangerous because they could set fire to the fuel.
- When replacing the fuel filter, you will be working in a tight space. Be careful not to injure yourself on the edges of nearby components.

 **CAUTION**

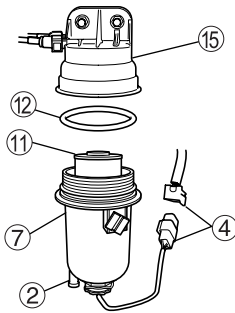
- Fuel filter element must not be cleaned and reused.
- Always replace with a new, genuine fuel filter element. Do not use the filter element beyond the recommended replacement intervals. Failure to observe these may damage the fuel injection system.
- Be careful not to allow foreign matter to get into the fuel system when replacing the fuel filter element. Foreign matter in the fuel system could make the fuel injection system malfunction.
- Do not kick or strike the fuel filter because it could damage the internal sensor.

Location of fuel filter
(differs by model)



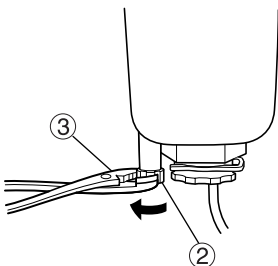
Z21188

The fuel filter ① of your vehicle is installed at either location shown in the figure.



Z21579

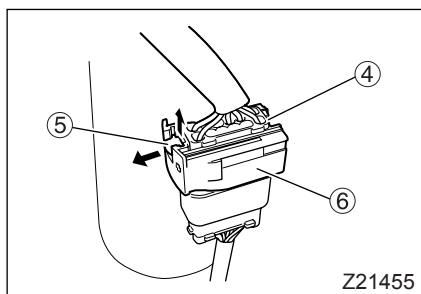
1. Make sure that the parking brake is firmly applied.
2. Chock the wheels.
3. Clean the area around the filter to prevent dirt from contaminating the new filter element when it is installed later.
4. Place a container under the fuel filter to collect the fuel.



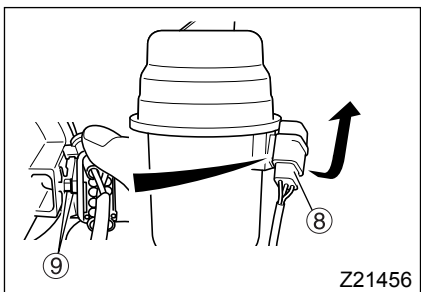
Z21454

5. Loosen the drain plug ② by turning it in the direction of the arrow indicated in the figure to allow the fuel in the fuel filter to drain out. Use pliers ③ or a similar tool to loosen the plug. After the fuel has been discharged, turn the plug in the opposite direction of the arrow.

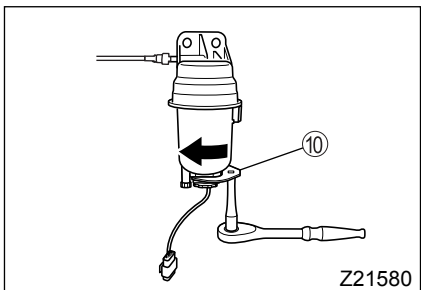
| | |
|-------------------|----------------------|
| Tightening torque | 1.5 N·m (0.15 kgf·m) |
|-------------------|----------------------|



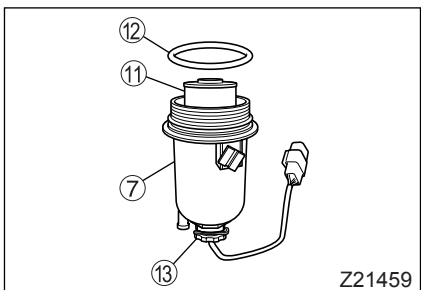
6. Disconnect the sensor connector (4). Do this after pulling up the connector's lock knob (5) and then pulling out the top part (6) of the connector.



7. Disconnect the connector (8) from the fuel filter case (7). Do this by pulling the bottom part of the connector toward you to release the lock (9) and then pulling the connector directly upward.



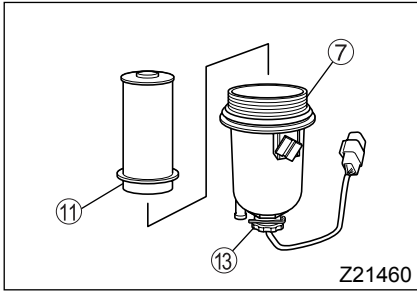
8. Remove the fuel filter case by turning it counter-clockwise using the special tool (10) (separately available). Let the fuel inside the case drain out.



9. Remove the filter element (11) out of the case by pulling it straight upward.
10. Replace the O-ring (12) of the fuel filter case (7) with a new one. After applying a light coat of engine oil to the new O-ring, install it on the fuel filter case.

CAUTION

- Remove and install the filter element (11) in parallel with the axis of the filter case. Otherwise, the sensor (13) inside the case could become damaged.
- Use only the O-ring supplied with a new replacement filter element.



11. Install a new, genuine filter element into the filter case as shown in the illustration, paying attention to its direction.
Insert the filter element in a straight line.

! CAUTION

- Install the fuel filter case carefully so as not to twist or damage the O-ring.
- Do not reuse the filter element.

12. Install the fuel filter case by turning it clockwise.
Turn the case until it stops. Make sure the projection (14) on the case is in contact with the filter head (15).

! CAUTION

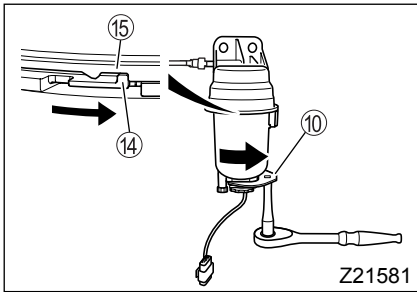
Always check that the projection on the fuel filter is in contact with the filter head. If they are not in contact with each other, the fuel filter case must have been turned insufficiently or excessively.

In either case, fuel will leak or the fuel filter case will be damaged.

13. Install the sensor connector to the fuel filter case and then connect the connector. Do this by following the removal procedure in reverse.
14. Bleed the fuel system. Hold the starter switch in the "ON" position for 30 seconds to supply the fuel system with fuel.
15. Start the engine and check that there is no fuel leakage. There may be some instances where it takes 30 seconds at maximum to start the engine.

NOTE:

Air enters the fuel system while replacing the filter element and will prevent the engine from starting. When first starting the engine after replacing the filter element, hold the starter switch in the "ON" position for 30 seconds to bleed air out of the system and then crank the engine.



3 Air cleaner cleaning and replacement

| | |
|--|--------------------------------------|
| Checking the air cleaner element condition with dust indicator intervals | At the time of pre-operational check |
| Replacement intervals | Every 30,000 km or every 12 months |



WARNING

When cleaning air cleaner element, wear goggles and a mask to protect your eyes and respiratory organs from dust. And, use a dust collector to prevent dust from dispersing into the surroundings.

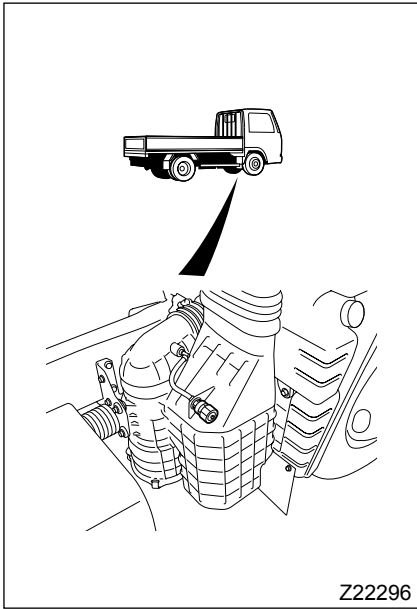


CAUTION

Clean the air cleaner element at the specified interval. Failure to follow this instruction will result in premature accumulation of PM in the DPF and eventually cause the systems to malfunction. On the contrary, unnecessarily frequent cleaning can damage the air cleaner element, allowing dust and other foreign matter to be drawn into the engine.

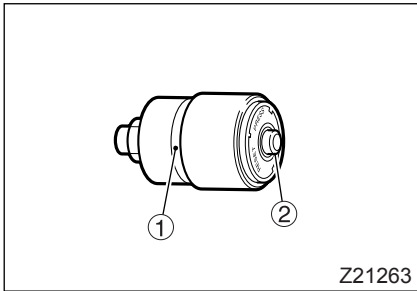
NOTE:

Even if the cleaning interval has not elapsed, clean or replace the element if clogging of the element causes a drop in engine output.



- **Checking the air cleaner element condition with dust indicator**

Check the dust indicator once a week. The dust indicator is located near the air cleaner. If the indicator's window ① shows a red signal, the air cleaner element is clogged. Clean the element immediately.



- **Resetting the dust indicator**

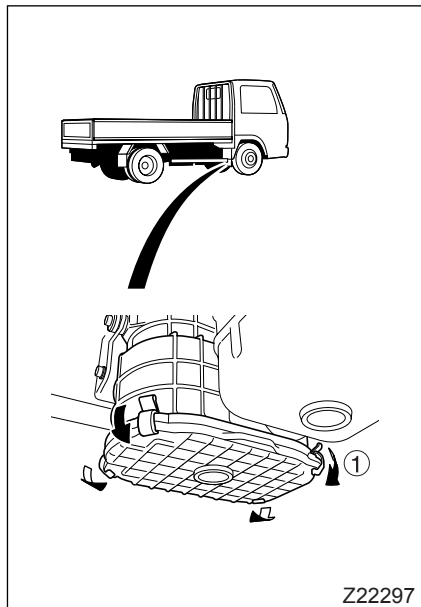
After cleaning the air cleaner element, push the reset button ②. The red signal will disappear from the window of the dust indicator.

<Type 1>

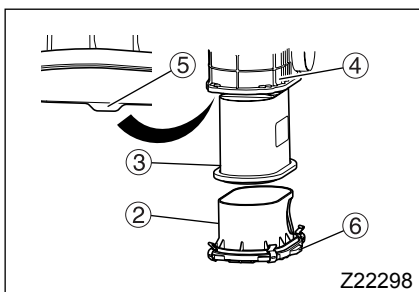
The air cleaner is located in the position as shown.

• Removal

1. Remove the clamps ① (4 places).
2. Remove the air cleaner case ④, cover ② and element ③.



Z22297



Z22298

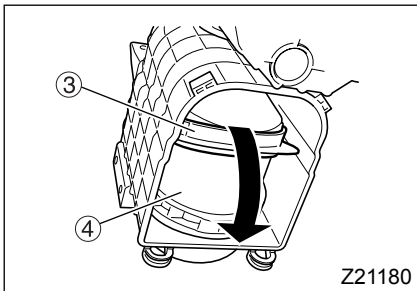
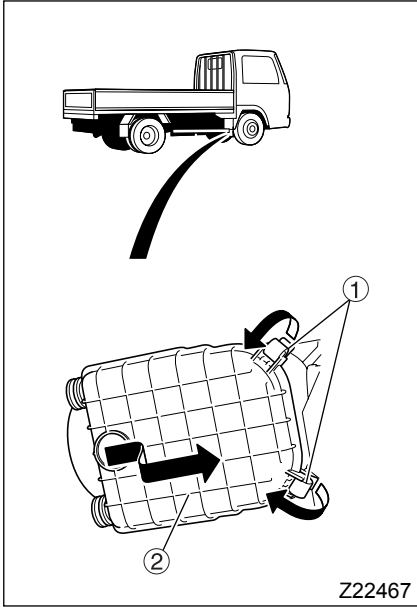
• Installation

Perform installation in the reverse order of removal. Make sure the protrusion ⑤ of the air cleaner case is on the opposite side of the protrusion ⑥ of the case.

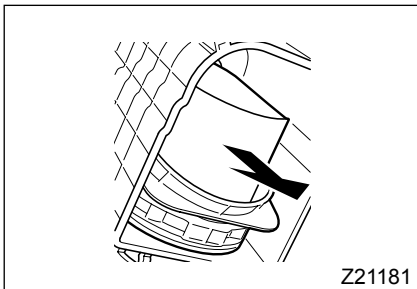
<Type 2>

• **Removal**

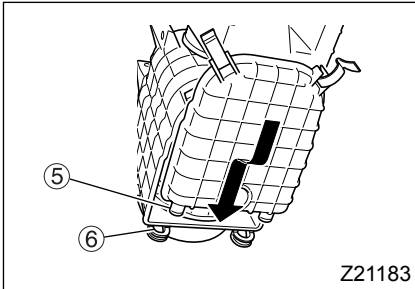
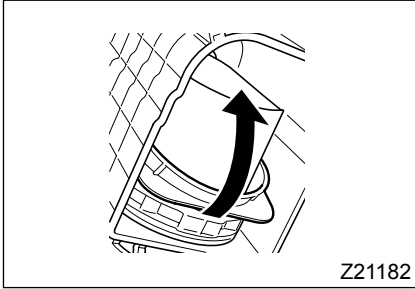
1. Undo the two clamps ① and then pull the cover ② toward the clamps to remove it.



2. Move the lock lever ③ in the air cleaner element case to the "UNLOCK" position.



3. Pull element ④ straight down to remove.



- **Installation**

1. Insert the air cleaner element into the air cleaner element case in a straight line.
2. Move the lock lever in the air cleaner element case to the "LOCK" position.

3. Install the cover on the case by inserting the projections ⑤ on the cover into the holes ⑥ in the case and then fasten the clamps.

! CAUTION

Install the air cleaner element in the case and close the case completely. A broken packing or loose fastening of the clamps will cause dust or other foreign material to be sucked in by the engine, causing the pistons and cylinder liners to become worn prematurely.

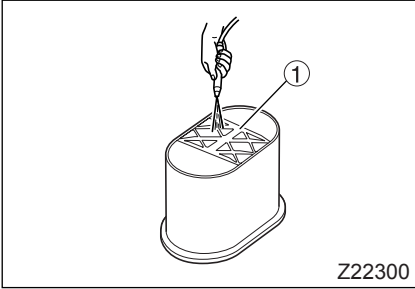
- **Inspection and cleaning**

! CAUTION

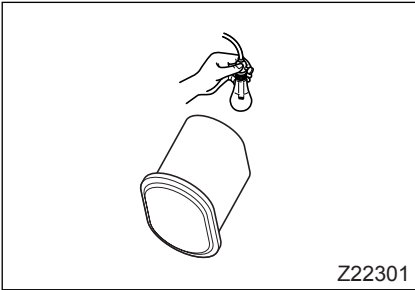
- Dust can damage your health. Wear a dust mask to avoid inhaling dust while cleaning the air cleaner element. Also, wear thick gloves while removing and installing the cover.
- Keep the air pressure under 685 kPa (7 kgf/cm²) to prevent the element from being damaged.
- Do not strike the element or hit it against another object.
- If the element is contaminated with oily soot or dust, replace it regardless of the scheduled replacement time.

<Type 1>

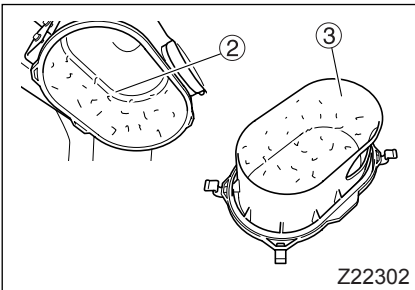
1. Blow compressed air evenly onto the entire surface from the grill side ① of the element to remove dust.



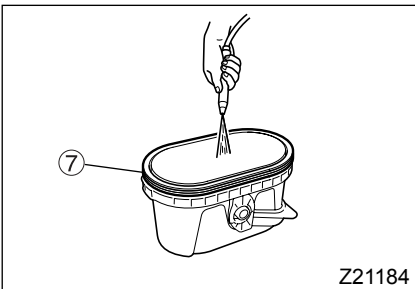
2. Shine light from the grill side of the element to check for escaping light. Also check the gasket for cracks and damage.

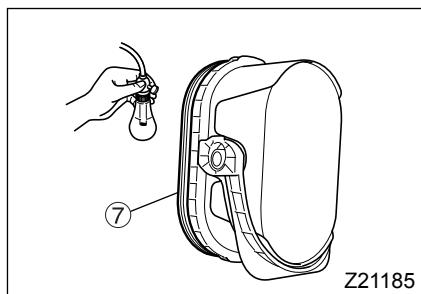


3. Clean the inside of the case ② and cover ③ with a rag.
4. If the inspection reveals a problem in the element or if the specified replacement time has arrived, replace the element with a new one.

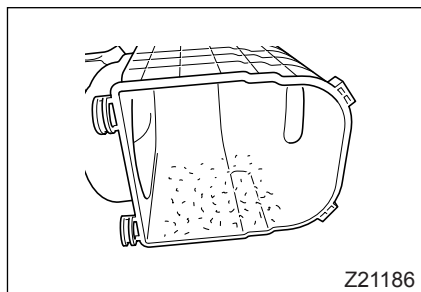
**<Type 2>**

1. Remove dust by blowing compressed air over every surface of the air cleaner element from its end fitted with the gasket ⑦.

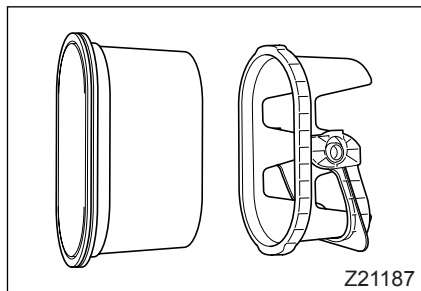




2. Put a light on the gasket side of the air cleaner element to check that there are no holes that allow light to leak in the element. Also check the gasket for cracks or other damage.




3. Clean the inside of the case and cover with a clean cloth. Clean the sealing sections with particular care.
4. Replace the element with a new one if the check reveals a defective cleaner element or when the recommended replacement interval expires.



- **Replacement**

Use a genuine cleaner element for replacement. Remove the air cleaner element from the case and replace it with a new one.

Draining water from fuel filter

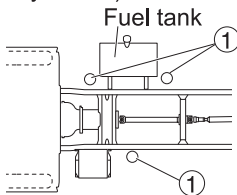
If the  warning is indicated, there is water in the fuel filter in an amount exceeding the limit.

Drain the water as follows:

WARNING

- Fuel is highly flammable and should be kept away from hot objects and open flames owing to the risk of fire or explosion. Wipe up any spilt fuel.
- Keep cigarettes and other sources of heat away from the vehicle while draining water from the fuel filter. They are dangerous because they could set fire to the fuel.
- Be careful not to injure yourself on the edges of nearby components while draining water from the fuel filter.
- Avoid damaging the fuel filter case, as this will cause fuel to leak.
- Do not drain water from the fuel filter immediately after driving the vehicle. The fuel filter is extremely hot immediately after the vehicle has been driven, so you could get burned. Give the fuel filter time to cool down before draining water from it.

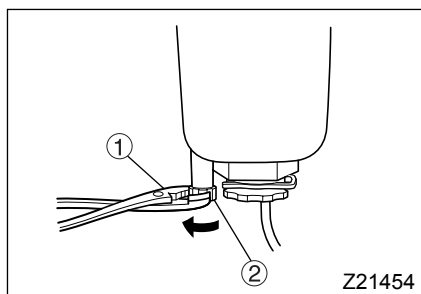
Location of fuel filter
(differs by model)



Z21188

The fuel filter ① of your vehicle is installed at either location shown in the figure.

1. Make sure that the parking brake is firmly applied.
2. Chock the wheels.
3. Prepare a receiver for water.



4. Using pliers ① or other suitable tool, slightly turn the fuel filter's drain plug ② counterclockwise to let water inside the filter drain out.
5. If only fuel starts flowing out, tighten the drain plug by turning it clockwise.

| | |
|-------------------|----------------------|
| Tightening torque | 1.5 N·m (0.15 kgf·m) |
|-------------------|----------------------|

6. Turn the starter switch to "ON" position for 30 seconds to bleed the fuel system.
7. Start the engine and check that fuel does not leak. It may take up to 30 seconds to start the engine.

WARNING

- The drain contains not only water but also fuel. Be sure to wipe clean the surfaces around the fuel filter to remove all splashed fuel. Fuel remaining on the surfaces could cause a fire.
- Make sure fuel does not leak from the filter or from related parts. Any fuel leakage could cause a fire.

NOTE:

Air enters the fuel system while replacing the filter element and will prevent the engine from starting. When first starting the engine after replacing the filter element, hold the starter switch in the "ON" position for 30 seconds to bleed air out of the system and then crank the engine.

Engine coolant – check and replacement

| | |
|-----------------------|--------------------------------------|
| Inspection intervals | At the time of pre-operational check |
| Replacement intervals | Every 24 months |

CAUTION

- **Continuing to use the coolant after the specified replacement period could damage the engine and cooling system components due to rusting and other problems. Replace the coolant at the specified replacement period intervals.**
- **When replacing or adding coolant, be sure to use FUSO DIESEL LONGLIFE COOLANT or an equivalent. Using any coolant other than FUSO DIESEL LONGLIFE COOLANT or an equivalent could cause corrosion and damage to the radiator.**

1 Recommended coolant

Use a coolant containing the FUSO DIESEL LONGLIFE COOLANT additive and demineralized water or soft water in the specified proportions.

Having both corrosion preventive and anti-freezing properties, the additive protects the cooling system all year around.

Replace and top off the coolant only with water containing FUSO DIESEL LONGLIFE COOLANT or an equivalent.

2 Water used with coolant

Use demineralized water or soft water with the properties shown in the following table. Do not use hard water from wells and rivers as it is liable to form scales and cause corrosion.

| | |
|--------------------------------------|-----------------|
| Total hardness | 300 ppm or less |
| Sulfate SO ₄ ⁻ | 100 ppm or less |
| Chloride Cl ⁻ | 100 ppm or less |
| Total dissolved solids | 500 ppm or less |
| pH | 6 to 8 |

3 Using FUSO DIESEL LONGLIFE COOLANT

The FUSO DIESEL LONGLIFE COOLANT is an ethylene glycol base antifreeze (SAE J814-C) with both antifreeze and anticorrosive properties.

The FUSO DIESEL LONGLIFE COOLANT or equivalent is used as a coolant additive by mixing it with demineralized water at the specified concentration.

 **DANGER**

- FUSO DIESEL LONGLIFE COOLANT IS TOXIC. IF A PERSON HAS ACCIDENTALLY SWALLOWED IT, FORCE HIM/HER TO VOMIT AND CONSULT A DOCTOR IMMEDIATELY. IF IT SPLASHES IN THE EYES, IMMEDIATELY FLUSH THE EYES WITH WATER FOR MORE THAN 15 MINUTES, AND SEEK MEDICAL ATTENTION.
- SHOULD FUSO DIESEL LONGLIFE COOLANT COME IN CONTACT WITH YOUR SKIN, IMMEDIATELY WIPE IT OFF, AND THEN THOROUGHLY WASH YOUR SKIN WITH LOTS OF CLEAN WATER AND SOAP. IF YOU FEEL UNWELL OR PAIN ON YOUR SKIN, IMMEDIATELY SEEK MEDICAL ATTENTION.
IN THE EVENT OF CONTACT WITH YOUR CLOTHES, IMMEDIATELY FLUSH FUSO LONGLIFE COOLANT WITH WATER AND SOAP.
- DO NOT USE FUSO DIESEL LONGLIFE COOLANT IN A CLOSED OR POORLY VENTILATED SPACE. SHOULD YOU INHALE A LARGE AMOUNT OF GAS OF FUSO DIESEL LONGLIFE COOLANT, MOVE TO A PLACE WITH FRESH AIR AND KEEP YOURSELF WARM AND AT REST. IF YOU FEEL NAUSEOUS OR OTHERWISE ABNORMAL, IMMEDIATELY SEEK MEDICAL ATTENTION.
- CLOSE THE CAP OF THE FUSO DIESEL LONGLIFE COOLANT CONTAINER IMMEDIATELY AFTER USING THE PRODUCT.
- DO NOT STORE FUSO DIESEL LONGLIFE COOLANT WHERE CHILDREN COULD REACH AND ACCIDENTALLY DRINK IT.
- FUSO DIESEL LONGLIFE COOLANT IS FLAMMABLE; AVOID EXPOSING IT TO OPEN FLAME.
- WHEN HANDLING FUSO DIESEL LONGLIFE COOLANT, WEAR AN ORGANIC GAS MASK, PROTECTION GOGGLES, OIL-RESISTANT GLOVES, AND/OR PROTECTIVE APRON AS NECESSARY.

