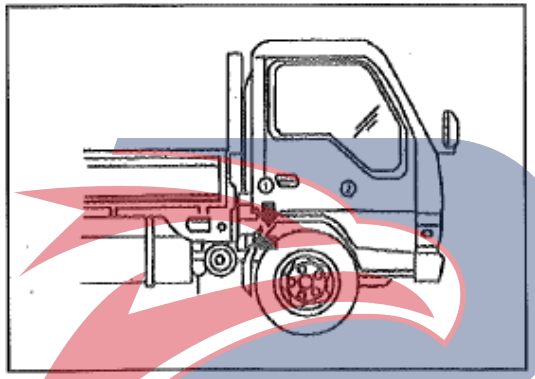
# 1 IMPORTANT INFORMATION

## IMPORTANT INFORMATION

The following information is important for the proper care and economical operation of your QingLing vehicle and should be thoroughly understood before putting it into service.

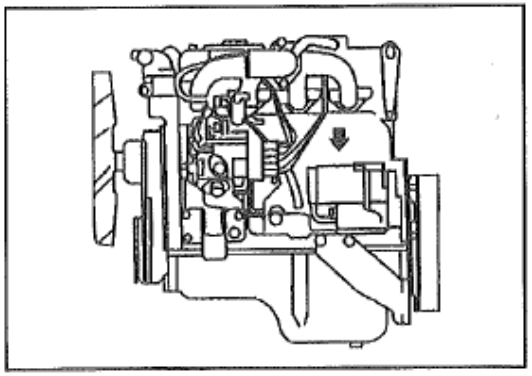


**LOCATION OF VEHICLE IDENTIFICATION NUMBER AND ENGINE NUBER**

It is advisable to record the chassis and engine numbers as they are required when contacting your authorized dealer for repair service.

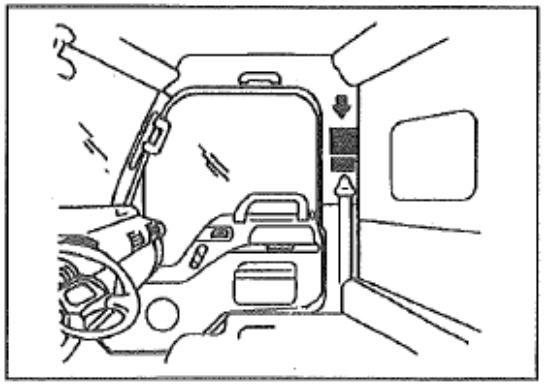
**VIN:**

The VIN is stamped on the front right-hand side of the chassis side member.



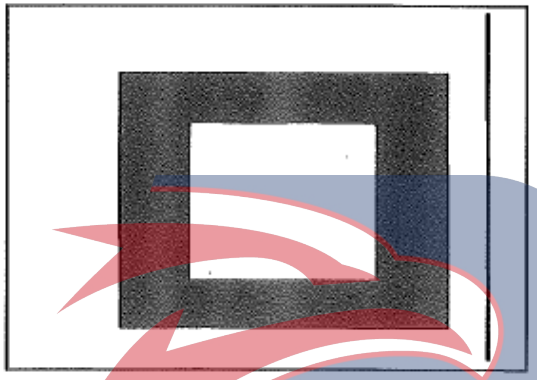
**Engine number:**

The engine number is stamped on the lower center left hand side of the cylinder block.



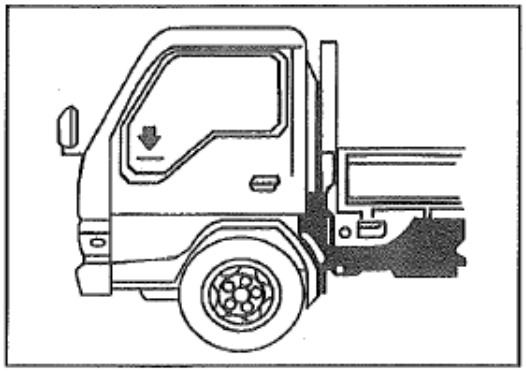
**Vehicle nameplate:**

The single-row seat vehicle nameplate is mounted on the inside of the body side panel next to the side seat of the assistant.



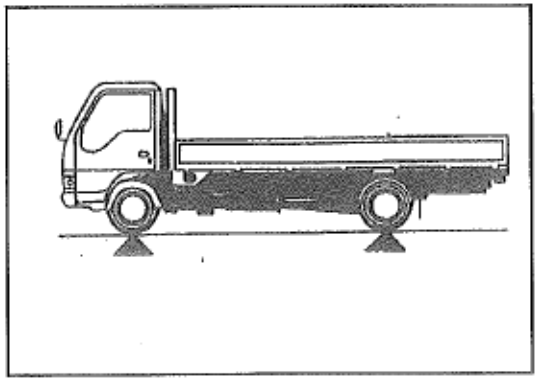
**Vehicle nameplate:**

The nameplate for the double row seat is mounted on the inside of the body side board on the right side of the rear seat.



**Vehicle identification plate:**

The vehicle identification plate is mounted on the left end of the instrument panel.



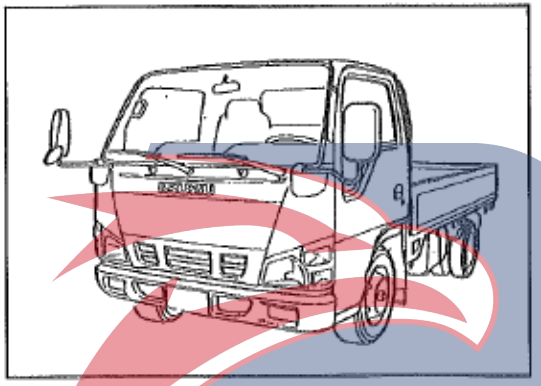
## OVERLOADING

**WARNING**

**Overloading not only shortens the service life of your vehicle, but also causes serious potential safety hazards.**

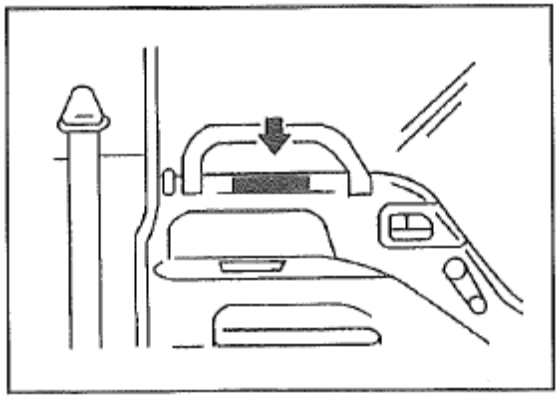
**The weight of the payload must be limited within the GVM (Gross Vehicle Mass) rating and distributed over the front and rear axles so as not to exceed their axle capacities.**

**Refer to "MAIN DATA AND SPECIFICATIONS" for GVM and axle capacity for each model.**



## OPERATION OF NEW VEHICLE

It is important to observe the following precautions as the treatment and care that your vehicle will receive during the break-in period have a strong influence over the performance and service life of the vehicle. Therefore, during the running-in of 1000 km of initial driving, the following attention shall be strictly observed:

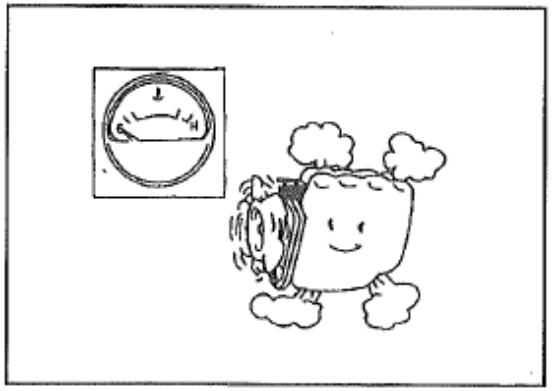


1. Within 1000 km of initial driving, speed and rotating speed hall be controlled according to the following requirements.

Model limited engine speed: 2400 rpm

**WARNING**

**It is forbidden to use inferior fuel and the Guo IV clean diesel conforming to the requirements of GB/T 19147-2013 shall be added so as to avoid the reduction of the performance of the engine due to blockage, binding and abnormal wear of the fuel supply system..**

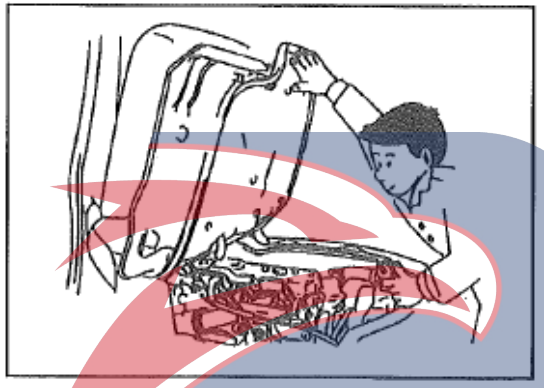


2. Avoid engine racing, abrupt starting and needless hard stops.

3. Always let the engine idle until it becomes thoroughly warmed up.

**OPERATION AND CARE OF VEHICLE**

Every component and system of your vehicle should be checked according to "CONTROLS AND INSTRUMENTS", "BEFORE DRIVING YOUR VEHICLE" and "DRIVING" sections.



**MAINTENANCE**

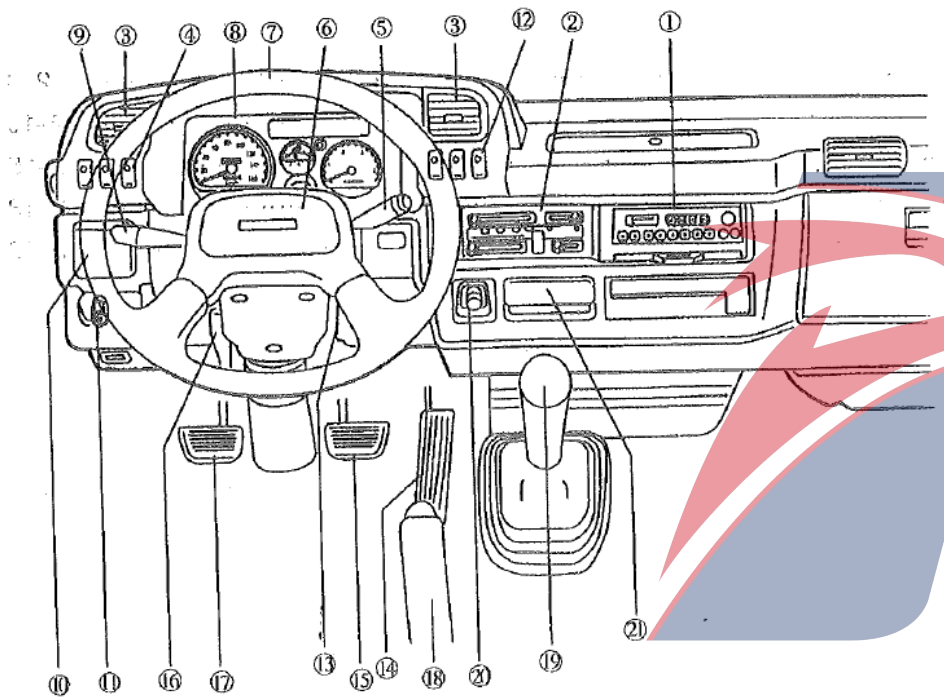
In order to maintain safe and dependable vehicle operation, inspection and adjustment should be performed as outlined in "SERVICE AND MAINTENANCE". Your authorized dealer is willing to perform regular maintenance checks on your vehicle.

**SPECIAL PRECAUTIONS FOR MODIFICATION:**

Without the permission of Isuzu Motors Limite, no modifications shall be made to the harness, frame, front and rear axles, braking systems, etc., that affect the driving and operation of the vehicle otherwise the consequences shall be borne by yourself.


POWERSTAR

# 2 CONTROLS AND INSTRUMENTS




①Radio or OPT CD player

②Heater,defroster and air conditioner control panel

③Instrument panel ventilation □ grid shed

④Front fog lamp switch

⑤Windshield wiper, washer switch handle exhaust auxiliary brake switch handle

⑥Horn button

⑦Steering wheel

⑧Instrument and indicator control panel

⑨Combined switch handle

⑩Ashtray (driver's side)

⑪Idling control knob

⑫Hazard warning flasher switch

⑬Start switch

⑭Accelerator pedal

⑮Brake pedal

⑯OPT Steering lock handle of steering wheel (front and rear)

⑰Clutch pedal

⑱Parking brake lever

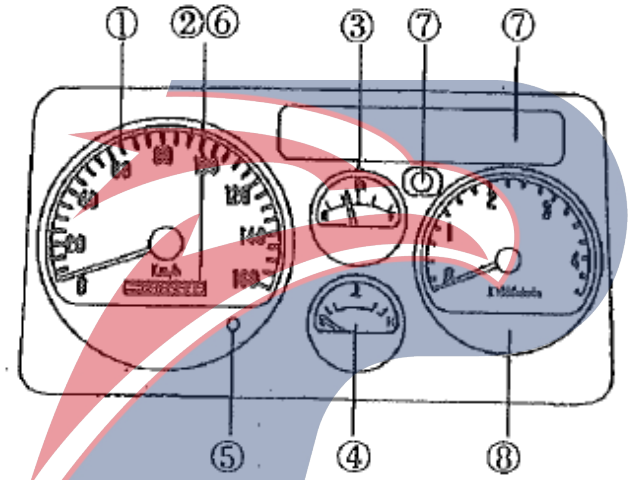
⑲Transmission gearshift lever

⑳Cigarette lighter

㉑Ashtray (assistant side)

## Meters and indicator lamps

### Dashboard




①Speedometer
②Odometer
③Fuel gauge
④Water Pumping Station
⑤Reset button
⑥Mileage counter
⑦Indicator and warning lamp panel
⑧Engine tachometer

## Indicator and warning lamp

 ..... Turn signal indicator lamp

 ..... High beam indicator lamp

 ..... Generator indicator lamp

 ..... Parking and brake fluid level indicator

 ..... Indicator for preheating

 ..... Oil pressure indicator lamp

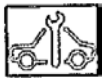
 ..... Exhaust brake indicator lamp

 ..... Water-in-fuel filter indicator lamp

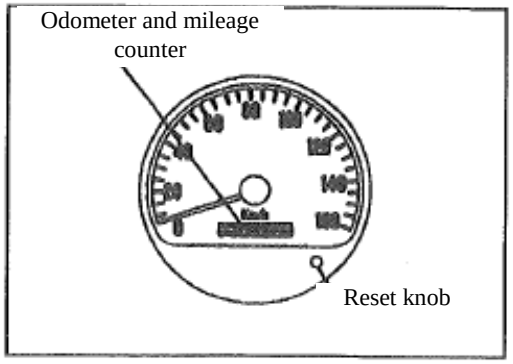
 ..... Hazard warning indicator lamp

 ..... Indicator lamp for rear fog lamp

 ..... Engine OBD self-diagnostic indicator

 ..... Service Vehicle Soon (SVS) indicator lamp

..... ABS warning lamp




**Speedometer**

The speedometer indicates the vehicle speed in kilometers per hour (km/h).

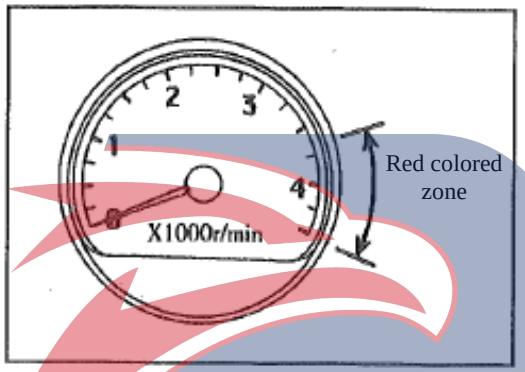
**Odometer**

The odometer registers the accumulated distance in kilometers (or miles).

**Trip counter and reset knob**

A reset knob for trip distance is located in speedometer lower center section.

The white figures on the extreme right indicate 0.1 kilometer (or 0.1 mile). To reset trip counter, push the knob in.

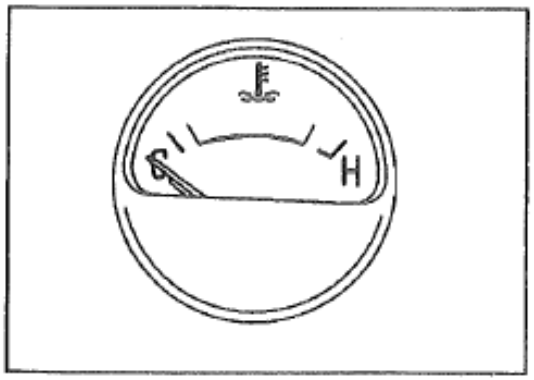



**Engine tachometer**

The tachometer indicates the engine speed in revolutions per minute (rpm) and red colored zone represents critical engine speed.

**CAUTION**

**Never operate the vehicle with the tachometer needle in the red zone. Continued operation with the tachometer needle in the red zone can lead to serious engine damage.**




**Water thermometer**

When the start switch is turned to the "0N" position, the water temperature will indicate the temperature of the engine cooling water.

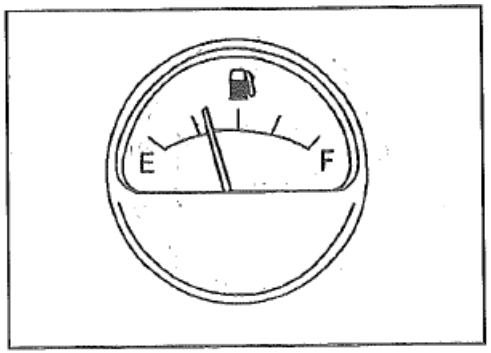
The letters" C "and" H "on the dial indicate" low temperature "and" high temperature "respectively. The cooling water temperature is normal if the water pointer is within yellow line.

**NOTE**

**• If the needle of the meter is in the red line area, it indicates that the engine is in an overheated state.**

**The title of "Engine Overheating" in Chapter 4 of this manual gives the operating procedures for the driver to safely park and follow.**

**• Continuously operating of the engine under overheated condition may cause serious damage to the engine.**

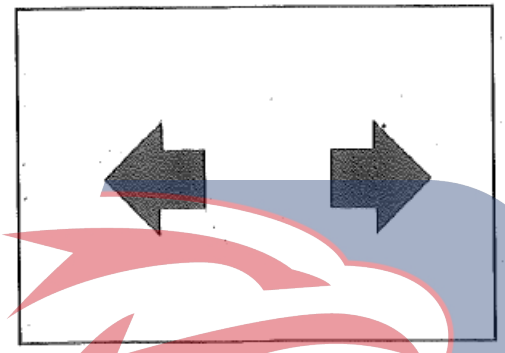



**Fuel gauge**

The fuel gauge indicates the oil level in the fuel tank. When the start switch is turned to the "LOCK" position, the pointer does not return to the mark "E" (empty) but remains indicating approximately the fuel level in the fuel tank. The letters "F" and "E" represent "Full" and "Empty" respectively.

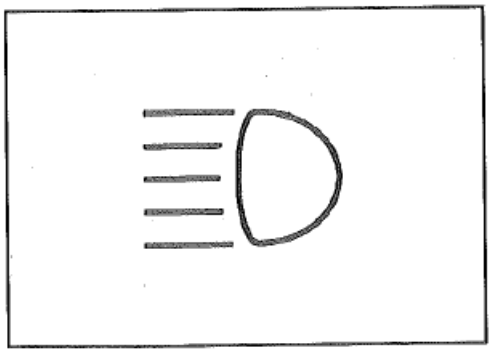
**CAUTION**

**It is required to develop the habit of filling the fuel in time, take care not to run the vehicle without fuel.**



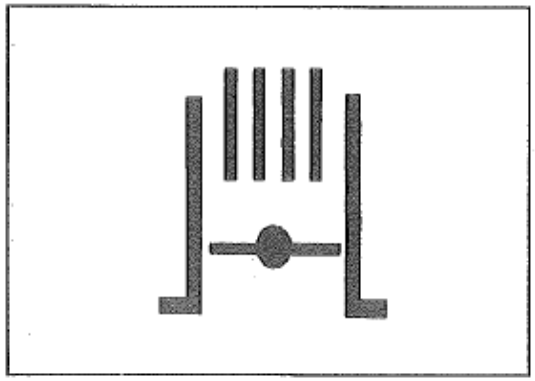
**Turn signal indicator lamp**

When the turn signal switch or hazard warning flasher switch is turned on, the lamp flashes to indicate operation of the external turn signal or hazard warning flasher.



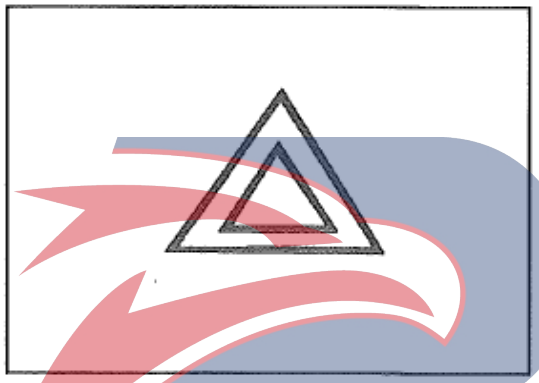
**High beam indicator lamp**

The indicator lamp comes on when the headlamp high beams are in use.



**Exhaust brake indicator lamp**

The indicator lamp comes on when the exhaust brake system is in operation.



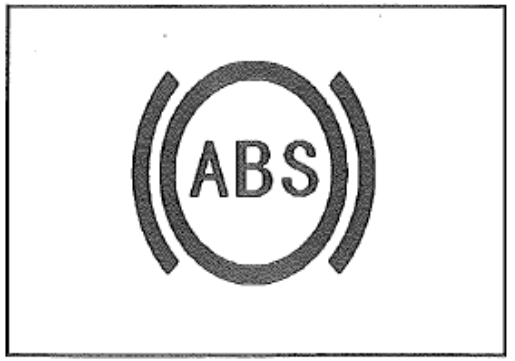
**Hazard warning indicator lamp**

The indicator flashes when the hazard warning flasher switch is turned on, indicating that the hazard warning flasher is working.

**Warning**

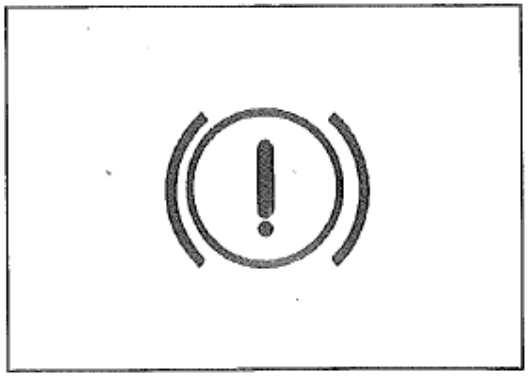
**• Regardless day or night, when your vehicle becomes a traffic hazard, use a warning flasher to warn other drivers.**

**• Try to avoid parking the vehicle on the road.**




**OPT ABS warning lamp**

The warning lamp comes on when the starter switch is moved to the "ON" position. It turns off after approximately 2-4 seconds. If the lamp comes on or does not come on during vehicle operation, trouble with the ABS system is indicated. Contact the nearest **Isuzu dealer** as soon as possible to have the problem corrected.



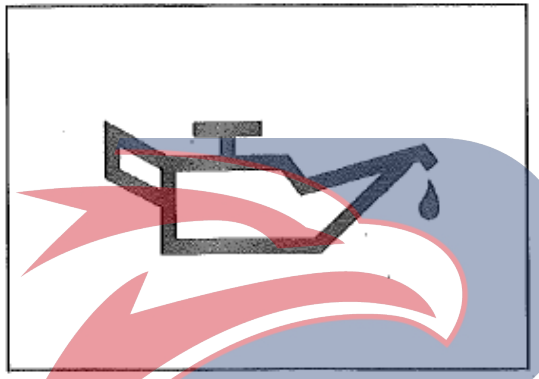
**Parking brake indicator and brake fluid level indicator**

The parking brake indicator is illuminated when the start switch is in the ON position and the parking brake lever is pulled up.

The brake fluid level indicator illuminates when the fluid level in the brake fluid tank drops below the specified position.

The indicator is illuminated when the start switch is turned to the "ON" position; it is normally off when the engine is started.

If the indicator is on when the vehicle is running, stop the vehicle immediately and check the fluid level in the brake fluid tank. If the fluid level is too low, repair it.

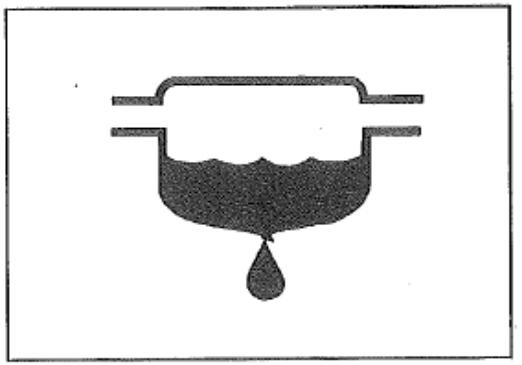


**Oil pressure indicator lamp**

The warning lamp comes on when the starter switch is "ON" but before the engine is started.

**CAUTION**

**If the oil pressure indicator lamp is illuminated when the vehicle is running, showing that the oil pressure is low and the engine must be shut down immediately and the engine oil level must be checked. If the oil level is normal, please check the vehicle's lubrication system at the nearby QingLing Special Distribution Shop (maintenance station). Do not continue to run the engine while the indicator is on.**



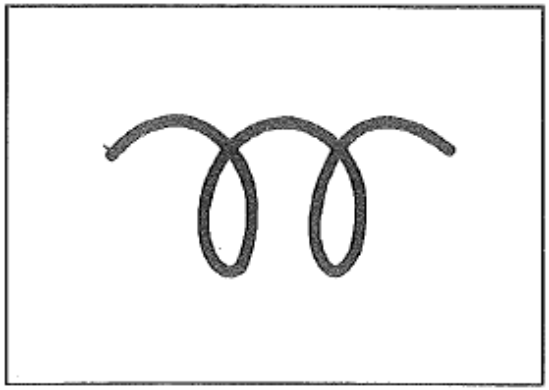
**Water-in-fuel filter indicator lamp**

This indicator illuminates when the water level in the water separator is higher than the specified height.

This indicator illuminates when the start switch is turned to the "ON" position; the indicator is normally off after the engine is started.

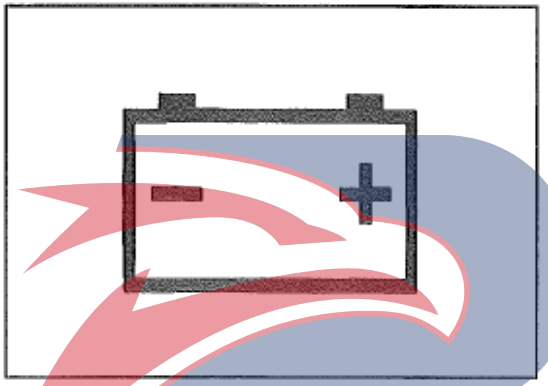
**CAUTION**

**If the water-in-fuel filter indicator lamp turns on while the engine is running, remove water from the fuel filter as quickly as possible.** (Refer to the chapter "Driving").



**Indicator for preheating**

When the start switch is turned to the "ON" position, the warm-up indicator lamps up; when the glow plugs are fully heated, the indicator turns off.



**Generator indicator lamp**

The indicator lamp comes on when the starter switch is turned to the "ON" position and goes off when the engine is started and the generator circuit is brought into normal function.

**WARNING**

**If the indicator lamp comes on while the engine is driving, it indicates that the generator circuit is malfunctioning.**

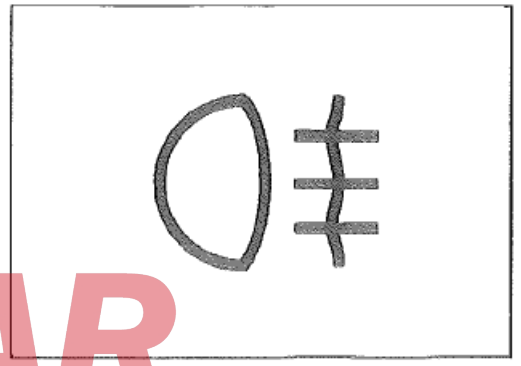
**Air pressure warning buzzer**

When the warning lamp comes on, the air pressure in the air tank is insufficient and the brakes will not operate to their full capacity.

Park the vehicle in a safe place and run the engine at a medium speed to increase the air pressure.

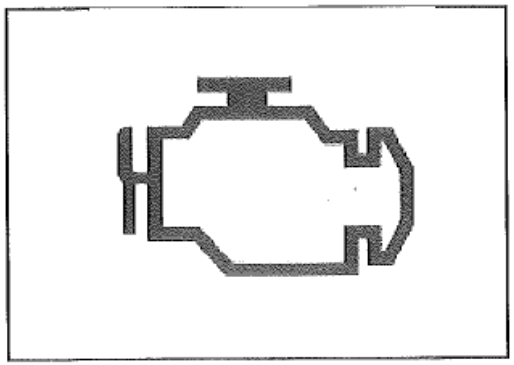
**NOTE**

**When the buzzer sounds, the brakes cannot operate adequately, and the vehicle should not be driven.**



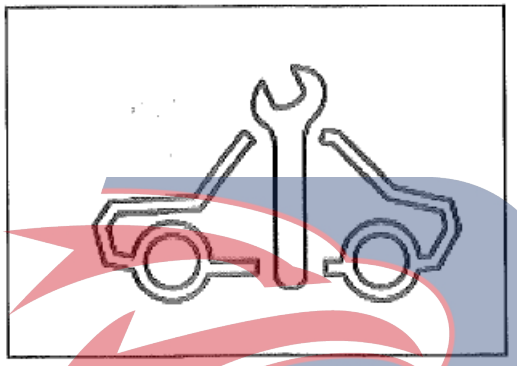
**Indicator lamp for rear fog lamp**

The rear fog lamp is illuminated when the rear fog lamp is in use.



**Engine OBD self-diagnostic indicator lamp**

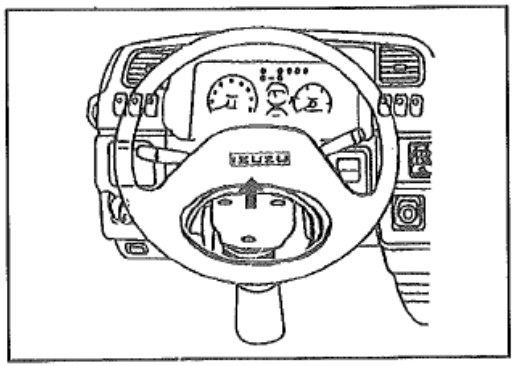
When the start switch is turned to the "ON" position, the engine 0BD self-diagnostic indicator is illuminated; after the engine is started, the indicator will turn off if the engine is OK. If the indicator flashes or is on for a long time, it indicates that the engine electronic control system is abnormal.



**Service vehicle soon (SVS) indicator lamp**

If the start switch is turned to the "ON" position and the engine is not activated, the SVS indicator will illuminate and let you know that the bulb is working.

The indicator is off after the engine is moved. If the indicator is on during driving, please contact the nearest Qingling Maintenance Station for inspection.



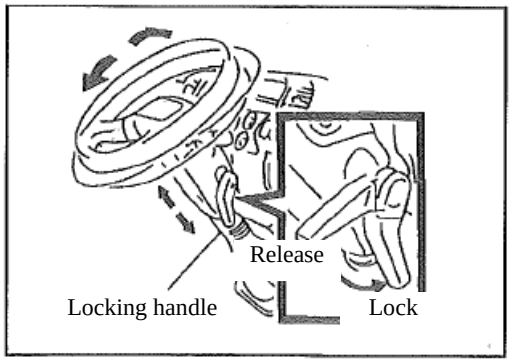
**Steering column control**

**Steering wheel and horn button**

Press the horn button on the steering wheel and the horn will sound.

**NOTE**

**The steering wheel shall not be turned while the vehicle is stopped. Do not move the vehicle after the steering wheel is locked, otherwise the steering mechanism will be damaged.**




**OPT Fully adjustable steering wheel**

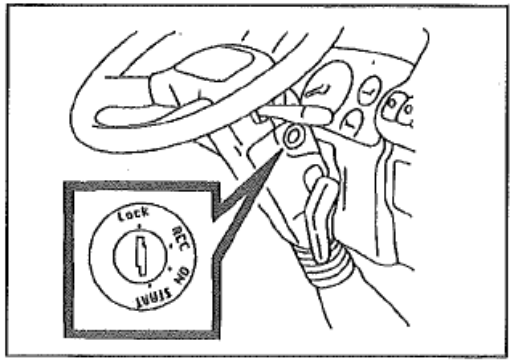
The steering column can be adjusted to different angles and the steering wheel can be adjusted up or down. Before adjusting, position the seat as desired.

**CAUTION**

**Fully tighten the lock lever after making adjustment. Always make an adjustment with the vehicle stationary and NEVER attempt to adjust while driving.**

**Adjustment procedure:**

1. Release the steering column by rotating the lock lever (L) to the upright position.
2. Sit upright in your seat and move the steering wheel up or down and the steering column back or forward as desired.
3. At the desired position, lock the column by rotating the lock lever down.




**Starter switch**

The switch has four positions as shown in the figured.

"LOCK": The key can be inserted or removed only when it is in this position. The steering wheel is locked when the key is removed and the steering wheel is turned till lock position.

**Warning**

**Never screw the key to the "LOCK" position during driving, otherwise the steering wheel will be locked to cause a maximum risk.**

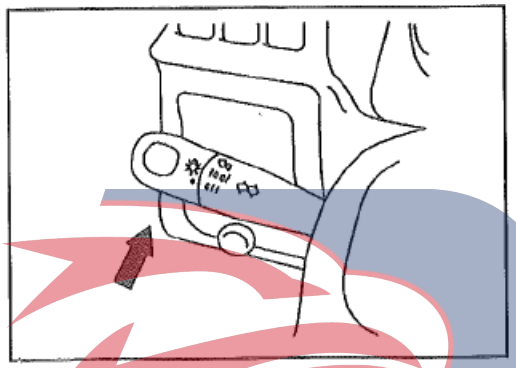
"ACC" (accessories): When the key is placed in this position, even if the engine is not running, the accessory circuit can be powered up for use.

"ON": This position is used for warm-up and normal operation.

"START": Turning the key to this position will start the engine. The key automatically returns to the "ON" position when released.

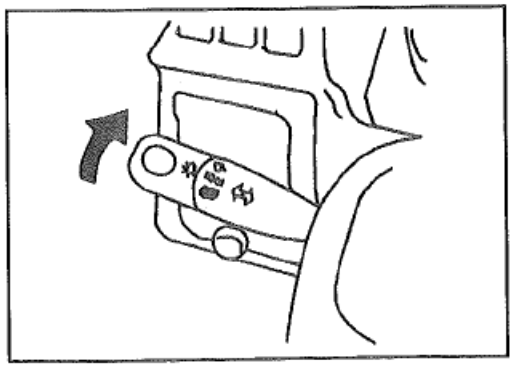
**NOTE**

**Do not operate the starter for more than 10 seconds.**



**Combination switch handle**

The combined switch handle consists of the lamp control switch, the turn signal lamp switch, the headlight dimmer switch, and the overtaking lamp switch.



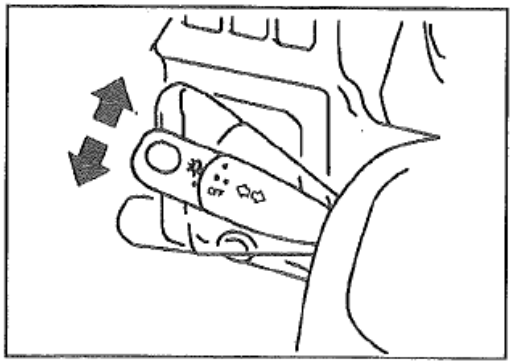
**Lamp control switch**

Turn the lamp control switch (top of the handle) in the three-gear to control the following lamps:

1st gear: side marker lamp, tail lamp, license lamp and instrument panel lamp

2nd gear: the above-mentioned lamps and headlight

3rd gear: the above lamps and the fog lamps

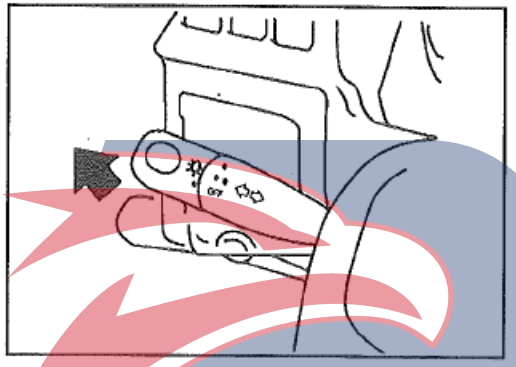


**Turn signal switch**

Move this combination switch lever in the direction of the turn being made so that the external turn signal lamps operate causing the turn signal indicator lamp on the instrument panel to flash. The switch lever returns automatically to the neutral position when the steering wheel is returned to the straight-ahead position.

**VSide signal lamp**

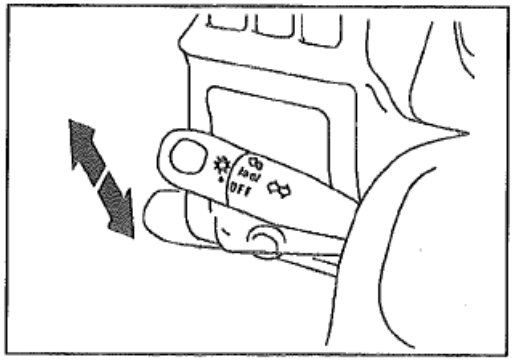
The side signal lamps will also illuminate automatically when the headlamps and the turn signal lamps are illuminated simultaneously.



**Headlight beam switch**

When the switch handle is pulled up, the headlight beam is converted from the upper beam to the lower beam or from the lower beam to the upper beam alternately.

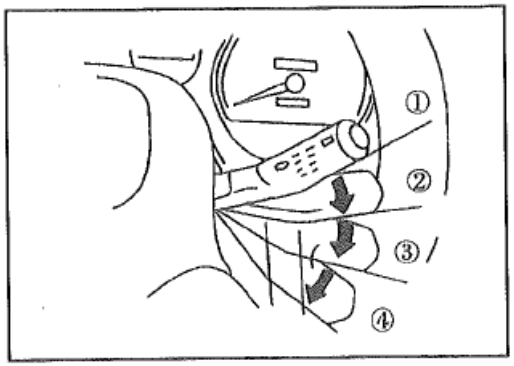
The headlight high beam indicator on the instrument panel is also illuminated when the headlight is turned to a distant lamp.



**Overtaking lamp switch**

When the lamp control switch (top of the handle) is placed in the "OFF" position or in 1st gear, whenever the switch handle is raised and returned to the original position, the headlight and high beam can illuminate intermittently.

In order to give an overtaking signal, the switch handle shall be operated repeatedly and the headlight high beam shall be flashing during the day, and the distant lamp and the passing beam shall be switched alternately at night.




**Windshield wiper switch**

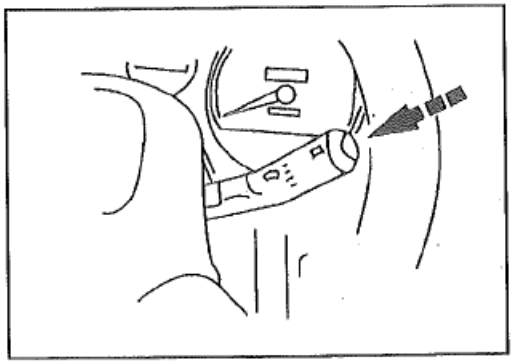
The windshield wiper switch has 4 positions to control the windshield wipers.

①Off OPT②Intermittent

③Low speed ④High speed

**NOTE**

**Do not operate the wipers when the windshield is dry. It may scratch the windshield glass. Remove ice and snow on the wiper blade before using the wiper, and carefully loosen it and remove it if ice and snow are frozen.**

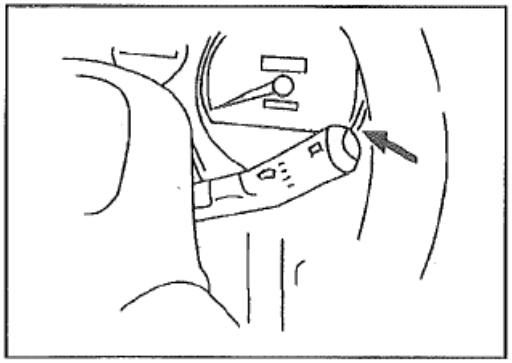


**Windshield washer switch**

Push and hold the switch button so that the washing solution is squirted onto the windshield.

**WARNING**

**In the cold season, use the defroster to heat the windscreen before using the scrubber. This will be conducive to preventing freezing of the driver's vision.**



**Auxiliary brake switch for exhausting**

During driving, when the exhaust auxiliary brake switch is pulled up, the exhaust auxiliary brake indicator on the instrument panel will illuminate; meanwhile, the exhaust restriction causes a strong engine brake to start. However, when the accelerator pedal or clutch pedal is depressed, or when the shift lever is placed in the NEUTRAL position, the exhaust throttle auxiliary brake does not function while the brake indicator remains illuminated.

**TIPS:**

**When the exhaust aid is automatically in use, the oil is not supplied to the engine. Once the exhaust auxiliary automatic switch is closed, the oil will be supplied to the engine.**

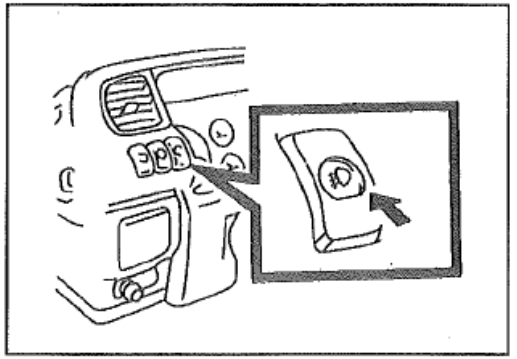
**CAUTION**

**Use this switch to operate the auxiliary brake of the exhaust throttle if you are driving at downhill or frequently park and start the vehicle in urban area.**

**If the accelerator pedal or clutch pedal is depressed, the auxiliary brake of the exhaust throttle will stop working, but its indicator remains on.**

**In order to allow the engine to idle at idle speed for the purpose of warming up the engine, the auxiliary brake of the exhaust throttle switch should be placed in the "OFF" position.**

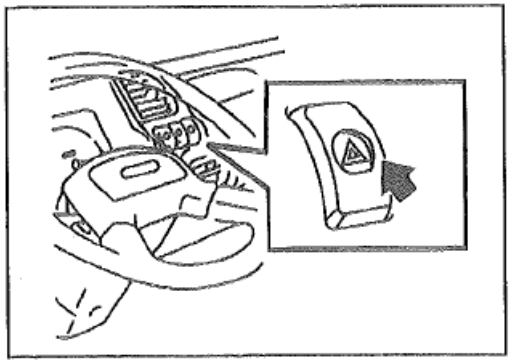
**If the buzzer sounds when the exhaust auxiliary brake is activated, the vehicle shall be parked in a safe place immediately.**



**INSTRUMENT CLUSTER**

**Front anti-fog lamp switch**

When the fog affects your front view, press this switch to turn on the anti-fog lamp. Only when the headlight is in the lower beam state, the anti-fog lamp acts. The indicator lamp of the switch is on when the current anti-fog lamp is on; this switch is turned off when the fog lamp is pressed again.



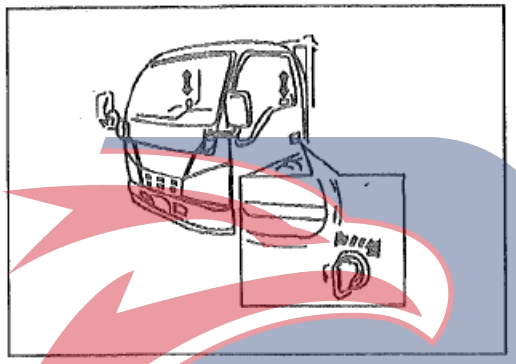
**Hazard warning lamp switch**

When the switch lever is raised, all the turn signal lamps are made to flash regardless of the turn signal switch position. To turn off the flasher, raise the switch lever again.

**CAUTION**

**Regardless of day or night, when your vehicle becomes a traffic hazard, use a warning flasher to warn other drivers.**

**• Try to avoid parking the vehicle on the road.**



OPT Automatic door lock knob

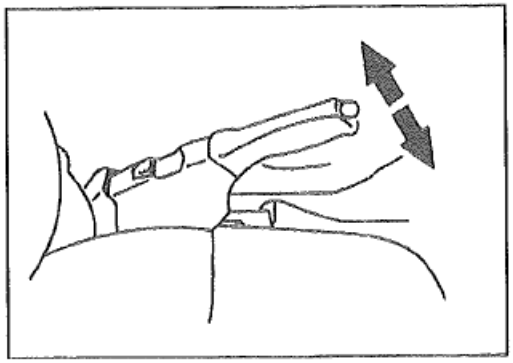
On the driver's side, by using the start switch key or the locking button, all the vehicles are locked or started.

On the passenger's door, all doors are locked or opened by using the start switch key.

**WARNING**

**The locking button on the passenger side door cannot lock or open the remaining doors.**

**Before driving, make sure that the door is tightly closed and locked, especially when children are in the vehicle, be more careful.**



**Parking brake lever**

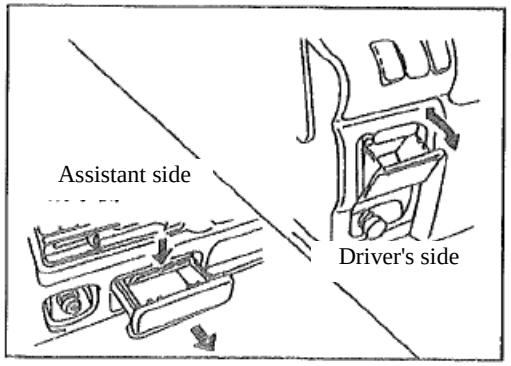
To set the parking brake, pull up the lever. To release, pull up the lever slamply and push it down fully with the button depressed at end of l ever. If the park brake is not fully released when the start switch is turned to the "ON" position, the brake system indicator will illuminate.

**WARNING**

**The indicator is independent of the performance of the parking brake**

**When parking brake is used, always pull the parking brake lever as far as possible.**

**If the parking brake does not work properly, the vehicle will slide down on a slope.**

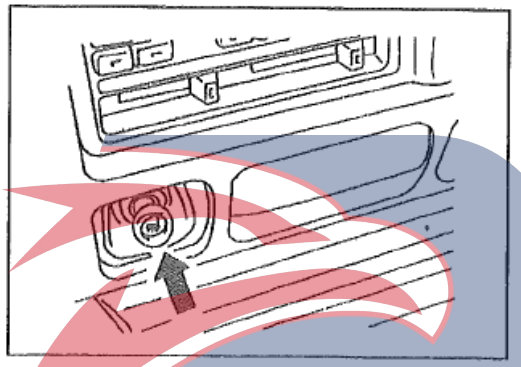



**Ashtray**

To use, pull the ashtray out of the outside. To clean, while pressing the spring plate for positioning, and pull out the ashtray outward to take it out.

**WARNING**

**After using the ashtray, close the lid completely. If not, the flame of the cigarette may cause other cigarette butts to burn, resulting in a fire.**



**Cigarette lighter**

To operate the lighter, push it in all the way and then release it with the starter switch in the “ACC” or "ON" position.

The lighter will spring back to its normal position within about 15 seconds after pushed in and when it is ready for use. Pull the lighter out and use it.

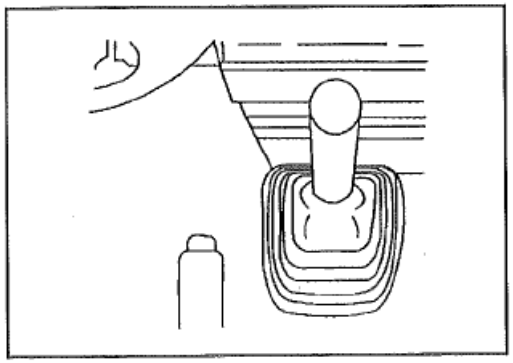
**WARNING**

**Do not hold the lighter in pushed position by hand. The lighter will overheat and a fire may result. Never leave the vehicle with the lighter is pushed in. Unexpected fire may occur if it is overheated.**

**NOTE**

**If the lighter does not spring back after 18 seconds, it is in fault and must be pulled out in this normal position by hand.**

**Deformed lighter will not spring back properly. Always replace it with a new QingLing genuine cigarette lighter.**



## FLOOR CONTROLS

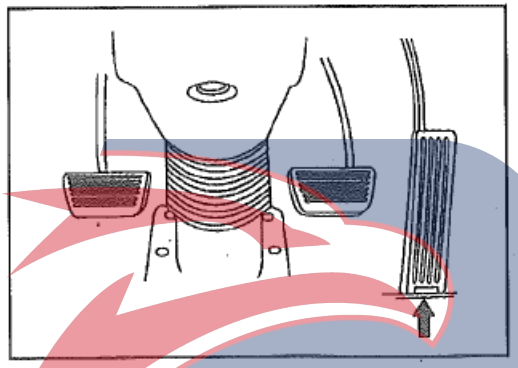
### Transmission gearshift lever

Whenever you shift the gears, press the clutch pedal in advance. The gear-shifting position diagram is located on the top surface of the lever knob. The backup indicator will illuminate when the start switch key is in the ON position and the shift lever is turned to REVERSE.

OPT If back up warning buzzer is equipped, the buzzer sounds when shifted to reverse.

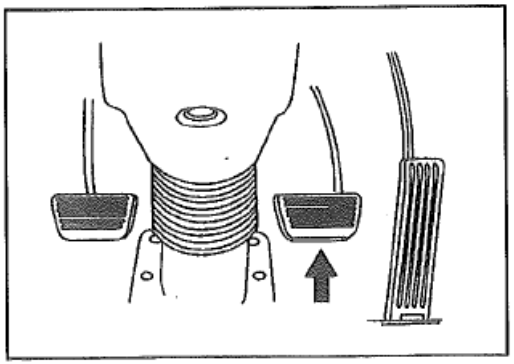
**NOTE**

**Before changing the reverse gear, the vehicle must be fully stopped.**



### Accelerator pedal

In order to avoid unnecessary fuel consumption, the accelerator pedal shall be operated properly and evenly as required.

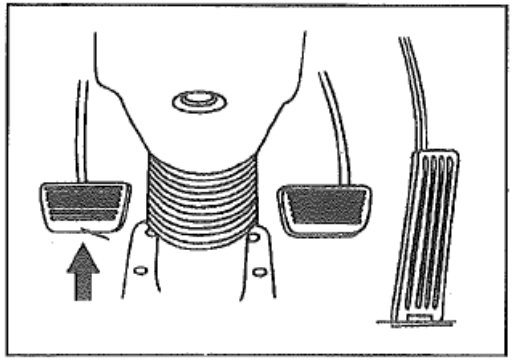


### Brake pedal

The brake system provides a positive brake action when the brake pedal is depressed gently. When descending a slope, it is always advisable to use the foot brake in combination with the engine braking effect.

**NOTE**

**If the engine stops running in the driving, the brake booster cannot fully play its role and thus reducing the braking effect. In this case, depress the brake pedal firmly in order to achieve the braking effect.**

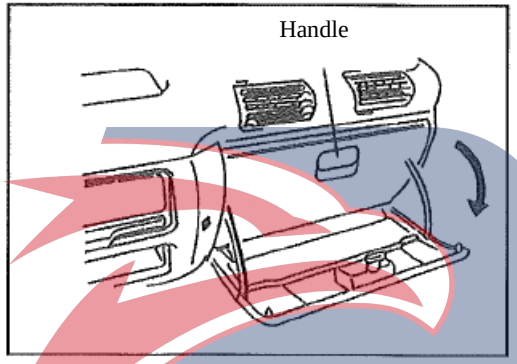


**Clutch pedal**

The pedal should be fully depressed when disengaging. If this is not done, grating of the gears may result.

**NOTE**

**Do not place your foot on the pedal when not using the clutch.**



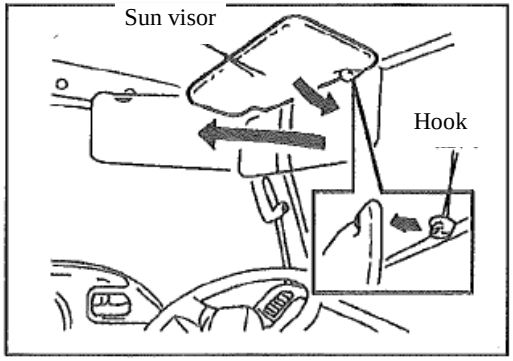

**OTHERS**

**Hand toolbox**

The hand tool box is mounted on the instrument panel end of the assistant side. Pull the handle on the upper part of the tool box cover outward to open the hand tool box

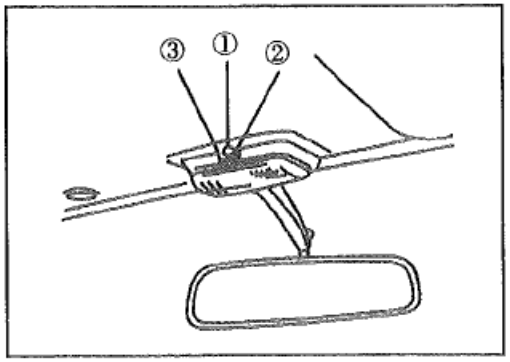
**WARNING**

**It is required to open the tool box while the vehicle is running, otherwise when emergency braking or accident occurs, the articles inside the toolbox may jump out and injure people.**




**Sun visor**

The sun visors may be swung down to prevent glare from the front or disconnected from the retainer and pivoted to the side window.




**Dome lamp**

The dome lamp is operative at any starter switch position.

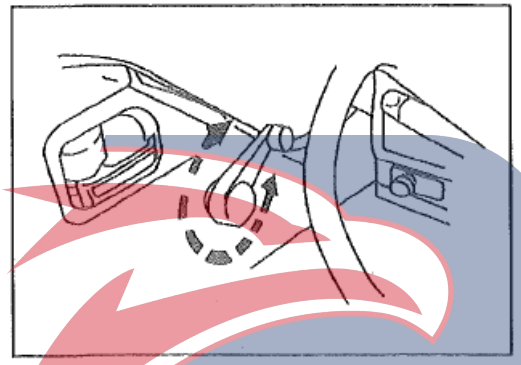
①"OFF": The lamp remains off.

②"DOOR": The lamp comes on when driver's door is opened.

③"ON": The lamp remains on regardless of the door position.

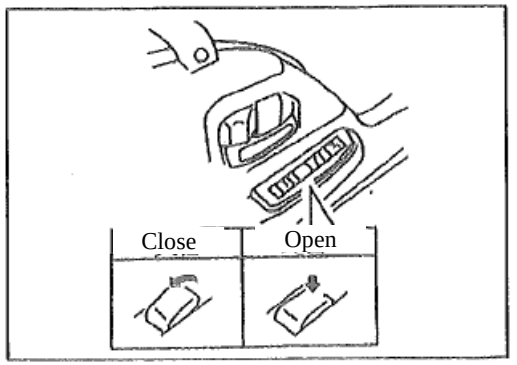
**NOTE**

**When the dome lamp switch is placed in the "door" position, make sure that the door is fully closed to prevent the dome lamp from being illuminated at all times.**



**Window regulator handle**

To raise or lower the side window, turn the window regulator handle.




**OPT Driver side power window switch**

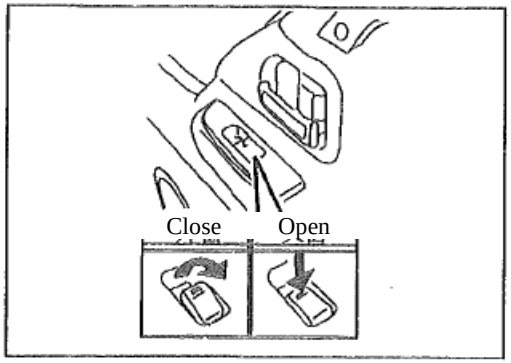
When the starter switch is in the "ON" position, you can press the power window switch on the driver's side to lift the window glass of all doors.

Holding the front edge of the AUTO switch half way down causes the driver side window to go down. The window stops as soon as the switch is released.

Pressing the front edge of the switch all the way down and then releasing it causes the window to go down all the way.

To stop the window at a desired position, slamply pull on the front edge of the AUTO switch and release it immediately.

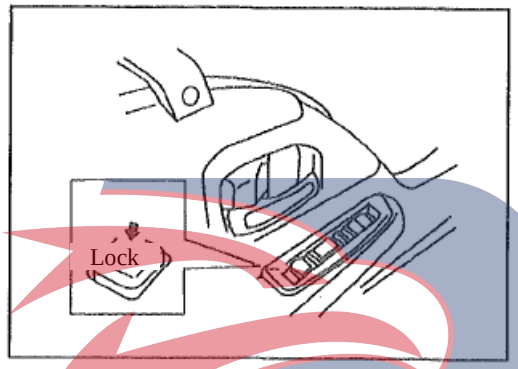
Holding the front edge of the AUTO switch half way up causes the driver side window to go up. The window stops as soon as the switch is released.




**OPT Passenger side power window switch**

Holding down the front edge of the switch causes the passenger side window to go down.

The window stops as soon as the switch is released. Holding up the front edge of the switch causes the passenger side window to go up. The window stops as soon as the switch is released.



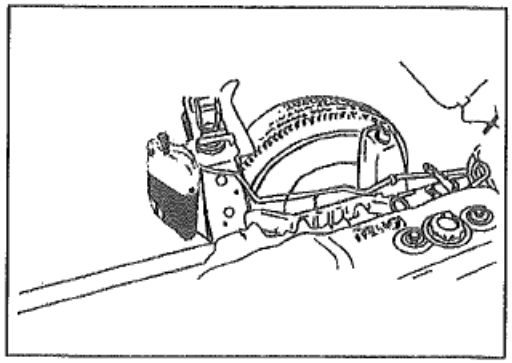

**OPT Power window lock switch**

When the power window lockout switch is in the "ON" position, you cannot operate the power window regulator through the power window switch on the driver's side and on the side door of the assistant. Press the power window lock switch again in order to deactivate the locking action of the power windows.

**Warning**

**• To ensure the safety of children and others, it is required to verify whether the passenger's hands extend out of the window or not before closing the window.**

**• When leaving the vehicle, it is required to take the start switch key for fear that child unconsciously operates the window glass.**

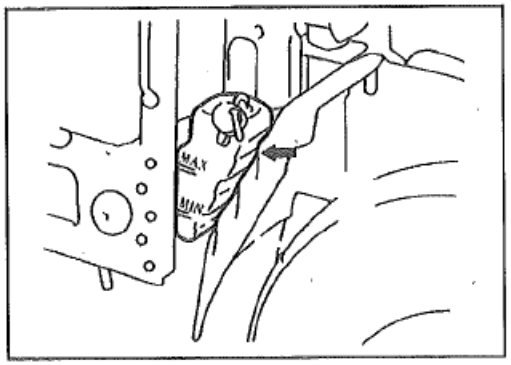


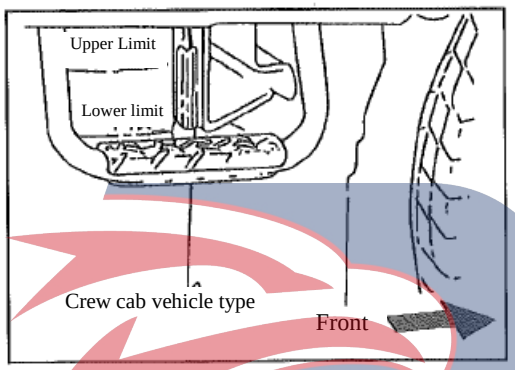
**Radiator sub tank**

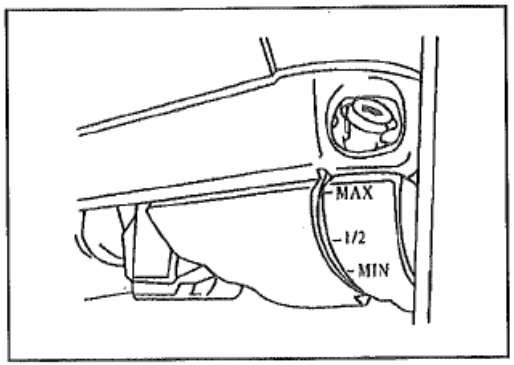
The radiator backup tank is mounted on the left or right side of the cab or mounted on the right side of the cab (double row seat cab vehicle type).

**Warning**

**Check the coolant liquid level and add coolant liquid at the spare water tank, and if there is no special requirement, it is not necessary to remove the radiator filler cap. For details, see the Maintenance and Maintenance section.**




**Windshield washer tank**

The washer tank is located in the front lid.

The washer tank should be filled only with plain water or Isuzu genuine washer solution.