CAUTION

Do not use methanol-based or methoxypropanol-based antifreeze products. They can severely damage the engine.

Never mix FUSO DIESEL LONGLIFE COOLANT with other brands of long-life coolant or any antifreeze or corrosion-preventive additives. Doing so would reduce the performance of the coolant. If a different long-life coolant has been used and the FUSO DIESEL LONGLIFE COOLANT is to be used, be sure to thoroughly flush the cooling system.

Use the following table to determine the correct concentration of FUSO DIESEL LONGLIFE COOLANT according to the lowest temperature at which your vehicle is to be operated.

FUSO DIESEL LONGLIFE COOLANT concentration (in volume percentage)

| | | | | | | | |
|--------------------|------------------|--------|--------|--------|--------|--------|--------|
| Lowest temperature | -10 °C or higher | -15 °C | -20 °C | -25 °C | -30 °C | -35 °C | -40 °C |
| Concentration | 30% | 35% | 40% | 45% | 50% | 55% | 60% |

| Coolant quantity | |
|------------------------------------|---------------------|
| FEA | Approx. 13 liters |
| FGB, FEB, FEC | Approx. 13.7 liters |
| Vehicles with rear air conditioner | Approx. 14.7 liters |

CAUTION

Use FUSO DIESEL LONGLIFE COOLANT at a concentration of between 30% and 60%. The proper concentration under normal temperatures is 30%. At a concentration below 30%, this additive performs poorly as an anticorrosive, while at a concentration exceeding 60%, it performs poorly as an antifreeze.

4 Check

NOTE:

- Always check the coolant level before starting the engine when the coolant temperature is low. When the coolant gets hot, it expands, making the level look higher than it actually is.
- Deposition may occur in the reserve tank but this will not cause any problem.

1. Check the coolant level when the coolant is cold before engine startup.
2. The coolant level is sufficient if it is between the "FULL" and "LOW" lines on the coolant reservoir tank.
3. If the coolant level is below the "LOW" line, make sure coolant is not leaking from the cooling system then add coolant (FUSO DIESEL LONGLIFE COOLANT plus demineralized water or soft water) until it reaches the "FULL" line.
4. Check for coolant leakage from the radiator and radiator hoses.

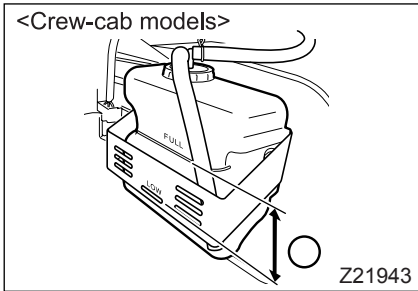
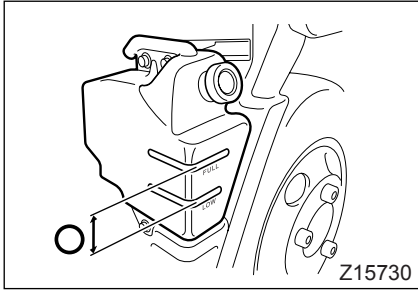
If you find water on the ground from which your vehicle has been moved after parking, coolant is probably leaking.

If the coolant level is abnormally low and quickly drops again when coolant has been added, coolant may be leaking from the cooling system. Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.

5 Adding coolant

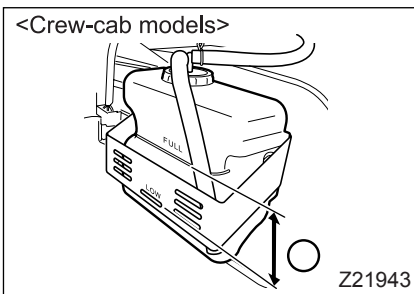
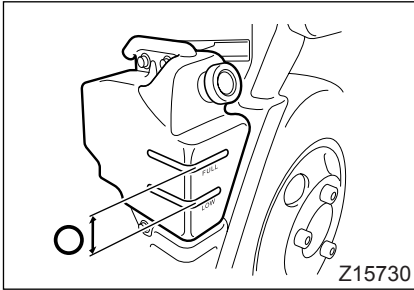
CAUTION

- Coolant should normally be added through the reservoir tank without opening the pressure cap on the surge tank.
- When adding coolant, use new coolant additive of the same brand and concentration as the additive that is already in the vehicle.
- Adding only demineralized water or soft water reduces the concentration of the coolant already in the system, resulting in less protection against freezing and corrosion. Additional coolant should always contain the correct proportions of the additive and demineralized water.



5.1 Adding coolant during pre-operation checks

1. If the coolant level is below the "LOW" line, remove the cap from the reservoir tank, and refill the tank with coolant (FUSO DIESEL LONGLIFE COOLANT plus demineralized water or soft water) to the "FULL" line.
2. Refit the cap securely after adding coolant.



5.2 Adding coolant following an engine over-heat

If the engine overheats, the amount of coolant may be insufficient not only in the reservoir tank but also in the main body of the radiator.

Refer to "If the engine overheats" with regard to the filling of coolant in situations where the engine has overheated. ⇒ P. 13-10

! WARNING

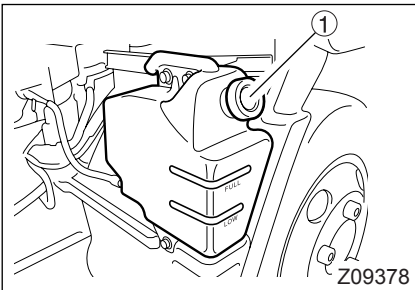
Never remove the radiator's pressure cap while the coolant is still hot. Carelessly removing it is dangerous since boiling coolant and hot steam will gush out and could scald you. Only after the coolant has cooled down sufficiently, remove the pressure cap by gripping it in a folded piece of thick cloth and opening it slowly.



6 Replacement

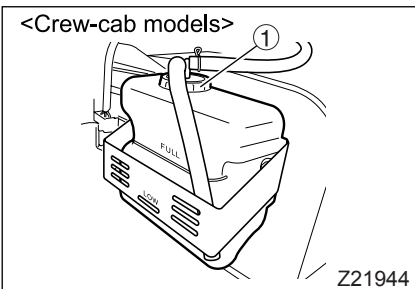
Be sure to flush the cooling system when replacing the coolant.

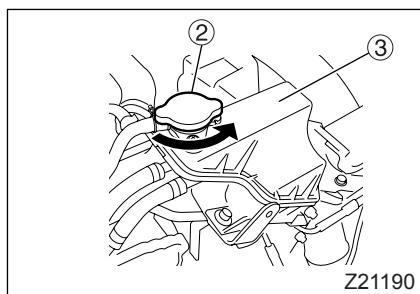
WARNING

- Do not replace the coolant immediately after operating the vehicle since the engine, radiator, coolant, and other items will be extremely hot. If you try to drain the coolant immediately after driving the vehicle, you may be scalded. Give the coolant time to cool before starting the job.
- Never remove the engine's pressure cap while the coolant is still hot. Carelessly removing it is dangerous since boiling coolant and hot steam will gush out and could scald you. Only after the coolant has cooled down sufficiently, remove the engine's pressure cap by gripping it in a folded piece of thick cloth and opening it slowly.
- Tighten the engine's pressure cap before operating the engine. If the engine speed is increased with the pressure cap left open, steam and boiling coolant will overflow from the pressure cap opening as its temperature rises.

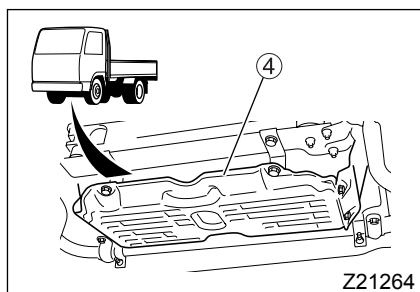


1. Place a can under the radiator drain cock to receive the coolant.
2. Remove the cap ① from the reservoir tank.
3. Tilt the cab. ⇨  P. 12-7
If the vehicle is a Crew-cab model vehicle, uncover the power steering fluid and engine coolant level inspection opening. ⇨  P. 12-6

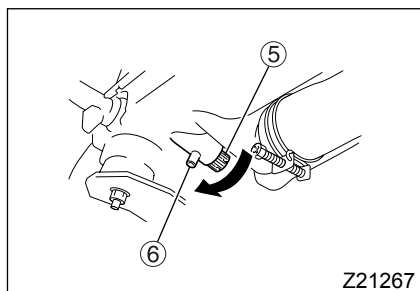




- Remove the pressure cap ② of the surge tank ③ by turning it counterclockwise.



- Remove the undercover ④ below the radiator, if equipped.




- Open the radiator drain cock ⑤ to drain engine coolant.

NOTE:

You can prevent splashes from draining engine coolant by connecting a hose (commercially available with a 7 mm inside diameter) to the drain cock nipple ⑥.

- After the coolant has been completely drained, close radiator drain cock.

| | |
|-------------------|--|
| Tightening torque | $2.5 \pm 0.5 \text{ N}\cdot\text{m}$ ($0.25 \pm 0.05 \text{ kgf}\cdot\text{m}$) |
|-------------------|--|

8. Flush the cooling system.
 Pour demineralized water or soft water (preferably after heating moderately) through the pressure cap opening. Refit the pressure cap tightly by turning it clockwise. Lower the cab.
 Start the engine and keep it running at a speed slightly higher than the specified idling speed until the coolant temperature indicator on the multi-information display shows the 8th segment on the scale. ⇨  P. 6-8
 Depress the accelerator pedal and run the engine slightly faster than the ordinary idling speed.
 Stop the engine after 10 minutes and then drain out the engine coolant. Take great care as the coolant is very hot.
 Repeat the above procedure until the water is free of dirt.

CAUTION

If the radiator tubing is clogged or coolant is more contaminated than usual, have your vehicle inspected at an authorized MITSUBISHI FUSO distributor or dealer.

9. Make sure the radiator drain cock is securely fitted.
10. Tilt the cab. If the vehicle is a Crew-cab model vehicle, uncover the power steering fluid and engine coolant level inspection opening.
11. Pour coolant (FUSO DIESEL LONGLIFE COOLANT plus demineralized water or soft water) up to the top of the pressure cap opening. Pour the coolant slowly to prevent air from mixing with it.

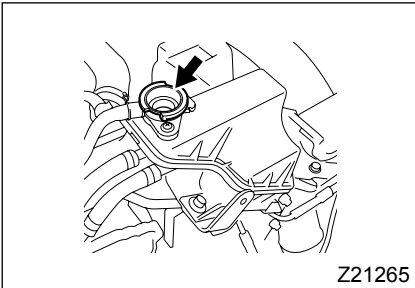
NOTE:

When refilling the radiator on a Crew-cab model vehicle, pour coolant slowly to prevent it from overflowing the filler port.

12. Check that the coolant level in the pressure cap opening does not go down, then fit the pressure cap (turn it clockwise until it is tight).

CAUTION

If air is not completely removed from the cooling system, this may lead to reduced cooling efficiency and engine parts failure. After replacing the coolant, drive the vehicle and then check the coolant level.




13. Lower the cab.
14. Fill the reservoir tank with the coolant (FUSO DIESEL LONGLIFE COOLANT plus demineralized water or soft water) to the "FULL" line, then replace the cap.
15. Keep the engine running at a speed slightly higher than the specified idling speed to expel air from the cooling system. Depress the accelerator pedal and run the engine slightly faster than the ordinary idling speed.
When the coolant temperature indicator shows the 8th segment on the scale, allow the engine to idle for 10 more minutes then stop it.
16. When the engine has cooled, open the pressure cap and, if the coolant level is too low, add coolant until it reaches the top of the pressure cap opening.
17. Screw the pressure cap down tightly by turning it clockwise.

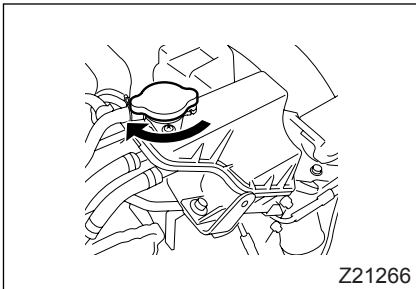
NOTE:

Be sure to screw the pressure cap tightly. Otherwise, boiling water and steam under high pressure will gush out if the engine overheats.

18. Run the engine a few more minutes to make sure that there are no coolant leaks.
19. Make sure that the coolant level in the reservoir tank is in the specified range. Add coolant if necessary.
20. Reinstall the undercover.

7 Cleaning the radiator core and inter-cooler

If the intercooler or front of the radiator core is plugged with mud or dust, cooling efficiency will be reduced leading to rust. Clean the intercooler and radiator at regular intervals. ⇨  P. 12-115



V-belts – check and adjustment

The belt is kept adjusted to the appropriate tension by the auto-tensioner, so you do not need to adjust the belt tension. However, you should check the auto-tensioner is working properly.



WARNING

Always stop the engine before inspecting or adjusting belts.

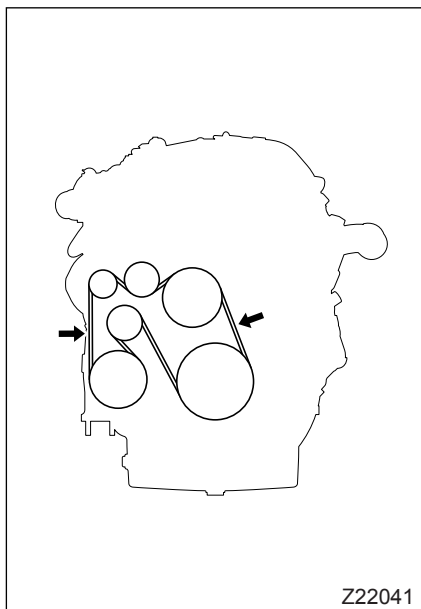
Ensure that the engine cannot be started while you are performing checks or adjustments.



CAUTION

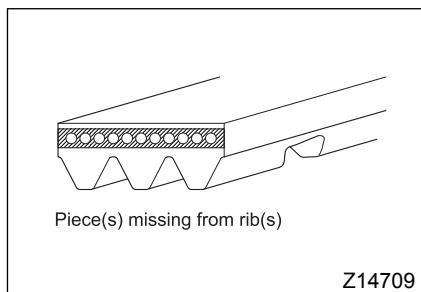
- If the belt is found to be damaged, have it replaced by an authorized MITSUBISHI FUSO distributor or dealer as soon as possible. The engine could fail if the belt breaks.
- Prevent the V-belt from any contact with oil or grease during inspection.
If soiled with oil or grease, the belts will slip and this will shorten their service life.

| | |
|-----------------------|--------------------------------------|
| Inspection intervals | At the time of pre-operational check |
| Replacement intervals | Every 120,000 km or every 48 months |



1 Check

1. Confirm that the parking brake lever is pulled. Prevent the vehicle from moving by blocking the wheels with chocks. Tilt the cab. ⇨ P. 12-7
If the vehicle is a Crew-cab model, uncover the engine access opening under the assistant driver's seat. ⇨ P. 12-6
2. Check whether the V-belt is properly tensioned by pressing it with your palm in either of the places marked with arrows.
3. If the belt is excessively loose, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.
4. Also, check the belts for damage.

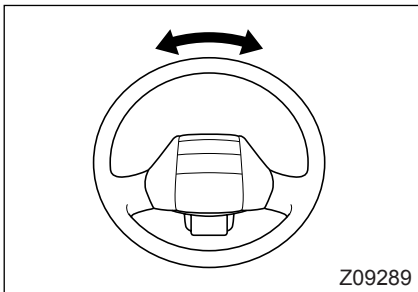


If a belt is cracked or otherwise damaged, have it replaced as soon as possible. Belt replacement requires component disassembly. Please contact an authorized MITSUBISHI FUSO distributor or dealer to have the work done.

Steering wheel – check

The steering wheel is a safety-critical part of the vehicle. If an inspection reveals any abnormality, contact your nearest authorized MITSUBISHI FUSO distributor or dealer and have the abnormality rectified before you again drive the vehicle. Driving the vehicle with the abnormality unrectified could result in a serious accident.

| | |
|----------------------|---|
| Inspection intervals | At the time of pre-operational check and every 30,000 km or every 12 months |
|----------------------|---|



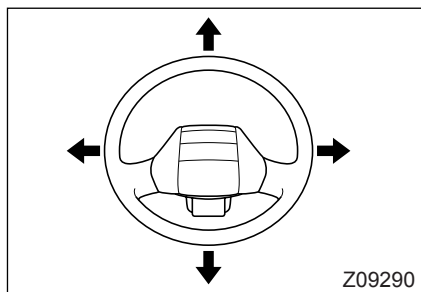
1 Steering wheel play

NOTE:

Be sure to check the steering wheel play with the engine running and with the engine turned off.

1. Make sure the parking brake is securely applied.
2. If your vehicle is equipped with a manual transmission, make sure that the gearshift lever is in the neutral position. If your vehicle is equipped with the DUONIC system, make sure that the gearshift lever is in the “P” position.
3. Gently turn the steering wheel from its straight-ahead (neutral) position to the point where you first feel resistance in the clockwise direction and to the point where you first feel resistance in the counterclockwise direction. The distance between the two points is the extent of steering wheel play. Check the steering wheel play with the engine running and with the engine turned off. If it is out of specification with the engine running and/or with the engine turned off, contact your nearest authorized MITSUBISHI FUSO distributor or dealer.

| | | | |
|--|---------------------------|-------------------------------------|---------------|
| Steering wheel play (on the periphery of steering wheel) | When engine is turned off | Front independent suspension models | 20 mm or less |
| | | Front rigid leaf suspension models | 10 to 20 mm |
| | When engine is idling | | |



2 Steering wheel looseness

1. Try moving steering wheel up and down and also right and left to check for excessive looseness.
2. If anything abnormal is found, contact your nearest authorized MITSUBISHI FUSO distributor or dealer.

NOTE:

Make sure the lock lever that is used for steering wheel adjustment is securely locked.

3 Steering wheel operation

1. While driving slowly, make sure that the steering wheel is free from shake and the vehicle does not pull to one side. Also check for excessive operating resistance and unsmooth return to the neutral position.
2. If any abnormal condition is encountered during the above check, call your nearest authorized MITSUBISHI FUSO distributor or dealer for inspection.




WARNING

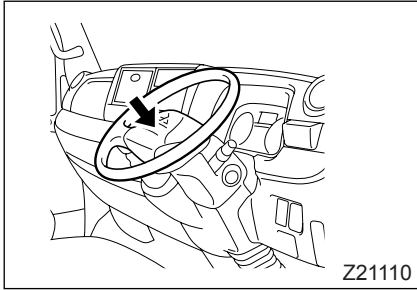
Perform the checks in a safe place that provides good visibility all around. During the checks, be sufficiently attentive to surrounding traffic conditions.

4 Horn operation

CAUTION

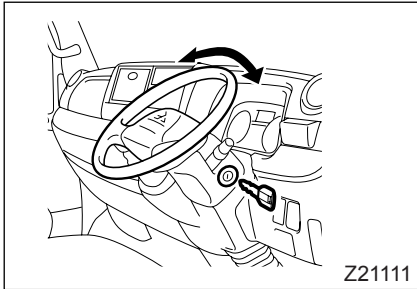
Before sounding the horn, make sure there are no people around the vehicle.

1. Sound the horn. Check the volume and tone of its sound.
2. If the horn makes no sound, the fuse may be blown. Replace any defective part. ⇒  P. 13-11
3. If the horn makes no sound even though the fuse is not blown or the horn makes no sound, a weak sound, or an intermittent sound even after replacement of any defective part, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.



5 Steering wheel lock

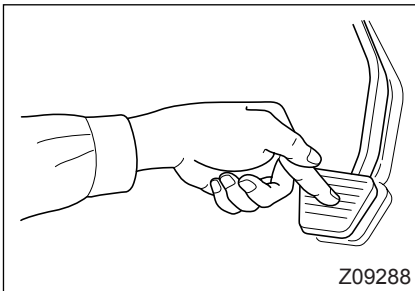
1. Remove the starter key, give the steering wheel half a turn to the left or right and check whether it locks in position and becomes immovable.
2. If the steering wheel does not lock, have the vehicle inspected by an authorized MITSUBISHI FUSO distributor or dealer.



Service brakes – check and adjustment

The service brakes are safety-critical parts of the vehicle. If an inspection reveals any abnormality, contact your nearest authorized MITSUBISHI FUSO distributor or dealer and have the abnormality rectified before you again drive the vehicle. Driving the vehicle with the abnormality unrectified could result in a serious accident.

| | |
|----------------------|---|
| Inspection intervals | At the time of pre-operational check and every 30,000 km or every 12 months |
|----------------------|---|

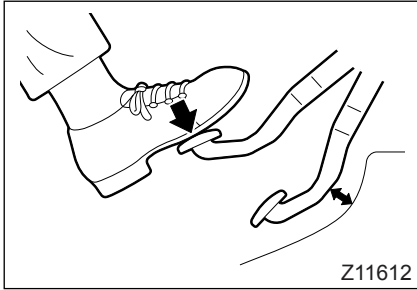


1 Brake pedal play

1. Confirm that the parking brake is securely applied.
2. Pump the brake pedal several times until you feel a harder response from it than usual.
3. Measure the distance over which the brake pedal moves when the center of the pedal pad is pressed with light finger force to the point where resistance is felt (brake pedal play). Check whether the distance is within specification.

| | |
|--|-------------|
| Brake pedal play (at center of pedal pad) | 0.1 to 3 mm |
|--|-------------|

4. If the brake pedal play is not as specified, have the pedal inspected and adjusted by your nearest authorized MITSUBISHI FUSO distributor or dealer.



2 Brake pedal stroke

- Start the engine and allow it to idle.
- Fully depress the brake pedal. Check whether the distance between the fully depressed pedal and the floor is within specification.

| | |
|--|---------------|
| Fully depressed brake pedal to floor clearance | 10 mm or more |
|--|---------------|

- If the clearance is smaller than the specified value, have the brakes inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.
- If the pedal-to-floor clearance is insufficient or the pedal feels spongy when depressed, brake fluid leakage or presence of air in the brake hydraulic system may be a cause. Have the brake system inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer if the above conditions are detected.

3 Braking performance

Perform braking tests in a safe place. After checking that warning lamp (⊙) or (!) is not illuminated, drive the vehicle at a low speed to make sure that braking power is sufficient and even. If braking seems in any way abnormal, operating the vehicle could be dangerous. Ask your nearest authorized MITSUBISHI FUSO distributor or dealer for a more thorough inspection.



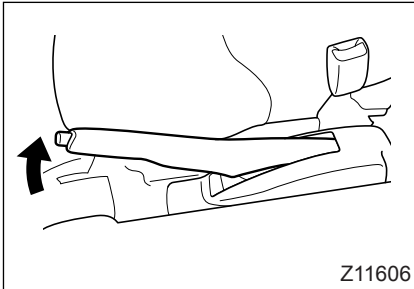
WARNING

Perform brake tests in a safe place that provides good visibility all around. During the tests, be attentive to surrounding traffic conditions.

Parking brake – check and adjustment

Inspection intervals

At the time of pre-operational check and every 30,000 km or every 12 months



1 Parking brake lever stroke check

1. Depress the brake pedal firmly so that the vehicle cannot move.
2. Starting with the parking brake lever in the fully released position, pull the parking brake lever with a force of 294 N (30 kgf) until it stops moving. Check whether the lever stroke (the distance moved by the lever) is within specification. If the stroke is out of specification, have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.