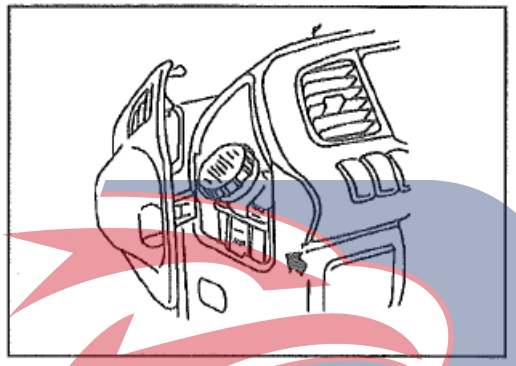
**CAUTION**

**• Do not use the radiator antifreeze in the washer liquid reservoir, in this way the paint surface will be damaged.**

**• Clean the ice and snow on the wiper blade before using the wipers.**

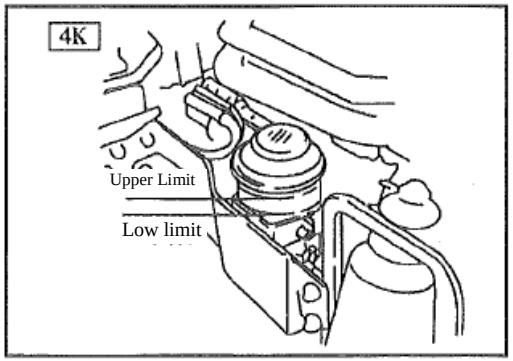
**WARNING**

**In the cold season, use the defroster to heat the windscreen before using the scrubber. This will be conducive to preventing freezing of the driver's vision.**



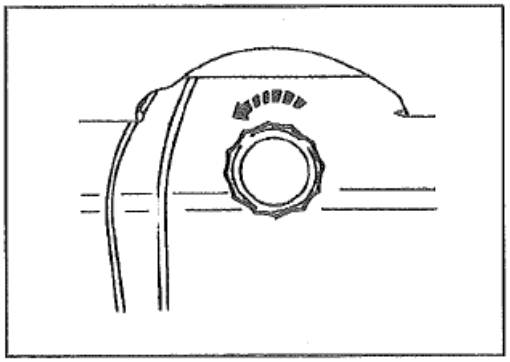
**Liquid storage tank for brake and clutch**

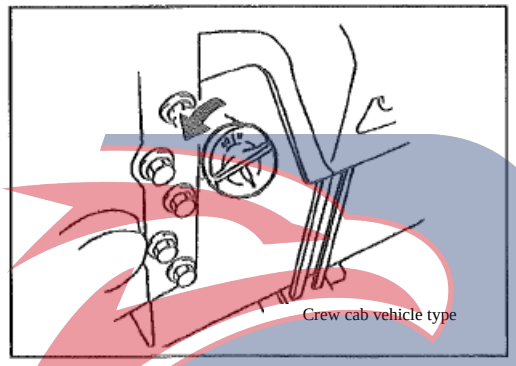
This reservoir is mounted next to the dashboard on the driver's side.



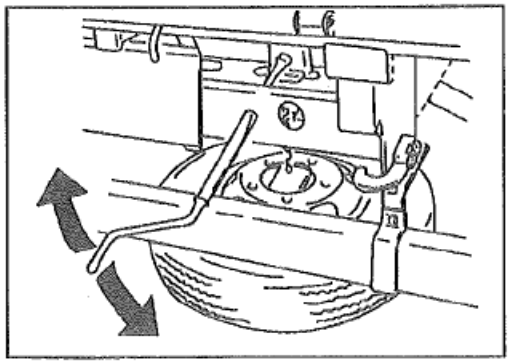

**OPT Power steering fluid tank**

Right hand side of the engine.





Crew cab vehicle type



**Fuel tank filler cap**

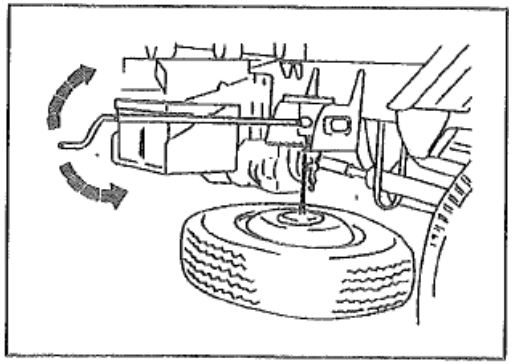
The fuel tank filler cap is located on the fuel tank.Remove the fuel tank filler cap by turning it counterclockwise.

**WARNING**

**If you need to replace the fuel filler cap, use only a genuine QingLing fuel filler cap. The use of an improper fuel filler cap could cause fuel spillage in the event of an accident. The use of an improper fuel filler cap could also affect the fuel system and the emission control system.**

**Spare tire hanger**

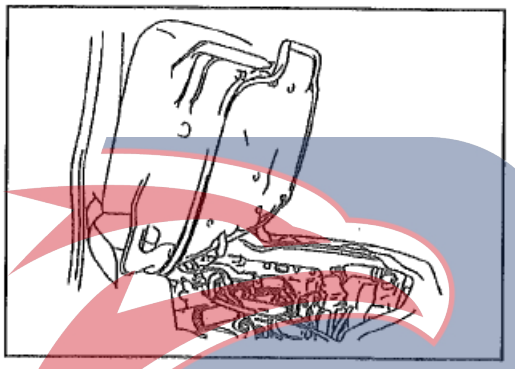
The spare tire is fixed by chains to the rear of the frame or below the left side of the frame. To lower the spare tire, insert the handle into the hole in the back of the vehicle so that it is connected to the latch and turn the handle counterclockwise.



To raise, turn the handle clockwise to stop and give an additional turn to securely hold the spare tire in position of stowage.

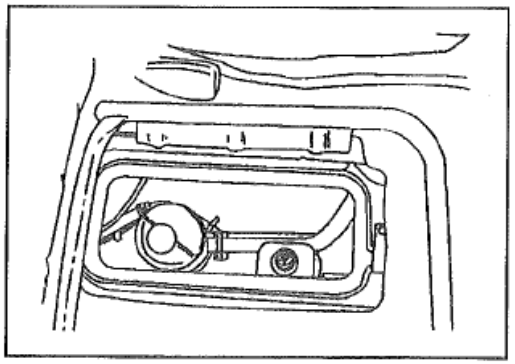
**WARNING**

**In order to prevent the spare tire from falling off and causing damage due to sudden stopping the vehicle or the accident, make sure that the spare wheel is firmly fixed to the stowed position.**



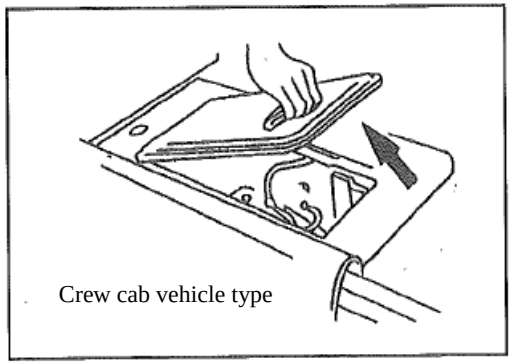
**Cover of the engine inspection hole**

If you need to observe the engine in detail, you can loosen the buckle and turn the entire seat cushion rearward and lift the engine to check the cover for the window aperture to check and adjust the engine



**Auxiliary cover of the engine inspection hole**

If further proximity to the engine compartment is required, it is possible to lift the seat cushion of the driver's seat and remove the engine check hole accessory cover.



Crew cab vehicle type

**Inspection cover for battery and radiator backup water tank (crew cab vehicle type)**

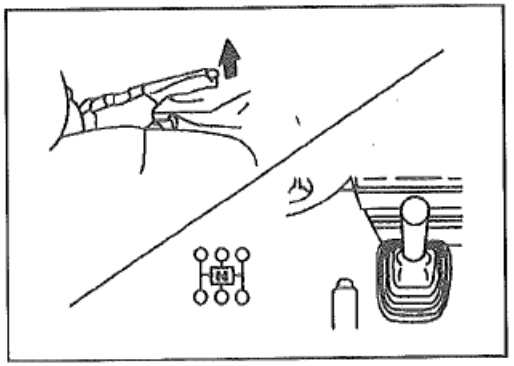
If it is necessary to close the storage tank near the battery and the radiator, raise the seat cushion for the rear seat and remove the inspection hole cover.

**OPT Tilting cab**

If the engine is required to be serviced, the cab may be tipped and turned in order to directly close to the engine compartment.

**WARNING**

**To prevent personal injury, do not contact the engine fan when the engine is running.**



1. Preparation work for tilting of cab

**WARNING**

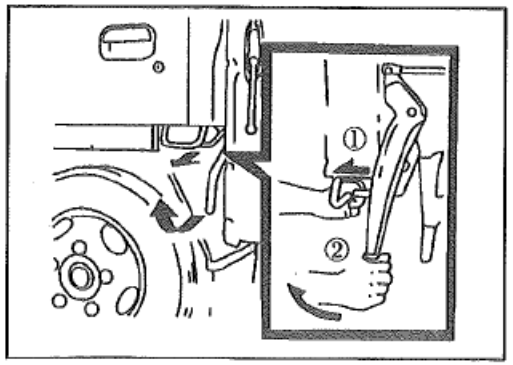
- **Place the vehicle on a flat ground and check for sufficient space on the front and top of the cab.**

**· Tension the parking brake lever;**

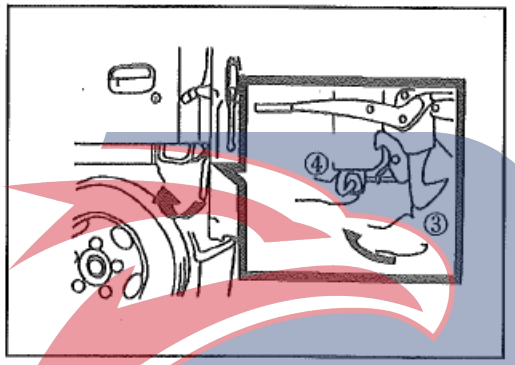
**· Place the shift lever in the NEUTRAL position.**

**· Remove any items that may drop out of the cab.**

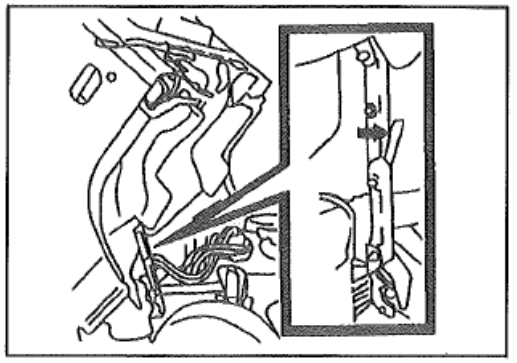
**· Close all doors securely.**



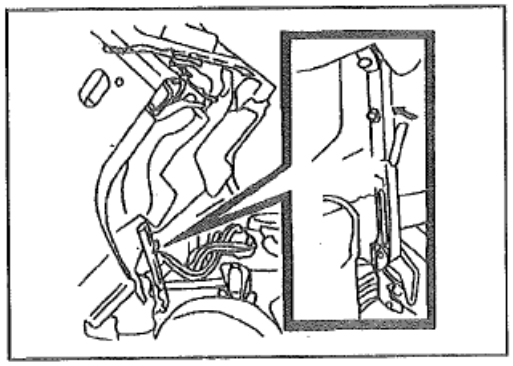

2. Pull the locking handle ① on the side, and pull the cab tilting handle ② in order to release the cab tilting handle lock.



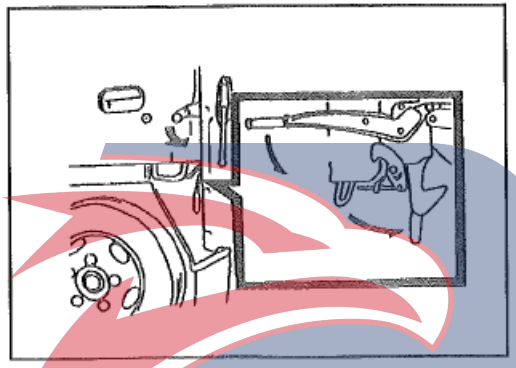

3. On one hand, hold the auxiliary handrail ④ , on the other hand, pull the safety handle ③ for fear that the cab pops up suddenly.



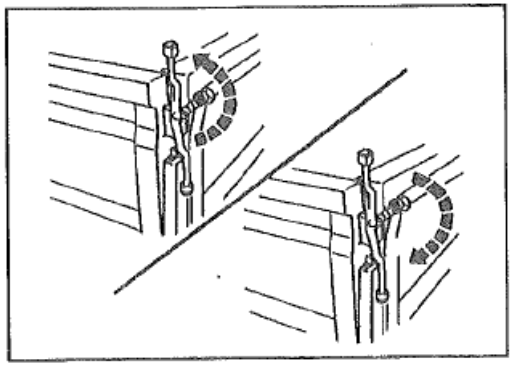
4. Raise the cab until the brake is stopped, check whether the cab brace is locked.



5. When the cab is lowered, pull the locking handle by hand to release the locking state of the cab brace, pull the brace backward and hold the auxiliary armrest to lower the cab.



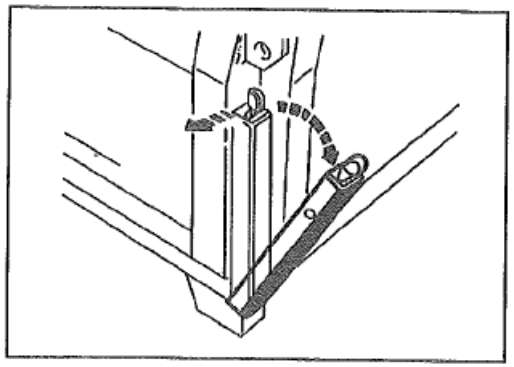
6. In order to lock the cab lock, fully push the lower mounting handle, and visually observe that the cab is really locked by the main hook and the cab tilting handle.



**Compartment (vehicle body)**

**Opening and closing operation of rear apron:**

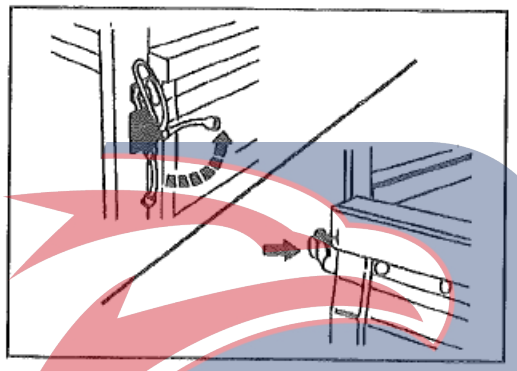
Turn the handle at the left and right up to 180 ° to release the striker and open the rear apron (board). To close, it is required to close the rear apron and then turn the handle downward to lock.



**Opening and closing of left and right side doors:**

1. Release the lock catch of the rear lock.

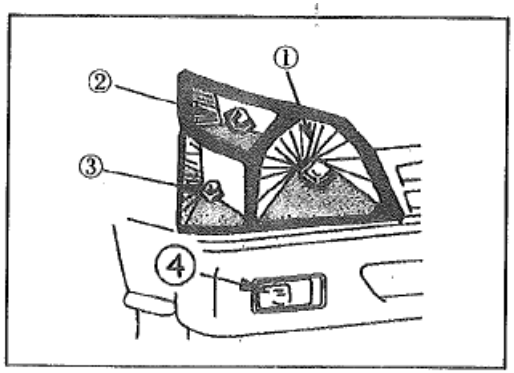
2. Push the locking handle to the left in order to push outwards the lock to release the lock.



3. Lift up the hook handle on the front end of the side door to release the front hook.

4. At this time, the front end of the side plate is temporarily fixed by the clamp. Pull out the clip in order to open the side bar.

5. When the side door is closed, use the hook handle to reliably lock the front end of the side board, push into the vertical lock of the rear board with the handle.




**Exterior Lamps**

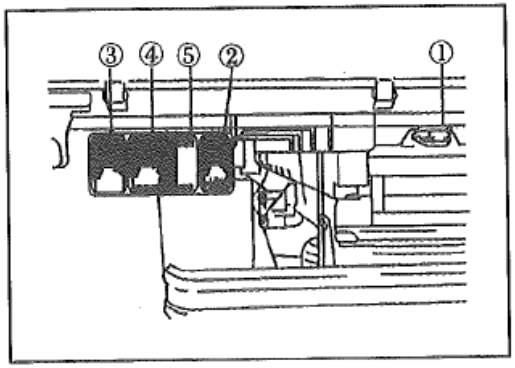
**Front side:**

① Headlight

② Turn signal lamp

③ Vehicle width lamp

④ Fog lamp




**Rear side:**

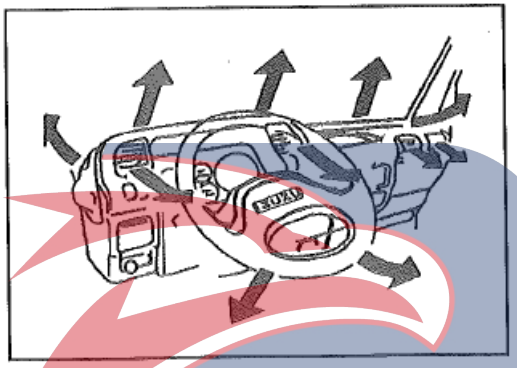
① License plate lamp

② Reversing lamp

③ Turn signal lamp

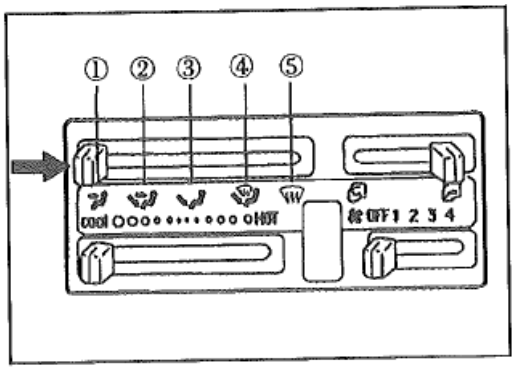
④ Tail lamp, brake lamp

⑤ Rear fog lamp



**Heater, defroster and air conditioner**

The air flows out from the outlets shown in the figure.




**Air outlet selection button**

The selection button is used to control mode of operation.

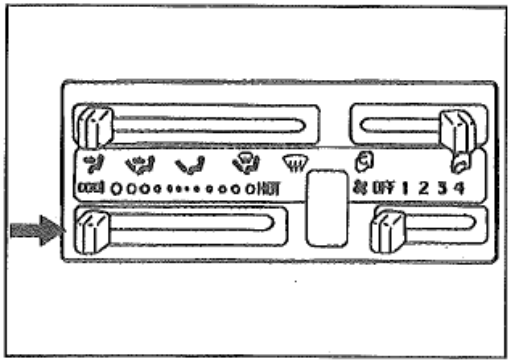
①FACE (Air to your face)

②BI-LEVEL (Air to your face and foot)

③FOOT (Air to your foot)

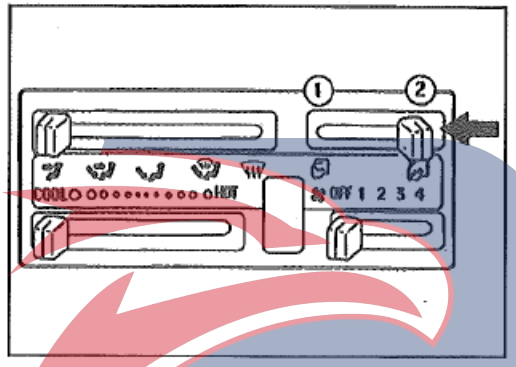
④FOOT/DEF. (Air to your foot and windshield)

⑤DEF. (Air to windshield)




**Temperature lever:**

The temperature lever is for temperature control (through controlling of hot water flow rate).

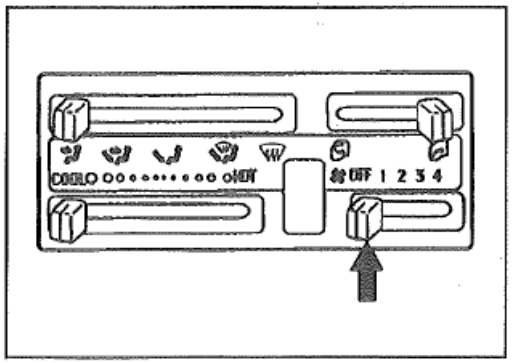



**Indoor and outdoor air change handle**

This handle is used to convert two ventilation modes that introduce external air or indoor air circulation.

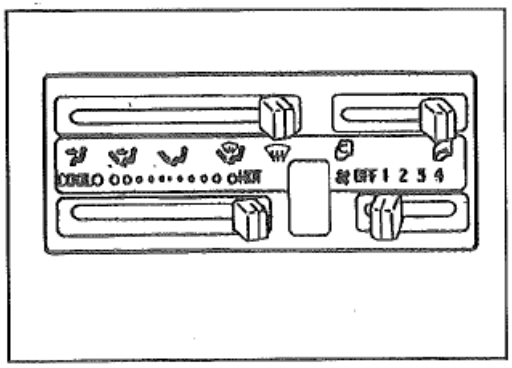
① Cycle the indoor air.

② Introduce external air into the vehicle.



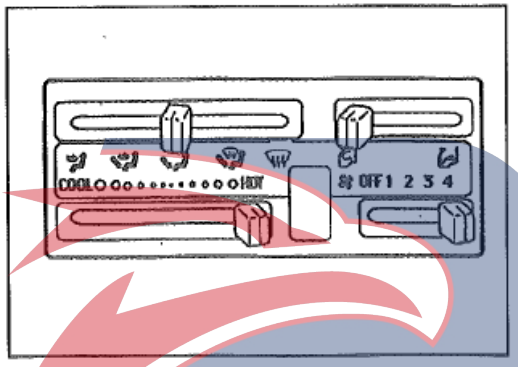

**Blower fan lever:**

Fan switch can be divided into 4-stage to regulate the air volume.



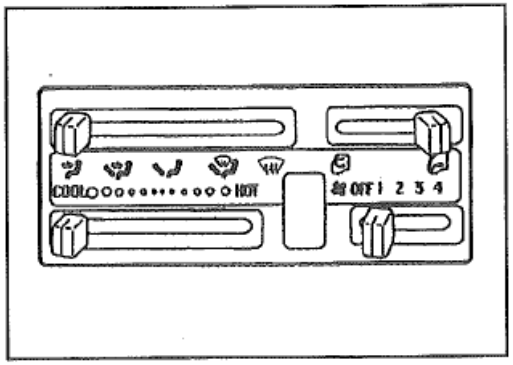

**Windshield demisting:**

The temperature of air delivered to defroster is controlled by means of the temperature lever and blower fan lever positions.



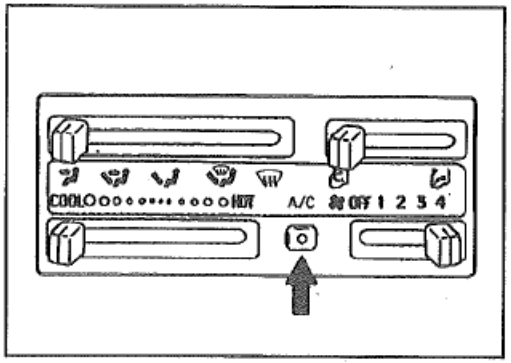

**Heating in winter:**

Turn the thermostat handle to the position shown in the illustration and turn on the fan switch. In case of rapid heating, the indoor and outdoor air change-over switch can be placed in the position shown in the figure, and then switch the ventilator switch to "4" position.



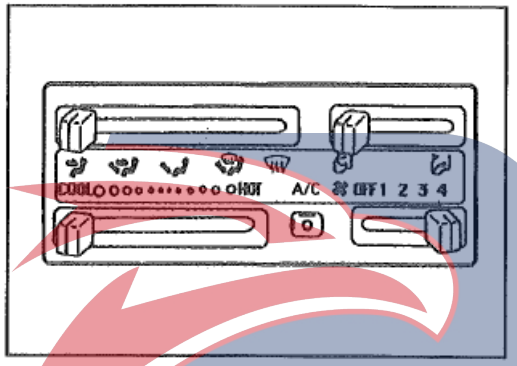

**Forced ventilation:**

When the levers are set as shown in the figure, outside air is drawn in and delivered through the outlet grille. The volume of air delivery is controlled with the blower fan switch.



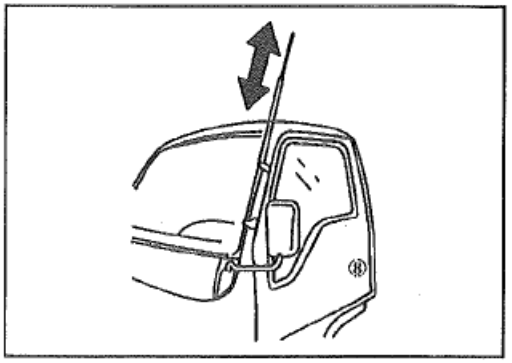

**Room temperature control**

The room temperature can be adjusted to the desired temperature. To turn on, push the "A/C" button in, and to turn off, push the button in once more.




**Cooling in summer (on model with air conditioner):**

Push the "A/C" button in and set the temperature lever as shown in the figure. To cool the room quickly, set the air source select button to "Circulation" position and set the blower fan lever to "4" position.

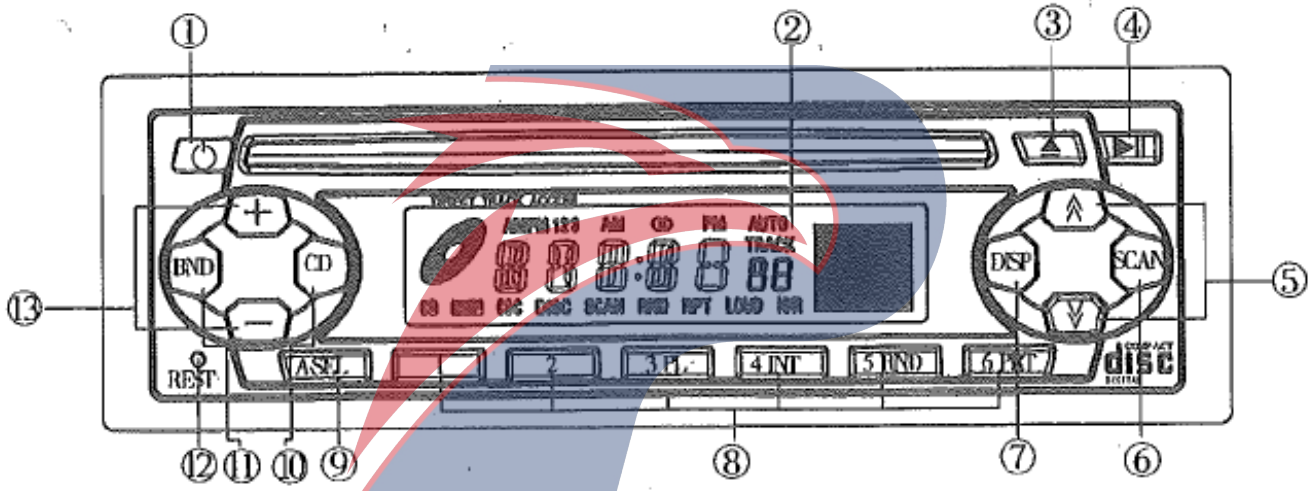


**Antenna:**

Pull out the antenna for better reception.

If the vehicle is parked in a garage with low roof or is washed, the antenna should be retracted.

## OPT CD player

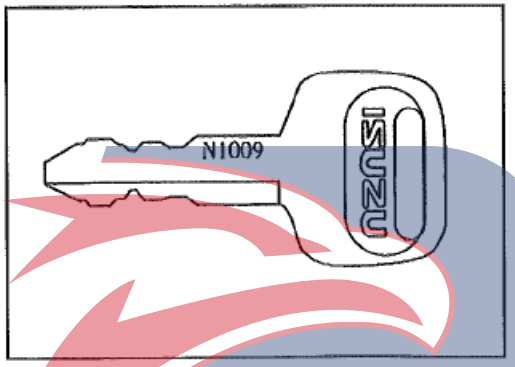



1. Power button: power switch
2. Display: operation display
3. Out-of-disc button: Exit the disc button
4. Play and press the button; play and hold the button
5. Fast forward, quick return button: automatic, manual tuning knob/ pick-up fast forward, quick return button, time adjustment
6. Automatic search/ scan button: automatic search for storage, pre-stored radio station broadcasting/ scanning button
7. Screen display mode button: display switch-over button
8. 1 # -6 # function button: pre-stored # 1 # -6 # function key
9. Audio center control selection button: sound center control selection button (volume control, high bass, left and right balance, front and rear control)
10. CD selection button: Convert from band mode to CD mode
11. Band selection button: band selection, switching knob
12. Reset button: restore initial setting
13. Volume control knob: volume control

# 3 BEFORE DRIVING YOUR VEHICLE

## BEFORE DRIVING YOUR VEHICLE

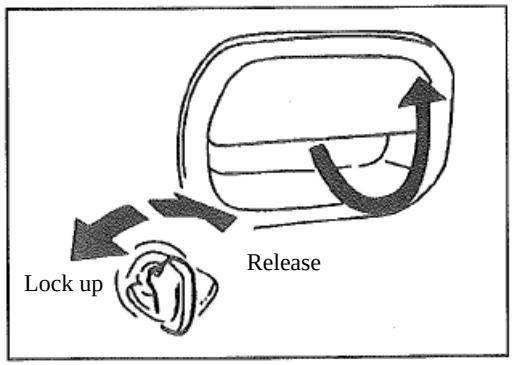
Proper care and driving pay not only to extend the service life of your vehicle, but also improve fuel and oil economy. Drive carefully and defensively.




### OPERATION OF CONTROLS

**Key**

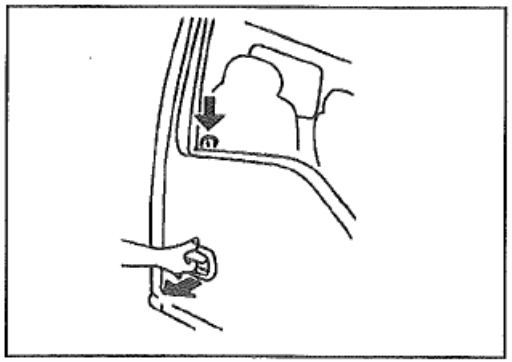
The code number of each key is stamped on it. Record the key number and keep it in a safe place such as your wallet, NOT IN THE VEHICLE.




**Outside door handle**

The doors can be opened by depressing the lock button of each outside door handle.

They can be locked by inserting the starter switch key in the door key lock and turning it.

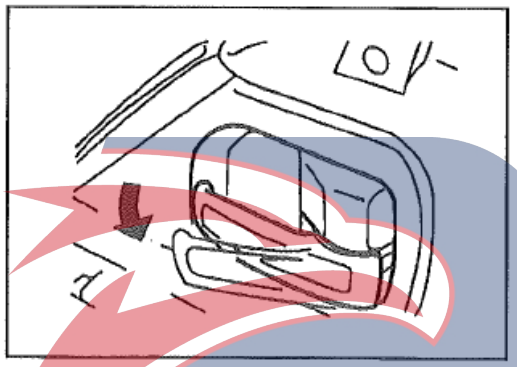


**Door lock (outside)**

The doors can be locked from outside without using the key by setting the door lock knob on the door inside and closing the door with the push button on the outside door handle depressed.

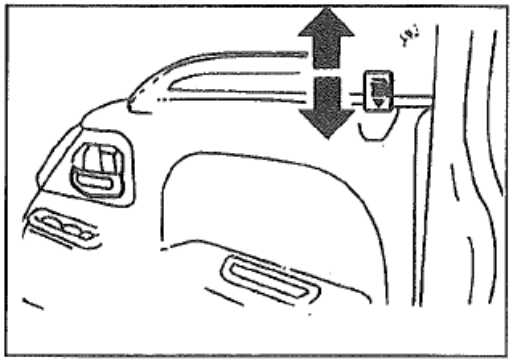
**NOTE**

**Be careful not to lock your keys in the vehicle.**



**Inside door handle**

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



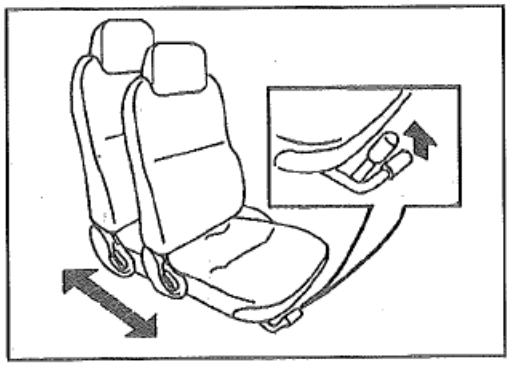
**Door lock (inside)**

The doors can be locked by setting the door lock knob after closing the door.

**WARNING**

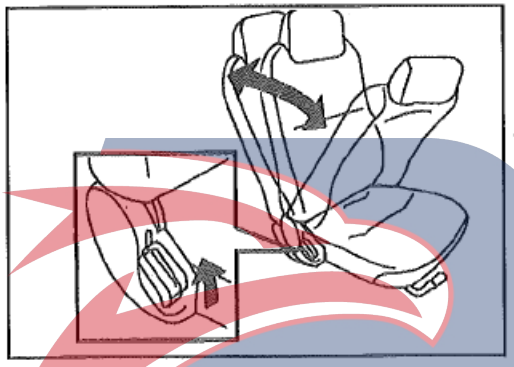
**• When driving, ensure that all doors are locked. After the doors are locked, the maximum protection for passengers and drivers will be provided. If a seat belt is fitted, use it correctly. After all doors are locked, no one will be thrown out of the vehicle in case of accident. When the vehicle is suspended, the locking door can also prevent the invasion of the mob.**

**• When leaving the vehicle, it is required to turn off the engine and lock all doors.**



**Driver's seat**

The seat can be adjusted fore and aft with the lever pulled upward. Reclining angle of the back cushion can be adjusted by pulling the lever.



When required, the front seat back recline can be tilted back through the adjustment lever on one side of the front seat door. Lift the adjustment lever and turn the front seat back against the back. When the adjustment lever is raised again, the front seat back can be pulled back to the upright position.

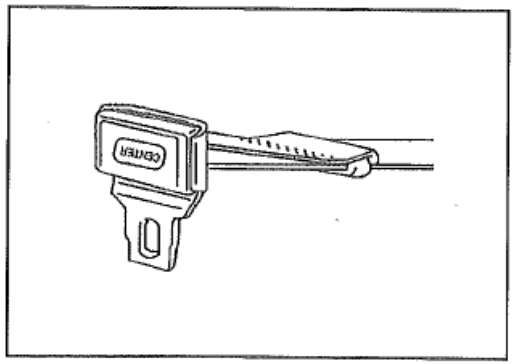
When the seat back moves forward or backward, care should be taken to avoid interference in the seat and seat belt and belt buckle. This will be conducive to preventing damage to the seat belt mechanism.

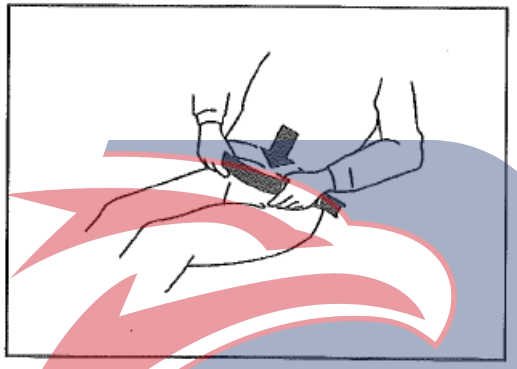
**WARNING**

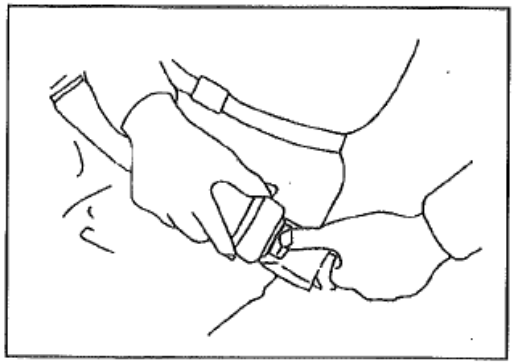
**• When you manually adjust the seat, use your body weight to pull the seat back and forth to ensure that the seat adjuster is buckled. If the seat shakes, it indicates that at least one regulator tooth is not engaged, which increases the likelihood of injury and the degree of accident injury. If your seat adjuster cannot be fastened, please send the vehicle to the QingLing Motors Dealer (Maintenance Station) for maintenance.**

**• Do not attempt to adjust the seat when the vehicle is running. This may cause a sudden movement of the seat so that you lose control of the vehicle.**

**• Do not adjust the seat back when the vehicle is running, because in this way, the driver will lose control of the vehicle due to suddenly moving of the seat back.**







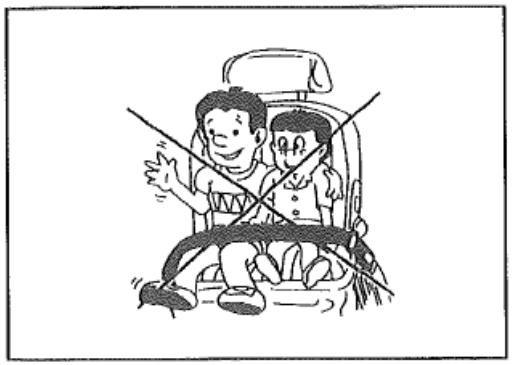
**Seat belt (2-Point)**

1. Adjust the seat as needed and sit up straight and well back in the seat.

2. Bring the latch plate across your body and clip it into the buckle. When the latch plate has locked safety into the place you will hear a "click".

3. Place the seat belt around the lower arm as far as possible, and then hold the free end of the seat belt and pull it to adjust the seat belt so that it can snug against the body. In this way, this can reduce the body's risk of slipping out of the seat belt when an accident occurs.

4. The seat belt can be unfastened by pushing in the button at the buckle.



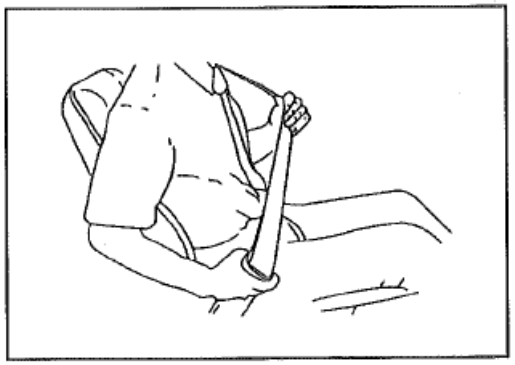
**WARNING**

**• Snug and low positions are essential in order that the force exerted by the lap belt in a collision will be spread over the strong hip bone structure and not across the abdominal area.**

**• Never use a seat belt for more people at the same time. Because of the use of a safety belt for two people, adequate protection cannot be provided in the event of an accident.**

**• Be careful not to clamp the seat belt or buckle in the seat-metal belt (3-point)**

**• If the belt length is too loose, it will not hold your body effectively and increase the probability of injury when the accident occurs.**



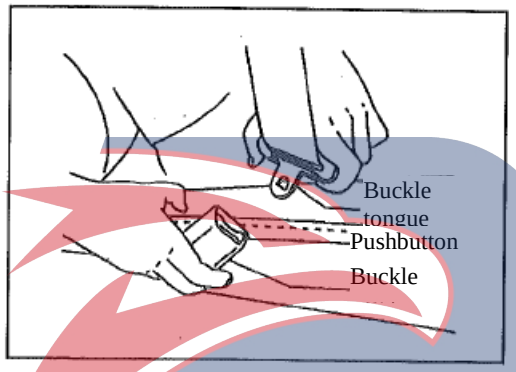
**Seat belt (3-Point)**

1. Adjust the seat to the desired position and take the body straight and the upper torso should be snug against the backrest. Hold the buckle tongue to perform the following steps:

① Pull the seat belt to the wind the lower hip position.

② Hold the buckle tongue piece on the seat belt so that it slides along the seat belt at right angles to the seat belt and further pulls forwards.

③ Then slowly pull the buckle tongue piece across your body and insert it into the open-end of the buckle until the "snap-up" sound is issued. If before the buckle tongue piece reaches the buckle, the seat belt cannot be pulled out because of the locking of the retractor, then the seat belt shall be slamply retracted, then pull the buckle tongue more slowly than the last speed.

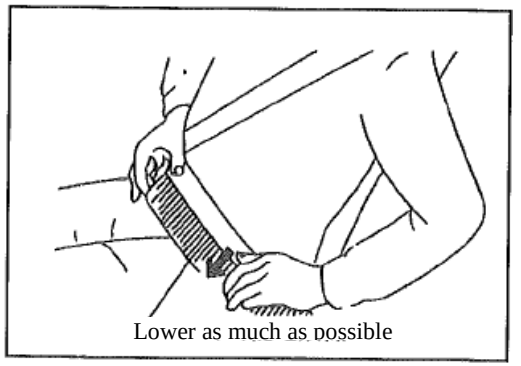



2. In order to reduce the danger of the user from slipping out of the seat belt when the vehicle is impacted, the seat belt shall be positioned as far as possible to wind the lower hip position and the safety belt shall be pulled upward to the shoulder by the buckle tongue so that the safety belt snugs against the body.

The waist shoulder belt shall automatically lock the stretching of the seat belt during emergency braking or vehicle collision. Usually it moves freely with the user.

**CAUTION**

**To reduce the risk of personal injury when an accident occurs, the child should be moved away from the middle of the shoulder belt if the shoulder belt portion is in or is very close to the face or the neck of the child.**




3 Press the button on the buckle to release the seat belt. When the buckle is released, the seat belt will retract the device. In order to prevent touching the nearby goods during contraction, the buckle tongue shall be held to retract the seat belt. To prevent damage to the seat belt and interior trim, it is required to verify that the seat belt has been fully retracted before closing the door and that the buckle tongue has not become a barrier.

**Seat belt inspection and care**

• Periodically inspect belts, buckles, latch plates, retractors, and anchors for damage that could lessen the effectiveness of the restraint system.

• Keep sharp edges and damaging objects away from belts.

• Replace belts if cut, weakened, frayed, or subjected to collision loads.

• Check that anchor mounting belts are tight to the floor.

• Have questionable parts replaced.

• Keep seat belts clean and dry.

• Clean only with mild soap solution and lukewarm water.

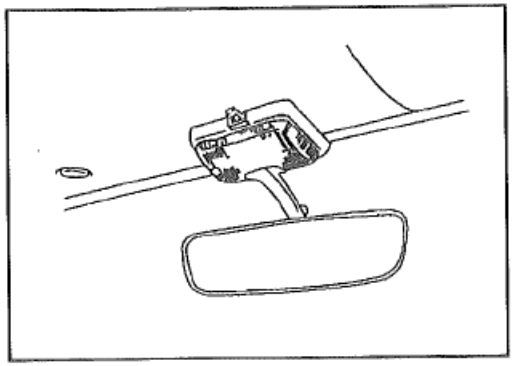
• Do not bleach or dye belts since this may weaken belts

•Attention shall be paid to preventing the belt from being contaminated by the polishing oil or organic chemicals, especially battery electrolyte.

• Do not modify or add anything to the safety belt, which may affect the function of the safety belt.

**CAUTION**

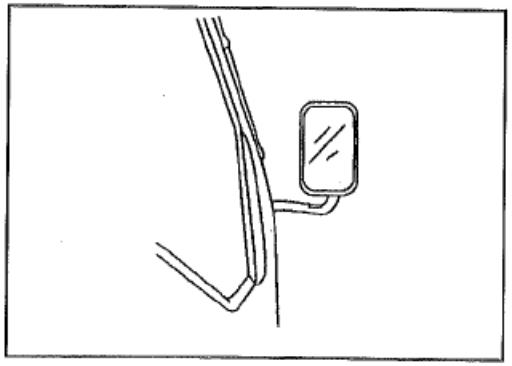
**You should know how to correctly use the seat belt, which is very important. At the same time, whenever the vehicle is running, you should also ensure that all passengers have properly adjusted their seat belts.**



**Mirrors**

**Inside rearview mirror**

To adjust, push the mirror right or left, and up or down.

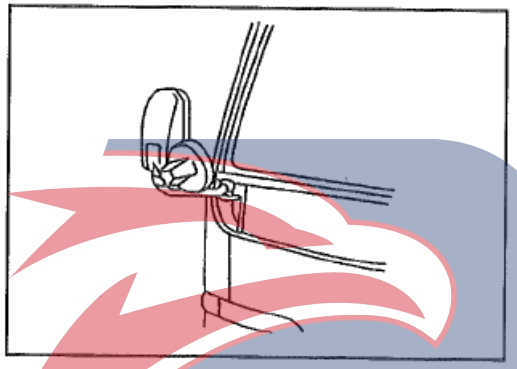


**Outside rearview mirrors:**

Adjust the outside rearview mirrors so you can see not only each side of the road behind you, but also each side of your vehicle. This helps you determine your relation to the objects behind.

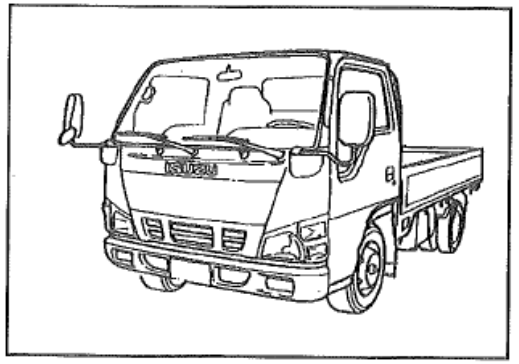
**WARNING**

**Do not adjust the exterior rear-view mirror during driving**



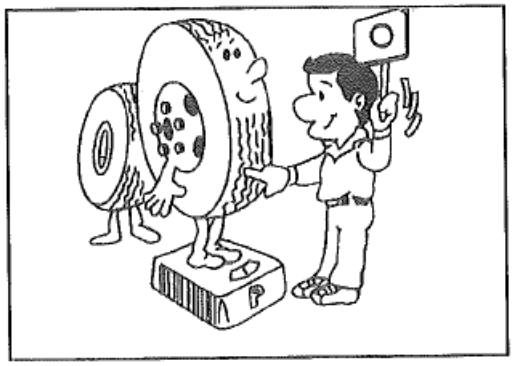
**OPT Underview/side-underview mirror**

Adjust the mirror so you can just see the front end/side of your vehicle.



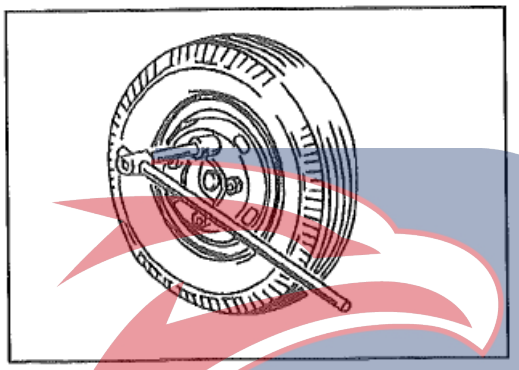
**DRIVER'S CHECK LIST (ROUTINE INSPECTION)**

The following checks should be performed to maintain safe and dependable vehicle operation (Refer to "MAINTENANCE GUIDE" for proper check-up procedures).

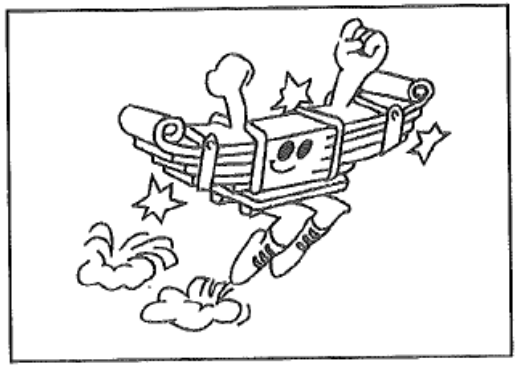


**Exterior**

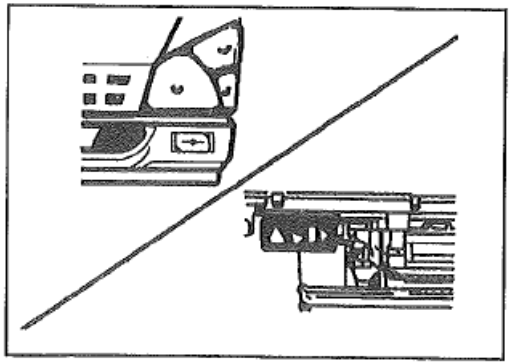
1. Check tires for inflation pressure and damage.



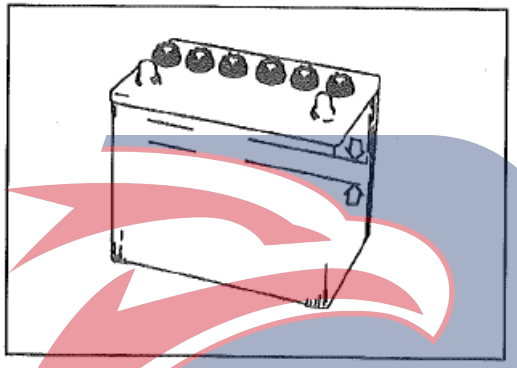
2. Check wheel nuts for looseness.



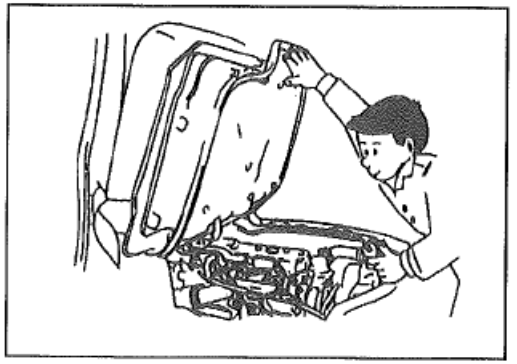
3. Check chassis springs for damage.



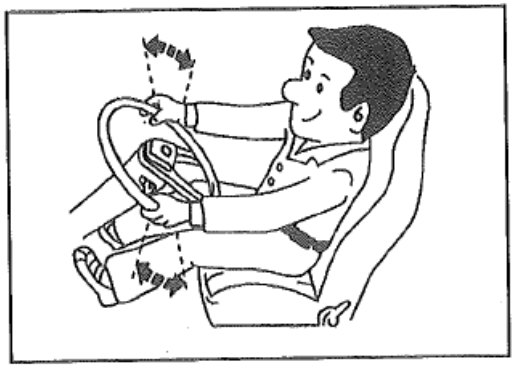
4. Check operation of lamps.



5. Check level of electrolyte in each cell of the batteries.

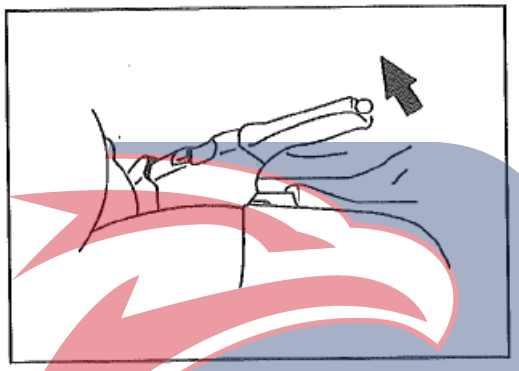


6. Check for oil, coolant, fuel, and brake fluid leaks.

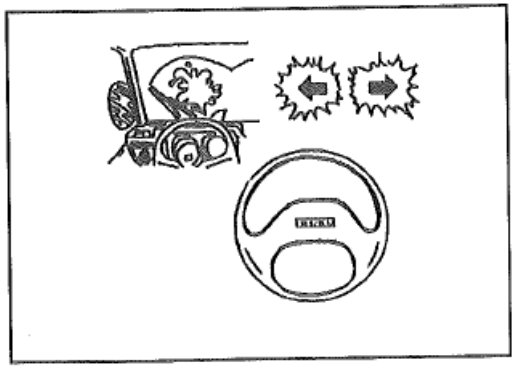


**Inside the cab**

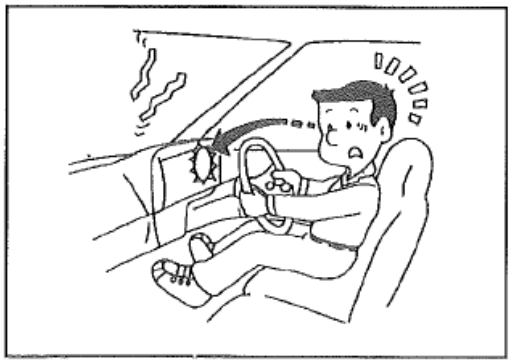
1. Check for steering wheel free play and looseness in mount. The wheel free play should be checked with the engine running.



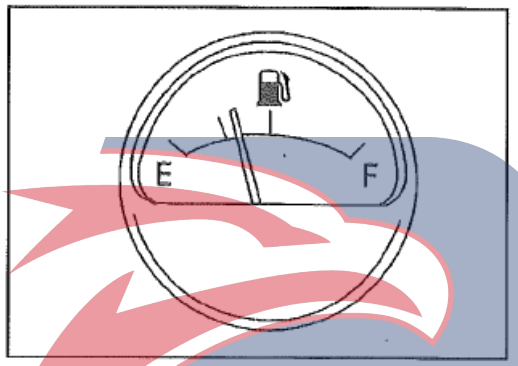
2. Check parking brake lever travel and function.



3. Check operation of horns, windshield wipers and turn signals.

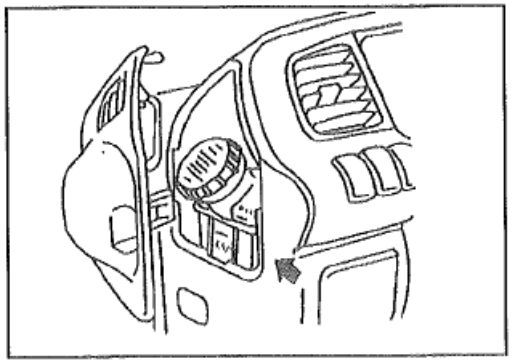


4. Check operation of instruments and indicator lamps.

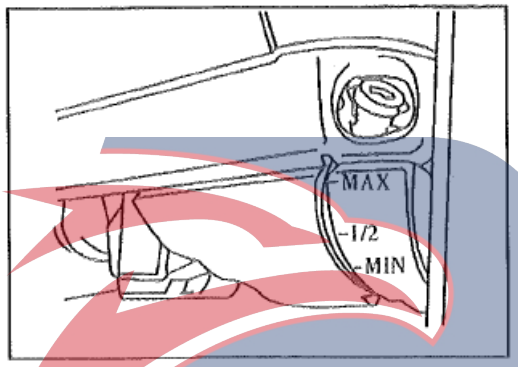



5. Check level of fuel in the fuel tank against fuel gauge.

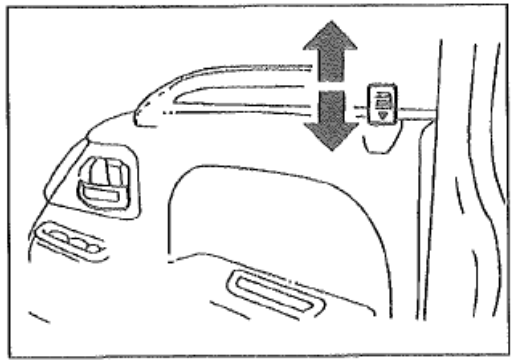
6. Check whether the setting angle of each mirror is appropriate or not.



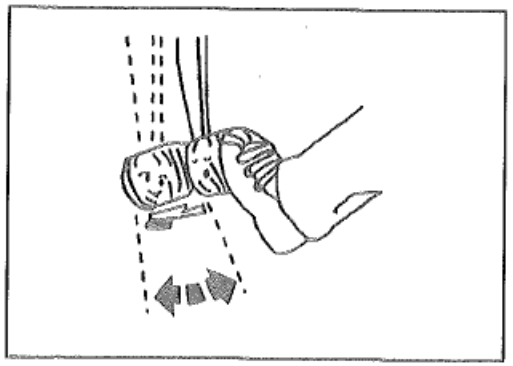
7. Check whether the fluid level in the reservoir is normal.



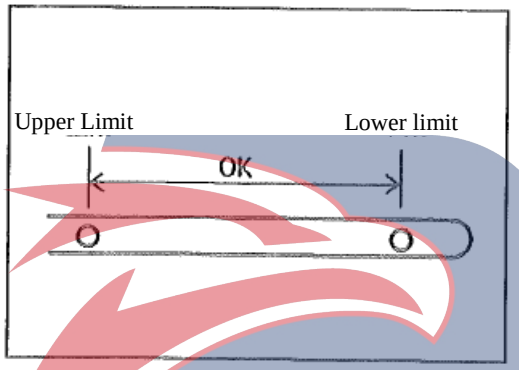

8. Check level of windshield washer solution in the tank.



9. Check operation of door locking mechanism.

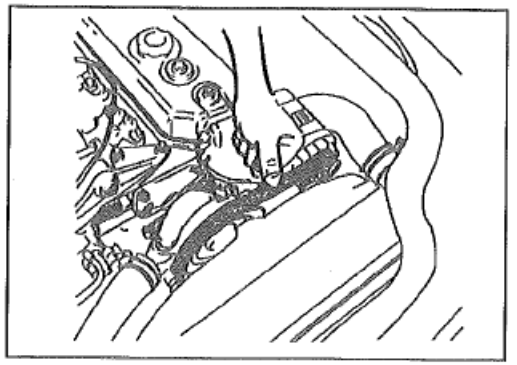


10. Check clutch pedal free play, height and function.

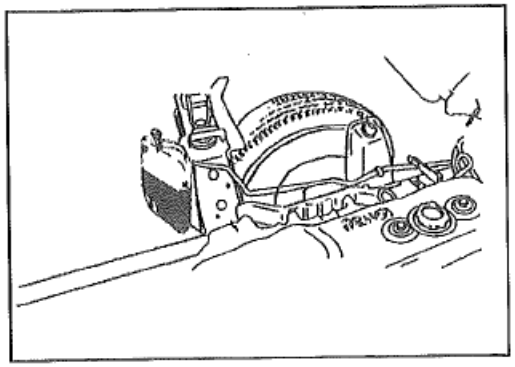


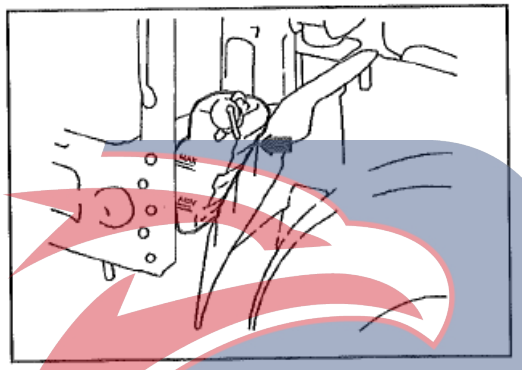

**Inside the engine compartment**

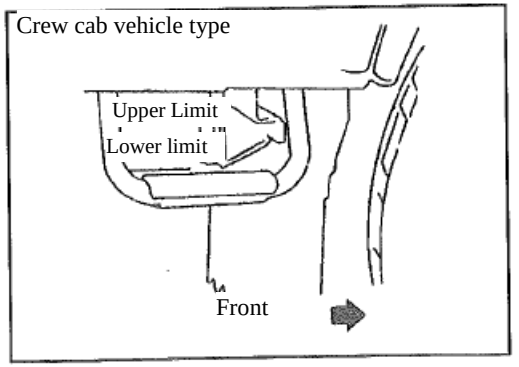
1. Check engine oil level.



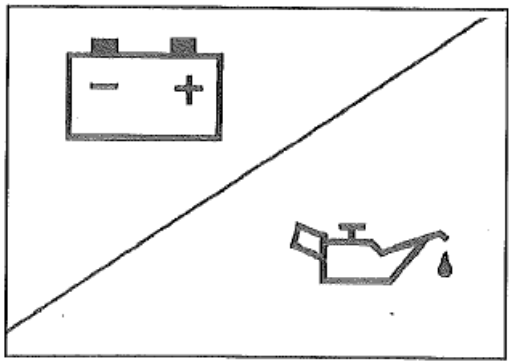
2. Check fan belt tension.