Parking brake lever stroke

7 to 9 notches

3. Make sure the parking brake lever locks securely in the pulled position.

2 Braking performance

Stop the vehicle on a dry downgrade, set the parking brake and check to see if the parking brake can hold the vehicle. If an appropriate downgrade is not available, drive the vehicle at a low speed and activate the parking brake to make sure that it exhibits satisfactory braking action.

If parking brake performance is in any way abnormal, vehicle operation could be dangerous. Contact your nearest authorized MITSUBISHI FUSO distributor or dealer.

WARNING

Perform brake tests in safe place that provides good visibility all around. During the tests, be sufficiently attentive to surrounding traffic conditions.

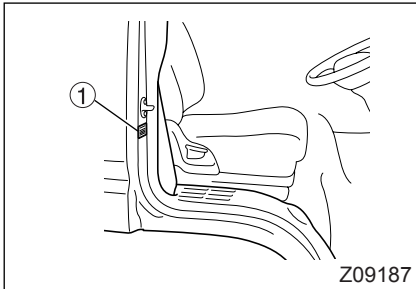
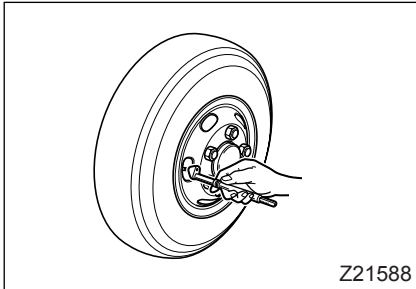
Tires – check

Inspection intervals

At the time of pre-operational check and every 30,000 km or every 12 months

1 Inflation pressure check

- Use an air pressure gauge to check for proper tire inflation pressure. If the pressure is incorrect, adjust it to the indicated standard pressure.
- Tire pressure should be checked and adjusted before driving when the tires are still cool.
- The air in the spare tire will gradually leak out by itself. Once a year, use an air gauge to check whether the spare tire's inflation pressure is slightly higher than the standard pressure. If you use the spare tire, reduce the inflation pressure to the standard level.
- There is a label ① or placard affixed to the driver's door pillar indicating the standard inflation pressure. Keep the tires inflated to the pressures shown on the label or placard.



! WARNING

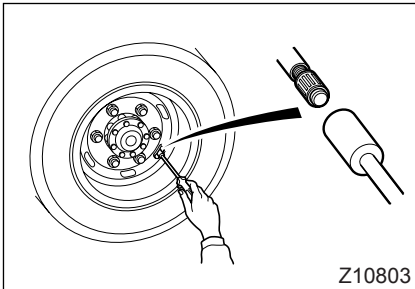
- **Excessively low or high tire pressures not only give a poor ride but also could cause cargo to be damaged. Moreover, if the pressure is too low, tires could overheat and burst.**
- **Both the inner and outer tires on dual wheels should be inflated to the same pressure.**
- **You need not increase tire pressure before high-speed driving.**

⚠ CAUTION

These standard tire inflation pressures have been established and are recommended by the JATMA (Japan Automobile Tire Manufacturers Association) and the ETRTO (The European Tire and Rim Technical Organization). If the tires on your vehicle were not made by one of the JATMA and the ETRTO member companies, use the inflation pressures recommended by your tires' manufacturer or adjust the pressures according to your local standards.

NOTE:

The tire inflation pressures will be higher just after vehicle operation than before vehicle operation. The increases in pressure are not abnormal; they occur because the air in the tires expands as the tires get hot while the vehicle is moving. Do not release air from the tires at this time. The pressures will return to normal as the tires cool down.



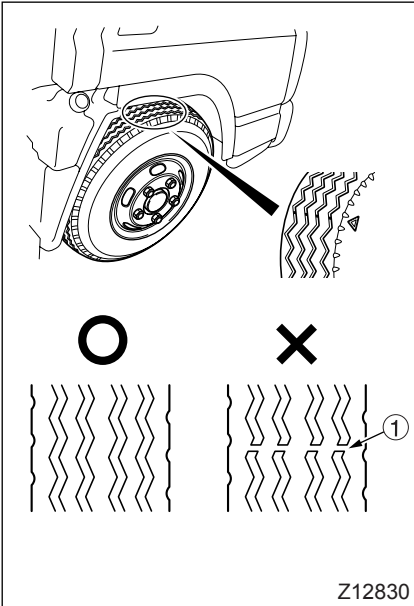
- Never fail to install tire valve caps after checking or adjusting the air pressure. The valve cap on the rear inner tires should be removed or installed by using the tire valve cap tool (onboard tool) (except vehicles for some markets).

2 Checking tread depth

Make sure that the remaining tread depth is sufficient.

| | |
|--------------------------|--------|
| Tread groove depth limit | 1.6 mm |
|--------------------------|--------|

When the tread wears down, slip signs ① (interrupted sections of the grooves) appear across the tire at the locations corresponding to the \triangle marks. Replace the tire as soon as the slip signs show up as continued use is dangerous. \Rightarrow P. 12-81

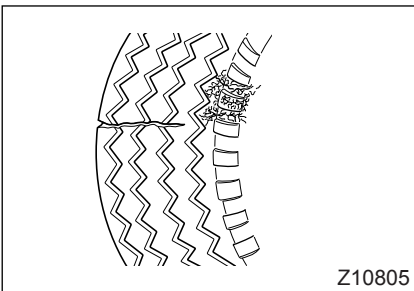


WARNING

If the remaining tread is too shallow, the tires tend to skid and chances of “hydroplaning” during high speed driving increase. Hydroplaning can occur when driving on a wet roads at high speeds. When a vehicle hydroplanes, tires ride up on and slide over a film of water, causing the driver to lose control of both steering and braking.

3 Checking for cracks, damage, and objects embedded in tread

Check both the tread and the sides of each tire for cracks, damage, and excessive or unusual wear. Check also for metal pieces, nails, and stones that might be embedded in the tread or caught between the tires of dual wheels.



Tire replacement

1 Jacking up the vehicle

WARNING

- Securely apply the parking brake.
- Jack up the vehicle on firm, level ground. If you jacked up the vehicle on a slope or on soft ground, the jack could tip and slip out of position, resulting in an accident.
- Apply the jack only to the specified jacking point. If you applied the jack to any other point on the vehicle, it could slip out of position, resulting in an accident.
- Make sure there is no oil or grease on the jack or jacking point. (Wipe off any such contamination.) Otherwise, the jack could slip out of position, resulting in an accident.
- Do not start the engine while the vehicle is jacked up. Engine vibration could cause the jack to slip out of position.
- Do not get under the vehicle while it is jacked up. Doing so is dangerous because you could be trapped under the vehicle if the jack slipped out of position.
- When the vehicle is to remain jacked up for a long period, support the frame with concrete or wooden blocks for safety.
- Never use two or more jacks on a single vehicle at the same time.

CAUTION


- Do not raise the jack more than necessary. Doing so could damage the jack.
- Your vehicle's onboard jack is designed specifically for that vehicle. Do not use it with any other vehicle.
- Instructions for using and handling the jack are affixed to the jack. Be sure to read them before using the jack.

1.1 Before jacking up the vehicle

- Park the vehicle on a flat, hard surface. Pull the parking brake all the way on. If your vehicle has a manual transmission, place the gearshift lever in the neutral position. If your vehicle is equipped with the DUONIC system, place the gearshift lever in the “P” position.
- Be sure to stop the engine.
- If you get a flat tire while on the road and need to change it on the spot, pull up your vehicle in a safe place where it will not block traffic, and cause your hazard warning lamps to flash and use a red or white flag or cloth to give warning to passing vehicles.
- Have all passengers get out of the vehicle.
- Block with a chock the tire diagonally opposite to the tire to be replaced.

Example:

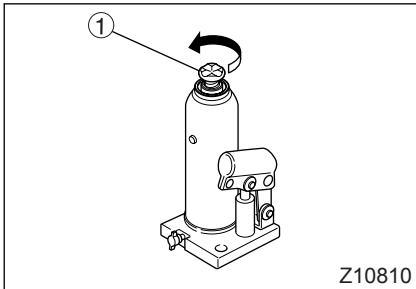
Block the left front tire if the right rear tire is to be replaced.

- Prepare the spare tire. ⇒  P. 12-98

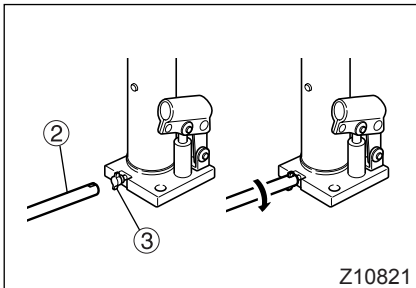
2 Using the hydraulic jack

2.1 To raise

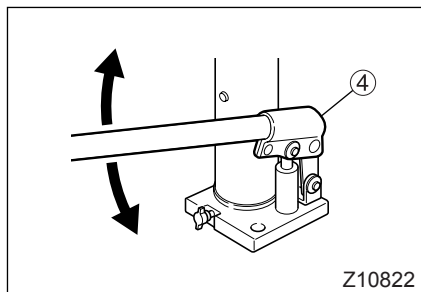
1. If the place you wish to apply the jack to is too high, extend the ram head ① by turning it counterclockwise.
2. Using the slit at the end of the wrench handle ② (onboard tool), turn the release valve ③ clockwise to screw it in.



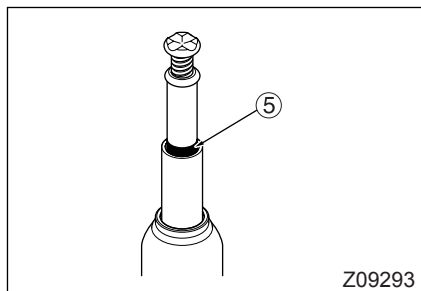
Z10810



Z10821

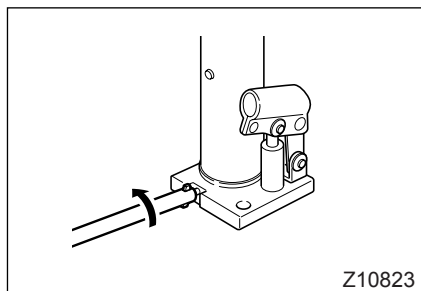


3. Insert the wrench handle into the socket ④ on the jack, and pump the handle up and down to raise the vehicle.



⚠ CAUTION

The jack for a vehicle with independent suspension extends and retracts in two stages. Stop jacking up the vehicle when the yellow second-stage mark ⑤ appears. Continuing to operate the jack could damage it.



2.2 To lower

1. Slowly turn the release valve counterclockwise using the end of the wrench handle.

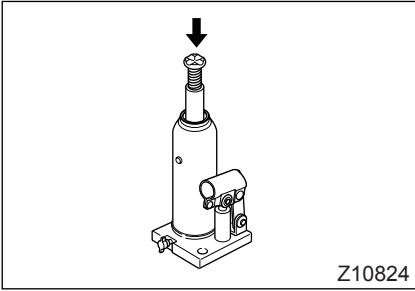
⚠ WARNING

Turn the release valve slowly. If you turned it rapidly, the vehicle would come down quickly, possibly causing the jack to slip out of position.

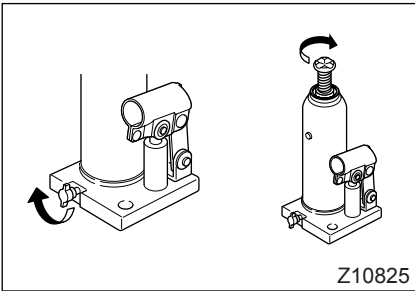
⚠ CAUTION

- Avoid loosening the release valve more than 2 turns.
- Do not close the release valve suddenly while lowering the vehicle since the jack could suffer damage.

2. Take out the jack and push its head down.



3. Rotate the release valve fully clockwise.
Turn the ram head clockwise to retract it.



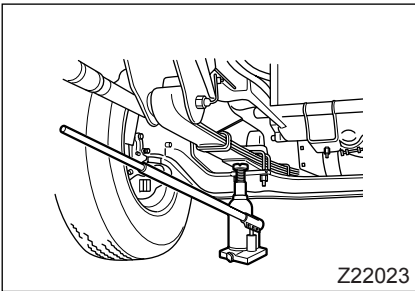
3 Removing the wheel

3.1 Front axle jacking points

- FE models

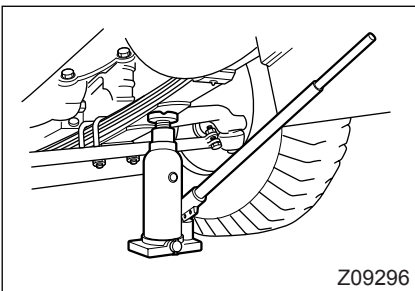
<Vehicle without rigid axle leaf spring suspension stabilizer>

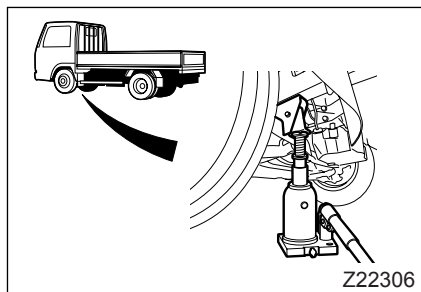
Bottom of leaf spring



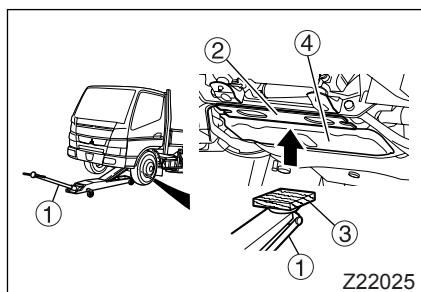
<Vehicle with rigid axle leaf spring suspension stabilizer>

Bottom of leaf spring behind tie rod



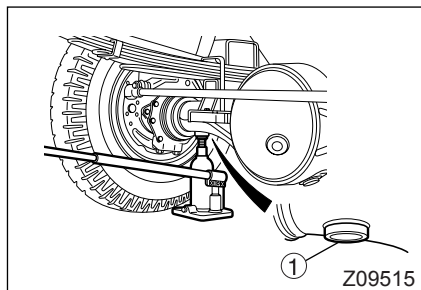


<Vehicle with independent suspension>
Jack receptacle behind front wheel

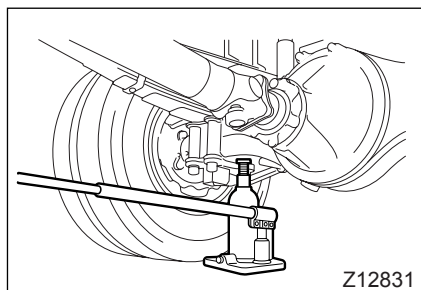


When using a garage jack ① to jack up the front wheels of a vehicle with independent suspension, place a plank of wood ③ between the jack and the center of the suspension crossmember ②.

NOTE:
Do not apply the jack to the undercover ④.



- FG models
Jack receptacle ① at the bottom of front axle.

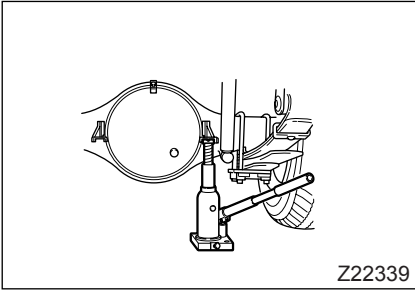


3.2 Rear axle jacking point

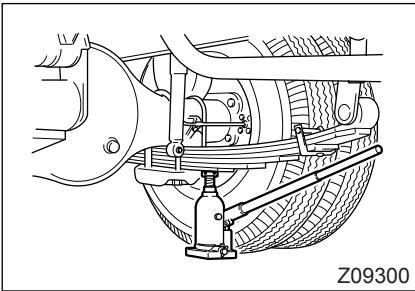
<Vehicle with above-the-axle leaf spring and stabilizer>

Bottom surface of the axle housing (beside leaf spring U-bolt mounting)

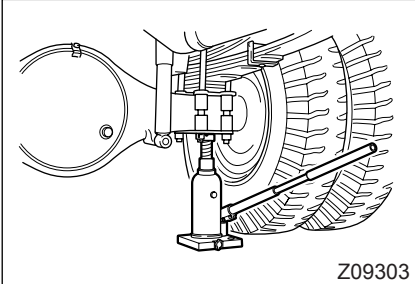
- Vehicle with jack receiver
Jack receiver on the rear axle housing



- Vehicle with below-the-axle leaf spring and without jack receiver
Bottom of leaf spring



- Other models
Bottom of axle housing



3.3 How to remove a wheel

WARNING

- Under no circumstances should anyone get under the vehicle when it is supported only with the jack. The jack could slip out from under the vehicle. Also, do not attempt to start the engine when the vehicle is jacked up.
- Check that the jack is positioned securely. If the jack slipped out of position, a serious accident could occur.
- When the vehicle is to remain jacked up for a long period, support the frame with concrete or wooden blocks for safety.
- When removing the outside tire from a rear wheel that is installed with single nuts, make sure the inside tire is not on a wooden block, etc. Otherwise, a serious accident could occur since the inside and outside tires can be removed at the same time when the wheel nuts are removed.

CAUTION

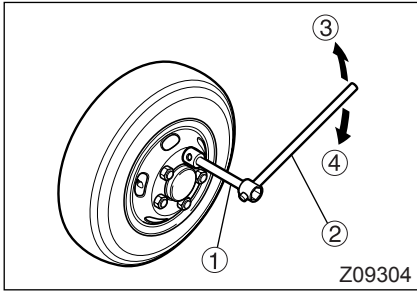
- If the vehicle is carrying heavy cargo, unload it before jacking the vehicle up.
 - When jacking up the vehicle, be sure to place the jack only in the specified locations as applying the jack to any point other than the jacking-up points could damage the vehicle or cause injury.
1. Securely apply the parking brake. Apply chocks to the front and back (as seen from the side of the vehicle) of the wheel diagonally opposite the one that is to be jacked up.
 2. Position the jack under the jacking point of the vehicle and raise the vehicle to a point at which the tire is still touching the ground.

CAUTION

After raising the vehicle slightly, confirm that the jack is securely in position.

WARNING

If the jack slipped out of position with the vehicle fully raised, the vehicle could fall and cause a serious injury.



3. Using socket wrench ① and wrench handle ② included in the onboard tool set, slightly loosen the wheel nuts by turning them in the illustrated direction. Do not remove the nuts.

- ③ For right-hand wheel
- ④ For left-hand wheel

NOTE:

- The wheel nuts on the right-hand wheel are marked with "R" and have right-hand threads. Those on the left-hand wheel are marked with "L" and have left-hand threads.
- If you wish to remove only the outer wheel of double-nut-type double wheels, you do not need to loosen the inner wheel nuts.

! WARNING

- Fit the socket wrench securely on the wheel nut. If fitted improperly, the wrench will slip off the nut, and could cause injury.
- Do not loosen the wheel nuts too much or you could damage the threads.

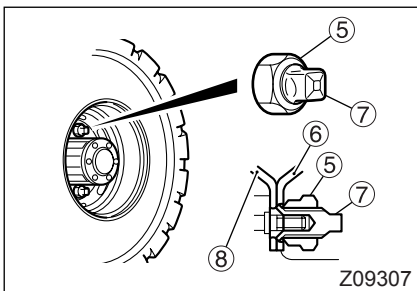
4. Jack up the vehicle until the tire is just clear of the ground.

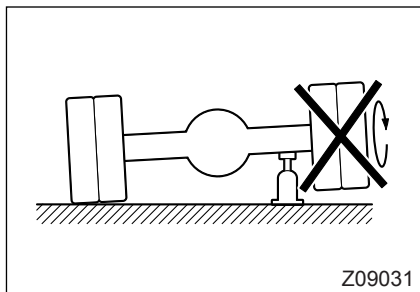
5. Remove the wheel nuts and then the tire.

- Single wheel (single-nut type)
Remove all of the wheel nuts, then remove the wheel.
- Double wheels (single-nut type)
Remove all of the wheel nuts, then remove the inner and outer wheels at the same time.
- Double wheels (double-nut type)
First loosen the outer wheel nuts ⑤ and remove outer tire ⑥; then lower the jack, loosen inner wheel nuts ⑦ by using the square socket end of the wheel nut wrench, and jack up the vehicle again to remove inner tire ⑧.

NOTE:

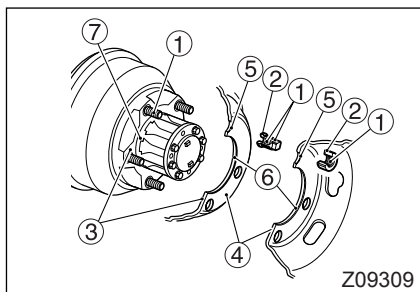
With single-nut-type double wheels, the inner and outer wheels can be removed at the same time.





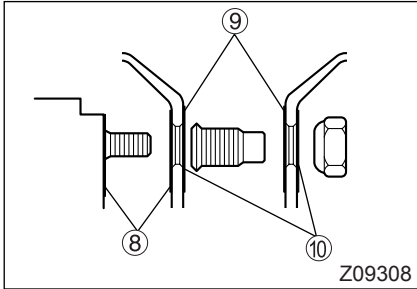
! WARNING

- Do not rotate the jacked-up wheel if the vehicle has a limited-slip differential. Power would be transmitted to the wheel in contact with the ground, and the vehicle could move as a result.
- When removing wheels, be careful not to damage the wheel bolts and the threads of the inner wheel nuts.



4 Mounting the tire

1. Clean the following sections before mounting the wheel. If they are dirty, the wheel nuts could become loose during driving.
 - ① Threads on wheel bolts and nuts
 - ② Spherical surface of wheel nuts
 - ③ Disc wheel mounting surface
 - ④ Disc wheel mating surface
 - ⑤ Wheel nut contact surface on disc wheel
 - ⑥ Disc wheel inside surface
 - ⑦ Guide sections on hub

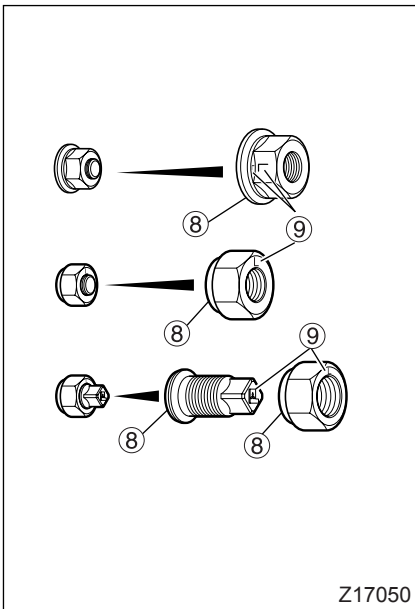


! WARNING

- If the above items are dirty, the nuts will become loose during vehicle operation. If the bolt or nut threads are damaged or the disc wheel is cracked or otherwise damaged, replace the wheel with a new genuine part. A damaged wheel could work loose and cause a serious accident while the vehicle is in motion.
- Do not paint disk wheel mounting surfaces ⑧, dual wheel mating surfaces ⑨, wheel nut seating surfaces, and wheel hub mounting surfaces ⑩ as resulting thicker paint film could cause the wheel nuts to loosen up.
- Be sure to use the specified type of tires and disc wheels. Mixing bias and radial tires results in poor steering and should be avoided at all cost.

In addition, mixed use of different types of tires can produce the following undesirable effects:

- The ABS system cannot work as intended.
- The speedometer indicates a different speed from the actual vehicle speed.
- The DUONIC system (transmission) cannot change gear at the optimum timing, so fuel consumption becomes worse.
- The tires may touch the frame and steering components.