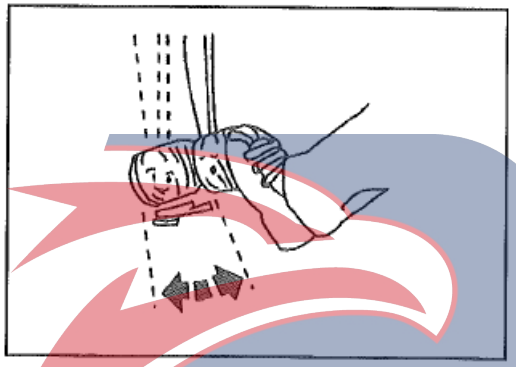


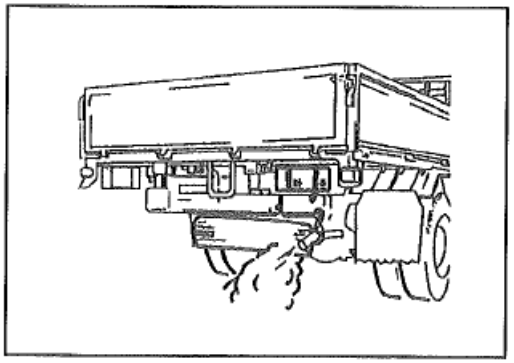





3. Check whether the engine coolant level and radiator cap are loose.







**After starting engine**

1. With the engine running, check that the indicator lamps go out and remain out.

2. Check brake pedal free play and function.

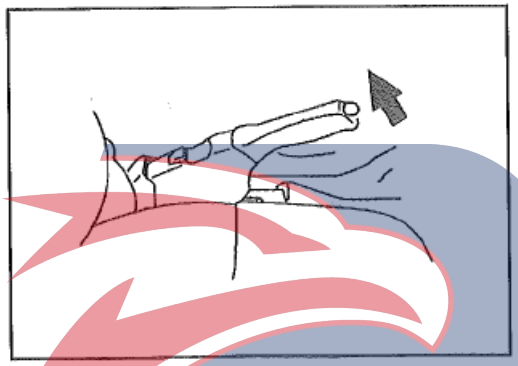
3. Check for abnormal engine noise and color of exhaust gases.

POWERSTAR

# 4 DRIVING

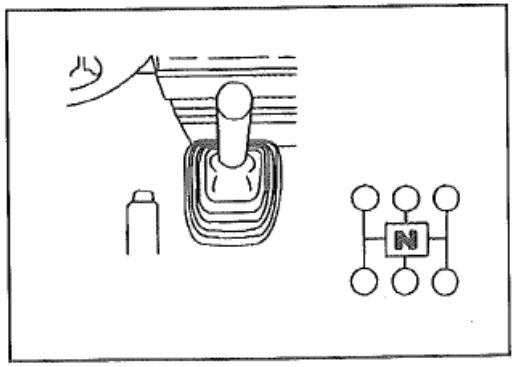
## DRIVING

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

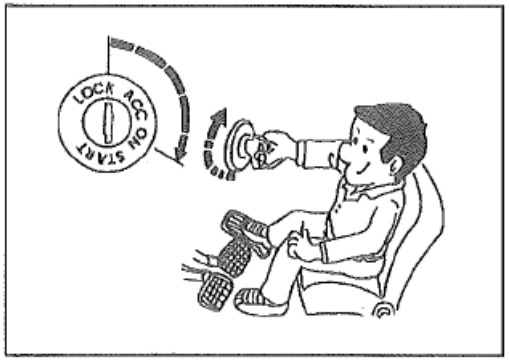


**PREPARATION FOR STARTING ENGINE**

1. Apply the parking brake or spring brake valve lever.




2. Place the transmission in neutral.

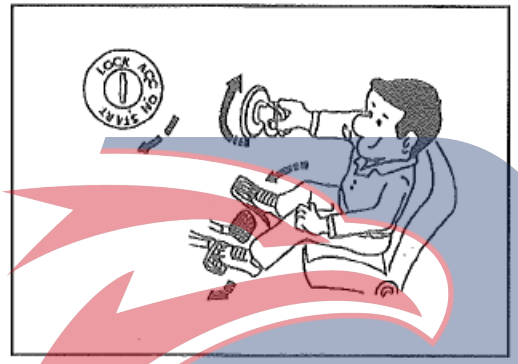



**STARTING ENGINE**

1. Turn the start switch to the "ON" position and the warm-up indicator lamps up. Approximately 0.5 seconds (engine in warm-up) or 4.0 seconds (engine in cold state), the lamp goes out.

**CAUTION**

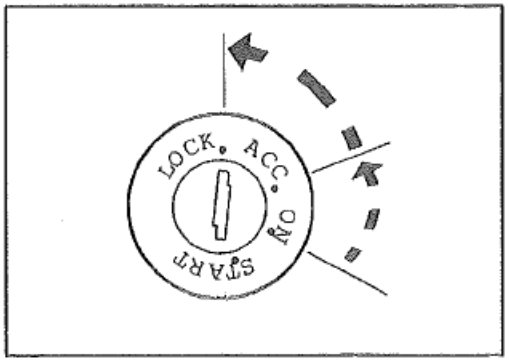
**Do not depress the accelerator pedal at this time. If the accelerator pedal is pressed before the start switch is turned on, it is difficult to start the engine smoothly due to that the "starting oil supply increment" device cannot function normally.**




2. As soon as the glow indicator lamp goes off, start the engine by turning the key to the "START" position with the clutch and accelerator pedals depressed fully.

**CAUTION**

**Do not keep the starter motor engaged for more than 10 seconds at a time, or the starter motor and the battery will be adversely affected Also, fire may occur due to over heating.**

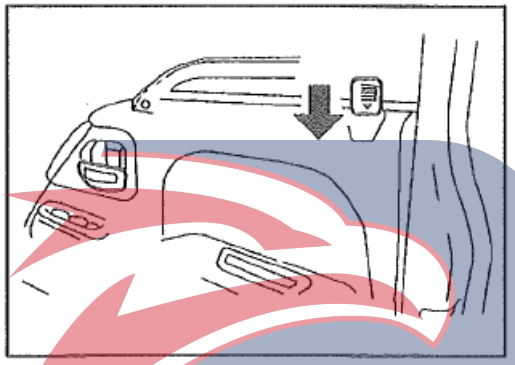



**STOPPING ENGINE**

1. Turn the starter switch to the “ACC” or "LOCK" position.

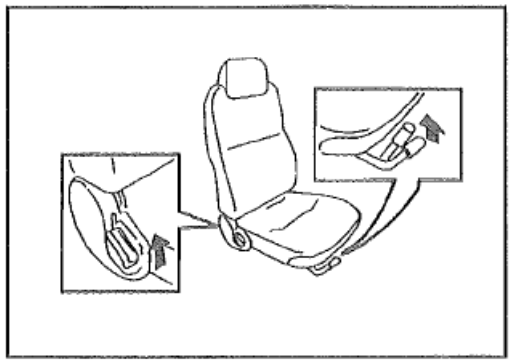
**CAUTION**

**If the engine gives a sign of overheating, do nof stop it immediately and keep it running at a fast idle for a while.**

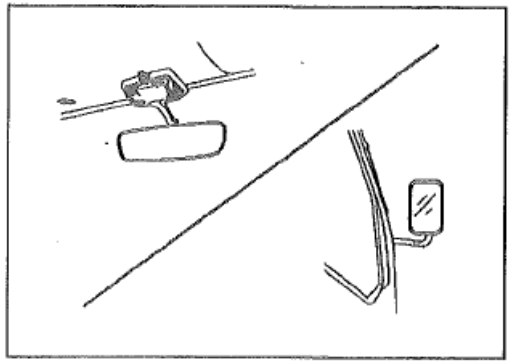


**Before vehicle starts:**

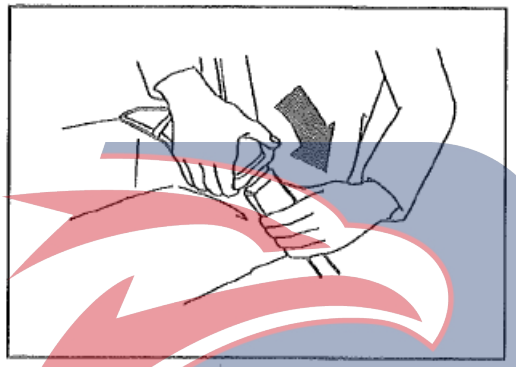
1. Lock all doors.



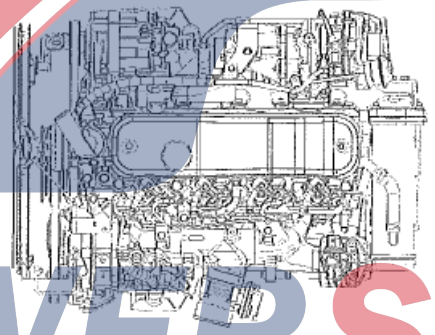
2. Adjust the seat position.



3. Adjust the inside and outside mirrors of the cab.

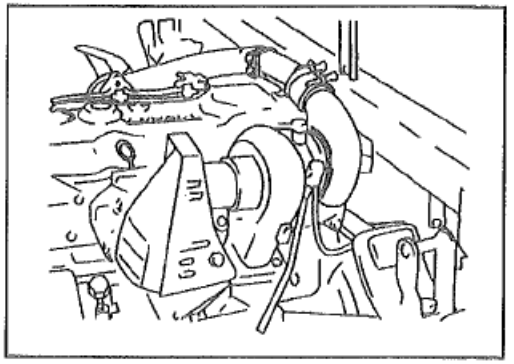


4. Fasten the safety belt.



**WARNING**

**It is forbidden to shut down the engine at high temperature and at high speed to stop the oil pump, otherwise, the supercharger will be damaged due to overheating.**



**OPERATION OF ENGINE WITH TURBOCHARGER**

**Engine starting in general**

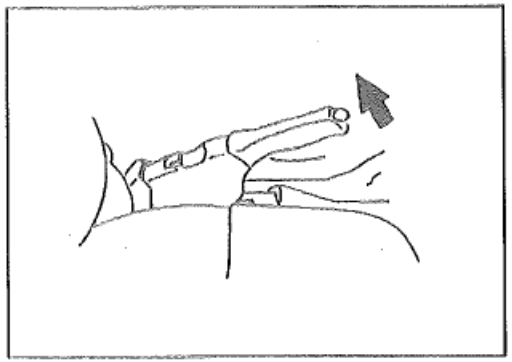
The turbocharged engine should be started to ensure the bearings supporting the rotating parts of the turbocharger are sufficiently lubricated.

Do not race a cold engine.

**Engine stopping**

**CAUTION**

**After driving high way, at least 3 minutes of operation should be at idle until it cools down. This allows turbocharger to return to idle speed while engine oil pressure is available for lubrication and will prolong the life of the turbocharger bearings.**



## PARKING

When leaving the unattended vehicles:

1. Pull up the parking brake lever.

2. For vehicles with manual transmission, place the shift lever in the first gear when it is parked on an uphill slope. When parking on the downgrade, place the shift lever in the Reverse gear position.

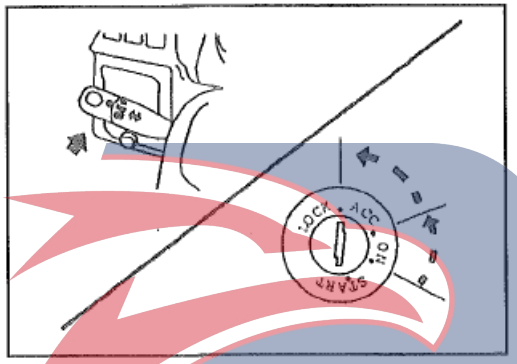
3. Turn the start switch key to "LOCK" position.

4. Take the key away.

5. Close all windows and lock all doors.

6. Check and ensure that the lamp is off.

7. If the vehicle is parked on a slope and leaves it unattended, the wheel stop must be padded.

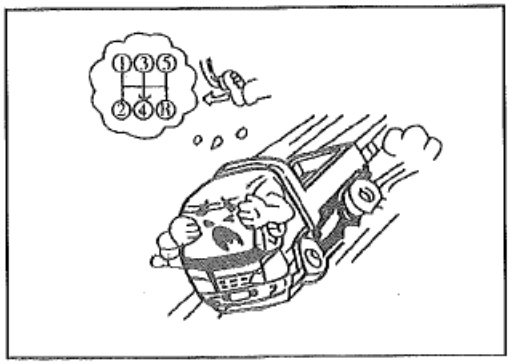



**WARNING**

**• Do not leave unattended children in the vehicle alone, and children may operate the control device on the vehicle to cause an accident.**

**• Do not drive or park the vehicle on flammable materials like hay or dry leaves, or run over it at idle speed, because the flammable materials may contact the high temperature exhaust system to cause combustion.**

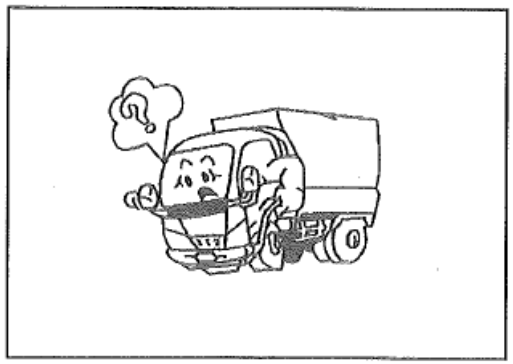
**• Do not leave the vehicle while its engine is running, and make the vehicle unattended. If you are absent, the engine will cause damage to the vehicle and the internal parts when the engine is operating until the temperature alarm lamps up or when the water temperature alarm lamp shows overheating.**



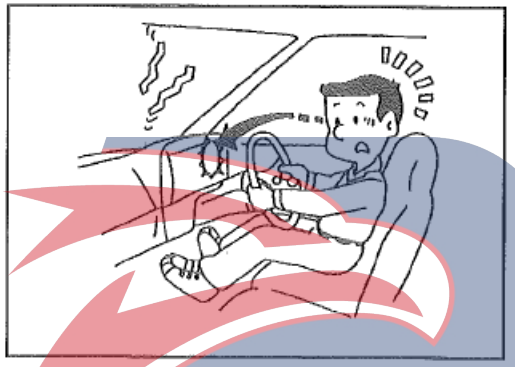

## DRIVING PRECAUTIONS

1. Avoid over-running the engine.

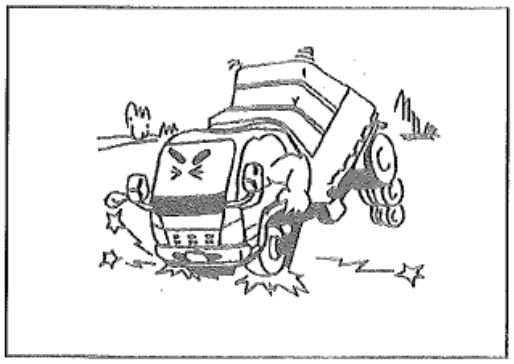
When descending a slope pay close attention to prevent the engine from overrunning, particularly when making a downshift as the engine becomes liable to over-run.



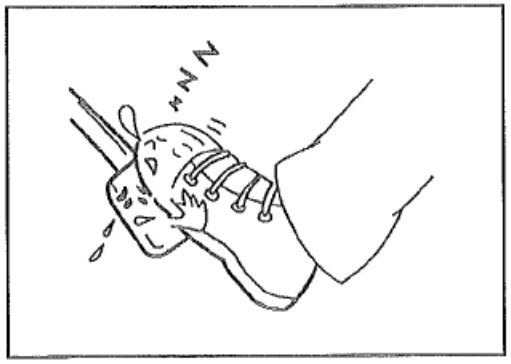
2. If abnormal noise or smell becomes noticeable while driving, stop the engine and check to locate the cause of the trouble.



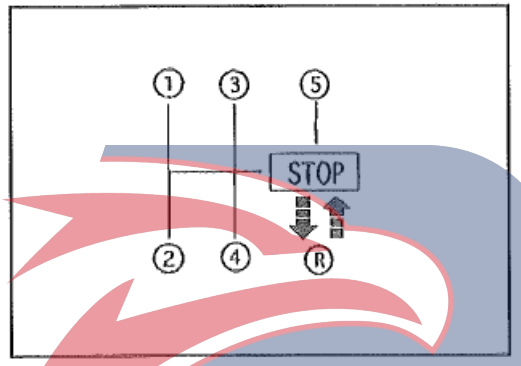
3. If the indicator lamps or instruments give an indication of abnormal condition while driving, stop the engine and check to locate the cause of the trouble.



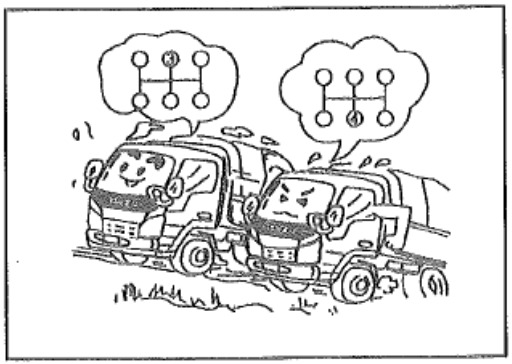
4. Avoid needless hard acceleration and hard stops.



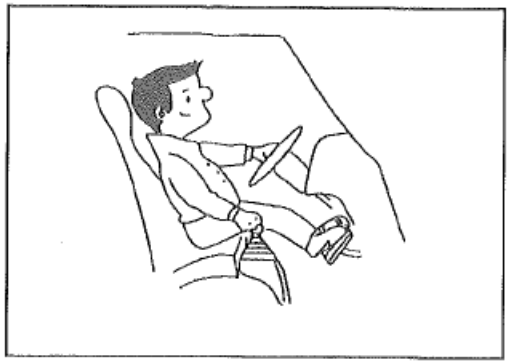
5. Do not drive with your foot resting on the clutch pedal as it produces a partly disengaged condition, causing premature wear of clutch facing.



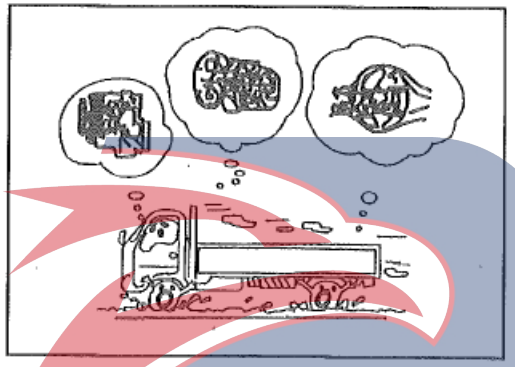

6. The vehicle should be completely stopped before shifting from forward gear to reverse or from reverse to forward.



7. When climbing a slope, shift to lower gear to relieve the engine from overload before it begins to strain.

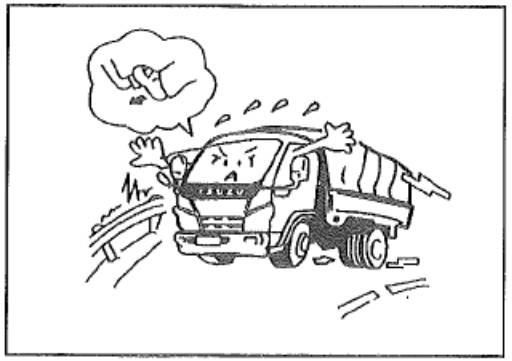


8. When descending a slope, shift to lower gear to gain retardation effect of the engine.

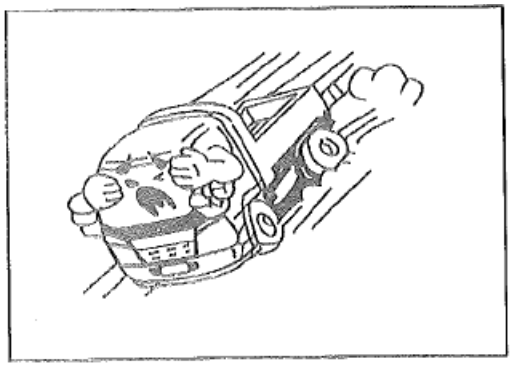


9. When crossing the shallow river or deep water pit during driving, special care shall be taken, otherwise water may enter the air passage to cause serious damage to the engine. After crossing water it is required to check the vehicle to confirm whether water enters the gear oil of the rear axle and the transmission.

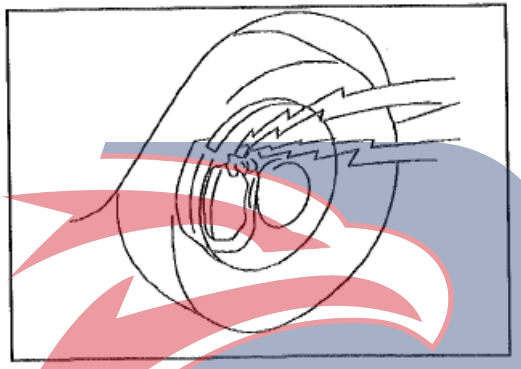
If water is present, it shall be drained and the specified gear oil shall be added again.



10. When driving in heavy rain or through shallow rivers, special care must be taken because the wet brake will temporarily weak the braking force.

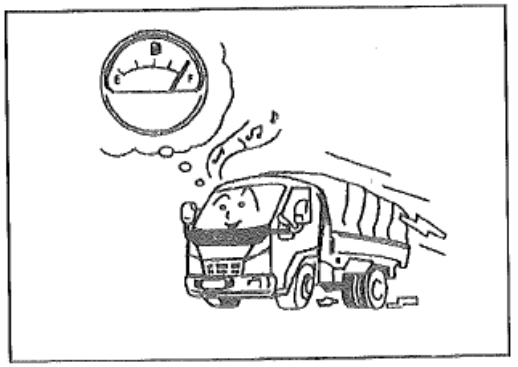


11. Never stop the engine in the driving. Otherwise, brake efficiency will decrease due to stop operation of brake booster. If the start switch is turned to the "LOCK" position in the driving, it will cause a great danger, because the steering wheel is locked and cannot control the vehicle.



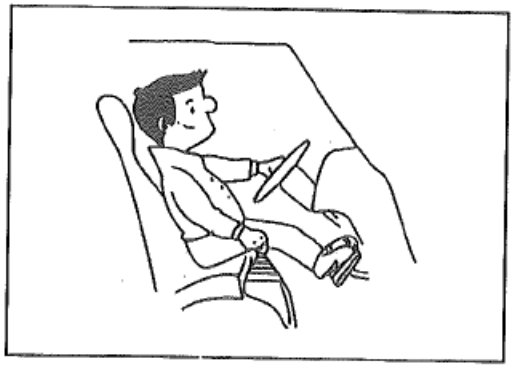
12. V Disc brakes are equipped with wear indicator devices, when the brake friction lining block is worn to a certain limit, the device will generate a high pitch.

If this sound is generated, replace the brake shoe as soon as possible to the QingLing dealer (maintenance station).

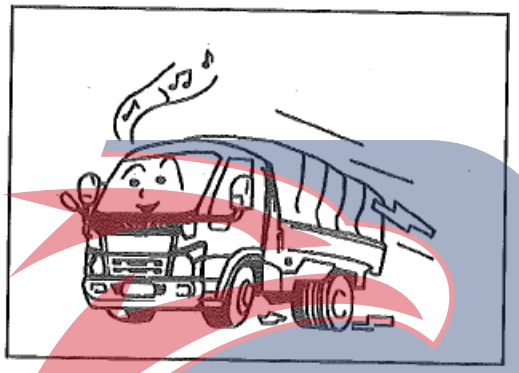


**DRIVING FOR ECONOMY**

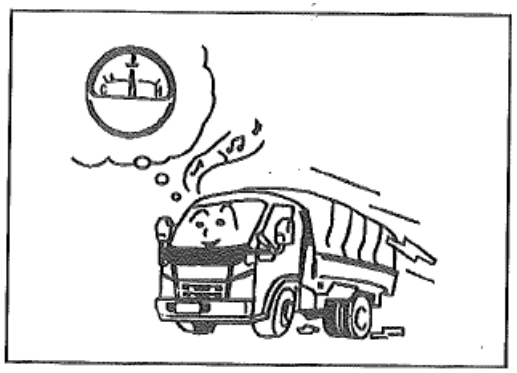
1. Unnecessary high-speed driving and slow driving in high gear will result in excessive fuel consumption.



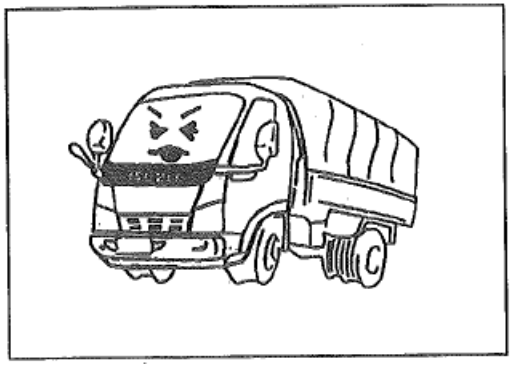
2. After acceleration, shift the shift lever into high gear and slowly release the clutch pedal.



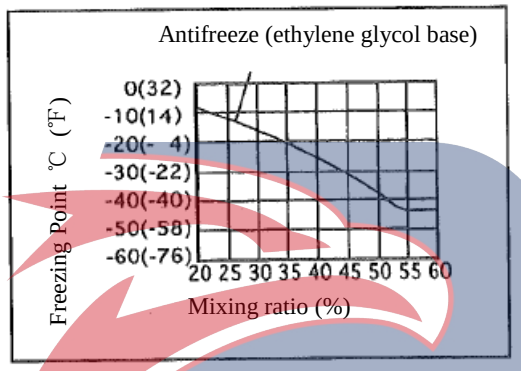
3. It is strongly advisable to keep your speed as constant as possible after shifting into top or overdrive gear.



4. Always drive with the coolant temperature kept within normal range.



5. Under-inflated tires cause deterioration in fuel economy.

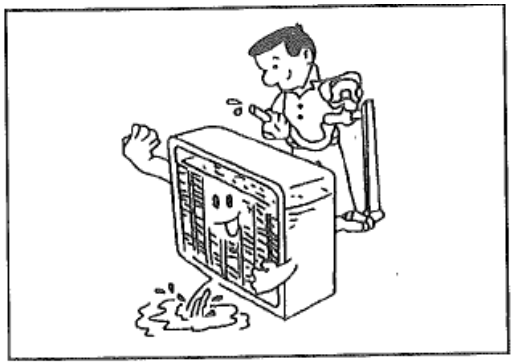



## OPERATION AND CARE IN WINTER

### Use of antifreeze (ethylene glycol base)

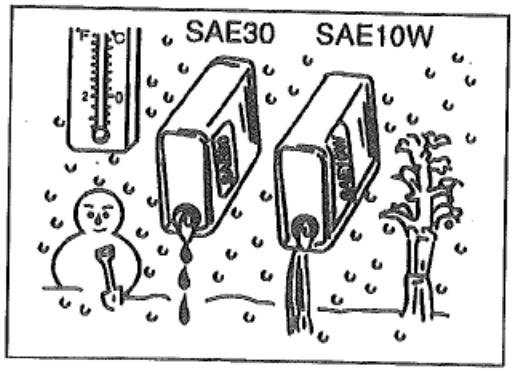
When the vehicle is parked in cold seasons or when you park the vehicle in a cold place, ensure the antifreeze performance of the engine coolant.

1. The appropriate mixing ratio of antifreeze can be determined in accordance with the curves shown in the figure above. It is the responsibility of the user to use the appropriate amount of anti-freezing agent according to the outside air temperature in the area of the vehicle.



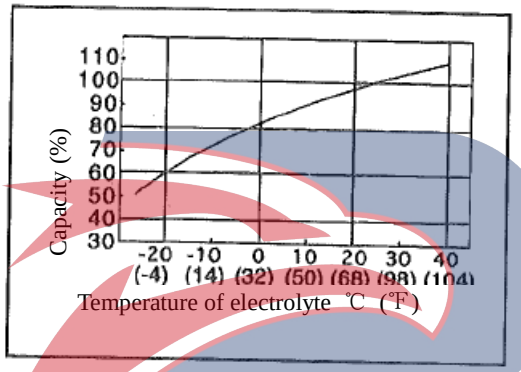
2. Prior to use of glycol-based antifreeze, it is best to flush the cooling system containing the radiator.

3. Damaged rubber hoses should be replaced because when the antifreeze is used, even the cracks in the rubber hose is small, the engine coolant will leak out to the outside.




**Engine oil**

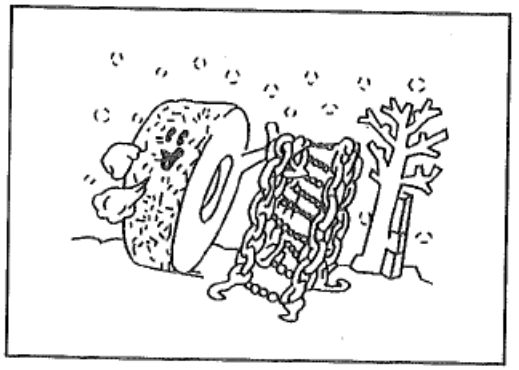
The engine oil thickens at lower temperature. Use engine oil with viscosity selected to suit the ambient temperature.




**Battery**

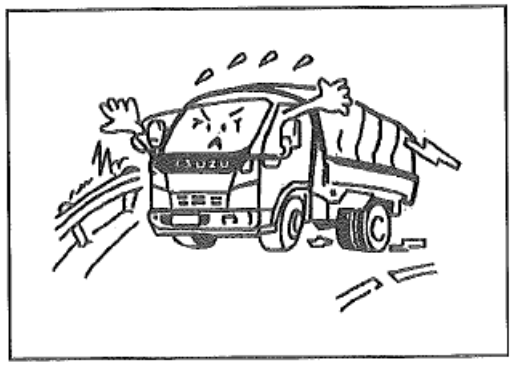
The capacity of battery tends to decline with lowering temperature and specific gravity of the electrolyte lowers with rate of discharge.

Therefore, batteries should be protected against freezing.

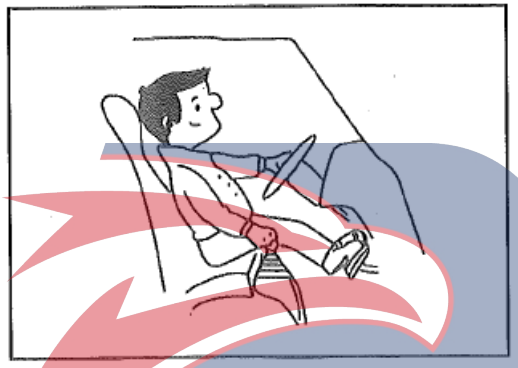


**DRIVING ON ICE OR SNOW**

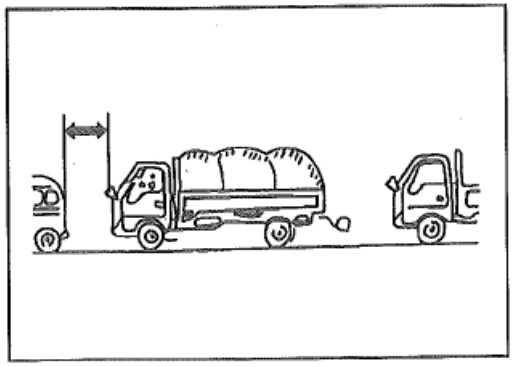
1. The use of tire chains or snow tires is recommended.