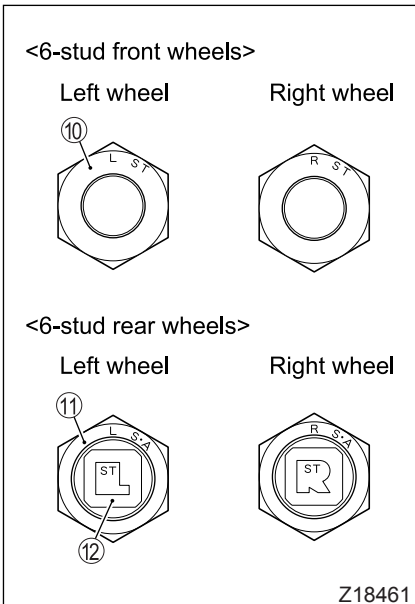
- Mount the wheel so that the wheel bolts line up with the bolt holes in the disc wheel. Then, tighten the wheel nuts to hold the disc wheel in position. Direct the spherical end ⑧ of the wheel nut toward the disc wheel.

! WARNING

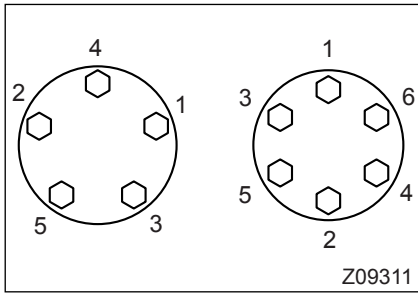
When installing the wheel, take care not to damage the threads on the wheel bolts and inner wheel nuts.

NOTE:

- The wheel bolts and nuts on the right-hand wheels have right-hand threads, and those on the left-hand wheels have left-hand threads. The bolts and nuts have stamped marks ⑨ for easy identification; an "R" mark for right-hand wheels and an "L" mark for left-hand wheels.
- On the 6-stud wheels, wheel nuts ⑩, outer wheel nuts ⑪ and inner wheel nuts ⑫ are marked with "ST" or "S·A". The "ST" mark indicates that these fasteners are for steel wheels and the "S·A" mark indicates that they are for both steel and aluminum wheels.



- Lower the vehicle gently until the tire makes contact with the ground.



4. Tighten the wheel nuts in the order shown in the illustration, repeating the tightening cycle 2 to 3 times. Finally, tighten the nuts to the specified torque.

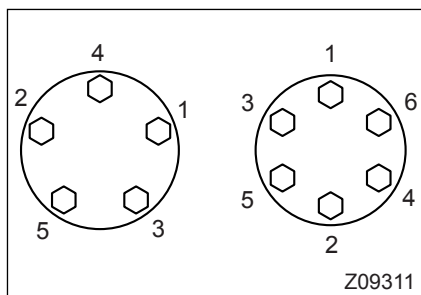
WARNING

- Fit the socket wrench securely on the wheel nut. If fitted improperly, the wrench will slip off the nut, and could cause injury.
- Do not jump or jerk on the wrench handle when tightening the nut by using your own weight. Doing so can overtighten the nut. Over tightening the nuts could overstrain the bolts or deform the disc wheel's surface.
- The wheel nuts must be tightened to the specified torque. If the nuts are tightened loosely or too tight, parts may be damaged and wheels may come off. Such status may lead to impossibility of driving, and result in damage of the vehicle and physical injury.

CAUTION

Wheel nuts should be tightened with a torque wrench, using a socket wrench and wrench handle should be done in emergencies only. Use a torque wrench to check the torque as soon as possible after using a socket wrench and wrench handle to tighten the wheel nuts.

| Vehicle type | Tightening method | Tightening torque (N·m (kgf·m)) |
|------------------|---|---------------------------------|
| FEA0 model | Apply an 800 N (80 kgf) force at a point 40 cm from the end of the wrench handle. | 170 to 230 (17 to 23) |
| Other than above | Apply an 800 N (80 kgf) force to the end of the wrench handle. | 450 to 550 (45 to 55) |



5. Mount rear dual-wheels as described below.

! WARNING

When replacing an outer wheel on a vehicle whose rear dual-wheels are secured, be sure to retighten the inner wheel nuts before tightening the outer wheel nuts.

NOTE:

When installing dual wheels, make sure that the air valve of the inner wheel is not lined up with the air valve of the outer wheel.

Mount the inner wheel, then jack up the vehicle again. Set the outer wheel such that the wheel bolts are located in the centers of the disc wheel's bolt holes, then tighten the wheel nuts just enough to eliminate looseness.

Lower the vehicle, then tighten the wheel nuts in the illustrated sequence. Work through the sequence two or three times, finally tightening each wheel nut to the specified torque.

6. If only the outer wheel of the rear dual-wheels is replaced, retighten the inner wheel nuts to the specified torque before mounting the outer wheel.

! WARNING

As the vehicle is driven after a wheel has been replaced, the wheel nuts loosen up somewhat during the early stages of driving due to "wear-in." Therefore, it is necessary to retighten the wheel nuts to the specified torque after driving 50 to 100 km. Thereafter, retighten the nuts at regular intervals.

Wheel nuts – check and retightening

Inspection intervals

Every 30,000 km or every 12 months

The wheel nuts inspection during the run-in period should be performed at the first 2,000 km.

WARNING

After changing a tire, the wheel nuts will loosen somewhat during the initial stages of driving due to “wear-in.” Therefore, retighten the wheel nuts to specification after you have driven 50 to 100 km.

- Using a torque wrench, check for loose wheel nuts and tighten as necessary.

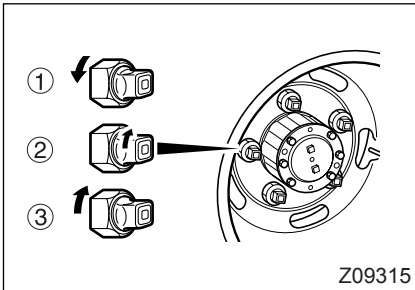
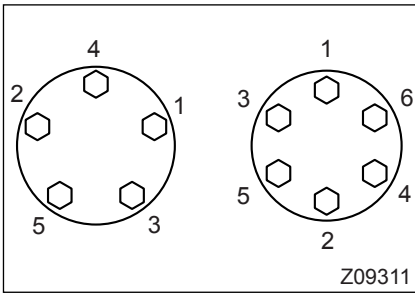
CAUTION

Be sure to use a torque wrench to tighten the wheel nuts.

| Vehicle type | Tightening method | Tightening torque (N·m (kgf·m)) |
|------------------|---|---------------------------------|
| FEA0 model | Apply an 800 N (80 kgf) force at a point 40 cm from the end of the wrench handle. | 170 to 230 (17 to 23) |
| Other than above | Apply an 800 N (80 kgf) force to the end of the wrench handle. | 450 to 550 (45 to 55) |

WARNING

- A loose wheel nut could cause parts damage, and result in a tire falling off. This could result in impossibility of driving, and damage of the vehicle and physical injury.
- Fit the socket wrench securely on the wheel nut. If fitted improperly, the wrench will slip off the nut, and could cause injury.



- **Single nut type**

Tighten the wheel nuts to the specified torque. Follow the diagonal tightening sequence indicated in the figure.

- **Double nut type**

Retighten the wheel nuts using the following 2-process procedure.

1st process

- ① Loosen the outer wheel nuts as follows:
5-stud wheel type: Loosen the nuts numbered 1 – 2 – 3 or 4 – 5 in the figure in this order.
6-stud wheel type: Loosen the nuts numbered 1 – 4 – 5 or 2 – 3 – 6 in the figure in this order.
- ② Tighten the inner wheel nuts corresponding to the loosened outer wheel nuts to the specified torque.
- ③ Tighten the loosened outer wheel nuts to the specified torque.

2nd process

- ④ Perform the above steps ① through ③ for the remaining outer wheel nuts and inner wheel nuts.

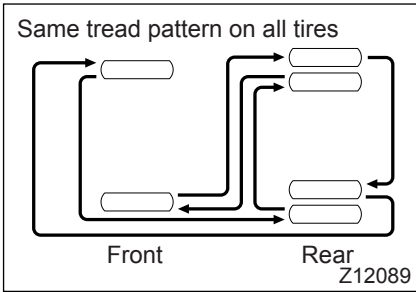
! WARNING

In the case of dual wheels, one often retightens outer wheel nuts while forgetting to retighten inner wheel nuts. Always follow the above procedure to tighten all the nuts.

NOTE:

The wheel bolts and nuts on the right-hand wheels have right-hand threads, and those on the left-hand wheels have left-hand threads.

The bolts and nuts have stamped marks for easy identification; an "R" mark for right-hand wheels and an "L" mark for left-hand wheels.



Tire rotation

The amount of wear on a tire depends on the load and its position on the vehicle. To equalize wear and extend life as much as possible, rotate the tires at regular intervals.

| | |
|-------------------------|------------------------------------|
| Tire rotation intervals | Every 30,000 km or every 12 months |
|-------------------------|------------------------------------|

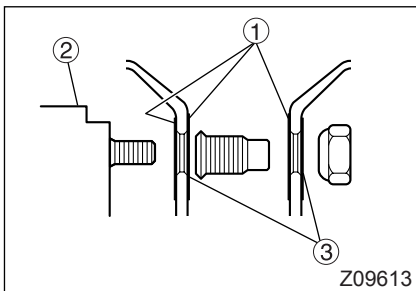
- Use a tire of the same type on a single axle. If different type tires are mounted on an axle, the vehicle tends to pull to one side during braking, and could cause you to lose directional control of the vehicle.
- There is a label or placard affixed to the driver's door pillar indicating the tire size. Be sure to use tires of the size specified on the label or placard.

WARNING

Be sure to use the specified type of tires and disc wheels. Mixing bias and radial tires results in poor steering and should be avoided at all cost.

In addition, mixed use of different types of tires can produce the following undesirable effects:

- The ABS system cannot work as intended.
- The speedometer indicates a different speed from the actual vehicle speed.
- The DUONIC system (transmission) cannot change gear at the optimum timing, so fuel consumption becomes worse.
- The tires may touch the frame and steering components.
- As the vehicle is driven after a wheel has been replaced, the wheel nuts loosen up somewhat during the early stages of driving due to "wear-in". Therefore, it is necessary to retighten the wheel nuts to the specified torque after driving 50 to 100 km. Thereafter, retighten the nuts at regular intervals.
- If as a result of tire rotation, an additionally painted face of the disk wheel mounting face ① becomes the mounting face for the mating part (wheel hub ② and disk wheel), remove the paint from the mounting face of the disk wheel and the seating face ③ of the wheel nut, clean these surfaces with a wire brush or the like, and then install the wheel.
If you use the wheel without removing the paint, the wheel nuts are likely to become loose because the paint film is thick.



CAUTION

- Because of their propensity to generate heat, new tires tend to wear quickly. For vehicles other than the dump trucks, install two tires as a set on the front of the vehicle where the load is smaller. Break in new tires by driving 200 km or more at 60 km/h or less. After this run-in period, check tire pressure.
If a difference in tire diameters on double-tire rear wheels arises due to wear, be sure to assemble the tire with the smaller diameter on the inside.

- The dump trucks have different tread patterns on the front and rear wheels. Set tires with a ribbed tread for the front wheels and tires with a traction-type tread for the rear wheels.

Spare tire

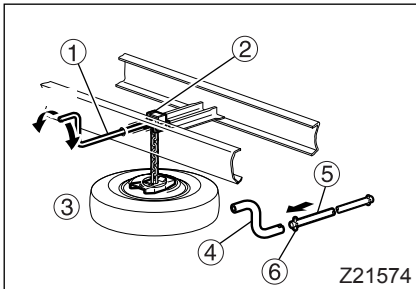
Over time, the spare tire leaks air little by little. Therefore, the tire pressure should be kept a little high.

1 Inspection of spare wheel

Kick the spare tire lightly to check whether it is securely retained. If it moves, raise it to hold it in place.

2 To use

Insert spare tire handle ① into spare tire carrier ② and turn it counterclockwise to lower spare wheel ③. When using the multi-part spare wheel handle ④, fit the longer pin ⑥ of the attachment ⑤ onto the spare wheel handle.



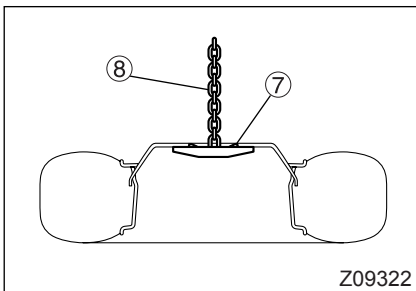
3 To stow

1. Face up the outer side of the disc wheel and position hanger plate ⑦ as illustrated.
2. Turn the spare wheel handle clockwise to raise the spare wheel.



CAUTION

- When raising the spare wheel, make sure the chain ⑧ is not twisted and that the hanger plate is in the correct position. After raising the spare wheel, make sure there is clearance between the spare wheel and nearby parts and that the spare wheel is not loose. Unless the spare wheel is properly mounted, it may fall off while the vehicle is moving, resulting in an accident.
- When raising the spare wheel, align it such that the tire valve does not touch the hanger. The tire valve may otherwise get damaged.



3. After the spare wheel has been raised completely, tighten the spare wheel handle with a force of about 295 N (30 kgf); then, remove it taking care not to turn it counterclockwise.
4. Kick the spare wheel to make sure that it is secure. If it is loose, make sure that the hanger plate and the disc wheel are intact, then tighten the wrench handle further.

If after taking these precautions the spare wheel is still loose, remove it from the vehicle before driving as it could drop out of position while the vehicle is in motion.

 **CAUTION**

Retain the spare wheel by applying about 295 N (30 kgf) of force to the wrench handle. If you do not retain the spare wheel tightly enough, it may fall off while the vehicle is moving, resulting in an accident

 **WARNING**

A loose spare wheel can drop out of position while the vehicle is in motion. If you are unable to secure the spare tire, place it on the cargo deck etc. and have your nearest authorized MITSUBISHI FUSO distributor or dealer check it.

Wiper blade – replacement

1 Replacing wiper blade

1. Raise wiper arm ①, and then push clip spring ② in the direction of the arrow (see figure).

2. With the clip spring kept in the pushed position, press wiper ③ toward the wiper arm.

3. The wiper blade will come off the wiper arm. Install a new blade in the reverse order of removal.

Use a MITSUBISHI genuine replacement part.

⚠ CAUTION

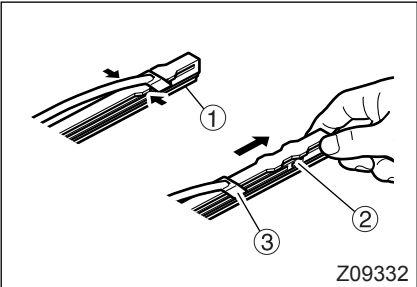
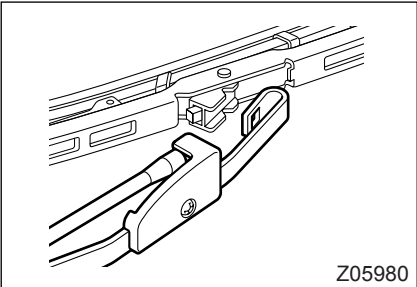
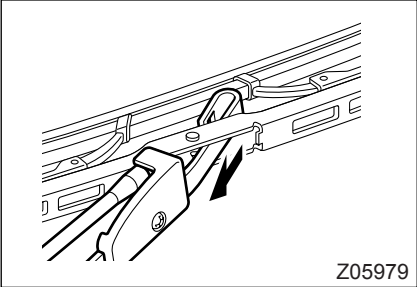
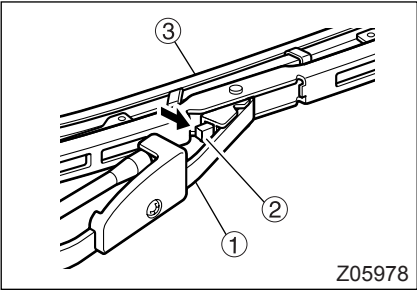
Do not bring the wiper arms back into position or operate the wipers without wiper blades, as this could scratch the windshield.

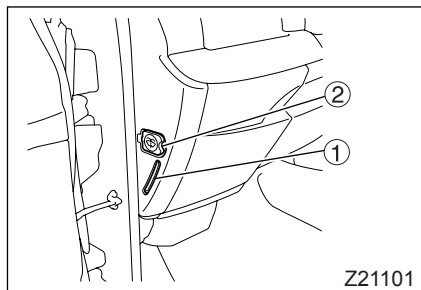
2 Replacing blade rubber only

1. Raise the wiper arm.
Pinch both sides (indicated by arrows) of blade rubber ① with your fingers and then pull the blade rubber so that claws ③ are unhooked from grooves ② in the blade rubber.

2. Slide out the blade rubber.
3. Replace the old blade rubber with a new MITSUBISHI genuine wiper blade rubber.

To install, reverse the removal procedure. Make sure that the claws fit into the grooves in blade rubber.





Windshield washer – fluid level check and refilling

1 Fluid level check

Check the washer fluid level through level check window ①.

When the level has dropped to the lower part of the window or is not visible at all, refill the tank with washer fluid.

2 Refilling

1. Open the assistant driver's door.
2. Open windshield washer tank cap ② and pour a mixture of windshield washer fluid and tap water into the tank up to the top end of the fluid level inspection window ①.
3. Close the cap tightly after refilling.

| | |
|----------------------------------|--------------------|
| Windshield washer fluid quantity | Approx. 2.9 liters |
|----------------------------------|--------------------|

CAUTION

- Substituting soapy water for washer fluid could result in clogged washer nozzles or spots on painted surfaces.
- Operating the washer continuously for more than 20 seconds or when there is no fluid in the reservoir could burn out the washer motor.

NOTE:

When it is very cold, the ratio of windshield washer fluid to water should be increased in order to prevent the mixture from freezing up.

Battery – check

WARNING

The battery generates flammable hydrogen gas and should be kept away from open flame and spark.

Inspection intervals

At the time of pre-operational check and every 30,000 km or every 12 months

At the time of pre-operational check, inspect the battery only for fluid level.

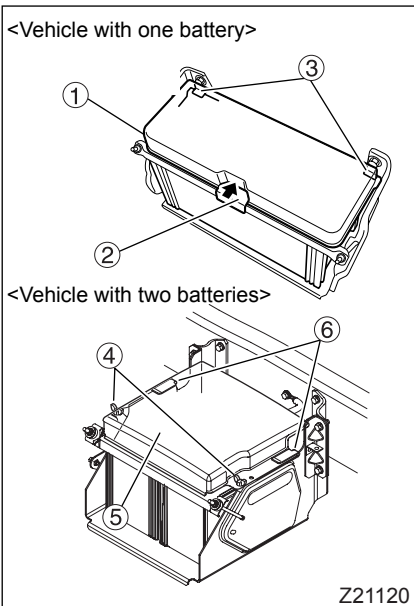
1 Removal and installation of battery cover

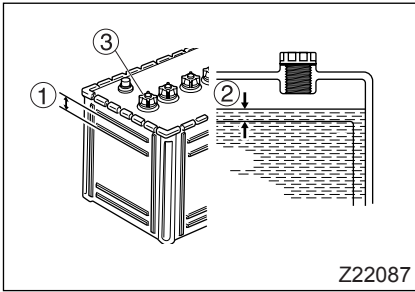
<Vehicle with one battery>

1. Push the part marked with an arrow to remove the cover ① from the stopper ②.
2. Pull the cover toward you to remove it from the stoppers ③.
3. To fit the cover, follow the removal steps in reverse. After fitting the cover, make sure it is securely retained.

<Vehicle with two batteries>

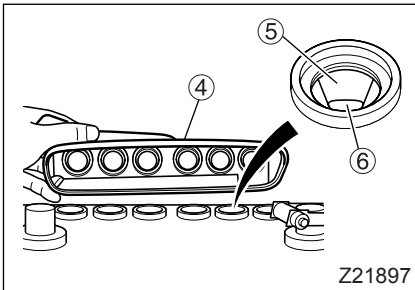
1. Remove the two wing bolts ④. Pull the cover ⑤ toward you to remove it from the stoppers ⑥.
2. To fit the cover, follow the removal steps in reverse. After fitting the cover, make sure it is securely retained.





2 Battery fluid level check

- The battery fluid level should be between the “UPPER” and “LOWER” level lines ① marked on the battery case. If the battery fluid level is low, add electrolyte or distilled water to the “UPPER” level line.
- If your battery has no level line markers, the fluid should be ② 10 to 15 mm above the tops of the electrode plates.



- If the side of the battery case is not in your direct view due to equipment or other things on the vehicle body, do the following:
 - Remove the battery's cap ③.
 - Check the battery fluid level using an appropriate mirror like a hand mirror ④.
 - Check whether the battery fluid ⑥ comes up to the bottom of the sleeve ⑤ of each filler hole.

DANGER

BATTERY FLUID IS DILUTE SULFURIC ACID AND CAN HARM MOST THINGS IT TOUCHES, INCLUDING HUMAN SKIN AND CLOTHING. IF YOU GET IT ON YOUR SKIN OR CLOTHING, FLUSH IT OFF WITH SOAP AND WATER. IF YOU ACCIDENTALLY GET BATTERY FLUID IN YOUR EYES, WASH YOUR EYES WITH LOTS OF CLEAN WATER THEN PROMPTLY SEE AN EYE DOCTOR FOR TREATMENT. ALWAYS WEAR SAFETY SPECTACLES AND RUBBER GLOVES WHEN HANDLING BATTERIES.

WARNING

- Do not use the battery with the fluid below the “LOWER” level line. The battery would deteriorate rapidly, and it could overheat or explode.
- Store any used battery with its terminals uppermost. Placing a battery on its side could cause fluid leakage and a fire.

! CAUTION

- Whenever battery fluid has been added, either charge the battery or run the vehicle for a while. It is especially important in cold weather as the battery can freeze up and be damaged.
- Do not add so much fluid that the fluid in the battery rises above the “UPPER” level line. With the fluid above the “UPPER” level, fluid could leak out and corrode the battery terminals.

3 Checking specific gravity of battery fluid

You can determine the battery’s state of charge by checking the specific gravity of its fluid.

Use a hydrometer to measure the specific gravity of the battery fluid. If the specific gravity is lower than 1.220 (battery fluid temperature at 20°C), the battery must be recharged.

If the battery fluid temperature is higher or lower than 20°C, you may convert a specific gravity measurement into its 20°C temperature equivalent by using the following formula:

$$S_{20} = S_t + 0.0007 (t - 20)$$

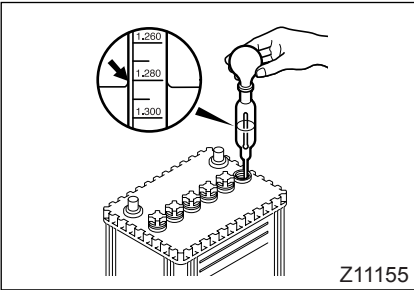
S₂₀: specific gravity at fluid temperature of 20°C

S_t: specific gravity measurement

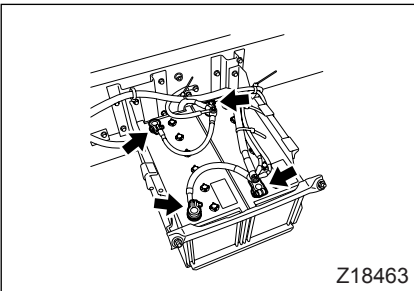
t: battery fluid temperature

4 Connected condition of terminals

- Make sure the battery cables are securely attached to the battery terminals.
- Clean the battery terminals if they become dirty or corroded.



Z11155



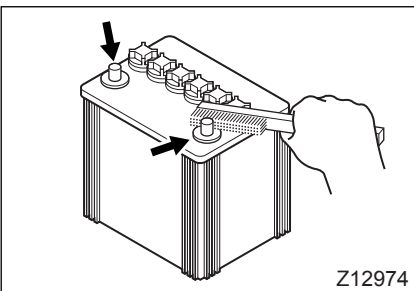
Z18463

5 Cleaning the terminals

Use warm water to wash and wipe off any white powder caused by corrosion.

If a terminal is seriously corroded, remove the battery cable and clean the terminal with a wire brush or sandpaper.

After cleaning, apply a thin coat of grease to the terminals.