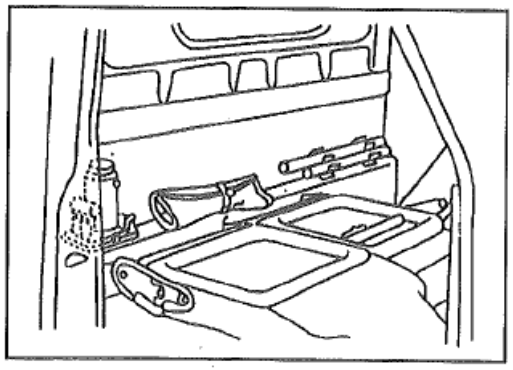
2. Avoid high speeds, hard acceleration, hard stops and sharp steering.



3. Use lower gear to gain retardation effect of the engine. Apply foot brake sparingly.



4. Drive with a sufficient distance between you and vehicle ahead.

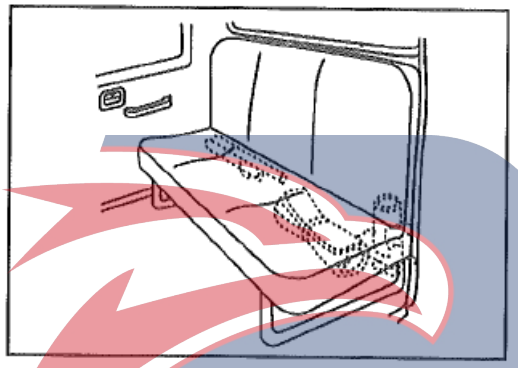


## IN CASE OF EMERGENCY

**Storage of jacks and other tools**

**Vehicle model for the standard cab**

Common tools and jack are stored behind the driver's seat. Always place them back in place and secure firmly to avoid impact noises during driving.



**Crew cab vehicle type**

The common tools and jacks are stored in the right lower side of the rear seat and they can be taken out after the soft seat cushion of the rear seat is raised. Always place them back in place and secure firmly to avoid impact noises during driving.

Overheating of the engine

If the engine is overheated.....

• The pointer of water temperature meter will point to the "(-)" position or higher than the "H" position.

• The "pop" sound of the engine becomes larger.

• The output power of the engine decreases.

• Steam or boiling water blow out from the radiator.

If you see this phenomenon, the engine is overheated.

• when you stop the vehicle, but if you see or hear the steam or engine coolant from the engine compartment, do not open the engine at once to check the cover or tilt the cab, you should wait until you can't see the steam or engine coolant, then open the engine to check the cover or tilting the cab in order to provide a good ventilation.

• Keep the engine running for 5-10 minutes, at a speed slamply higher than the idle speed (approx. 1500 rpm). If coolant leaks are present, stop the engine immediately.

• Stop the engine and allow the engine and the radiator to cool down.

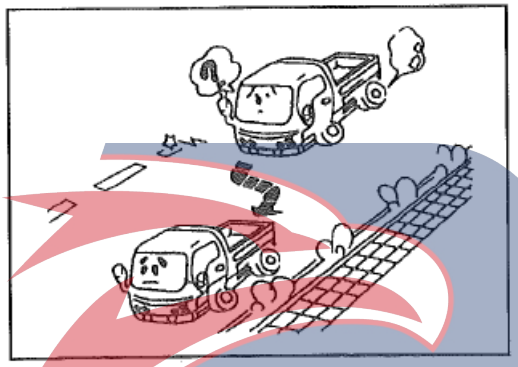
• Carefully remove the cover of the radiator.

Check the coolant level in the radiator when the engine is cold. If necessary, fill the coolant liquid into the radiator until the fluid level reaches the filler neck. And fill the coolant liquid into the spare water tank to the level mark of the spare water tank.

**WARNING**

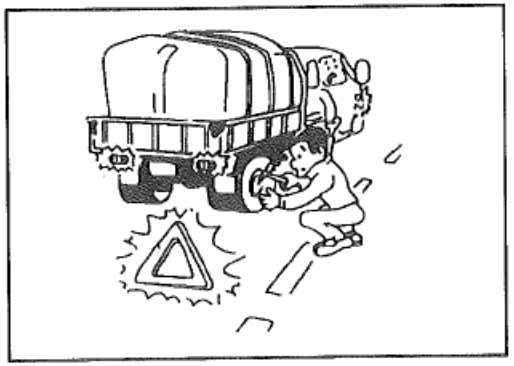
**• To avoid scalding, do not remove the radiator cap when the engine and the radiator are still very hot. If the radiator cap is removed too quickly, the hot liquid and the steam will spray out outward and scald people under pressure.**

**• Glycol coolant in the engine is flammable under certain conditions. Therefore, do not splash it onto the hot parts of the exhaust system or the engine when this coolant is filled.**

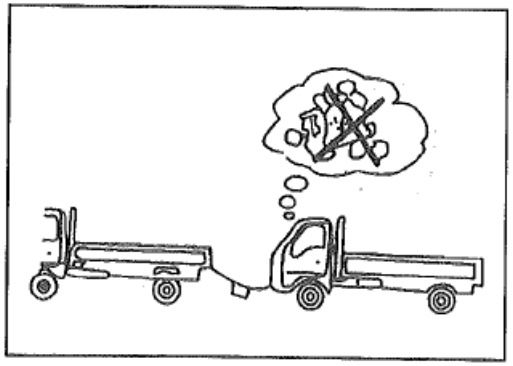


**Emergency stop**

1. If you must stop your vehicle on the road for a while for some reason or other, pull your vehicle over to the right (or left) side of the road as far as possible and try not to park on the driving lane.



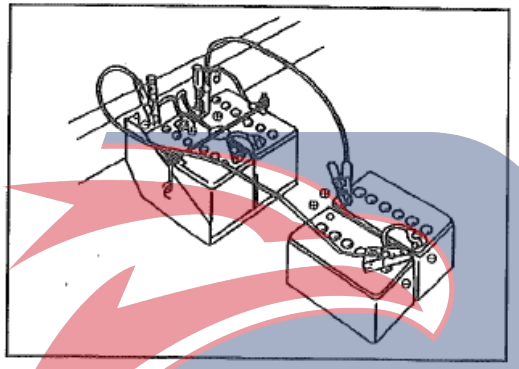
2. Be sure to apply the parking brake and use a hazard warning flasher, day or night.



**Emergency starting**

**WARNING**

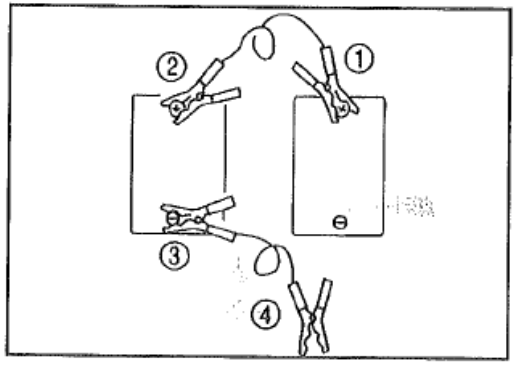
**Never tow vehicle to start the engine because the surge forward when the engine starts could cause a collision with the towing vehicle.**



To start the vehicle when the battery is discharged, use an auxiliary battery of the same nominal voltage i.e. 12 volts, as the discharged battery.

**WARNING**

**Exercise extreme care when handling a battery to avoid serious personal injury which might result from battery explosion, acid burns, or electrical shock.**




**Connecting procedures:**

The engine can be started with another vehicle battery using the jumper cables.

1. Use the vehicle which has the battery of the same voltage (12 V).

2. Connect the jumper cables in the following sequence.

① Positive terminal of the dead battery

② Positive terminal of the booster battery

③ Negative terminal of the booster battery

④ Chassis ground of the dead battery's vehicle, where is as far as possible from dead battery.

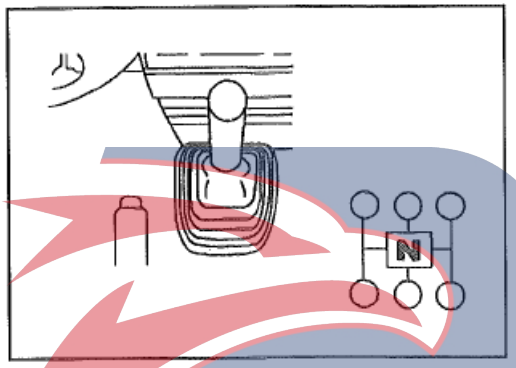
3. After connecting the cables, start the engine of the booster battery's vehicle.

4. Raise the engine speed of the booster battery's vehicle slamply, then start the engine of the dead battery's vehicle.

5. After the engine is started, disconnect the cables in the reverse sequence of connection.

**CAUTION**

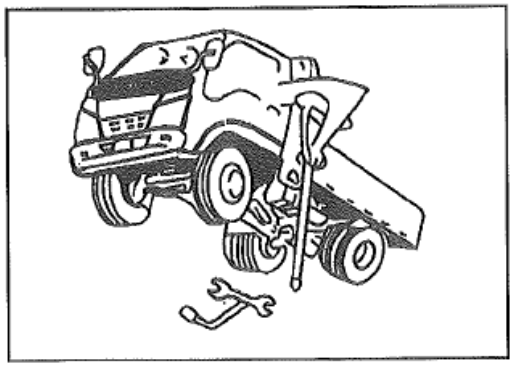
**Never connect the cable between the positive and negative terminals. Do not remove the cables from the terminal posts while the engine is running, otherwise the fault in the electrical system may be caused.**




**Towing**

During traction to the vehicle that cannot be driven , pay attention to the following points:

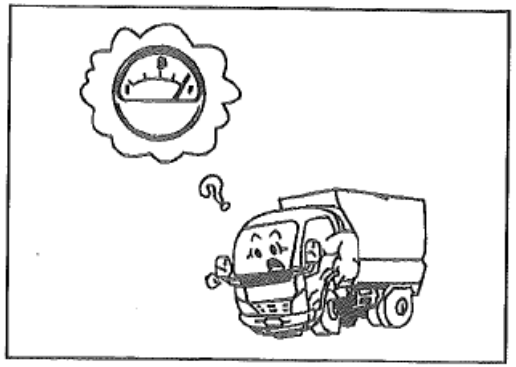
1. If the transmission is in the normal operating state, place the shift lever in the NEUTRAL position.

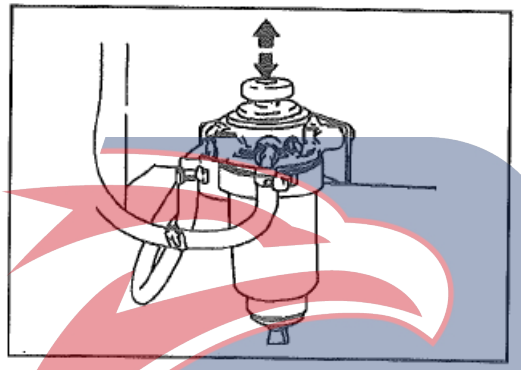


2. If the transmission fails, remove the transmission shaft from the rear axle flange and fasten it to the frame.

**CAUTION**

**The traction cable (safety chain cable) shall then be hung on the hook of the towing vehicle and the non-driving vehicle at a speed of 40 km/ h and the traction distance shall be less than 80 km.**

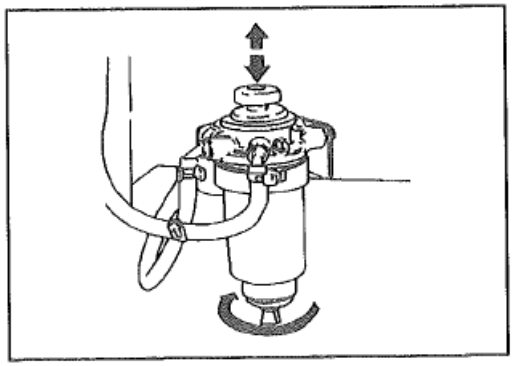


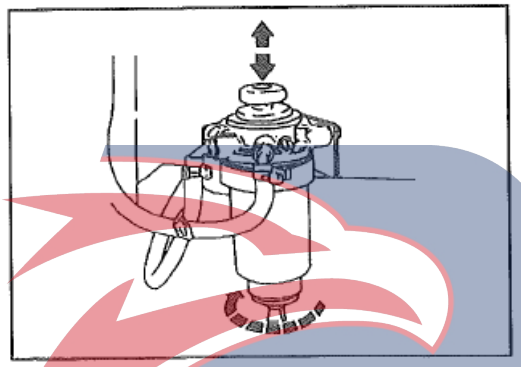


**Bleeding of fuel system**

When replacing the fuel filter or when the fuel runs out, air will get into the fuel system, and you will not be able to start the engine by simply putting fuel into the tank. You must bleed off the air in the fuel system using the following procedure.

1. Operate the manual pump mounted on the water separator so that the fuel contained in the fuel system is pumped into the fuel injection pump.
2. After the fuel system is exhausted, start the engine with the start switch.
3. If the engine fails to start within 10 seconds, repeat Step 1 through Step 2.





**Drain of oil-water separator**

When the water indicator on the fuel filter is illuminated, drain the water immediately in accordance with the following procedure.

1. Find a safe place for parking the vehicle.

2. Open the hood of the engine and place the water container with a capacity of approx. 0.2 litres to the terminal of the ethylene hose connected to the drain cock of the water -separator.

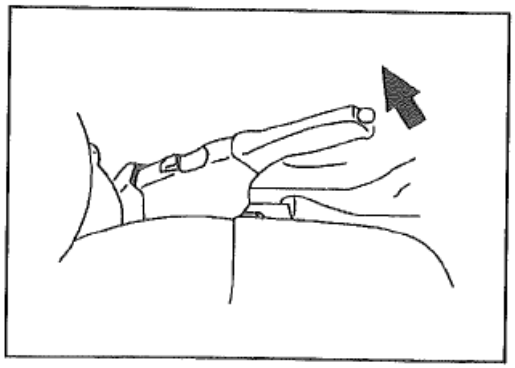
**CAUTION**

**If drainage is required frequently, you can invite QingLing dealer (maintenance station) to drain the water in the fuel tank.**

3. Loosen the drain cock in the counterclockwise direction and operate the starting oil priming pump for about 10 times, until the drainage is about 0.1 litres.

4. After draining, tighten the drain cock in a clockwise direction and operate several times of priming pump for several times.

5. After starting the engine, check that whether the fuel flows out of the drain cock through the drain cock or not. Also, it is required to check whether the fuel filter indicator is off or not.



**Jacking instructions and changing a flat tire**

**WARNING**

**To avoid personal injury:**

**• Operate according to the instructions of the lifting device and the loaded equipment.**

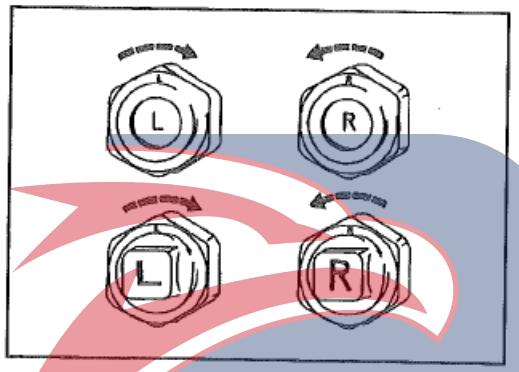
**• Use a jack only when the vehicle is raised for replacing the wheels.**

**•Never get under the vehicle when it is supported only by a jack.**

**The spare wheel (or inner wheel) and all lifting devices shall be properly kept at any time.**

**• Do not start or run the engine when the vehicle is on the jack.**

**• The jack must be placed on a solid plane.**




**Preparation:**

1. Park on level surface and set the parking brake or spring brake valve lever firmly.

2. Shift the shift lever into the "R" position.

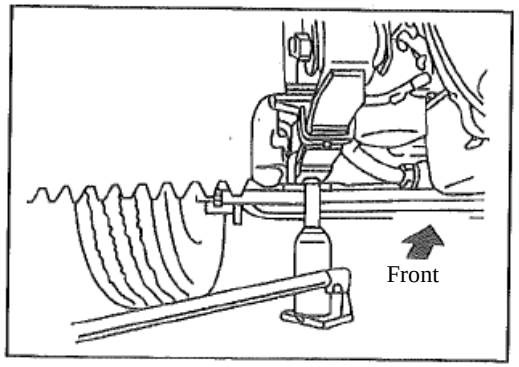
3. Put the hazard indicator lamps in action.

4. Brace the wheels diagonally opposite the jacking position.

5. Loosen but do not remove wheel nuts.

**NOTE**

**The wheel nuts on the right side wheels have right-hand threads and the wheel nuts on the left side wheels have lefthand threads.**



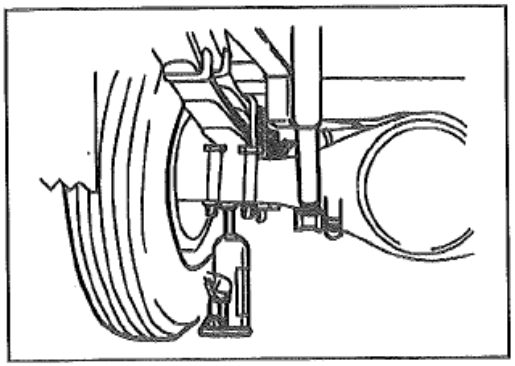

6. Place the jack beneath the recommended jacking point.

**CAUTION**

**• The jack shall not be raised outside those specified points.**

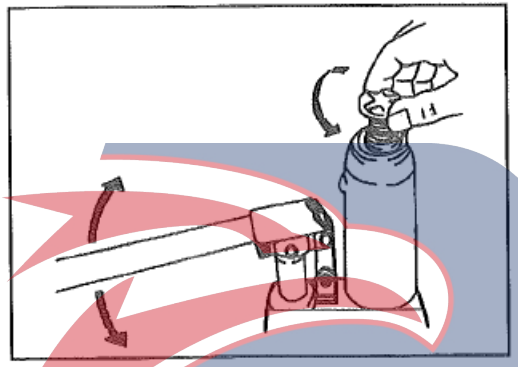
**Front wheel:**

Place the jack under the leaf.



**Rear wheel:**

Place the jack on the rear axle in the position of the spring steel plate.

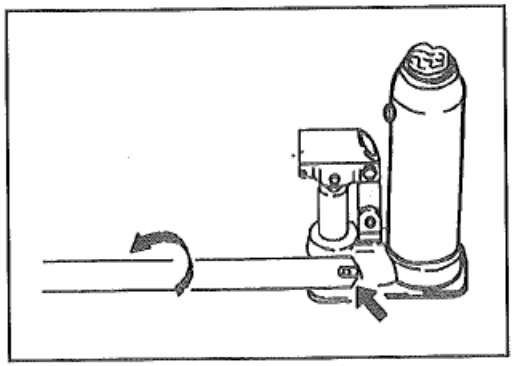


**Usage of jack**

**To jack up:**

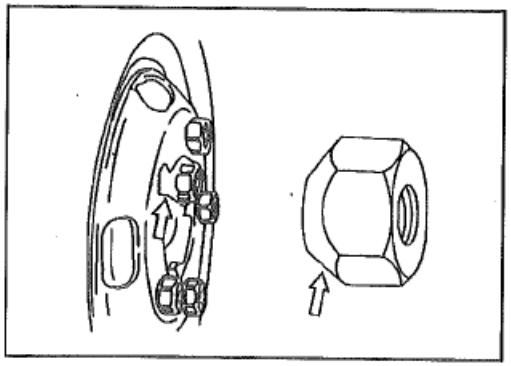
If the jack up point is high, extend the jack head by turning it counterclockwise.

Insert the jack bar as shown in the figure and move it up and down.



**To lower:**

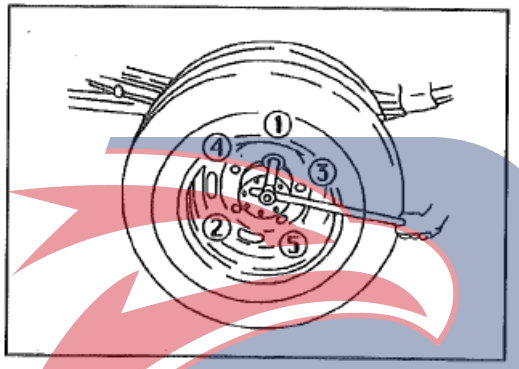
Slowly turn the bleeder screw counterclockwise with the jack bar as shown in the figure.



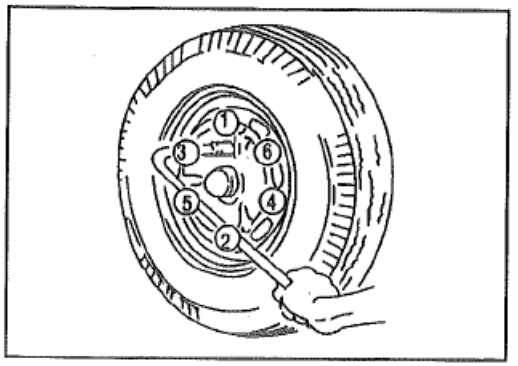
**Wheel replacement:**

1. Jack up the wheel, remove the wheel nuts and wheel, then install the spare wheel.

2. Mount the wheel nuts with the tapered face toward the wheel. Then screw each wheel nut to a semi-locked state with a wheel wrench to seat the wheel nuts on the wheel hub.Reassemble and semi-tighten the wheel nuts and lower the wheel to the ground.

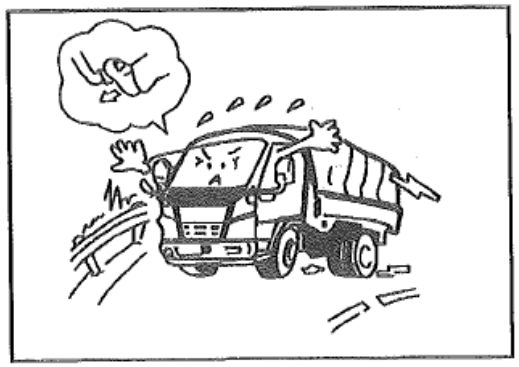



3. With the wheel wrench, tighten the wheel nuts in sequence as shown in the figure.




**Wheel nut torque N.m**

| | |
|---|---|
| Rear single wheel model (QL * E *) | 170 |
| Rear double wheel model (QL * F *, QL * H *, QL * K *) | 490 |



Under the condition of oil leakage, the brake pedal cannot maintain the effective stroke, and the braking effect can be achieved by pressing the brake pedal twice continuously.

**Usage and Precautions of ABS**

1. When the ABS operates, you will feel that the brake pedal jitter, and you can hear the sound while the hydraulic controller is working, which is normal, and don't be afraid.

2. After the ABS is loaded, the braking performance can be improved in most cases, particularly evident on ice and snow or wet roads, but sufficient braking distance is required.

3. When the ABS detects a fault, the ABS warning lamp will be on continuously, when the ABS does not work, please go to the nearest maintenance station for maintenance. At this time, you can continue to drive at low speed, but you should avoid suddenly braking the vehicle.

4. The ABS warning lamp is turned off about 2 seconds after the vehicle is started, and the warning lamp is only on when the ABS is out of service. Therefore, once the ABS warning lamp is on and is not off, it shall be repaired timely in the maintenance station.

# 5 SERVICE AND MAINTENANCE

## SERVICE AND MAINTENANCE

In order to maintain safety and economical operation, it is suggested that periodic inspection and maintenance should be performed regularly according to the recommendations outlines in this section.

**MAINTENANCE SCHEDULE**

To insure driving safety and maximum economical operation, periodic inspection and maintenance should be performed at your authorized dealer according to the maintenance schedule.

For service operations which call for disassembly or specialized instruments, contact your authorized dealer.

**Maintenance operations**

I: Inspect, clean up and repair or replace as necessary

A: Adjust

R: Replace

T: Tighten to specified torque

L: Lubricate

**When performing checks on the following items, regular inspection items should also be checked.**

*Mark: Under severe driving conditions, more frequent maintenance is required. Refer to "Maintenance schedule under severe driving conditions".

## Maintenance schedule

**I: Inspect, clean up and repair or replace as necessary A: Adjust R: Replace T: Tighten to specified torque L: Lubricate**

**Use odometer reading or period, whichever comes first.**

| Service interval:x 1,000 km | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | Service interval or month number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4K ENGINE | | | | | | | | | | | | | | | | | | | | | | |
| *Engine oil | - | - | - | R | - | - | R | - | - | R | - | - | R | - | - | R | - | - | R | - | - | Every 3 months |
| * Oil filter | - | - | - | R | - | - | R | - | - | R | - | - | R | - | - | R | - | - | R | - | - | Every 6 months |
| Fuel filter | - | - | I | - | I | - | I | - | R | - | - | - | - | - | - | - | R | - | - | - | - | Every 12 months |
| * Air filter element | - | - | I | - | I | - | I | - | R | - | I | - | I | - | I | - | R | - | I | - | I | Every 24 months |
| Idle and Acceleration Function | - | - | - | - | I | - | - | - | I | - | - | - | I | - | - | - | I | - | - | - | I | Every 12 months |
| Valve clearance | I | - | - | - | - | - | - | - | - | A | - | - | - | - | - | - | - | A | - | - | - | Every 24 months |
| Loose or damaged connection of fuel tank cap and fuel pipe | - | - | - | - | - | - | - | - | - | I | - | - | - | - | - | - | - | I | - | - | - | Every 24 months |
| Loose or damaged connection of fuel tank cap and fuel pipe | I | - | - | - | - | - | - | - | I | - | I | - | I | - | I | - | I | - | I | - | I | Every 6 months |
| Radiator Coolant (Antifreeze: Glycol Base) | - | - | - | - | - | - | - | - | - | R | - | - | - | - | - | - | - | R | - | - | - | Every 24 months |
| * Damage or loosening of exhaust pipe and its mounting parts | - | - | - | - | I | - | - | - | I | - | - | - | I | - | - | - | I | - | - | - | I | Every 12 months |
| Cooling System | - | - | - | - | I | - | - | - | I | - | - | - | I | - | - | - | I | - | - | - | I | Every 12 months |
| Engine operating condition | - | - | I | - | I | - | I | - | I | - | I | - | I | - | I | - | I | - | I | - | I | Every 6 months |

## Maintenance schedule

**I: Inspect, clean up and repair or replace as necessary A: Adjust R: Replace T: Tighten to specified torque L: Lubricate**

**Use odometer reading or period, whichever comes first.**

| Service interval:x 1,000 km | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | Service interval or month number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clutch | | | | | | | | | | | | | | | | | | | | | | |
| Clutch fluid | - | - | I | - | I | - | I | - | R | - | I | - | I | - | I | - | R | - | I | - | I | Every 24 months |
| Clutch pedal stroke and free stroke | - | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | Every 3 months |
| Transmissions | | | | | | | | | | | | | | | | | | | | | | |
| * Hand-operated transmission oil | | | I | | I | | I | | R | | I | | I | | I | | R | | I | | I | Every 24 months |
| Loosening of gear control mechanism | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| Gear control cable | | | | | A | | | | A | | | | A | | | | A | | | | A | Every 12 months |
| Drive shaft | | | | | | | | | | | | | | | | | | | | | | |
| * Universal joint and slip sleeve | | | | | L | | | | L | | | | L | | | | L | | | | L | Every 12 months |
| The connection parts are loose | | | I | | I | | I | | I | | I | | I | | I | | L | | I | | I | Every 6 months |
| Excessive spline wear | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| Loose bearing and associated parts | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| Intermdiate bearing | | | | | L | | | | L | | | | L | | | | L | | | | L | Every 12 months |
| Rear axle | | | | | | | | | | | | | | | | | | | | | | |
| * Differential mechanism oil | | | I | | I | | I | | R | | I | | I | | I | | R | | I | | I | Every 24 months |
| Front axle | | | | | | | | | | | | | | | | | | | | | | |
| * Steering master pin | | | L | | L | | L | | L | | L | | L | | L | | L | | L | | L | Every 6 months |
| Steering system | | | | | | | | | | | | | | | | | | | | | | |

## Maintenance schedule

**I: Inspect, clean up and repair or replace as necessary A: Adjust R: Replace T: Tighten to specified torque L: Lubricate**

**Use odometer reading or period, whichever comes first.**

| Service interval:x 1,000 km | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | Service interval or month number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hand-operated steering gear oil | | | | | | | I | | | | | | I | | | | | | I | | | Every 18 months |
| OPTOil leakage of the power steering system | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| OPTPower steering fluid | | | | | | | | | R | | | | | | | | R | | | | | Every 24 months |
| *OPTLoose or damaged power steering system | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Clearance between front axle of steering knuckle | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | r | Every 6 months |
| The steering mechanism is loose or damaged | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| Clearance of steering wheel | - | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | Every 3 months |
| Steering Function | - | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | Every 3 months |
| Wheel alignment | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| OPTThe power steering pump has no hose | | | | | | | | | | | | | | | | | R | | | | | Every 48 months |
| Main brake | | | | | | | | | | | | | | | | | | | | | | |
| Brake Fluid | | | I | | I | | I | | R | | I | | I | | I | | R | | I | | I | Every 24 months |
| Brake fluid leakage in the brake system | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| * Wear of friction lining and brake drum | | | | | I | | | | I | | | | I | | | | I | | | | I | Every 12 months |
| Wear of friction block and brake disc | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 12 months |
| Stroke and free stroke of the brake pedal | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | I | .I | I | I | I | I | Every 6 months |

## Maintenance schedule

**I: Inspect, clean up and repair or replace as necessary A: Adjust R: Replace T: Tighten to specified torque L: Lubricate**

**Use odometer reading or period, whichever comes first.**

| Service interval:x 1,000 km | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | Service interval or month number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Loose or damaged connection of pipe clamps and hoses | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Parking brake | | | | | | | | | | | | | | | | | | | | | | |
| Parking brake cable | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Function of the parking brake | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Stroke of parking brake lever | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Wear of friction lining | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| The brake drum is worn or damaged | | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| Worn or damaged ratchet mechanism | | | | | | | | | I | | | | | | | | 1 | | | | | Every 24 months |
| Suspension-level | | | | | | | | | | | | | | | | | | | | | | |
| Damage to the spring of the steel plate | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Wheel | | | | | | | | | | | | | | | | | | | | | | |
| Wheel pins (tire mounting bolts) and wheel nuts | T | | | | T | | | | r | | | | T | | | | T | | | | T | Every 12 months |
| Damage to the tire steel ring | | | | | I | | | | I | | | | I | | | | I | | | | I | Every 12 months |
| Hub bearing grease | | | | | | | | | R | | | | | | | | R | | | | | Every 24 months |
| Tire pressure and damage cup | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Electrical Installations | | | | | | | | | | | | | | | | | | | | | | |
| Specific gravity of battery electrolyte | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |

## Maintenance schedule

**I: Inspect, clean up and repair or replace as necessary A: Adjust R: Replace T: Tighten to specified torque L: Lubricate**

**Use odometer reading or period, whichever comes first.**

| Service interval:x 1,000 km | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | Service interval or month number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Others | | | | | | | | | | | | | | | | | | | | | | |
| Lamp, Horn, Windshield, Wiper and Washer | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |
| Bolts and nuts on the frame and body | I | | | | | | | | I | | | | | | | | I | | | | | Every 24 months |
| Oil leakage of vibration damper | | | I | | I | | I | | I | | I | | I | | I | | I | | I | - | I | Every 6 months |
| Check whether the vibration damper mounting bracket is loose | | | I | | I | | I | | I | | I | | I | | I | | I | | I | | I | Every 6 months |

**Maintenance schedule under severe driving conditions**

Severe driving conditions

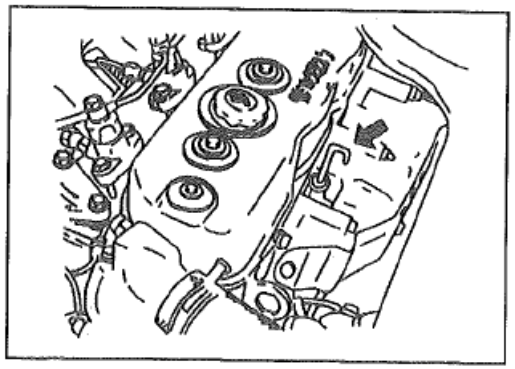
A: Repeated short trips

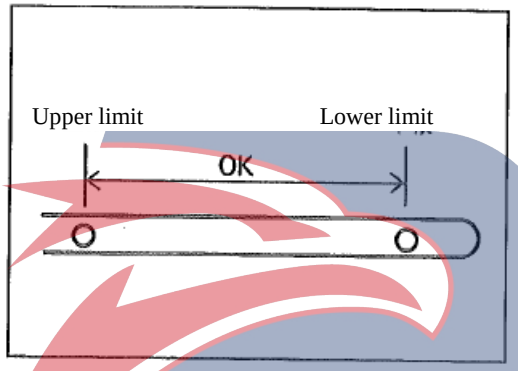
B: Driving on rough roads

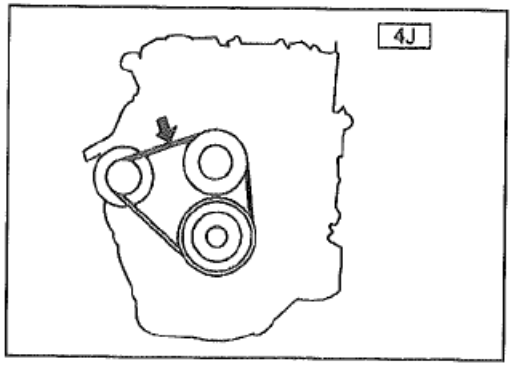
C: Driving on dusty roads

D: Driving in extremely cold weather and/or on salted roads

| Item | Interval | Condition | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | A+D |
| Engine oil | Replace every 2,500 km | | | • | | • |
| Engine oil filters | Replace every 5,000 km | | | • | | • |
| Exhaust pipe and its mounting parts | Replace every 10,000 km | • | • | | • | |
| Air filter element | Replace every 20,000 km | | | • | | |
| The steering mechanism is loose or damaged | Replace every 5,000 km | | • | | | |
| Grease for Cardan joint and sliding sleeve | Replace every 10,000 km | | • | | | |
| Manual transmission and differential oil | Replace every 20,000 km | | | | | |
| Brake friction lining and brake drum is worn | Replace every 10,000 km | • | • | • | | |
| Disc brake friction lining plate and brake disc are worn | Replace every 5,000 km | • | • | • | | |






# MAINTENANCE GUIDE

## ROUTINE INSPECTION

### Engine oil level

Pull out the oil level gauge rod (oil dipstick), wipe and clean it, and reinsert it. Again pull it out and check that the oil level is within the high and low level marks. Also check the oil on the gauge rod for contamination.

**NOTE**

**Engine oil level should be checked with the vehicle standing on level ground (before the operation of engine).**

**If the engine is running, stop the engine and allow 5 minutes for the oil to settle down before checking the oil level.**

### Fan belt

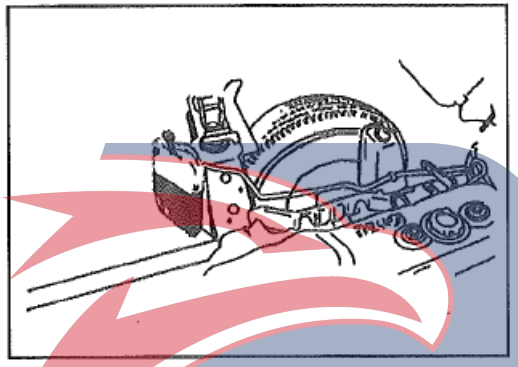
Check that the fan belt gives a deflection of 8-12 mm when the middle part of the belt is depressed a force of **100 N.** Also check the belt for cracks and damage.

**CAUTION**

**If the tension of the belt is too small, it can cause insufficient charging of the battery or overheating of the engine, and the tension of the belt may cause damage to the alternator or the triangle belt.**

**CAUTION**

**The fan belt should be checked. If the fan belt is broken, the brake booster will not act.**



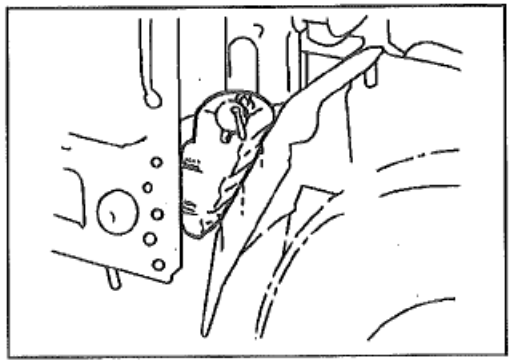
**Coolant level**

Overheating of the engine may cause the engine to be faulty or damaged. In order to avoid these phenomena, the coolant level must be checked regularly.

Check the coolant amount when the engine is cold; if necessary, supplement the coolant to the spare water tank of the radiator; if the liquid level in the standby tank is lower than the "Min" (lower limit), check the cooling system for leakage, and then add the coolant to "MAX" (Upper) scribed line.

**CAUTION**

*** To supply coolant, do so through the radiator sub tank. Do not remove theradiator cap.**



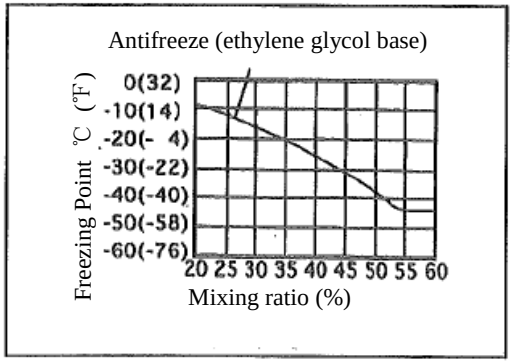
**• Do not remove the water-injection cap of the radiator if it is not necessary.**

**• The coolant level should be checked after the engine is cooled down.**

**• The anti-corrosive agents or additives to increase the cooling effect that are not identified by used by QingLing Motors shall not be used in the cooling system. The cooling system shall not be used in the cooling system without the qualification of the QingLing Motors to increase the cooling effect.**

**• Add antifreeze corresponding to the outside air temperature in the area where the vehicle is used to prevent freezing of cooling water, which is to be taken by the user.**

**• Do not use water from wells or rivers as the coolant. If the specified grade of coolant cannot be purchased, the city tap water may be temporarily replaced.**

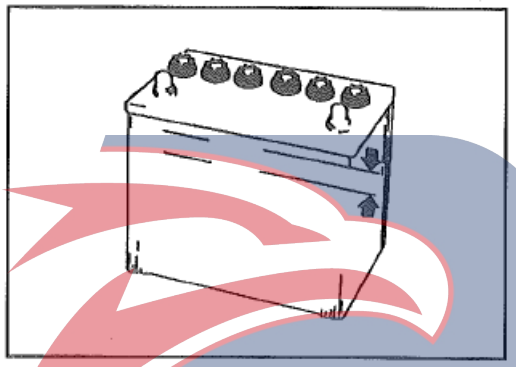



**• Use the engine coolant specified by QingLing Motors to supplement and replace the cooling water.**

**• Other brands of coolants tend to be free of corrosion inhibitor and may cause corrosion to the engine and the radiator.**

**• If the concentration of the engine coolant exceeds 60%, the specific heat characteristic will decrease, which may cause overheating of the engine, and in addition, if the concentration drops below 20%, the corrosion resistance will be reduced. Therefore, the coolant concentration shall be adjusted to a range of 20% to 60% depending on the specific conditions.**

**• Do not step on the radiator cap.**

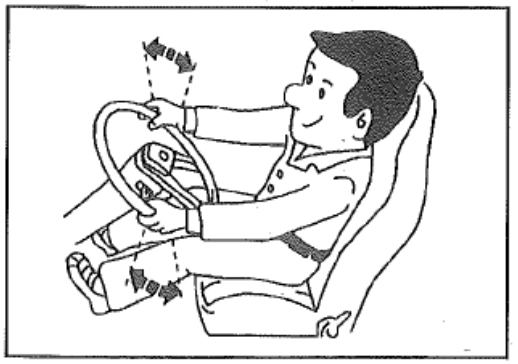


**Level of battery electrolyte**

Check the level of the electrolyte in each filler port. If it is necessary, add the fluid (distilled water), to bring the proper level in each filler port. The battery is installed in the battery compartment on the left side of the rear floor of the front seat.

**WARNING**

**• The electrolyte in the battery is dilute sulfuric acid. This is a hazardous liquid to human body, so attention shall be paid not to burn skin or burn clothes, especially to prevent it from splashing into eyes. If the battery electrolyte is splashed into the eyes, rinse the electrolyte immediately with a large amount of clean water, and then consult a doctor.**



**Steering wheel**

Check the amount of the steering wheel play by turning the wheel in both directions until the tires begin to move.

Standard play shall be within the following ranges.

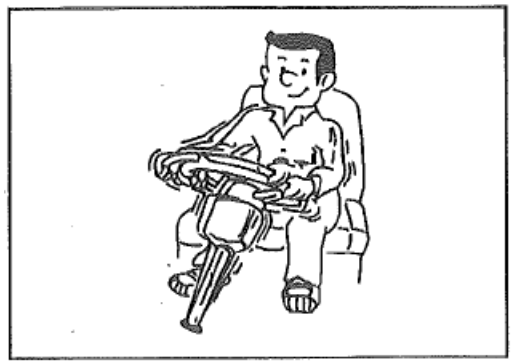
Manual steering mechanism: 10-30 mm

OPT Power steering mechanism: 10-50 mm

At this time, the play should be measured along the periphery of the steering wheel in the forward direction of the front wheels.

**CAUTION**

**If the vehicle is equipped with a power steering mechanism, the steering wheel play should be measured at the engine running state.**

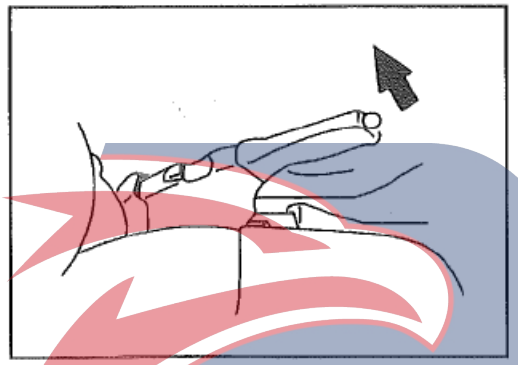


Also, it is required to swing the steering wheel forwards and backwards and to the left and right in order to check the installation gap of the steering wheel for looseness.

When driving the vehicle, it is necessary to check whether it is heavy to turn the steering wheel, the steering wheel trembles and is pulled to one side etc.

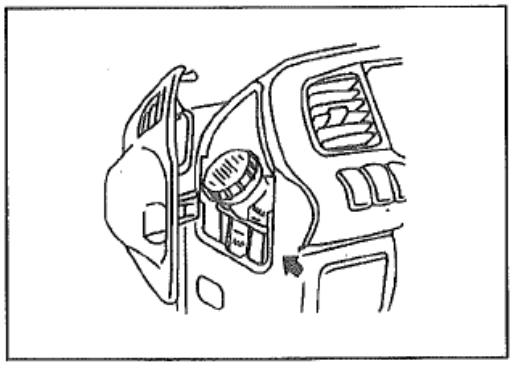
**CAUTION**

**If the steering mechanism components play is too large. In case of looseness and other abnormalities, the steering mechanism shall be checked by the QingLing Motors Special Distribution Shop (Maintenance Station).**



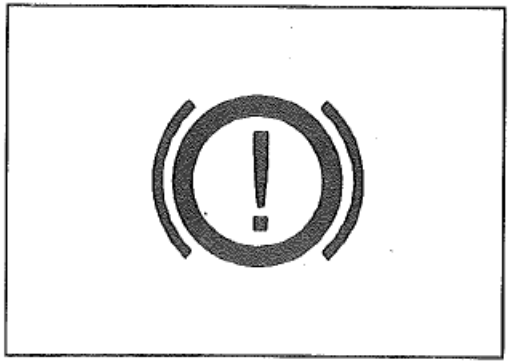
**Stroke of parking brake lever**

When the parking brake lever is pulled up by 150 N, its normal travel is 5 to 8 teeth. If its stroke exceeds 16 teeth, the brake action is insufficient and the brake adjustment is required.



**Brake fluid level**

Check that the fluid level of the brake fluid is between the "MAX" and "ADD" level mark on the tank. If the level is lower than the "ADD" mark line, the recommended brake fluid should be added.

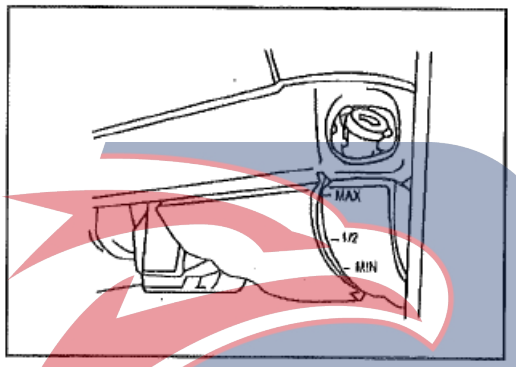


OPTIf the brake fluid tank is equipped with a liquid level indicator, it is not necessary to check the fluid level regularly.

**WARNING**

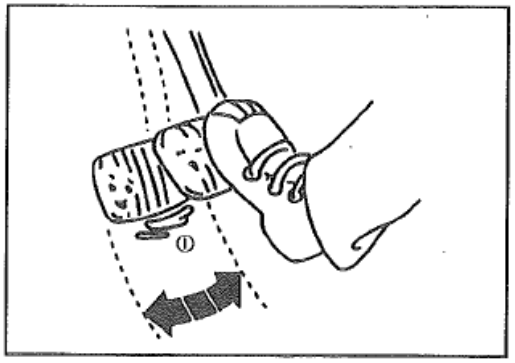
**The illumination of the brake indicator does not indicate parking and whether the brakes are functioning. Therefore, when using the parking brake, stop the parking brake lever as far as possible.**

**Do not drive the vehicle when the brake indicator is illuminated, since the braking system may have failed, and the driving vehicle is dangerous at this condition and may even cause an accident.**




**Windshield washer solution level**

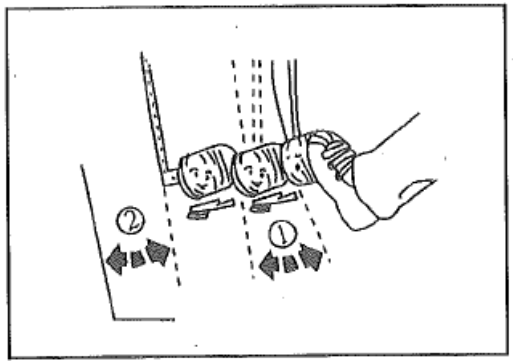
Check that the washer tank is filled sufficiently with solution. Also, check the windshield washer for proper operation.




**Clutch pedal free play**

**Standard value:**

①Free play:15-25mm

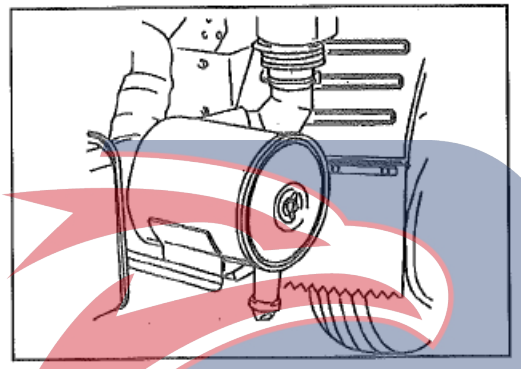



**Brake pedal free play**

**Standard value:**

① Free play: 4 - 7 mm

②Allowance: 40 mm



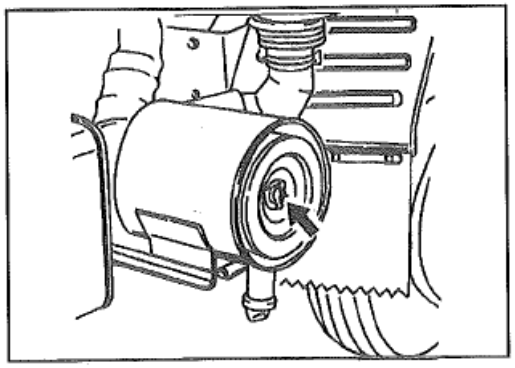
**PERIODIC MAINTENANCE**

**Air filter**

The use of fouled air filter element not only causes a deterioration in engine output, but also raises fuel consumption and generates dark exhaust smoke. The fouling condition of the air filter element can be checked against the indicator on the air duct.

**NOTE**

**When replacing the filter element, you must use the air filter element specified by QingLing Motors.**



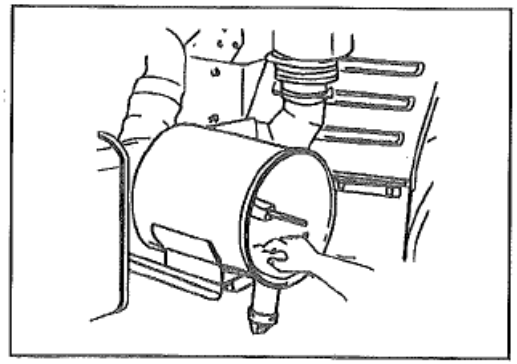
**1. Remove the filter element (behind the cab)**

• Remove the wing nut retaining the element (or outer element) and take out the element.

· Unscrew the wing nut fixing the filter element and take out the filter element.

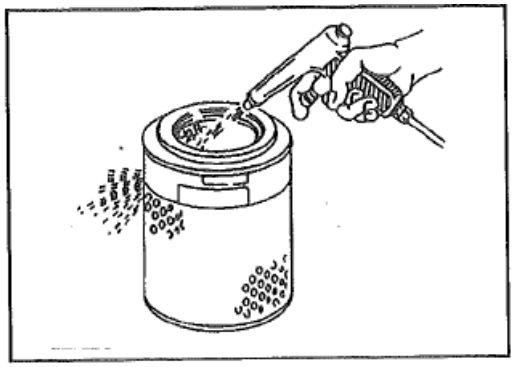
**CAUTION**

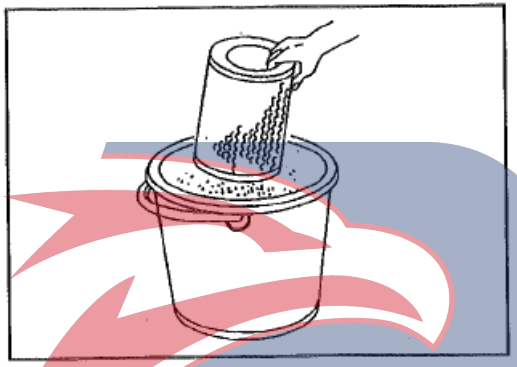
**Handle the element carefully so as not to damage it.**

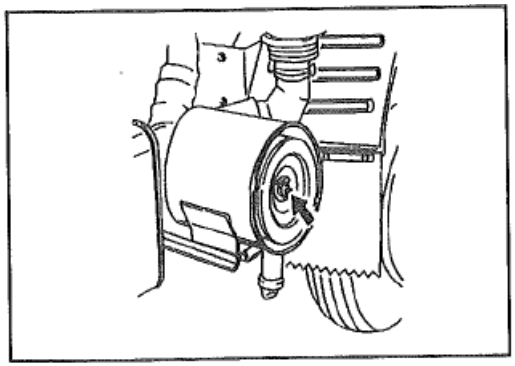


**2. Cleaning of air filter housing and cover**

Wipe the dust on the inside of the air filter housing, the outer cover, and the gasket surface.







### 3. Cleaning of filter element

The element may be cleaned by either of the following steps described below depending on fouling conditions.

**When the element is fouled but dry**

Blow the dust away by applying compressed air less than **700 kPa** to the inner face of the element while turning it by hand.

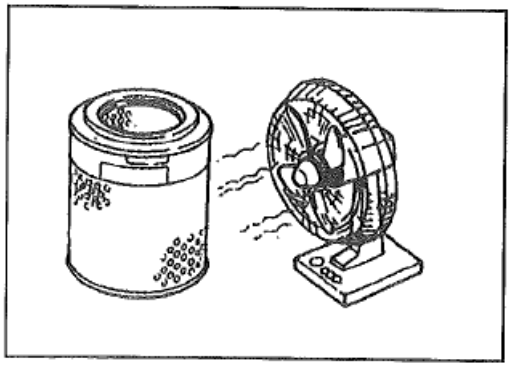
**When the element is fouled with carbon and oil**

1. Dilute the filter element cleaner (ISUZU element cleaner: Donaldson NDI500 or D1500) to prepare the cleaning solution. Submerge the element in the cleaning solution for approximately 20 minutes.

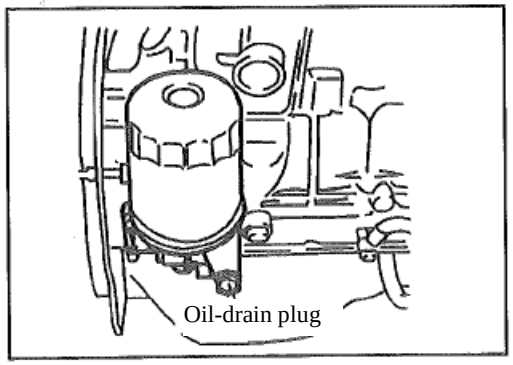
2. Then rinse well with running water (with pressure of lower than 280 kPa.

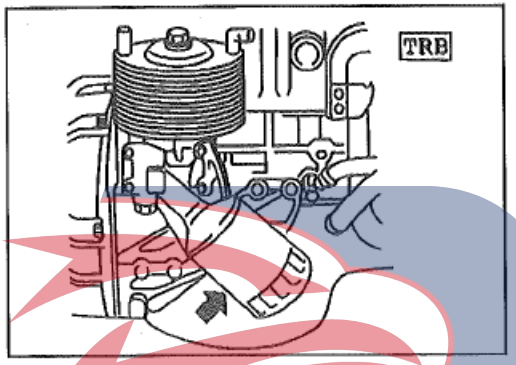
**NOTE**

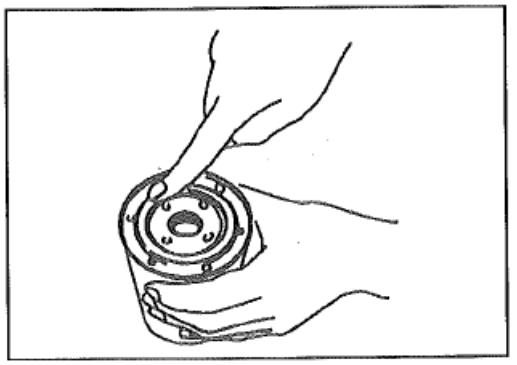
**Do not apply compressed air to the outer face of the element as it causes the dust to cling to the inner face (clean side) of it.**



3. Rotate the filter element in a well-ventilated place to dry it. The fan can be used for drying the filter quickly. However, the filter cannot be dried by compressed air or fire to shorten the drying time. Because the filter element naturally dries normally for two or three days, it is better to use a spare filter.



**Main engine oil filter**

1. Loosen the drain plug (if equipped) that is located on the bottom of the oil filter to drain the oil.

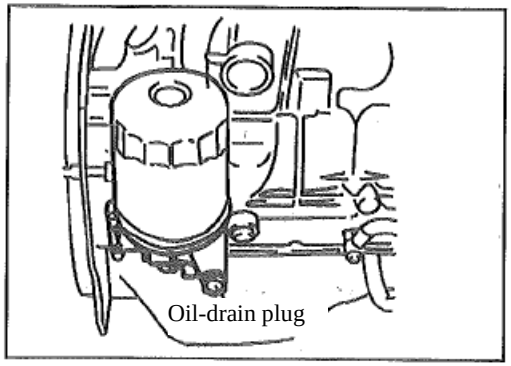
2. Screw the oil filter with the oil filter wrench in the opposite direction to make it loose.

3. Wipe the mating surface of the oil filter bottom cover with a leftover of cloth so that the new oil filter can be properly installed on the mating surface.

4. Apply a coat of engine oil on the O-ring surface, install the O-ring and tighten the oil filter slowly until the O-ring snugs against the sealing surface. Then, use the oil filter wrench to further tighten the oil filter to 3/ 4 turns.

**CAUTION**

**Check the oil level in the engine, if necessary, fill it to the specified oil level. Start the engine and check whether the oil filter is leaking or not. Always use the complete set of oil filter elements as specified by QingLing Motors when replacing.**



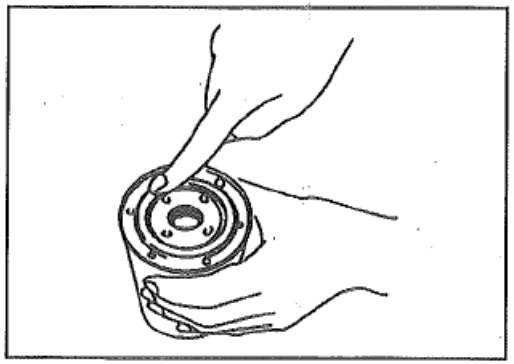

**OPT Partial-flow oil filter**

When changing the oil for the lubrication system, oil is removed from the oil filter housing at the same time. The filter elements shall be replaced periodically.

1. Loosen the drain hole plug that is located on the oil filter bottom cover for approx. 15 mm, in order to drain the oil.

2. Screw the oil filter with the oil filter wrench in the opposite direction to make it loose.

3. Wipe the mating surface of the oil filter bottom cover with a leftover of cloth so that the new oil filter can be properly installed on the mating surface.

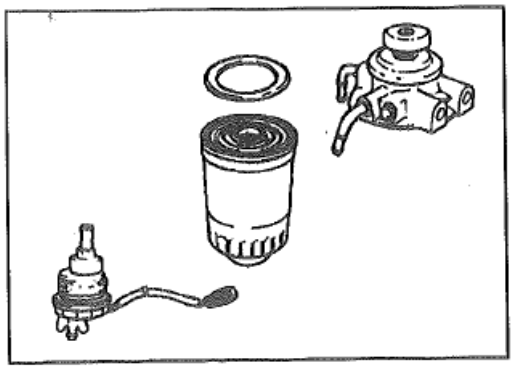


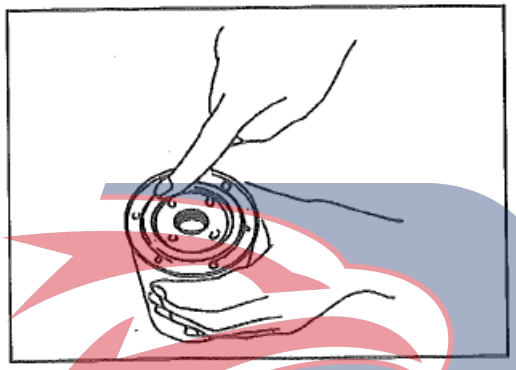
4. Apply a coat of engine oil on the O-ring surface, install the O-ring and tighten the oil filter slowly until the O-ring snugs against the sealing surface. Then, use the oil filter wrench to further tighten the oil filter.

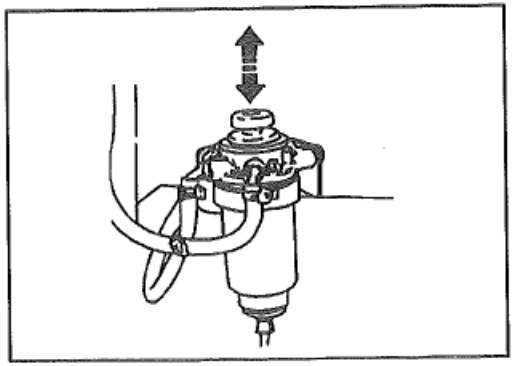
**NOTE**

**Check the oil level in the engine, if necessary, fill in the specified oil level. Start the engine and check whether the oil leaks from the oil filter.**

**It is strongly advisable to use Isuzu genuine oil filter element kit for replacement.**







**Fuel filter**

1. Turn the filter in the counterclockwise direction with wrench of filter to loosen it.

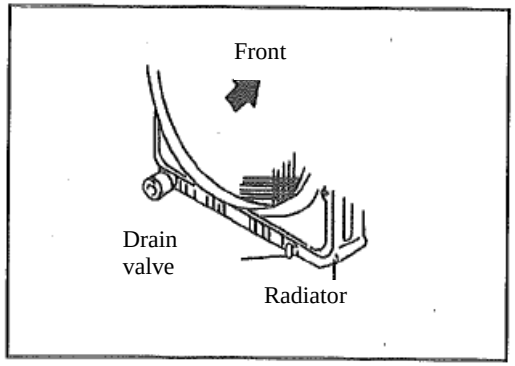
2. Clean the mating surface of the filter holder head with a piece cloth, so that the new filter can be properly installed on the mating surface.

3. Apply a layer of engine oil to the 0-ring surface. Install 0-ring, on one hand, take care to avoid fuel spillage, on the other hand, turn the filter slowly towards the clockwise direction until the 0-ring snugs against the sealing surface. Then, tighten the filter with a filter wrench to further tighten the filter for 2/3 turns.

4. Operate the priming pump on the oil-water separator several times in order to exhaust the fuel system.

5. After the fuel filter has been exhausted, start the engine with the start switch.

6. If the engine fails to start within 10 seconds, the exhaust operation shall be carried out again.




**Engine coolant**

To replace the engine coolant, loosen the drain valve on the radiator and cylinder body to drain the liquid in the cooling system.