Z12974

 **CAUTION**

- Install the battery securely in position. If it is left loose, shocks and vibrations from road surface could damage the battery case and electrode plates, shortening battery life.
- If the battery needs to be charged, remove it from the vehicle and remove the caps where possible before starting the procedure. If it is charged in the vehicle owing to unavoidable circumstances, be sure to disconnect the negative (-) battery cable.

NOTE:

Follow the correct procedure when jump starting a vehicle with a dead battery by connecting it to a live battery using a booster cable. ⇒  P. 13-33

6 Battery removal and installation

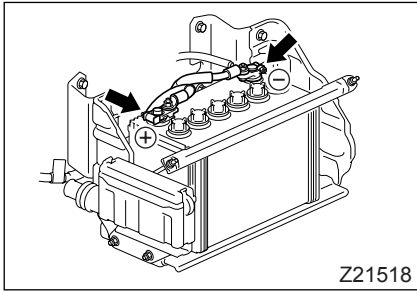
Type 1 <vehicle without battery equalizer>

 **WARNING**

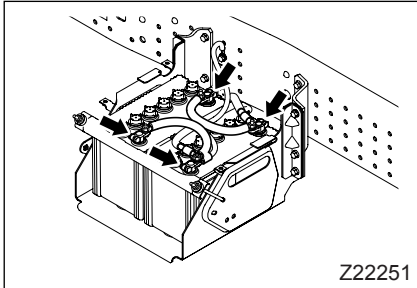
- When disconnecting the battery cables, disconnect the (-) cable first. When connecting the battery cables, connect the (-) cable last. If you accidentally touched the (+) terminal and the vehicle body with a tool with the (-) cable connected to the battery, a dangerous short circuit could occur.
- Store any used battery in a place where children cannot touch it. Leaking fluid could otherwise cause burns and blindness.

 **CAUTION**

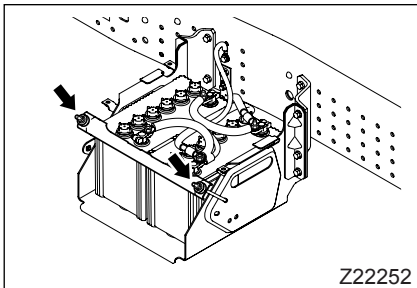
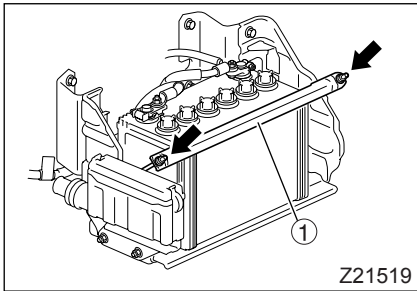
The urea dosing system continues to operate for about 2 minutes after the starter switch has been put in the “LOCK” position. Wait for at least 2 minutes before disconnecting the battery.



1. Disconnect the battery cables (each indicated by an arrow ➡ in the illustration) from the battery terminals.



2. Remove the battery support mounting nuts (each indicated by an arrow ➡ in the illustration).
3. Remove the battery support ①, then remove the battery.
4. Install the battery by performing these steps in reverse. After installing the battery, make sure it is securely retained.



Type 2 <vehicle with battery equalizer>

⚠ WARNING

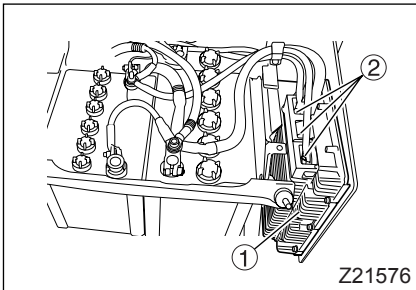
When only the (-) terminal of the main battery is disconnected in a vehicle that has a battery equalizer, there may still be voltage at the (-) terminal of the body-connected 24V battery. If a spanner or other metallic object touches the (-) terminal of the body-connected 24V battery and the load bed or frame, a short circuit may occur.

⚠ CAUTION

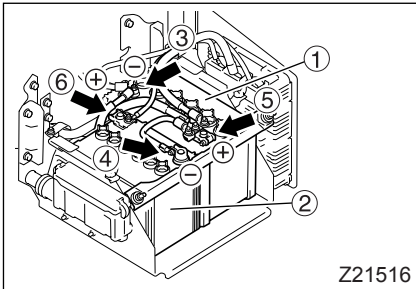
When removing or installing the battery, do not disconnect the terminals ② of the battery equalizer ① beside the battery box. If the terminals get disconnected, contact an authorized MITSUBISHI FUSO distributor or dealer.

NOTE:

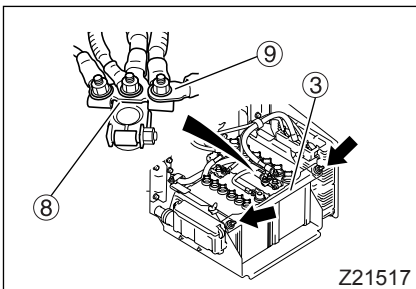
The battery equalizer controls the electrical balance between the main battery and the body-connected 24V battery so as to protect the main battery.



Z21576



Z21516





Z21517

• Removal

1. Disconnect the battery cables (each indicated by an arrow in the illustration) from the battery terminals in the following order.
 - Disconnect the (-) terminal ③ of the main battery ①.
 - Disconnect the (-) terminal ④ of the body-connected 24V battery ②.
 - Disconnect the (+) terminal ⑤ of the main battery.
 - Disconnect the (+) terminal ⑥ of the body-connected 24V battery.
2. Remove the mounting nuts (each indicated by an arrow in the illustration) from the battery support ③.
3. Remove the battery support, then remove the battery.

 **CAUTION**

Do not remove the connectors  and cables  from the battery. Also, do not disconnect the terminals of the battery equalizer beside the battery box. Incorrect wiring could result in a fire or an electrical system failure.

- **Installation**

Install the battery by following the removal steps in reverse. After installing the battery, make sure it is securely retained and that the battery support and terminals are not touching each other.

Air filters – cleaning

Remove and clean the air filter (heater filter) with water or compressed air to eliminate dust and dirt at regular intervals (6 months or so).

Clogged filter may cause inefficient heating, and even malfunction of the blower motor.

 **WARNING**

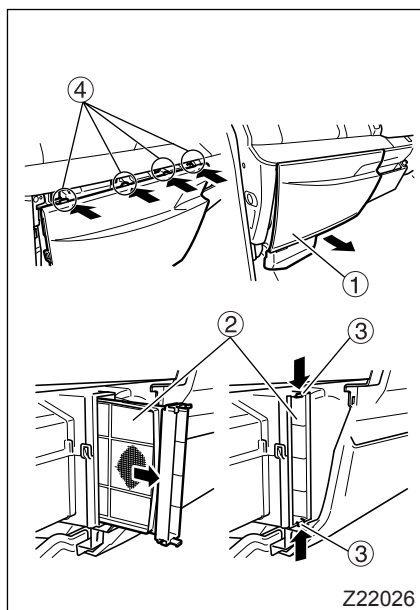
When cleaning the air filters, wear a dust mask to avoid inhaling dust. Dust inhalation can have adverse health effects.

 **CAUTION**

Clean the air filters at shorter intervals if your vehicle is used frequently in dusty areas.

1 Outside air filter

Disassembly is necessary before the outside air filter can be cleaned. Have an authorized MITSUBISHI FUSO distributor or dealer do the job.



2 Dashboard air filter

1. Remove the lower panel ① in front of the assistant driver's seat.
2. Pull out the air filter ② while pushing inward both the tabs ③ on the filter.
3. Reinstall the lower panel by first aligning the claws ④ with the corresponding slots and then pushing the panel forward.

Cleaning your vehicle

1 Washing

You must wash the vehicle whenever it has experienced any of the following:

- Been driven on coastal roads
- Been driven on roads where road chemicals have been applied
- Become contaminated by coal tar, smoke, soot, powder dust, iron powder, lime powder, sap, bird droppings, etc.
- Adhesion of dust and/or mud



WARNING

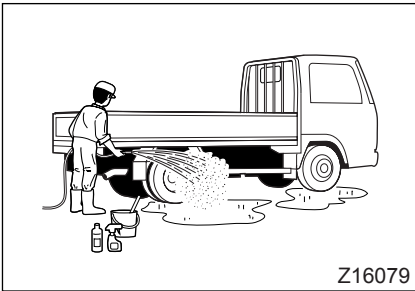
When washing the underside of the vehicle, be careful not to hurt yourself on the edges of panels and other parts.

 **CAUTION**

- Do not use an organic solvent such as thinner or gasoline for cleaning, as these will damage painted surfaces and cause discoloration and cracks in plastic components.
- Thoroughly wash the vehicle, especially the wheelhouses and underside of the chassis after driving on coastal roads or roads where road chemicals have been applied. Thorough washing is also important if your vehicle is frequently used to transport marine products or lime because seawater will affect the vehicle and lime will severely damage the vehicle's paintwork. Road chemicals, if left deposited for a long time on vehicle parts, will set hard and be difficult to remove by ordinary washing. Wash out road chemicals using a high-pressure cleaning machine if necessary so that they do not remain on the vehicle. Road chemicals in large amounts as well as salt will easily cause rusting.
- When stepping onto the bumper to clean the windshield, do not hold the wiper arms. Doing so could cause a wiper malfunction.
- Do not use a vehicle-cleaning brush to clean the plastic lenses of the turn-signal lamps. A brush could scratch the lenses. Wash the lenses with water, then wipe them with a soft cloth.
- When the vehicle is washed, braking performance can be reduced by water entering the brake drums or the working areas of the brake discs (depending whether the vehicle has drum brakes or disc brakes). In this event, drive slowly with light pressure on the brake pedal to dry out the brakes. Pay attention to nearby vehicles while doing so.

NOTE:

- *In cold weather, the key holes and rubber parts of the door sometimes freeze, making it hard to open the door. After washing, remove moisture on and around the doors. Applying silicone with antifreeze capabilities is one solution to this problem.*
- *When washing the vehicle in cold weather, be careful not to directly spray water over the key slot in the fuel tank cap. If the key slot is wet with water, the fuel tank cap may become impossible to open. It is also important to thoroughly wipe off water around the fuel tank cap after washing the vehicle.*



Z16079

1. Wash the body surface with water from a hose to remove mud and other deposits. Wash not only the surfaces around the cab, but also the wheelhouses and the underside of the chassis.
2. If vehicle surfaces are heavily contaminated, use a car-shampooing product and then rinse it off thoroughly from the surfaces.
3. Wipe clean the body surfaces to remove water that would cause spots on painted surfaces.

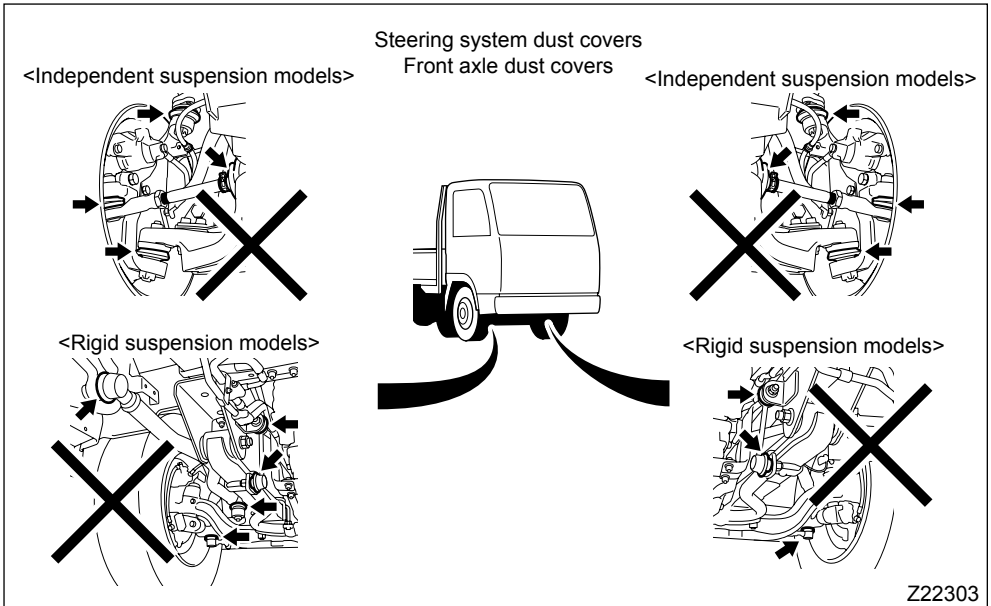
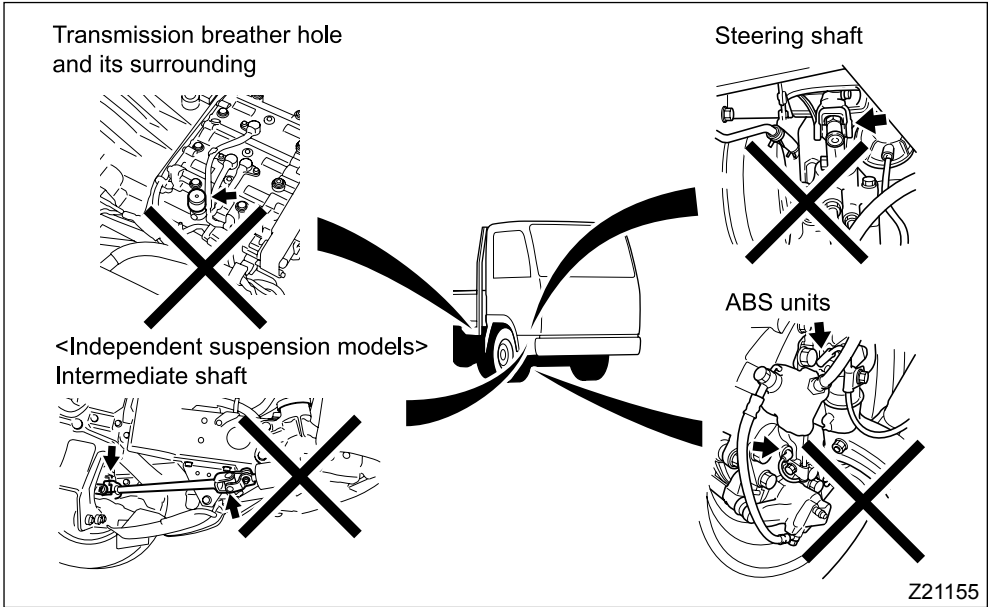
2 Precautions when using a high-pressure cleaner

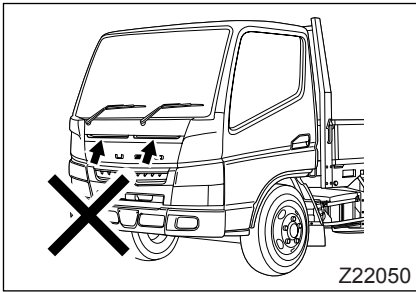
When cleaning the engine compartment or undercarriage of the vehicle using a high-pressure cleaner, be careful not to point the jet of water at the areas listed below.

NOTE:

Avoid exposing the components and wiring to high-pressure water or cleaner steam as the system could be damaged and not operate properly.

- The air intake port or the area where it connects to the engine
- The starter, alternator, connectors, and other electrical parts
- High-current fuse box
- The engine compartment
- Lamps
- Around the wheels
Steering shaft universal joint, steering system dust covers, front axle dust covers, and ABS units.





- Outside air inlets

3 Waxing

We recommend waxing your vehicle about once every month. The best timing for waxing is just after washing the vehicle when the paint surface temperature is lower than your body temperature. Avoid waxing under direct sunlight.

NOTE:

- *Waxing hot paintwork may cause stains.*
- *Do not use a wax containing abrasive compound; it will damage painted surfaces and destroy their original luster. Use of MITSUBISHI FUSO genuine wax is recommended.*

4 Rust and corrosion

- Rust and corrosion developing on the underside and/or undercarriage of the vehicle could cause an unexpected failure and even lead to an accident. Check these areas occasionally (such as after washing) for rust/corrosion and resulting holes. If rust is found, remove it using a wire brush and coat the affected area with a touchup paint or rust-preventive material. If you find a hole, have your vehicle repaired by your authorized MITSUBISHI FUSO distributor or dealer as soon as possible.
- To help keep your vehicle running reliably for a long time, you should conduct a detailed check for rust/corrosion at least once a year, and if necessary, apply touchup paint or rust-preventive material.

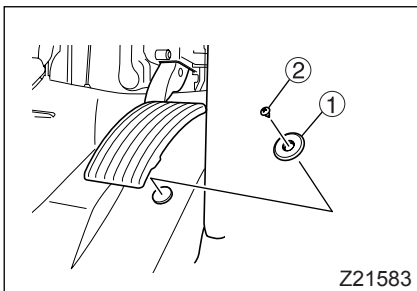
5 Interior care

CAUTION

- Do not use an organic solvent such as thinner and gasoline or an acidic or alkaline solvent on painted surfaces, as these will cause discoloration and stains.
 - Be sure to remove the floor mats before washing the cab in water. Failure to do so may result in rusting of the floor and the water could cause relays, switches and computers to fail. Water may also affect operation of the accelerator pedal. The floor mat must be removed from the vehicle whenever it is washed. A washed mat, especially the felt on its back, must be completely dried before putting back. Install the mat correctly so that it does not interfere with the accelerator pedal or other moving components.
 - Never wash the cab interior directly with water from a hose. Doing so may cause the floor to rust, and also cause water to leak into relays, computers and other electric/electronic components, causing them to fail. Should water collect inside the cab, drain it by removing the drain plug or wipe it dry using a cloth or other appropriate material.
1. Dust should be removed with a vacuum cleaner.
 2. Dirt, if not loose, should be removed with a soft cloth wetted with diluted neutral detergent.
 3. Remove the detergent thoroughly using a soft cloth soaked in plain water after wringing out the cloth.
 4. Dry washed mats in the shade with good ventilation.

5.1 Removing floor mat for cleaning

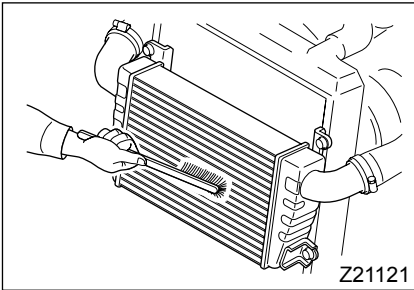
1. Remove the accelerator stopper ① by removing its screws ②.
2. Install the accelerator stopper being careful not to let the cut edge of the floor mat become caught under the stopper.



Z21583

⚠ CAUTION

When fitting the floor mat back in the vehicle, make sure it does not interfere with the accelerator pedal and other moving parts. If the floor mat is interfering with the accelerator pedal, the pedal cannot return to the fully free position even when it is released, which could lead to an accident.

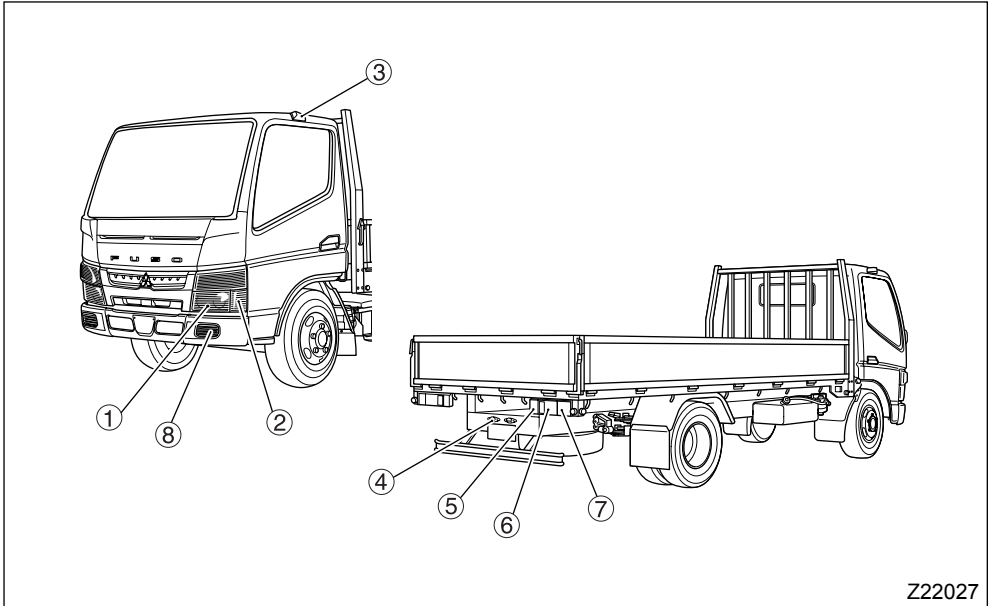
**Intercooler – cleaning**

If the front of the intercooler is heavily clogged with dust or mud, the engine performance may be affected. Clean it from time to time by using a soft brush or something also appropriate.

⚠ CAUTION

The intercooler could be damaged if a bristle brush or an object with a sharp point is used for its cleaning.

Lamps – inspection for dirt and damage



Z22027

- ① Headlamps, clearance lamps
- ② Front turn signal lamps
- ③ End out-line marker lamps
<Vehicles with end outline marker lamps>
- ④ License plate lamps
- ⑤ Backup lamps
- ⑥ Stop and tail lamps
- ⑦ Rear turn signal lamps
- ⑧ Fog lamps <Vehicles with fog lamps>

| | |
|----------------------|--------------------------------------|
| Inspection intervals | At the time of pre-operational check |
|----------------------|--------------------------------------|

- Operate each of the lamp switches near the driver's seat and check whether each lamp comes on or flashes correctly.
- Depress the brake pedal and check that the stop lamps come on.
- Place the gearshift lever in the reverse position and check that the backup lamps come on.
- Check that the lens of each lamp is free of dirt and scratches.

- If any lamp does not come on or flash correctly, the bulb or fuse may have blown. Replace the defective part. ⇒ □ P. 13-11, 13-20
- If you replace a defective part but the lamp still does not come on or flash correctly, have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.

13. Useful advices for emergencies

| | |
|---|-------|
| Possible failures, causes and remedies | 13-2 |
| Stopping your vehicle in an emergency | 13-9 |
| If the engine overheats | 13-10 |
| When a fuse has blown | 13-11 |
| When a lamp has burn out | 13-20 |
| When braking is sluggish | 13-31 |
| If the engine stalls while the vehicle is in motion | 13-32 |
| If a tire goes flat while the vehicle is in motion | 13-32 |
| When the battery has run down | 13-33 |
| If fuel tank becomes empty (Bleeding the fuel system) | 13-36 |
| If the urea tank becomes empty | 13-37 |
| Towing | 13-37 |

Possible failures, causes and remedies

Performing daily checks and good maintenance are keys to preventing mechanical failures and the resultant accidents. Be sure to check and service your vehicle regularly.

Should your vehicle suffer a mechanical failure or malfunction, the measures needed to correct the problem can be found using the following chart.

If you are unable to correct the problem yourself or the problem persists after you have attempted to repair it, contact your nearest authorized MITSUBISHI FUSO distributor or dealer for technical assistance.

The engine does not start.

The starter does not turn over or turns over too slowly.

| Possible cause | Remedy | Ref. page |
|--|---|-----------|
| The starter switch fuse or high-current fuse is blown. | Replace the blown fuse or high-current fuse with a new one of the specified amperage. | 13-11 |
| Battery has run down. | Charge or replace the battery. | 13-33 |
| Battery cable is disconnected, loose or corroded. | Remove corrosion and connect the cable correctly. | 12-102 |
| Connection to ground terminal is open. | Connect securely. | — |
| Engine oil viscosity is too high. | Replace the oil with an oil of proper viscosity. | 12-26 |
| The starter is faulty. | Contact your nearest authorized MITSUBISHI FUSO distributor or dealer. | — |
| Communication with the engine immobilizer starter key is failed. | Check whether anything metallic or another key is touching the starter key. | 3-2 |
| The engine immobilizer system is faulty. | Contact your nearest authorized MITSUBISHI FUSO distributor or dealer. | — |

The starter turns over normally.

| Possible cause | Remedy | Ref. page |
|--|--|-----------|
| Fuel has run out. | Refuel and bleed the system. | 13-36 |
| Air is present in the fuel system. | Bleed the system. | 13-36 |
| The fuel filter is clogged. | Replace the filter element. | 12-46 |
| Fuel is frozen. | Heat the fuel pipe with hot water (60°C or less). | – |
| The air cleaner is clogged. | Clean or replace the element. | 12-51 |
| The engine preheating time is insufficient. | Follow the preheating instructions. | 5-6 |
| The engine preheating circuit fuse is blown. | Replace the fuse. | – |
| The fuel injection system is malfunctioning. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The engine starts but stalls immediately.

| Possible cause | Remedy | Ref. page |
|----------------------------------|--|-----------|
| Idling speed setting is too low. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| The fuel filter is clogged. | Replace the filter element. | 12-46 |
| The air cleaner is clogged. | Clean or replace the filter element. | 12-51 |
| The DPF is blocked. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The engine fails to stop.

| Possible cause | Remedy | Ref. page |
|--|--|-----------|
| The fuel injection system is malfunctioning. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| The starter switch is malfunctioning. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

Black smoke is emitted in exhaust.

| Possible cause | Remedy | Ref. page |
|-----------------------------------|--|-----------|
| The DPF system is malfunctioning. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The engine overheats.

| Possible cause | Remedy | Ref. page |
|--|--|-----------|
| The front of the radiator is plugged with dust and dirt. | Clean the radiator with a soft brush. | 12-69 |
| The coolant level is too low. | Add coolant. | 12-60 |
| The engine pressure cap is not closed completely. | Fit the cap firmly. | – |
| The fan belt is loose. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| The coolant is contaminated. | Flush the cooling system and replace the coolant. | 12-60 |

Engine oil pressure does not build up.

| Possible cause | Remedy | Ref. page |
|---------------------------------------|--|-----------|
| Insufficient quantity of engine oil. | Add engine oil. | 12-26 |
| Engine oil viscosity is not adequate. | Replace the engine oil with one of a proper viscosity. | 12-26 |

Fuel consumption is excessive.

| Possible cause | Remedy | Ref. page |
|-----------------------------|--|-----------|
| There is a fuel leak. | Check the fuel system and retighten connections as necessary. | – |
| The air cleaner is clogged. | Clean or replace the air cleaner element. | 12-51 |
| Tire pressure is too low. | Adjust to the adequate inflation pressure. | 12-78 |
| The clutch disc is worn. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

Engine oil consumption is excessive.

| Possible cause | Remedy | Ref. page |
|--|---|-----------|
| The wrong oil is being used. | Replace the engine oil with a proper one. | 12-26 |
| There is too much oil. | Adjust the quantity to the proper level. | 12-26 |
| There is an oil leak. | Check the oil circuit and retighten connections as necessary. | – |
| Engine oil replacement intervals are too long. | Change the engine oil at prescribed intervals. | 12-26 |
| The oil filter is clogged. | Replace the filter element. | 12-43 |


Drive power is insufficient.

| Possible cause | Remedy | Ref. page |
|--|--|-----------|
| The parking brake is activated. | Release the parking brake completely. | 5-40 |
| The air cleaner is clogged. | Clean or replace the air cleaner element. | 12-51 |
| The fuel filter is clogged. | Replace the filter element. | 12-46 |
| Air is present in the fuel system. | Bleed the fuel system. | 13-36 |
| The clutch is slipping. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| The DPF is blocked. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| Crystallized AdBlue® (urea) blocks the muffler. <Vehicles with BlueTec® system> | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The clutch disengages incompletely. <Manual transmission vehicles>

| Possible cause | Remedy | Ref. page |
|---------------------------------|--|-----------|
| Clutch fluid is insufficient. | Add clutch fluid (brake fluid). | 12-38 |
| Clutch pedal play is excessive. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The idling stop & start (ISS) system does not work.**<Vehicles with idling stop & start (ISS) system>**

| Possible cause | Remedy | Ref. page |
|---|--|------------|
| The coolant temperature indicator shows the 4th graduation or lower immediately after engine startup. | Drive the vehicle as it is. Wait for the coolant temperature to increase. | 5-15 |
| The engine has overheated. The coolant temperature indicator shows the 9th graduation or higher. | Stop the vehicle in a safe place. Keep the engine running slightly faster than idle speed. Wait for the coolant temperature to decrease. | 13-10 |
| The  indicator lamp is flashing. | Perform the parked DPF regeneration. | 5-58, 5-69 |
| DPF regeneration is taking place. | Wait for DPF regeneration to finish. | 5-58, 5-69 |

Braking is sluggish.

| Possible cause | Remedy | Ref. page |
|---|--|-----------|
| Vacuum is insufficient. | Increase the engine speed to boost vacuum. | – |
| Brake fluid is insufficient. | Add brake fluid. | 12-38 |
| There is vacuum leak. | Check the vacuum circuit and retighten connections as necessary. | – |
| The disc brake pads or drum brake linings are worn. | Have the disc brake pads or brake linings replaced by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| There is air in the brake fluid. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The vehicle pulls to one side during braking.

| Possible cause | Remedy | Ref. page |
|--|-------------------------|-----------|
| Tires are not uniformly inflated. | Inflate tires properly. | 12-78 |
| Tires wear unevenly. | Change the tires. | 12-81 |
| Cargo is heavier on one side than the other. | Load cargo evenly. | 7-19 |

Steering is difficult.

| Possible cause | Remedy | Ref. page |
|---|---|-----------|
| Cargo is over-loaded on the front side. | Load cargo evenly. | 7-19 |
| Power steering fluid is insufficient. | Add power steering fluid. | 12-41 |
| Front tire pressure is insufficient. | Inflate tires to recommended pressures. | 12-78 |

The steering wheel vibrates.

| Possible cause | Remedy | Ref. page |
|-----------------------------------|--|-----------|
| Wheel nuts are loose. | Tighten the wheel nuts to specification. | 12-94 |
| Tires are not uniformly inflated. | Inflate tires properly. | 12-78 |
| Tires wear unevenly. | Replace tires. | 12-81 |
| Tires are damaged. | Replace tires. | 12-81 |
| Wheels are not balanced properly. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| Brakes are not adjusted properly. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The steering wheel does not return to the straight ahead position smoothly.

| Possible cause | Remedy | Ref. page |
|-----------------------------------|---------------|-----------|
| Parts are insufficiently greased. | Grease parts. | 12-22 |

The lamp does not light up.

| Possible cause | Remedy | Ref. page |
|--|--|-----------|
| The bulb is out. | Replace the bulb. | 13-20 |
| There is an open circuit or defective grounding. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

The battery frequently runs down.

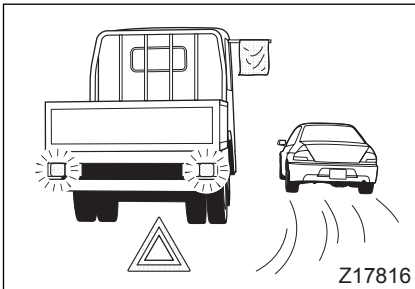
| Possible cause | Remedy | Ref. page |
|--|--|-----------|
| The battery terminals are loose or corroded. | Scrape off corrosion and tighten down terminals. | 12-104 |
| The fan belt is loose. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| The battery is short of electrolyte. | Add battery electrolyte. | 12-103 |
| The life of the battery has expired. | Replace the battery. | 12-105 |
| Idling speed setting is too low. | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |
| Vehicle is used only at nighttime. | Charge the battery. | – |
| Switches are left on. | Be sure to turn off the switches. | – |
| Faulty alternator | Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer. | – |

Stopping your vehicle in an emergency

Should a mechanical failure occur, do not panic. Simply slow your vehicle while paying attention to the vehicles behind you, and pull off the road at a place where you do not hinder the flow of traffic.

WARNING

- **Stopping your vehicle in a tunnel could be dangerous. Wherever possible, drive out of the tunnel before stopping the vehicle.**
- **Be sure to block the wheels with chocks after stopping the vehicle as mechanical failure may render the parking brake inoperative.**



1 Marking your vehicle

After you have pulled off the road, alert other drivers as follows so that they do not run into your vehicle.

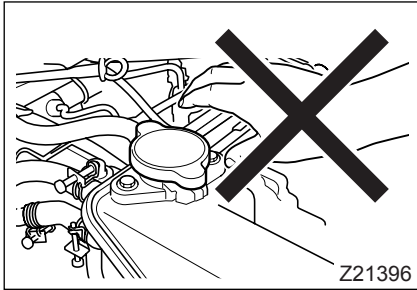
- Flash the hazard warning lamps.
- Put up a red flag or attach a white cloth to your vehicle where it can easily be seen.

2 Repair

Check the mechanical failure and if you judge it readily repairable, fix it while paying attention to the traffic. If you are unable to repair it, call your nearest authorized MITSUBISHI FUSO distributor or dealer for help.

WARNING

Never attempt to perform repairs on an expressway or in a tunnel as doing so is very dangerous.






If the engine overheats




! WARNING
 Never remove the pressure cap while the coolant is still hot. Carelessly removing it is dangerous since boiling coolant and hot steam will gush out and could scald you. Only after the coolant has cooled down sufficiently, remove the pressure cap by gripping it in a folded piece of thick cloth and opening it slowly.

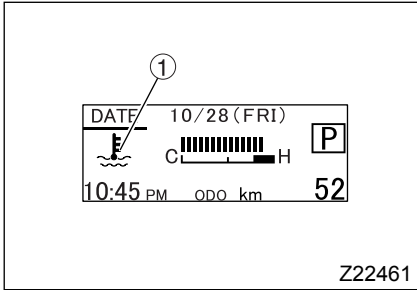
! CAUTION

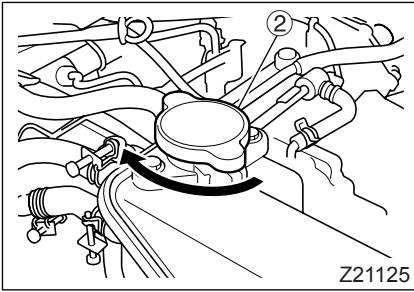
- Do not stop the engine immediately; otherwise, the coolant temperature would rise sharply, and the engine could seize. Before stopping the engine, run it at a speed slightly higher than the idling speed to cool the engine. To do so, lightly press the accelerator pedal.
- Suddenly pouring cold water into the radiator could make the engine crack. Supply cold water a little at a time.

If the  warning lamp comes on, the multi-information display shows  (red) ①, and the buzzer is sounding, the engine has overheated.

When the coolant temperature indicator bar graph retracts to 8 segments or less and the multi-information display shows  (green), stop the engine and perform the following inspections and corrective steps:

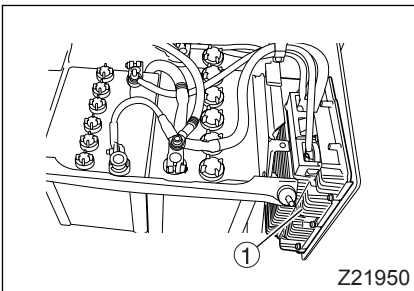
1. Tilt the cab. ⇒  P. 12-7
 If the vehicle is a Crew-cab model vehicle, uncover the engine access opening and the opening for inspecting the power steering oil and engine coolant. ⇒  P. 12-6
2. Check that coolant is not leaking from the radiator hoses or from other parts.
3. Check that the fan belt is not broken and that its tension is normal. ⇒  P. 12-70





4. Check the coolant level. If the level is too low, add coolant.
Refer to Page 12-60 for the recommended coolant for refilling.
 - Turn the pressure cap ② counterclockwise to remove it, and fill coolant up to the pressure cap opening. Following this, fit the pressure cap tightly by turning it clockwise.
 - Take the cap off the reservoir tank and add coolant until it reaches the "FULL" line. Refit the cap tightly.
5. Check that there is no dirt stuck to the front of the radiator. Remove any dirt from the front of the radiator.
6. Lower the cab if it has been lifted. On a Crew-cab model vehicle, uncover the engine access opening and the opening for inspecting the power steering oil and engine coolant.
7. If coolant leaks or the engine repeatedly overheats, the cooling system is faulty. Have the vehicle inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.

When a fuse has blown



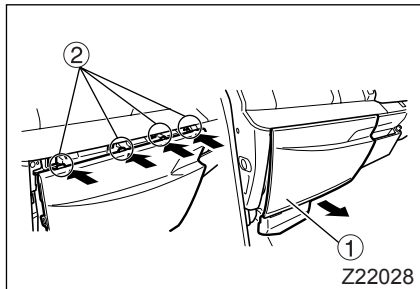
This vehicle is equipped with a 12-volt power circuit. Vehicles with a battery equalizer ① are equipped both 12-volt and 24-volt power circuits. A different fuse is used for each voltage circuit. The vehicle has blade-type fuses and high-current fuses. The blade-type fuses are in the fuse box located inside the cab and in the high-current fuse box located outside the cab. The high-current fuse box also contains the high-current fuses.

 **WARNING**

- Be sure to set the starter switch to “LOCK” and turn off all other electric switches whenever replacing fuses or high-current fuses. Replacing any fuses or high-current fuses while electric circuits are still live could damage related electric equipment. Especially, if a vehicle with a hill start assist system is stopped on a slope by activating the system and the fuses and the high-current fuse protecting its circuits are inadvertently removed, the pressure holding the brakes will be released and the vehicle will start moving down, possibly causing an accident.
- Be sure to use fuses of the specified amperages. A fire could result if a fuse of incorrect amperage is used. If a fuse is blown, have the vehicle inspected and the blown fuse replaced by an authorized MITSUBISHI FUSO distributor or dealer.
- Do not add wiring or modify equipment yourself. Doing so may result in faulty operation of the equipment and could cause the vehicle to catch fire due to overheated wiring. Always contact an authorized MITSUBISHI FUSO distributor or dealer if you intend to install additional electric equipment and it becomes necessary to modify the existing equipment or add new wiring.

 **CAUTION**

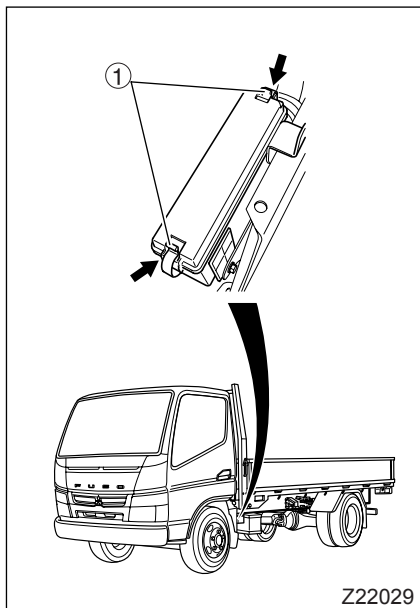
- The urea dosing system continues to operate for about 2 minutes after the starter switch has been put in the “LOCK” position. If you need to remove a fuse, do so after waiting for at least 2 minutes.
- Use care not to splash water on or around the fuse box cover. Should water be splashed over the fuse box cover, check the inside of the fuse box for water. Any drops of water left inside the compartment could cause an electrical fault or fire.



1 Blade-type fuses

1.1 Removal and installation of lower panel in front of assistant driver's seat

1. Remove the lower panel ① in front of the assistant driver's seat.
2. Reinstall the lower panel by first aligning the claws ② with the corresponding slots and then pushing the panel forward.



1.2 Removal and installation of high-current fuse box cover

1. Pry and release the two locks ① and remove the cover.
2. To install the cover, push in the cover until the two locks click.

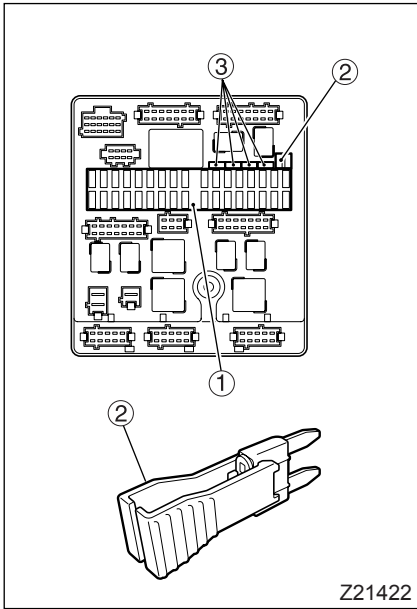
1.3 Inspection and replacement



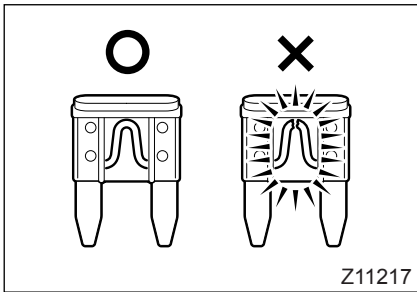
WARNING

Use MITSUBISHI genuine fuses of the specified amperages.

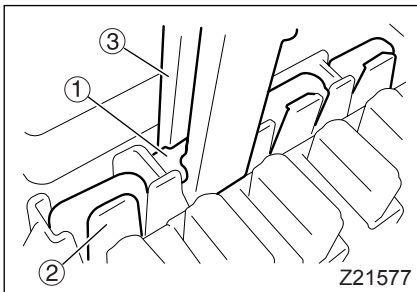
A fire could result if a fuse of incorrect amperage is used.



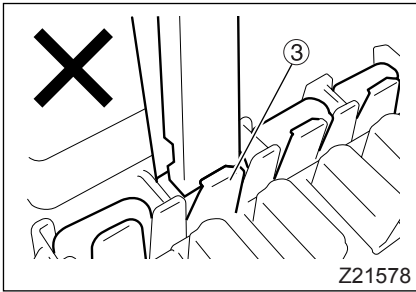
1. Place the starter switch in the "LOCK" position and turn all other switches OFF.
2. To remove the fuse that is to be replaced, grip it using the fuse puller ② in the fuse box ①. The amperage and protected circuit of each fuse are shown on the inside of the lower panel.



3. If a fuse is blown, be sure to select a spare fuse ③ of the specified amperage for replacement.



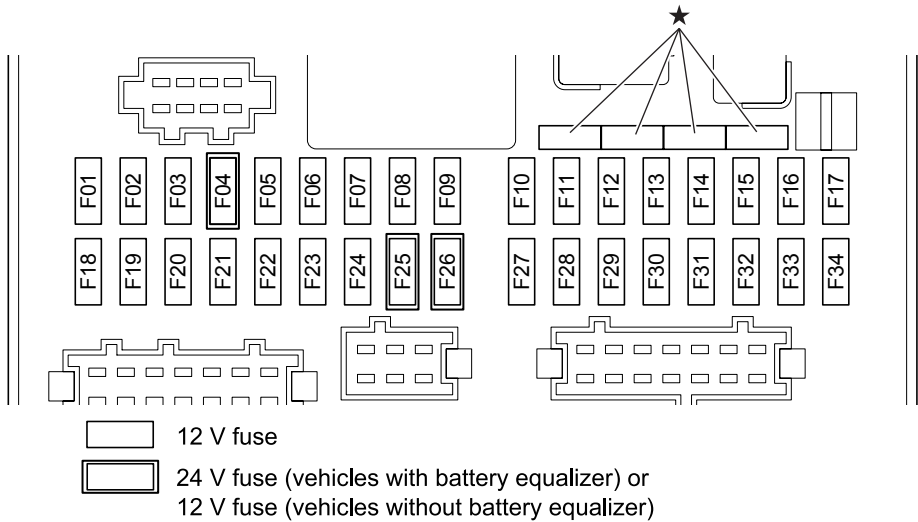
- 1.4 How to remove the spare fuse**
Insert the puller ③ into the gap on the outer side of the fuse holder wall ② to remove the spare fuse ①.



⚠ CAUTION

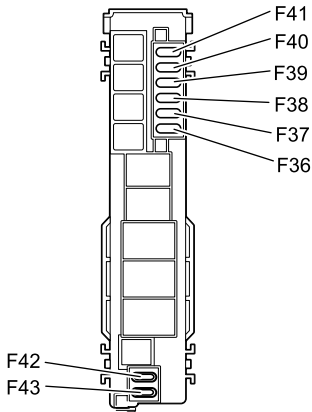
Do not force the puller into the gap on the inner side of the fuse holder wall. Doing so will break the equipment and cause malfunctions or a fire.

<Inside lower panel in front of assistant driver's seat>



Z22030

<High-current fuse box>



Z21128

| Fuse No. | Amperage | Protected circuit |
|----------|----------|-------------------------------------|
| F01 | 10A | Starter |
| F02 | 10A | Four wheel drive |
| F03 | 10A | SRS airbag ECU |
| F04* | 10A | Accessory power supply (IGN) |
| F05 | 30A | Power window (driver's) |
| F06 | 10A | ECU (BAT) |
| F07 | 30A | Power window (assistant driver's) |
| F08 | 20A | - |
| F09 | 10A | Meter cluster, diagnostic connector |
| F10 | 30A | ISS (ECU) |
| F11 | 30A | Air conditioner blower fan |
| F12 | 15A | Audio system, interior lamp |
| F13 | 10A | Starter switch, ISS (ECU) |
| F14 | 10A | Horn |

| Fuse No. | Amperage | Protected circuit |
|----------|----------|---|
| F15 | 10A | Audio system |
| F16 | 20A | Cigarette lighter, power mirror |
| F17 | 20A | Fuel heater |
| F18 | 10A | ABS ECU |
| F19 | 15A | Engine ECU |
| F20 | 10A | ECU (IGN, ISS) |
| F21 | 10A | – |
| F22 | 15A | Meter cluster, air conditioner |
| F23 | 10A | – |
| F24 | 10A | DUONIC ECU |
| F25* | 10A | Accessory power supply (ACC) |
| F26* | 10A | Accessory power supply (BAT) |
| F27 | 20A | – |
| F28 | 15A | Engine ECU |
| F29 | 20A | SCR |
| F30 | 20A | SCR |
| F31 | 20A | Engine ECU |
| F32 | 10A | Air conditioner condenser fan relay |
| F33 | – | – |
| F34 | 15A | Fuel pump |
| F35 | – | – |
| F36 | 20A | DUONIC ECU |
| F37 | 10A | Rear blower fan |
| F38 | 15A | Rear condenser fan |
| F39 | – | – |
| F40 | 20A | Air condenser fan |
| F41 | 30A | Hydraulic unit |
| F42* | 10A | Alternator (only vehicles with battery equalizer) |
| F43* | – | – |

| Fuse No. | Amperage | Protected circuit |
|----------|----------|-------------------|
| ★ | 10A | Spare fuse |
| | 15A | |
| | 20A | |
| | 30A | |

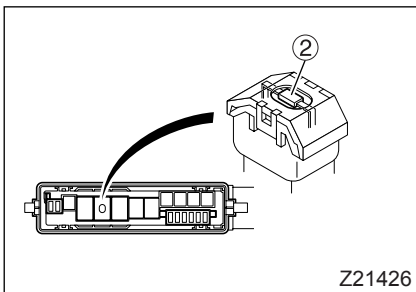
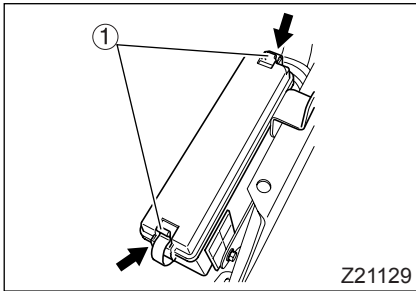
*: On vehicles with battery equalizer, the voltage of this circuit is 24 V.

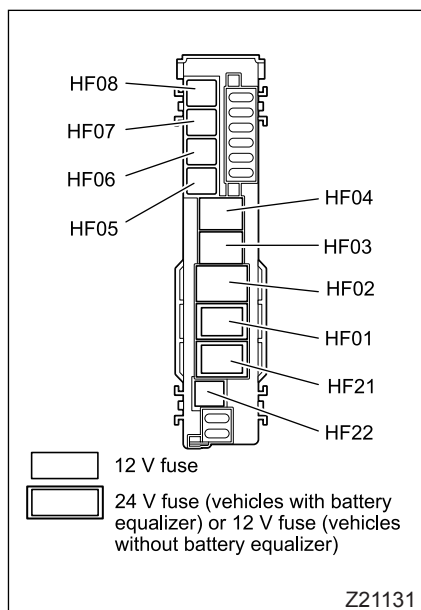
2 High-current fuse

The high-current fuses, which protect circuits in the same way as regular fuses, are fitted in a box next to the battery. If a high-current fuse is blown, most of the vehicle's electrical circuits become inoperative.

2.1 Inspection

1. Place the starter switch in the "LOCK" position and turn all other switches OFF.
2. Pry and release the two locks ① of the cover with your fingers and remove the cover. To install the cover, push in the cover until the two locks click.
3. Check for a blown high-current fuse by looking into the inside through inspection window ②. If it is blown, immediately call your nearest authorized MITSUBISHI FUSO distributor or dealer and have them check your vehicle.





| No. | High-current fuses | Protected circuit |
|-------|--------------------|-------------------|
| HF01 | 140A (russet) | SAM |
| HF02 | — | — |
| HF03 | 80A (black) | SAM |
| HF04 | — | — |
| HF05 | 60A (yellow) | Glow ECU |
| HF06 | 40A (green) | Starter relay |
| HF07 | — | — |
| HF08 | 50A (red) | Hydraulic unit |
| HF21* | — | — |
| HF22* | 40A (green) | SAM |

*: On vehicles with battery equalizer, the voltage of this circuit is 24 V.

CAUTION

Close the cover completely to prevent rain water from entering the fuse box.

When a lamp has burn out

Whenever replacing a lamp, be sure to place the starter switch in the “LOCK” position and all other switches in the “OFF” position.

WARNING

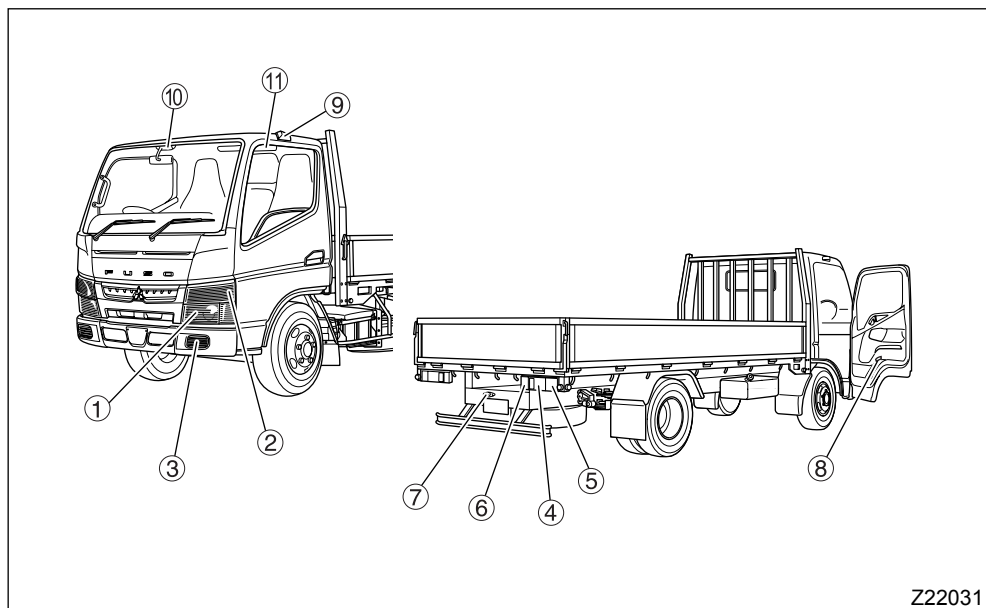
- Use a lamp of the specified voltage and wattage shown in the following table. If a wrong lamp is used, an excessive current flowing through the wiring impairs the control functions of the electric equipment in the cab and of the rear body installations and eventually could cause a fire.
- Do not replace any lamp bulb immediately after it has gone out. The bulb is very hot then and could burn you. Be sure to wait long enough for the bulb to cool down before replacing it.
- Do not drop a lamp bulb. Flying fragments of glass could hurt you. Be especially careful when handling a halogen lamp bulb as its high inner pressure increases chance of injury.

CAUTION

The turn signal lamps have plastic lenses. Do not clean these lenses with alcohol or thinner. Also, be careful not to splash brake fluid on them when adding it to the braking system. Contact with such a substance could discolor or crack the lenses. If such a substance gets on a plastic lens, immediately wipe it off or rinse it off with water.

NOTE:

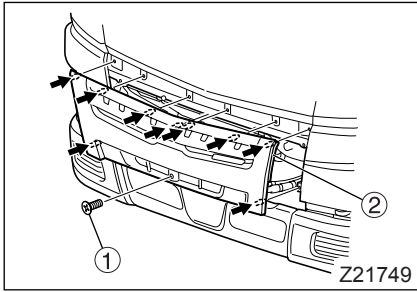
In rainy weather and when the vehicle is washed, condensation can form on the inside surfaces of the headlamp lenses. Just as the windows mist up in rainy weather, the condensation forms owing to a temperature difference between the inside and outside. This phenomenon does not affect the headlamps' functionality. It disappears naturally.



Z22031

| Ref. No. | Lamp | Bulb wattage (bulb type) | Q'ty |
|----------|--|--------------------------|------|
| ① | Headlamp | 12V-60/55W (H4) | 2 |
| | Position lamp | 12V-5W (W5W) | 2 |
| ② | Front and side turn signal lamp | 12V-21W (P21W) | 2 |
| ③ | Fog lamp <option> | 12V-55W (H3) | 2 |
| ④ | Stop/tail lamp (double filament) | 12V-21/5W (P21/5W) | 2 |
| ⑤ | Rear turn signal lamp | 12V-21W (P21W) | 2 |
| ⑥ | Backup lamp | 12V-21W (P21W) | 2 |
| ⑦ | License plate lamp <Type 1> | 12V-10W (R10W) | 2 |
| | License plate lamp <Type 2> | 12V-10W (R10W) | 1 |
| ⑧ | Step lamp <Vehicles with step lamps> | 12V-5W (W5W) | 2 |
| ⑨ | End out-line marker lamp <Vehicles with end out-line marker lamps> | 12V-5W (W5W) | 2 |
| ⑩ | Interior lamp | 12V-10W | 1 |
| | Interior lamp with built-in spot lamp <Vehicles with interior lamp with built-in spot lamps> | 12V-8W | 2 |
| | Interior lamp <rear seats of Crew-cab models> | 12V-10W | 1 |
| ⑪ | Fluorescent lamp <Vehicles with fluorescent lamp> | 12V-10W | 1 |

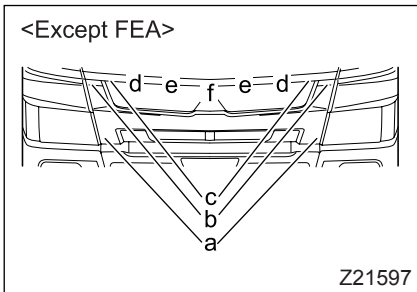
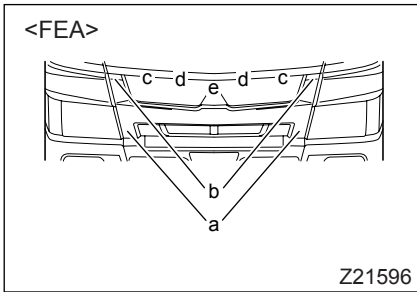
- Removing the radiator grille



1. Remove the screw ① of the radiator grille.
2. Remove the radiator grille by pulling outward on the clipped points in the order of the letters in the illustration.

NOTE:

Pull the grille straight forward and horizontally.



- Installing the radiator grille

1. Follow the removal procedure in reverse.
When installing the front grille, make sure the rubber packing ② at each side of the grille does not protrude from the clearance between the grille and lamp.
2. Finally install the screw.

NOTE:

After installing the front grille, check whether the rubber packing at each side of the grille is not protruding between the grille and lamp.

If the packing is protruding, push it in so it can't be seen on the surface. Be careful not to damage the front grille or the lamps.

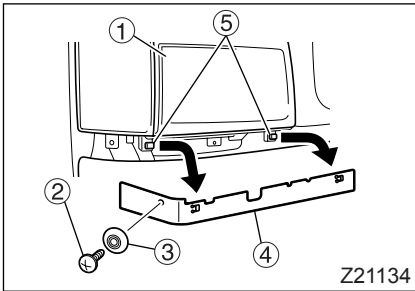
1 Headlamp bulb replacement

For safety and simplicity, bulb replacement is performed with the headlamp removed. The radiator grill and the front and side turn signal lamp must be removed before the headlamp can be removed.

1.1 Headlamp removal and installation

- Headlamp removal

1. For removal of the headlamp ①, first remove the screw ② and rivet ③, then move the lamp rubber ④ under the headlamp toward the centerline of the vehicle and release it from the tabs ⑤.



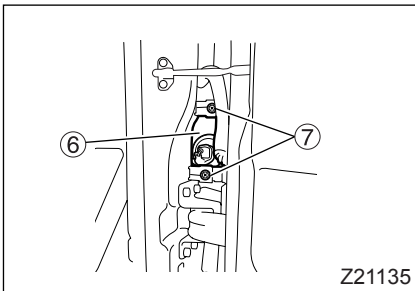
! CAUTION

When removing the lamp rubber, do not pull it with excessive force or the tabs could break.

2. Open the door, then loosen the screws ⑦ behind the front and side turn signal lamp ⑥ until they spin freely.

NOTE:

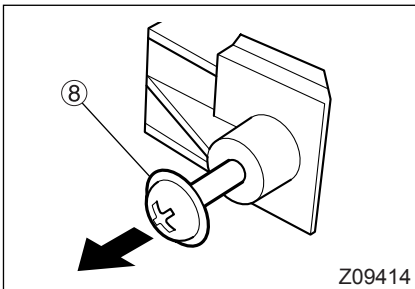
The screws are designed not to come out.



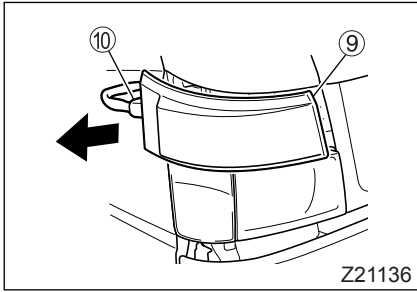
3. Pull out screw ⑧ toward you.

! CAUTION

Unless the screw is pulled out, the front and side turn signal lamp will catch on it and you will not be able to remove it.



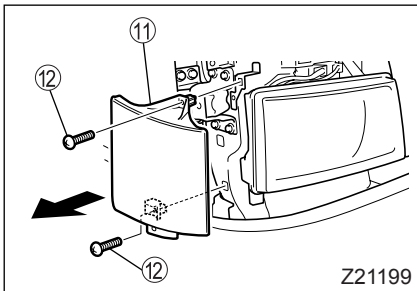
4. Close the door.



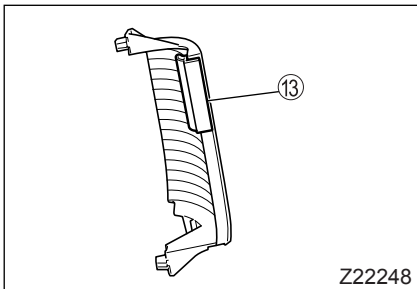
5. Remove the front and side turn signal lamp ⑨ toward the outside of the vehicle, then remove the connector ⑩.

! CAUTION

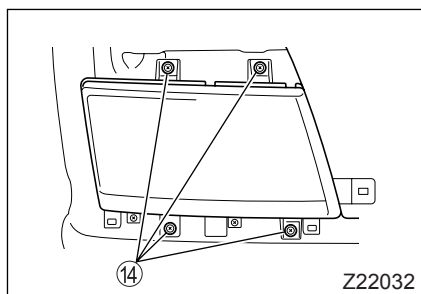
- When removing the front and side turn signal lamp, do not pull it forward (toward the front of the vehicle) or its tabs could break.
- Do not open the door with the front and side turn signal lamp moved outward (but not completely removed) or the door could hit and damage it.



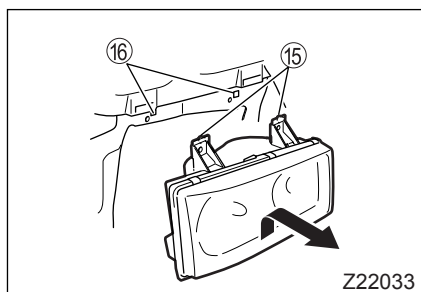
6. Remove the screws ⑫ of the garnish ⑪, then remove the garnish toward the outside of the vehicle.



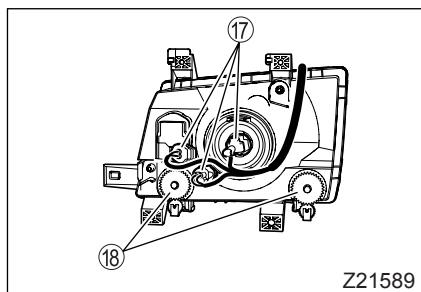
NOTE:
Do not remove the end rubber piece ⑬ from the garnish.



7. Remove the headlamp's bolts ⑭.



8. Raise the headlamp slightly to remove the tabs ⑮ from the holes ⑯, then pull it out toward you.



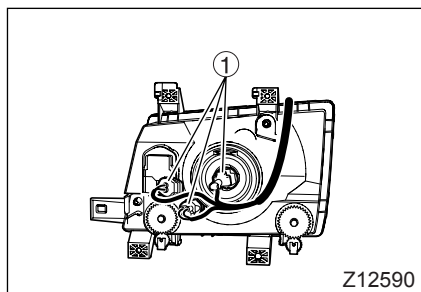
9. Remove the connectors ⑰ from the headlamp thus pulled out.

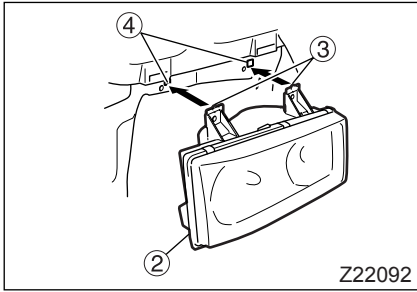
! CAUTION

Do not turn the beam adjusting gear ⑱. Turning the beam adjusting gear would change the beam setting, thus creating a nuisance for drivers of other vehicles. If you accidentally turn the beam adjusting gear, have it inspected by your nearest authorized MITSUBISHI FUSO distributor or dealer.

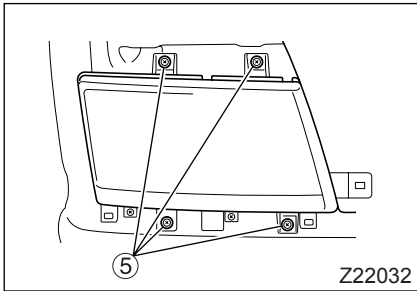
• Headlamp installation

1. Install the connectors ① on the headlamp.

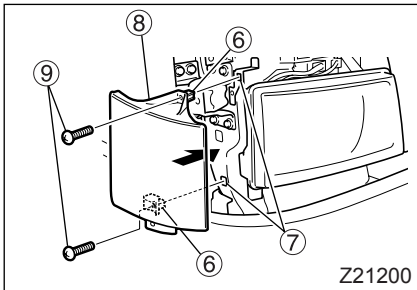




2. Insert the tabs ③ on the headlamp ② into the holes ④, and fit the headlamp in place.



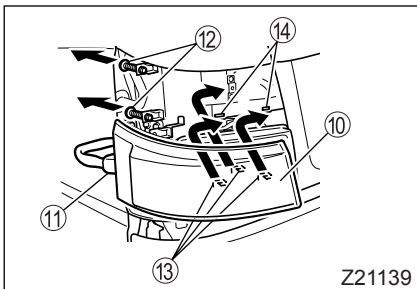
3. Install the headlamp bolts ⑤.



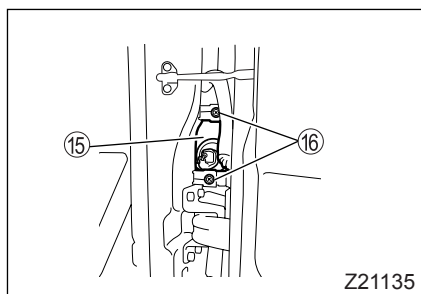
4. Insert the pin ⑥ into the hole ⑦, fit the garnish ⑧ in place, and tighten the screws ⑨.

! CAUTION

Do not tighten the screw too tightly or the mounting could get damaged.



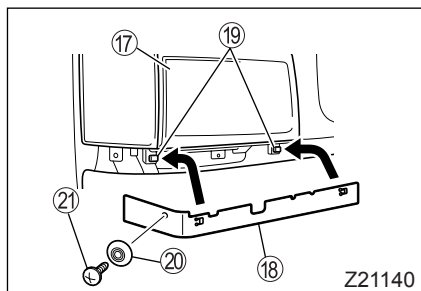
5. Install the connector ⑪ on the front and side turn signal lamp ⑩.
6. Pull out screws ⑫.
7. Align the tabs ⑬ with the holes ⑭, then press the lamp in toward the centerline of the vehicle.



8. Open the door, then tighten the screws ⑯ behind the front and side turn signal lamp ⑮.

⚠ CAUTION

- Press the front and side turn signal lamp fully in toward the centerline of the vehicle. If the lamp was not pressed fully into place and you opened the door, the door could hit the lamp and damage it.
- Do not tighten the screws too tightly or the mounting could get damaged.

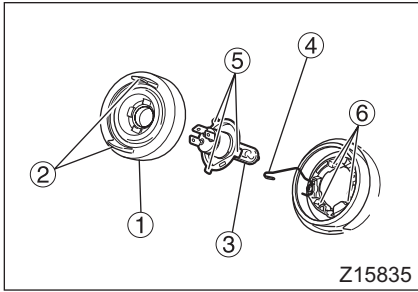


9. Fit the lamp rubber ⑱ under the headlamp ⑰ onto the tabs ⑲ by moving it toward the outside of the vehicle.
10. Fit the rivet ⑳, then press in the screw ㉑.

1.2 Headlamp bulb replacement

⚠ CAUTION

- Do not directly touch the glass part of a halogen bulb with your fingers. Any oil and other substances contaminating the glass surface could shorten the bulb's service life.
- Do not clean lamps with alcohol and thinner, because their lenses are made of plastic.
- Do not attach any sticker or tape on the headlamp lens. Doing so may result in deformation of the lens by heat since the lens is made of plastic.

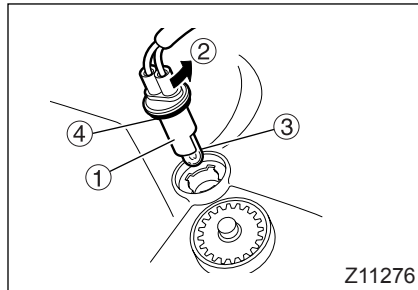
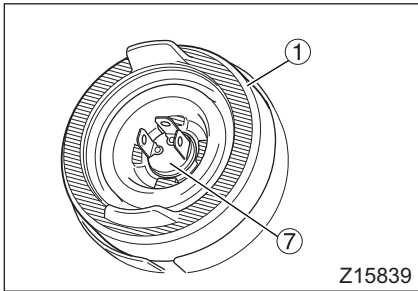


- **Removal**

1. Remove the cover ① by pulling on the lugs ② of the cover.
2. Detach the spring ④ retaining the bulb ③.
3. Pull out the bulb.

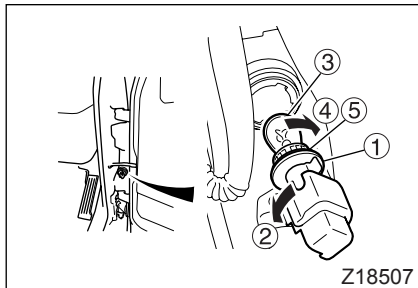
- **Installation**

1. Install the bulb in the lamp unit while aligning the tabs ⑤ with the grooves ⑥, then secure the bulb with the spring.
2. Clean the inside of the cover, if necessary.
3. Install the cover by pushing it until the bulb end ⑦ is exposed a little. Push the shaded area when installing the cover.



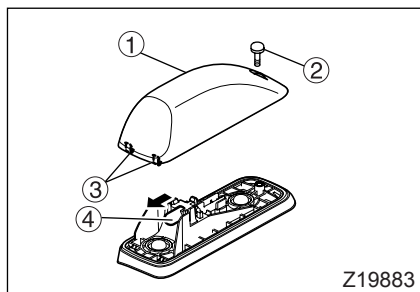
1.3 Clearance lamp bulb replacement

1. Turn the socket ① in the direction of the arrow ② to remove it.
2. Remove the bulb ③.
3. Perform installation by following the removal steps in reverse.
4. If the packing ④ is dirty, clean it.



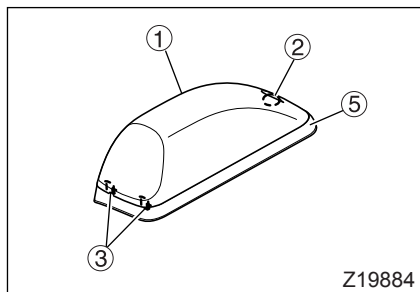
2 Front and side turn signal lamp bulb replacement

1. Open the door.
2. Turn the socket ① in the direction of arrow ② to remove it.
3. Press the bulb ③ and turn it in the direction of arrow ④ to remove it.
4. Perform installation by following the removal steps in reverse.
5. If the packing ⑤ is dirty, clean it.



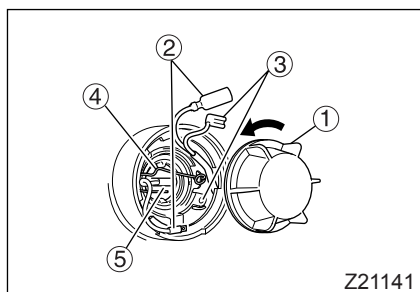
3 Replacing the bulb of the end out-line marker lamp <Vehicles with end out-line marker lamps>

- Removal
- 1. Remove the screw ② that secures the lens ① and then slightly raise the rear end of the lens.
- 2. Push the lens forward to detach the lugs ③ on the front end of the lens from the base, then remove the lens.
- 3. Remove the bulb ④ by pulling it forward.



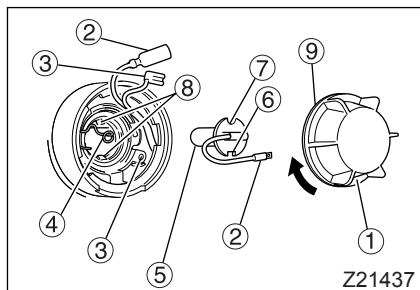
- Installation
- 1. Push the new bulb into the socket.
- 2. Clean the packing ⑤ if dirty.
- 3. Place and hold the lens ① in position by loosely installing the screw ②. Do not tighten the screw.
- 4. Push the top of the lens down to engage the lugs ③ with the base.
- 5. Tighten the screw to within the specified torque range.

| | |
|-------------------|--------------------------------------|
| Tightening torque | 1.0 to 1.2 Nm (0.10 to 0.12 kgfm) |
|-------------------|--------------------------------------|



4 Replacing the fog lamp bulb <Vehicles with fog lamp bulb>

- Removal
- 1. Tilt up the cab if it has a tilting mechanism.
- 2. Remove the cover ① after turning it counter-clockwise to a stop.
- 3. Disconnect the bulb connector ②.
- 4. Disconnect the connector ③ from the lamp unit.
- 5. Unhook the spring ④, then pull out the bulb ⑤.

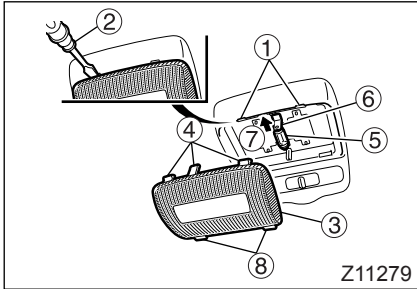


- Installation
- 1. Hold the bulb with the square groove ⑥ at the top (with the circular groove ⑦ at the bottom), then align the bulb with the lugs ⑧ on the fog lamp unit, install it and fix it with the spring ④.
- 2. Reconnect the connector ② of the bulb.
- 3. Reconnect the connector ③ to the fog lamp unit.
- 4. Clean the packing ⑨ if necessary. Also straighten the packing if it is twisted.
- 5. Install the cover ① on the lamp unit and turn it clockwise.
- 6. Lower the cab if it was tilted up.

5 Interior lamp bulb replacement

5.1 Interior lamp

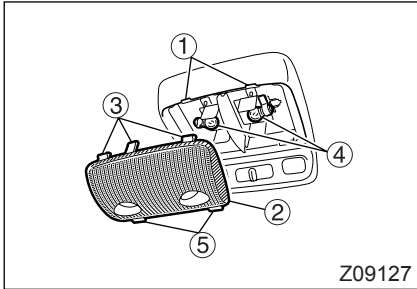
1. Insert a flat-blade screwdriver ② into the notches ① and use it to release the tabs ④ on the top of the lens ③. Remove the lens.
2. Push the bulb retainer ⑥ in the direction of the arrow ⑦ and remove the bulb ⑤.
3. To install the lens, insert the tabs ⑧ on the bottom of the lens, align the tabs on the top of the lens, and press the lens into place.



Z11279

5.2 Interior lamp with built-in spot lamps <Vehicles with interior lamp with built-in spot lamps>

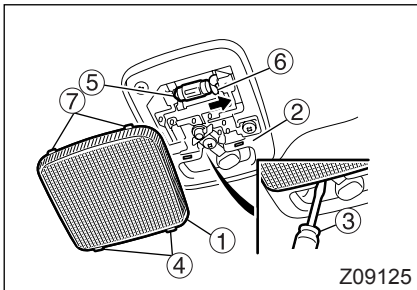
1. Insert a flat-blade screwdriver into the notches ① and use it to release the tabs ③ on the top end of the lens ②. Remove the lens.
2. Remove the bulb ④ by turning it counterclockwise while pushing inward.
3. Install the lens by inserting the tabs ⑤ at the bottom end of the lens into the slots and pushing the lens while aligning the tabs on the top end with the notches.



Z09127

5.3 Interior lamp of rear seats of Crew-cab models

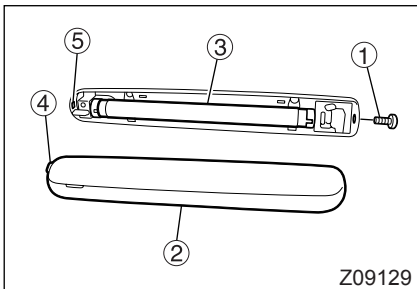
1. Insert a flat-blade screwdriver ③ between the lens ① and the interior lamp ② and use it to release the tabs ④ on the bottom of the lens. Remove the lens.
2. Push the bulb retainer ⑥ rightward and remove the bulb ⑤.
3. To install the lens, insert the tabs ⑦ on the top of the lens and press the bottom of the lens into place.



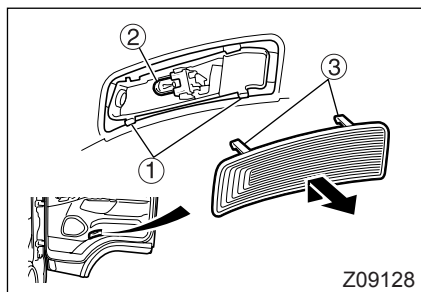
Z09125

6 Fluorescent lamp <other than Crew-cab models>

1. Remove the screw ① using a crosspoint screwdriver, then remove the lens ②.
2. Turn and remove the fluorescent tube ③. Fit a new fluorescent tube.
3. When installing the lens, fit the tab ④ on the lens into the slot ⑤. Retain the other end of the lens using the screw.



Z09129



7 Step lamp <Vehicles with step lamps>

1. Insert a flat-blade screwdriver into the tab ① locations at the bottom end of the lens and remove the lens by pulling it toward you while raising it.
2. Pull out the bulb ②.
3. Install the lens by inserting the tabs at the bottom end into the slots and then pushing the locations of the tabs ③ at the top end of the lens.

8 Replacing other lamps

1. Loosen the screw that secures the lens then remove the lens.
2. Turn the bulb counterclockwise while pressing it and remove it.
3. Insert a new bulb and turn it clockwise.
4. Fit the lens, ensuring that the packing is correctly positioned. If the packing is incorrectly installed or twisted, water can enter the lamp and shorten its life. If the packing is dirty, clean it.
5. Uniformly tighten the screws that retain the lens.

When braking is sluggish



WARNING

- **Never use the parking brake during driving except in an emergency. Pulling the parking brake lever with full force while driving could cause the vehicle to topple over.**
- **Never continue driving with the brake system malfunctioning or leaking fluid.**

Depress the brake pedal harder than usual, downshift to use engine braking and activate exhaust braking to stop the vehicle. Apply the parking brake when necessary. After the vehicle has been brought into a stop, check parts, then call your nearest authorized MITSUBISHI FUSO distributor or dealer.


If the engine stalls while the vehicle is in motion

The vehicle will be set into the following very dangerous condition. Immediately pull up the vehicle and try to start the engine.

- The braking force reduces extremely. You must exert additional force on the brake pedal to apply the brakes.
- The power steering system then becomes inoperative, making steering extremely difficult. Additional force must be used when turning the steering wheel.

If a tire goes flat while the vehicle is in motion

Avoid sudden braking. Hold the steering wheel firmly, and gradually slow down before pulling up at a safe place.

To replace the tire, select a flat surface where your vehicle will not hinder traffic. ⇒  P. 12-81

When the battery has run down

Perform the following procedure to start your engine by connecting your battery to the well charged battery of another vehicle with booster cables.

WARNING

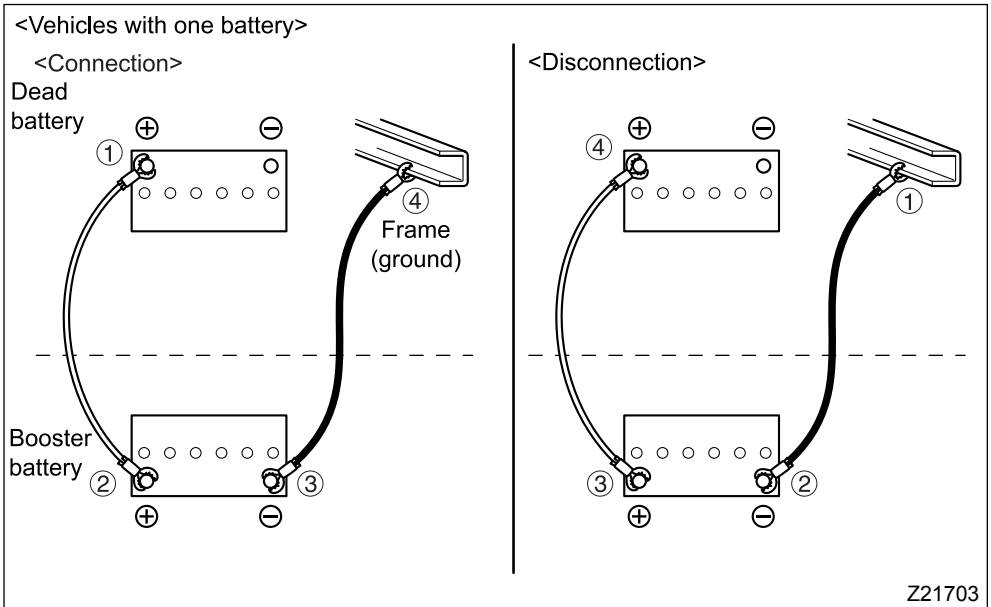
- Check the battery's fluid level before connecting booster cables. If the fluid is below the "LOWER" level line, add battery fluid or distilled water. If the battery was charged with an excessively low fluid level, it would deteriorate rapidly and could overheat or explode.
- Be careful not to connect the booster cables in the wrong sequence. Sparks are often produced when you connect the booster cable to the vehicle's frame. Therefore, if the cable is connected to a section of the frame near the battery, the spark could set off the hydrogen given off by the battery to cause an explosion. Be sure to connect the cable end to a point as far away as possible from the battery. Also, keep cigarettes and open flames well away from the battery.
- Never start the engine by towing or pushing the vehicle. Doing so is dangerous because the brakes work poorly and the steering wheel becomes abnormally hard to turn.

! CAUTION

- Use booster cables able to handle large currents.
- Use the vehicle with the same voltage (12V) as your vehicle to connect your battery. Do not use a vehicle with a 24V system.
- Remove the battery from the vehicle for charging.

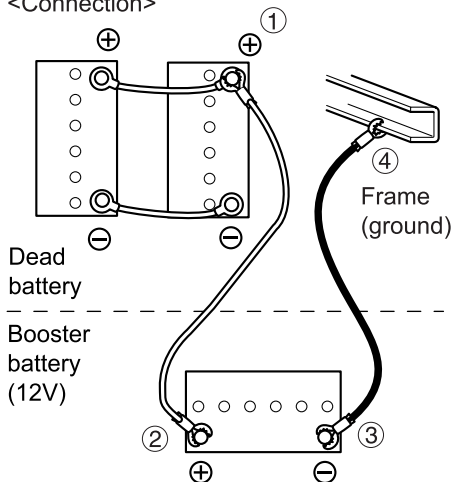
NOTE:

Your vehicle's electrical system operates on a 12V power supply.
Vehicles with battery equalizer have 12V circuits and 24V circuits. ⇨ P. 1-17

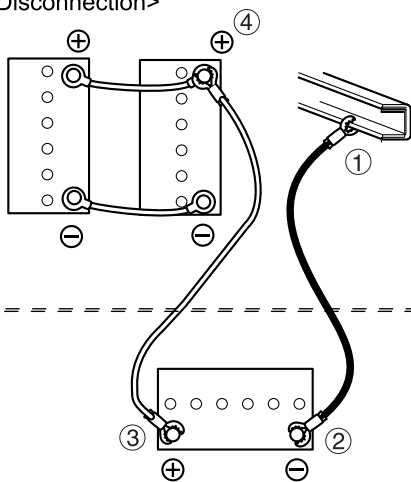


<Vehicles with two batteries>

<Connection>



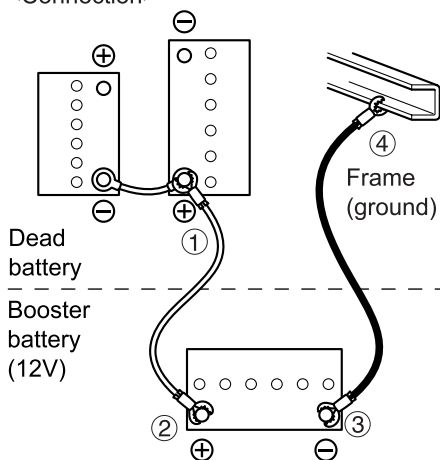
<Disconnection>



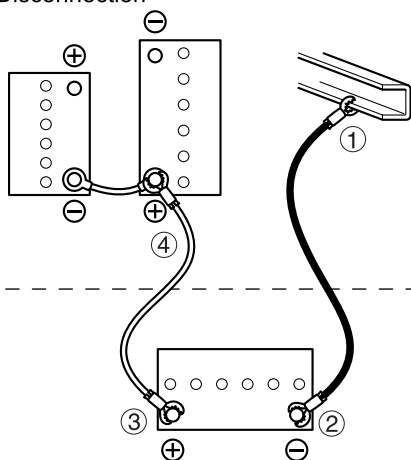
Z22249

<Vehicles with battery equalizer>


<Connection>



<Disconnection>



Z21702

1. Stop the engine of the vehicle giving the boost.
2. Remove the battery cover. ⇨  P. 12-102
3. Connect one end of the red booster cable to the positive (+) terminal ① of the dead battery. Connect the other end of the red booster cable to the positive (+) terminal ② of the booster battery.
4. Connect one end of the black booster cable to the negative (-) terminal ③ of the booster battery and connect (ground) the other end of the black booster cable to a section of frame ④ on the vehicle with the dead battery at a point as far away as possible from the battery.
5. After the above connections have been completed, start the engine of the vehicle with the booster battery and let it run at an RPM slightly higher than idling speed. Then, attempt to start the engine of the vehicle with the dead battery. If the engine starts with difficulty because of cold weather or a dead battery, let it draw a charge for several minutes from the vehicle from which you are receiving the boost before attempting to turn over the engine.
6. After the engine of the vehicle with the dead battery has been started, disconnect the booster cables by reversing the order of connection.

If fuel tank becomes empty (Bleeding the fuel system)

When the vehicle runs out of fuel and the engine stalls, also when the fuel filter has been replaced, or if water has been drained from the fuel filter, air that has entered the fuel system prevents the engine from being started even if the engine has been refueled after running dry. In these cases, bleed the fuel system by performing the following steps.

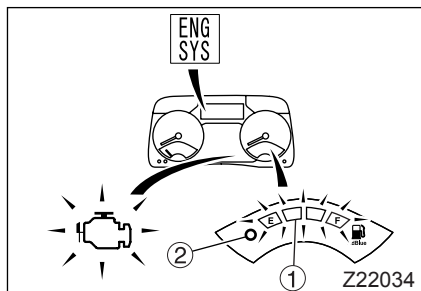




WARNING

When the fuel filter has been replaced, make sure fuel does not leak from the filter or from related parts. Any fuel leakage could cause a fire.

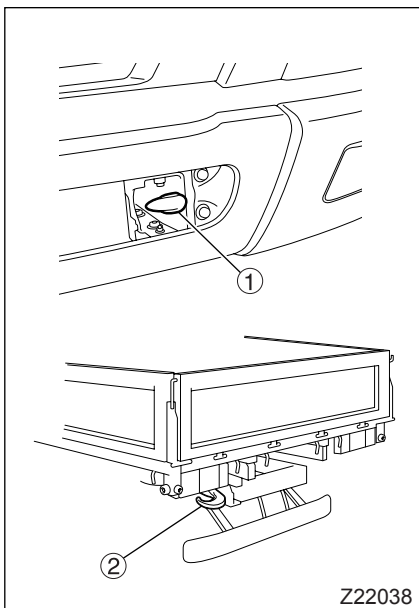
1. Hold the starter switch in the "ON" position for 30 to 60 seconds to supply the fuel system with fuel.
2. When the fuel filter has been replaced, start the engine and check that there is no fuel leakage.

If the urea tank becomes empty



If the urea tank becomes empty, the  warning lamp and urea level indicator lamp ① start flashing and the urea level warning lamp ② comes on. Also the  warning (red) is shown on the multi-information display and engine output will be limited. If this condition happens, you must refill the urea tank with AdBlue[®] immediately.

⇒  P. 1-8



Towing

WARNING

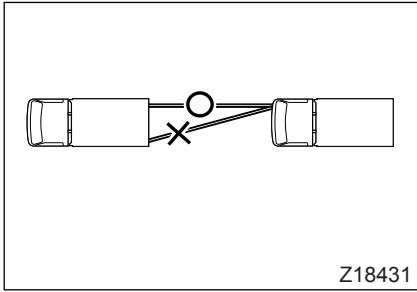
- If the engine of the defective vehicle does not run, use a special towing vehicle.
- Check that the braking system is functioning normally.

Observe the following precautions when towing a broken down vehicle.

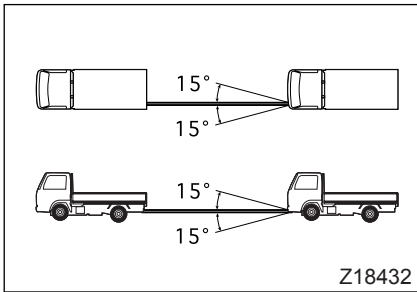
- The tow rope must be sufficiently strong and attached securely to the tow hook on the vehicle's frame.

①: Front hook

②: Rear hook



- Position the tow rope on the same side of both vehicles.



- For the sake of safety, the angle formed by the tow rope when hooked up should be limited to the range indicated in the illustration. Do not tow a vehicle under conditions which could impose sudden undue stress on the hooks (for instance, towing a vehicle out of a ditch) as doing so could break the hooks. Also, never attempt to tow a vehicle that is heavier than your own vehicle.

NOTE:

The maximum load permitted on the tow hook is 14,700 N (1,500 kgf) when applied in the direction of towing.

- The cargo on the disabled vehicle should be completely unloaded.
- Limit the maximum speed to 30 km/h unless the vehicle is towed with a special towing vehicle.
- Avoid sudden starts and keep the tow rope taut.
- The broken down vehicle should be prepared for towing as follows:
 1. In a manual transmission vehicle, put the gear shift lever in the neutral position.
In a vehicle with DUONIC system, put the gear-shift lever in the "P" position.
 2. Keep the engine running.
Stopping the engine while the vehicle is moving is extremely dangerous because it drastically reduces braking performance and makes the steering action extremely heavy.

! CAUTION

- **If the transmission, transfer <FG models> or differential is defective, do not tow the vehicle. Instead, call your nearest authorized MITSUBISHI FUSO distributor or dealer.**
- **Before towing a 4WD vehicle, raise the front wheels and disconnect the propeller shaft at the rear.**

- If it becomes necessary to tow a vehicle with DUONIC system, disconnect the propeller shaft or lift the rear wheels off the ground using a specially equipped tow truck. Doing otherwise would damage the transmission.
- With the propeller shaft disconnected, engine braking and auxiliary braking will not be available.

NOTE:

The exhaust emissions may be extremely hot. If the tow rope sags excessively, the exhaust emissions may discolor it. When you stop the vehicle, make sure the tow rope does not sag too much.

14. Service data

| | |
|--|------|
| Recommended lubricants/hydraulic fluids and quantities | 14-2 |
| Service data | 14-5 |

Recommended lubricants/hydraulic fluids and quantities

1 Quantities of lubricants/hydraulic fluids

liters

| Item | | Quantity | | |
|--|------------------------------|-------------|-------------|-------------|
| Engine | | Approx. 6.2 | | |
| Clutch <Vehicles with DUONIC system> | | 2.0 | | |
| Transmission (including DUONIC system) | Vehicles without PTO | Approx. 3.5 | | |
| | Vehicles with PTO | Approx. 3.8 | | |
| Transfer <FG models> | | Approx. 3.6 | | |
| Differential | Australia/ New Zealand | FEA21 | Approx. 2.7 | |
| | | FEB21 | | |
| | | FEA61 | | |
| | | FEB51 | | |
| | | FGB71 | Front | Approx. 2.2 |
| | | | Rear | Approx. 4.5 |
| | Others | | Approx. 4.5 | |
| | Hong Kong | Others | | Approx. 4.5 |
| | | FEA21 | | Approx. 2.7 |
| | Singapore | FEA01 | | Approx. 2.2 |
| | | FEB21 | | Approx. 2.7 |
| | | FEB51 | | |
| FEB71 | | Approx. 4.5 | | |
| FEC91 | | | | |
| Power steering | | As required | | |
| Brake | | As required | | |

CAUTION

The indicated oil and fluid quantities should be used only as a guide at the time of replacement. To ensure correct oil and fluid levels, use the oil level gauge, inspection plug holes, and level lines as appropriate.

2 Recommended lubricants/hydraulic fluids

Be sure to use the specified lubricants.

| Parts | Category | Classification | Viscosity | | Remarks |
|--|--|---|---|--|--|
| | | | Atmospheric temperature | SAE viscosity number | |
| Engine | Engine oil | ACEA C2 | – | 5W–30 | – |
| Transmission (including DUONIC system) | Gear oil | API GL-3 | General | 80 | – |
| | | | Warm region | 90 | |
| | Engine oil | API GL-4 | Tropical region | 90 | MIL-L-2105 Use API GL-4 oil with vehicles for Australia and New Zealand. |
| | | API CC | Long period of high-speed driving | 30 or 40 | MIL-L-2104B |
| Clutch <Vehicles with DUONIC system> | Automatic transmission fluid | FUSO ATF SPIII | – | – | – |
| Transfer <FG models> | Gear oil | API GL-3 | General | 80 | – |
| | | | Warm region | 90 | |
| | API GL-4 | General | 80 | Use API GL-4 oil with vehicles for Australia and New Zealand. | |
| | | Warm region | 90 | | |
| Differential gear *1 | Gear oil | API GL-5 | Below 40°C | 90 | MIL-L-2105B |
| | | | Above 40°C | 140 | |
| Limited-slip differential <Vehicles with limited-slip differential> | Gear oil for limited-slip differential | API GL-5 | – | 90 | MITSUBISHI Genuine Gear Oil Part No. 8149630EX |
| Power steering | Automatic transmission fluid | DEXRON II or DEXRON III type | – | – | MIL-H-5606B |
| Brake | Brake fluid | SAE J1703, FMVSS No. 116 (Type DOT3) | – | – | – |
| Chassis grease nipples Door hinge Anchor hooks <Not applicable to Crew-cab models> | Chassis grease | NLGI No. 1 (Li soap) | – | – | Consistency 310 to 340 (at 25°C) Dropping point 130°C or higher |

| Parts | Category | Classification | Viscosity | | Remarks |
|---|---|---|-------------------------|----------------------|---|
| | | | Atmospheric temperature | SAE viscosity number | |
| Wheel hub bearing Propeller shaft (universal joint, slip joint, *double cardan joint) *Birfield joint *Kingpin bearing *Steering knuckle <*FG models> | Wheel bearing grease (Multipurpose type grease) | NLGI No. 2 (Li soap) | – | – | Consistency 265 to 295 (at 25°C) Dropping point 185°C or higher |
| Propeller shaft center bearing | Bearing grease | NLGI No. 3 (Li soap) | – | – | Consistency 220 to 250 (at 20°C) Dropping point 250°C or higher Usable tempera- ture range –40°C to 150°C |
| Coolant | Mixture of demineralized water or soft water and FUSO DIESEL LONGLIFE COOLANT | Ethylene gly- col base anti- freeze SAE J814-C | – | – | – |

*1 At ambient temperatures higher than 10°C, use an oil conforming to SAE140 if the vehicle is used under such a heavy load conditions as continuous upgrade climbing.

NOTE:

Special lubricants/hydraulic fluids must be used in cold regions where the ambient temperature could drop below –25°C.

For details, consult your nearest authorized MITSUBISHI FUSO distributor or dealer.

Service data

| Description | | Standard value | |
|--|-------------------------------|---|------------------------------------|
| Engine idling speed | | Approx. 650 rpm | |
| Coolant quantity | FEA | Approx.13 liters | |
| | FGB, FEB, FEC | Approx.13.7 liters | |
| | Vehicles with air conditioner | Approx.14.7 liters | |
| Brake pedal play (at center of brake pad) | | 0.1 to 3 mm | |
| Fully depressed brake pedal to floor clearance | | 10 mm or more | |
| Parking brake lever stroke [When pulled with a force of 294 N (30 kgf)] | | 7 to 9 notches | |
| Steering wheel play (as measured on the periphery of steering wheel) | When engine is turned off | Front independent suspension models | 20 mm or less |
| | | Front rigid leaf suspension models | 10 to 20 mm |
| | When engine is idling | | 5 to 50 mm |
| Tire tread groove depth | When driving at normal speeds | | 1.6 mm or more |
| | When driving at high speeds | | 2.4 mm or more |
| Wheel nut tightening torque | FEA0 model | Apply an 800 N (80 kgf) force at a point 40 cm from the end of the wrench handle. | 170 to 230 N·m (17 to 23 kgf·m) |
| | Other than above | Apply an 800 N (80 kgf) force to the end of the wrench handle. | 450 to 550 N·m (45 to 55 kgf·m) |
| Tire inflation pressure | | See the label or placard affixed to the driver's door pillar. | |

15. Alphabetical index

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Owner's Handbook

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MITSUBISHI FUSO TRUCK & BUS CORPORATION