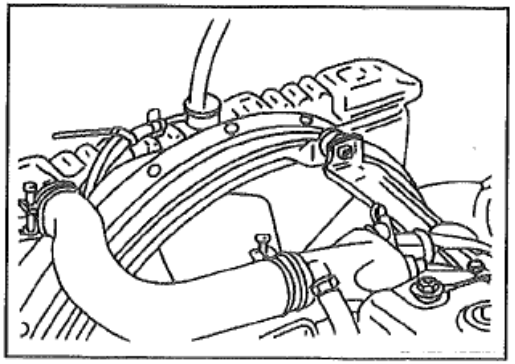
The cooling system of the engine shall be flushed at least once a year to ensure optimum cooling effect.

QingLing Motors recommends to use the long-acting coolant (ethylene glycol base) that does not contain any rust inhibitor and other additives.

**CAUTION**

**When replacing or filling the coolant for the engine cooling system, the incorrect filling sometimes causes the coolant to overflow from the neck of the injection port under the state of the engine and the radiator.**

**If the engine is running in this condition, insufficient coolant may cause overheating of the engine. To avoid this problem, always follow the following precautions when filling the coolant.**

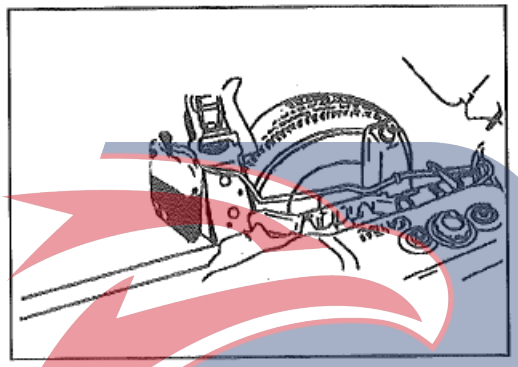


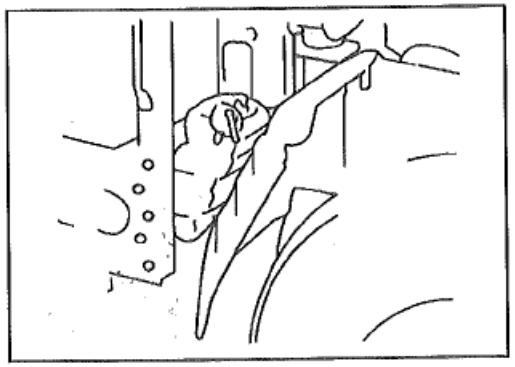
1. Use a filling hose with an outside diameter less than the inner diameter of the water injection neck. Otherwise, the ventilation space between the neck and the filler hose will be blocked to prevent the full topping up of the cooling system.

2. Maintain the filling rate of 9 L/ min or less. If the filling rate exceeds this maximum rate, the air in the engine radiator may not be completely discharged.

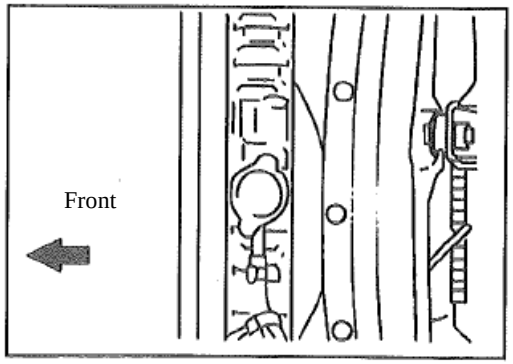
Also, even if the coolant overflows, it is difficult to verify that the system is fully filled.

3. When the system is filled, take out the filling hose and check whether there is leakage of air bubbles in the system and whether the coolant level drops. If the fluid level drops, continue filling the coolant until the coolant surface is no longer lowered.

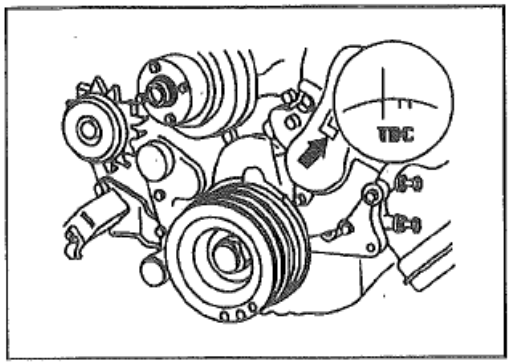




4. After filling the cooling system completely, fill the coolant to the spare water tank to maximum liquid level.

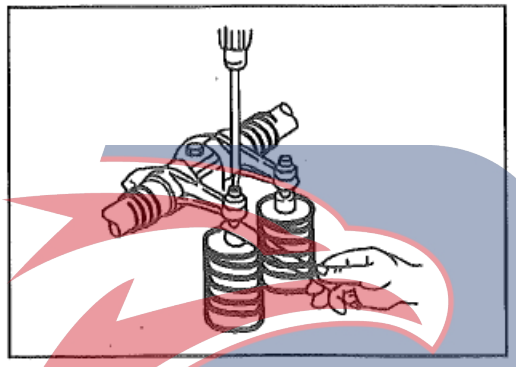



5. Install the water injection cover and tighten it (be sure to tighten the cover to the locking position) and then start the engine so that the water temperature rises to the temperature at which the thermostat valve can be opened (until the water temperature meter pointer points the temperature above the middle scale of the dial). Stop the engine and wait until the cooling water temperature drops, open the water injection cap, and recheck the coolant level again. The level of the standby tank must also be checked too. If the fluid level is found to be insufficient, fill the coolant to the cooling system and/or the spare tank to the required level.




**Valve clearance adjustment**

1. Rotate the crankshaft until the top-deadcenter (TDC) line on the crankshaft pulley damper is aligned with the timing pointer. Move the piston in the cylinders 1 or, 4 to the top dead center of the compression stroke.

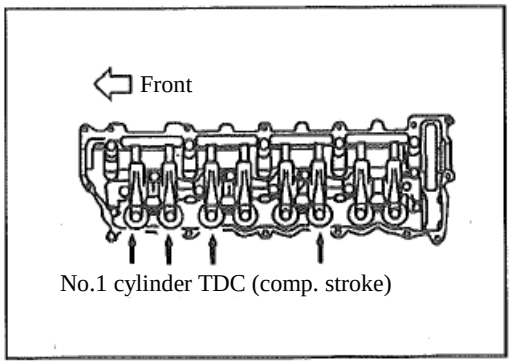


2. Use a feeler gauge to adjust the valve clearance.

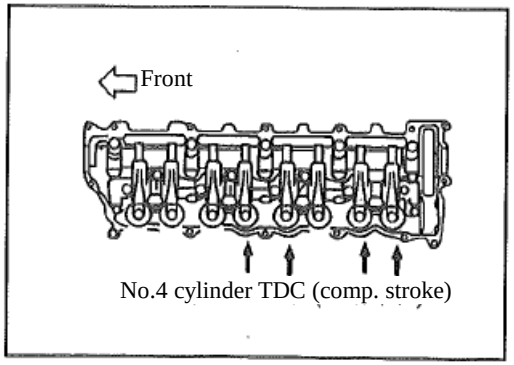
Valve clearance (Cold)

Intake: 0.4mm

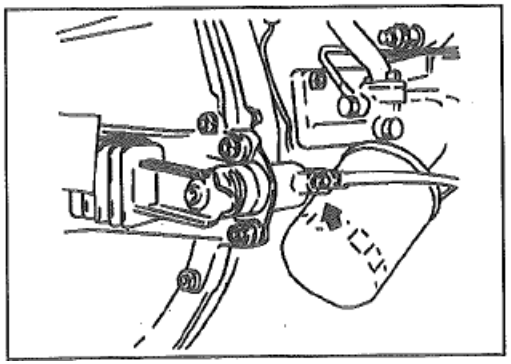
Exhaust: 0.4mm




3. Adjust the clearance of the valves marked with a dot.



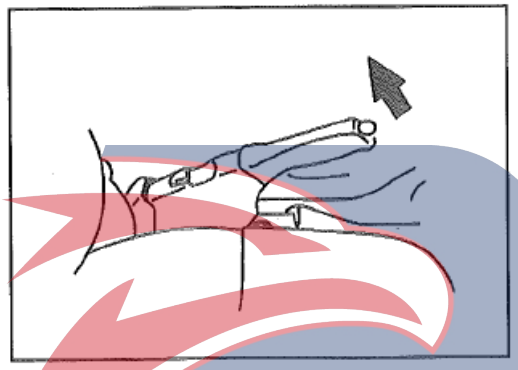

4. Rotate the crankshaft to a circle (360 degrees) and continue to adjust the valve lash as shown in the arrow.



**Bleeding of brake hydraulic circuit**

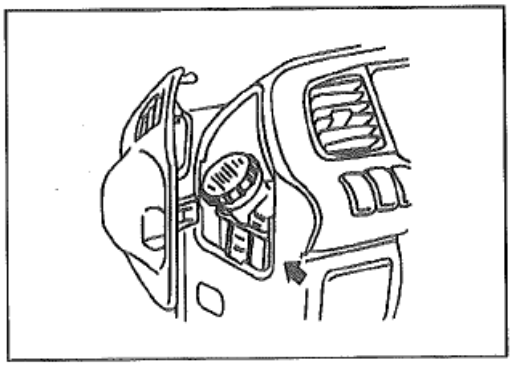
If air enters the brake hydraulic circuit it causes poor brake action. Therefore, bleeding operation should be performed if the brakes have been used with the brake fluid level in the reservoir lowered excessively or if the brake pipes have been disconnected in the course of brake servicing.

Bleeding operation calls for cooperative action of two men.

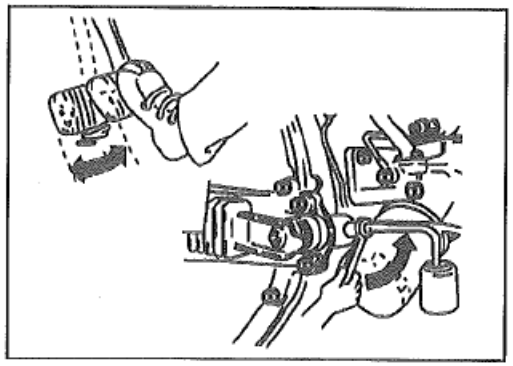


**Follow these steps to bleed:**

1. Tighten the parking brake.

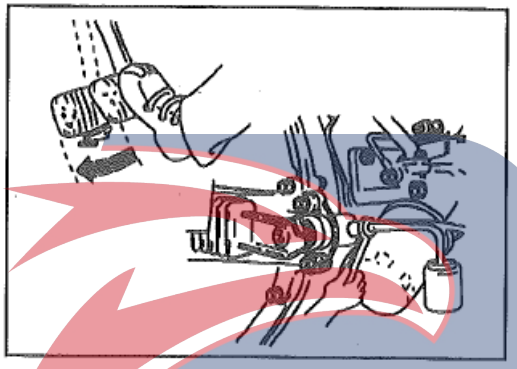


2. Check the liquid level of brake fluid and fill in if necessary.



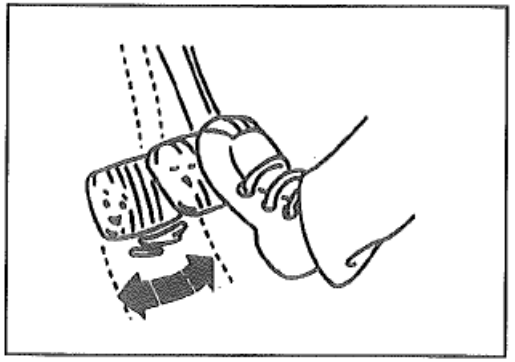
3. Remove the rubber cap from the bleeder screw and wipe clean the bleeder screw. Connect a vinyl tube to the bleeder screw and insert the other end of the vinyl tube into a transparent container.

4. Pump the brake pedal repeatedly and hold it depressed.



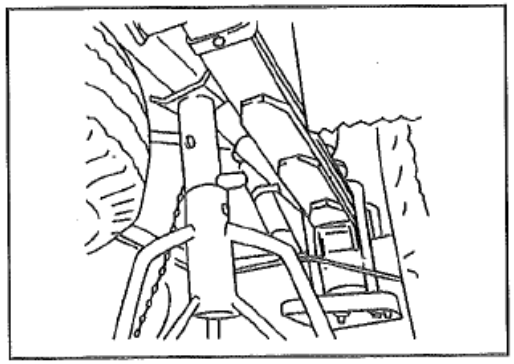
5. Loosen the bleeder screw on the clutch slave cylinder or clutch booster to release clutch fluid with air bubbles into the container and tighten the bleeder screw immediately.

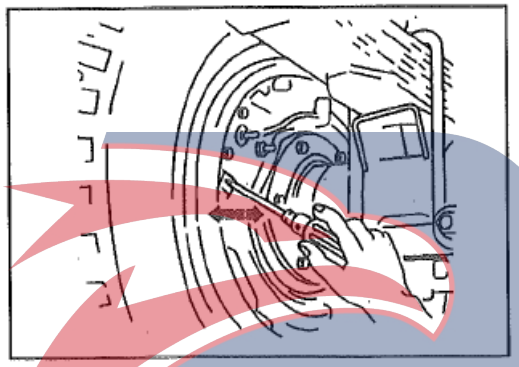
6. Release the clutch pedal carefully. Repeat the above operation until air bubbles disappear from the clutch fluid being pumped out into the container. During the bleeding operation, keep the clutch fluid reservoir filled to the specified level. And place the rubber cap back.



**Adjustment of brake lining clearance**

The use of brake system with excessive brake lining clearances is unsafe as the brake performance deteriorates with an increase in lining clearance. The brake lining clearance should be checked and adjusted at specified intervals.





Adjust the front and rear wheel brake according to the following methods:

1. Jack up the wheel so that it leaves the ground completely.

2. Then pad into a secure support.

3. Remove the rubber plug from the brake adjustment hole on both sides of the front and rear of the brake rear panel.

4. Insert a screwdriver into the adjusting hole and turn the pinion to the direction shown in the arrow until the wheel is braked.

5. Turn the adjuster back to 5-6 teeth.

6. Reinstall the rubber plug.

7. Continue to adjust the brakes on other wheels according to the above adjustment procedure.

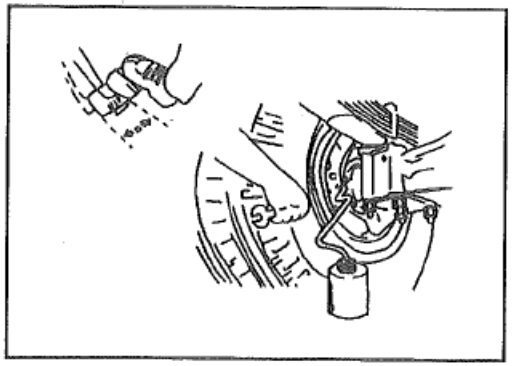
1. Depress the brake pedal as far as possible.

2. Repeat Step 1 for five times to automatically adjust the clearance of the brake drum.

**NOTE**

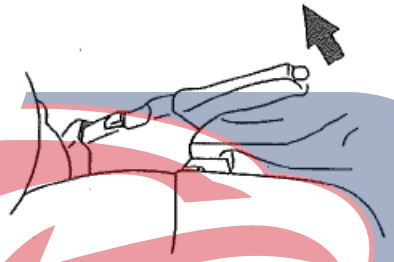
**As far as possible, the brake pedal can be adjusted automatically by depressing the brake pedal as far as possible.**

Repeat the above steps several times to ensure good adjustment.



**Bleeding of brake hydraulic circuit**

If air enters the brake hydraulic circuit it causes poor brake action. Therefore, bleeding operation should be performed if the brakes have been used with the brake fluid level in the reservoir lowered excessively or if the brake pipes have been disconnected in the course of brake servicing. Bleeding operation calls for cooperative action of two men.

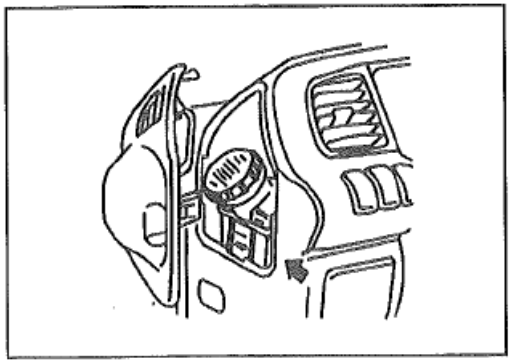


**To bleed, proceed as follows:**

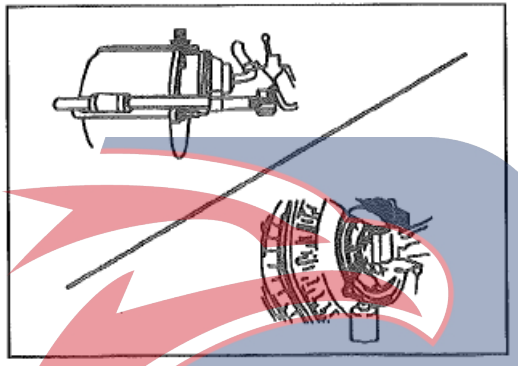
1. Tighten the parking brake.
2. Before bleeding the brake hydraulic circuit, start and keep the engine running until the air pressure rises sufficiently.

**CAUTION**

**Brake booster will be adversely effected if bleeding operation is performed without running the engine.**

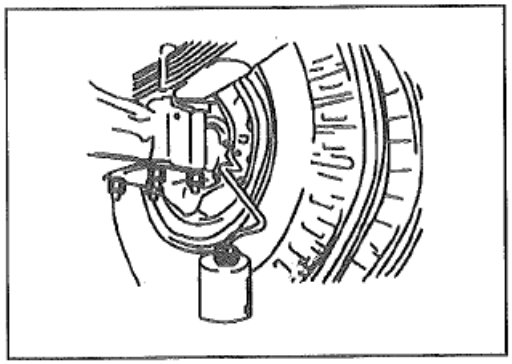


3. Fill the brake fluid reservoir up to the level mark with brake fluid and replenish as necessary to keep its level.

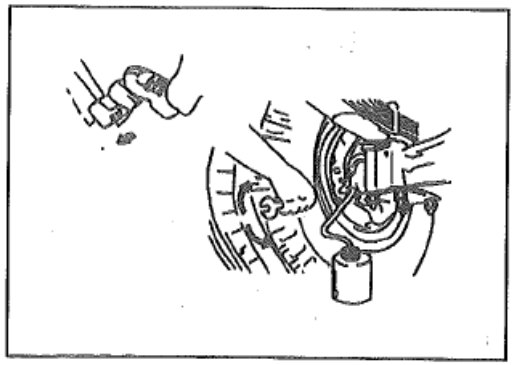


4. Bleeding of the brake hydraulic circuit should be performed in the following sequence:

Right rear wheel → deceleration sensing proportional valve (if equipped) → right front wheel → left front wheel → hydraulic vacuum booster (if equipped)

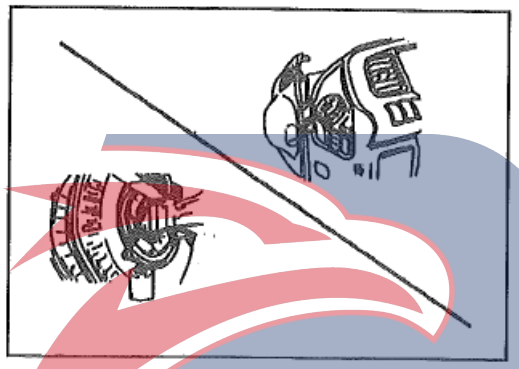


5. Remove the rubber cap from the bleeder screw and wipe clean the bleeder screw. Connect a vinyl tube to the bleeder screw and insert the other end of the vinyl tube into a transparent container.

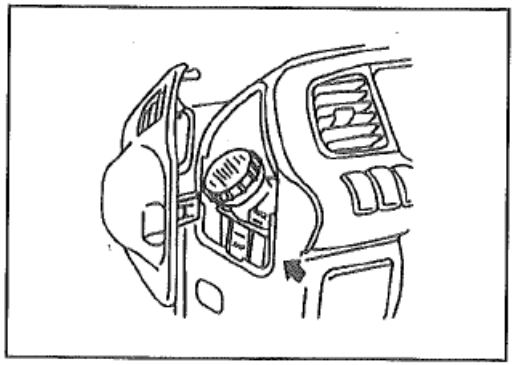


6. Pump the brake pedal repeatedly and hold it depressed.

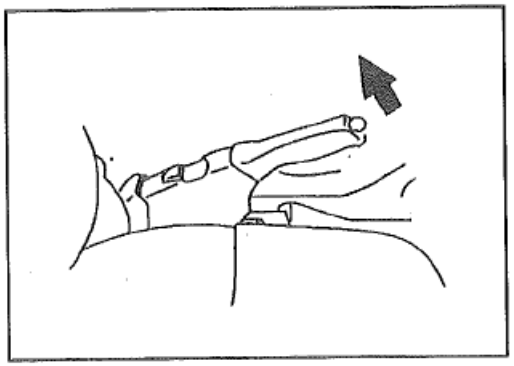
Loosen the bleeder screw to release the brake fluid with air bubbles into the container and tighten the bleeder screw immediately.



7. Release the brake pedal carefully. Repeat the above operation until the air bubbles disappear from the brake fluid by being pumped out into the container. During the bleeding operation, keep the brake fluid reservoir filled to the specified level. And place the rubber cap back.



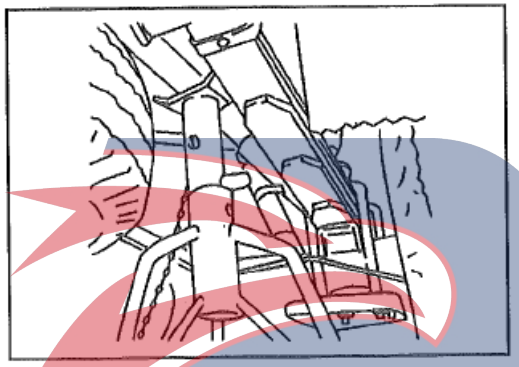
8. After exhausting each wheel, check the liquid level in the brake fluid tank, if necessary, make supplemental fill.



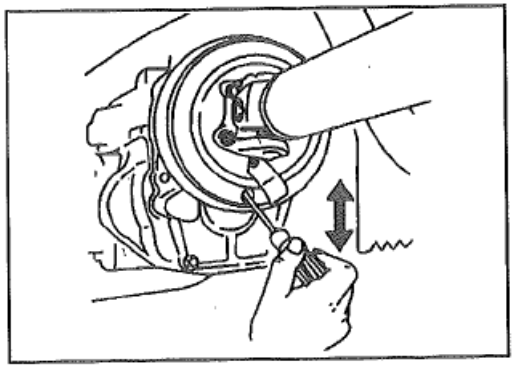
**Parking brake adjustment**

The parking brake lever stroke is normal if the brake lever travel is 5 to 8 notches as the lever is pulled up by 150 N, adjustment must be made in the following manner.

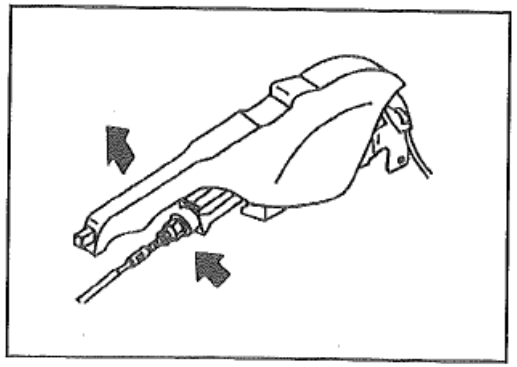
1. Brace the front wheels and fully release the parking brake.



2. Jack up the rear wheels until they are clear of the ground and place the transmission in neutral. Bring the adjusting hole in the brake drum into alignment with the adjuster by turning the propeller shaft as necessary by hand.



3. Insert a screwdriver into the adjusting hole and turn the adjuster upward to stop.



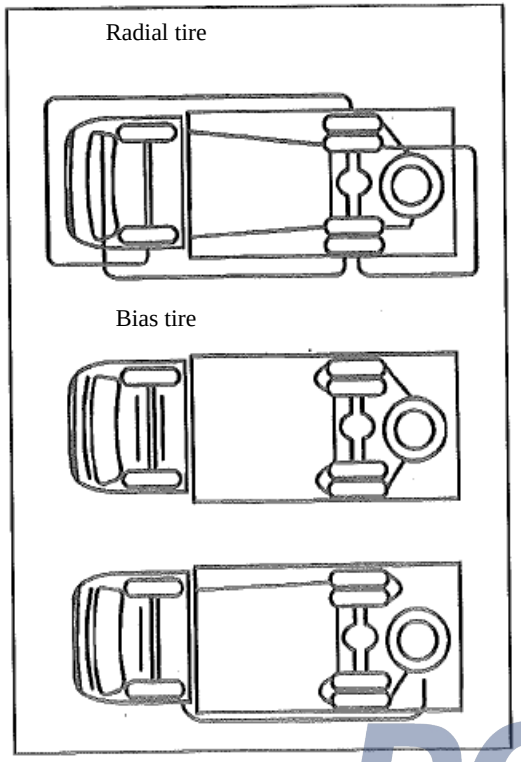
4. Adjust the adjuster back to 30 teeth, and check the stroke of the parking brake lever.

If the stroke of the parking brake lever deviates from the normal range, then it is required to adjust the length of the parking brake cable as follows.

(1) Loosen the locknut.

(2) Adjust the length of the parking brake with the adjustment nut.

(3) Tighten and lock the adjusting nut with the lock nut.




**Replacement of tires**

In order to maintain the wear of each tire evenly and extend the service life of tire, the position of the front and rear wheels should be replaced in the order shown in the Fig.

1. Replace once every 5,000-8,000km;

2. When changing and replacing the tires, the tires shall be inspected for dynamic balance;

3. When replacing the tires, use the tires of correct specification strictly according to the instructions in the Manual;

4. When the tire is selected, the tires on the same shaft shall be "Unifying Eight Items", that is, the specification is the same, the structure is the same, the material is the same, the level is the same, the air pressure is the same, the load is the same, the pattern is the same, and the brand is the same.

**Tire inflation pressure:**

For standard inflation pressures, refer to the following table.

**NOTE**

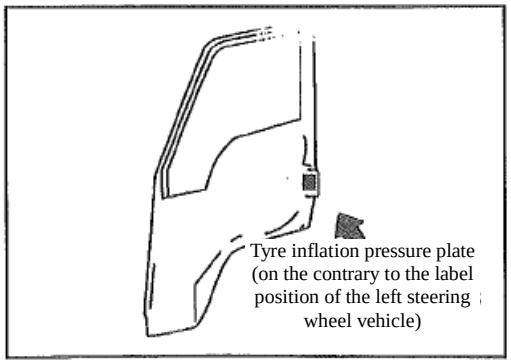
**Check or maintain tire pressure when the tires are cold. (After the vehicle has been inoperative for more than 3 hours or driven less than 1.6 km).**

**Tire inflation pressure**

| Tire size | Ex-factory inflation pressure (kPa) | | | Maximum inflation pressure (kPa) |
|---|---|---|---|---|
| | Front tire | Rear tire | Spare tire | |
| 6.50-16 10PR | 420 | 420 | 420 | 530 |
| 6.50R16 10PR | 420 | 420 | 420 | 560 |
| 7.00-15 12PR | 420 | 420 | 420 | 630 |
| 7.00R15 12PR | 420 | 420 | 420 | 670 |
| 7.00-16 14PR | 490 | 490 | 490 | 730 |
| 7.00R16 14PR | 490 | 490 | 490 | 770 |
| 7.50-15 12PR | 460 | 460 | 460 | 530 |

**NOTE**

**The ex-factory inflation pressure is under no-load state, and the user can increase or decrease the air pressure according to actual installation quality and driving speed. Insufficient air pressure or too high pressure can cause abnormal wear of tire, affect comfort and waste fuel. However, the maximum inflation pressure must not be exceeded.**

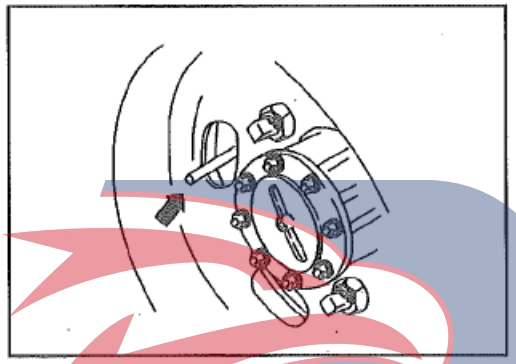



**Tire Inflation Pressure Plate**

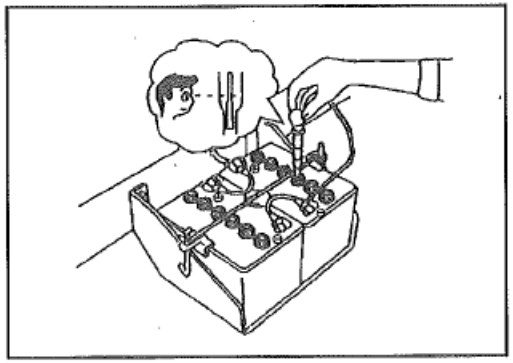
The standard value of tire inflation pressure is recorded on the tire inflation pressure plate located on the inside of the driver's side respectively.

**WARNING**

- **Never drive the vehicle unless the tires are properly inflated and in safe condition.**
- **Over-inflation or under-inflation can affect vehicle handling and result in loss of control as well as excessive tire wear and tire damage.**



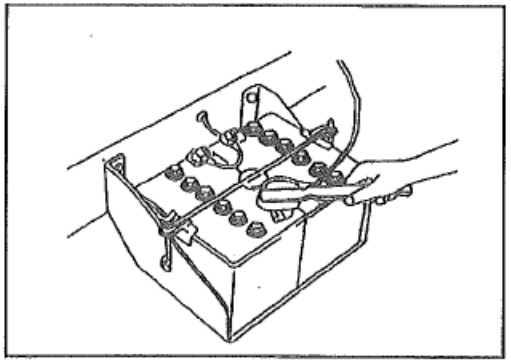
If the tire pressure is measured on the rear inner side of the double tire type vehicle, use the valve cap wrench of the general tool.



**Specific gravity of battery electrolyte**

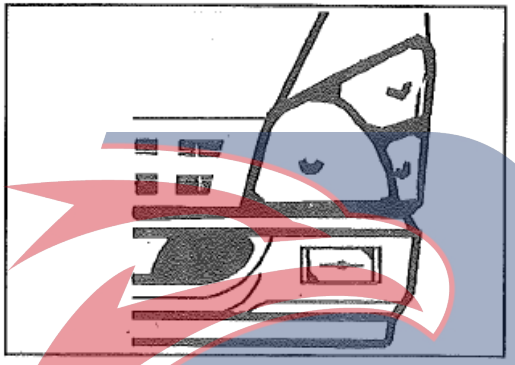
At 20 ℃, if the hydrometer reading of electrolyte is 1.26, the battery is considered to be fully charged.

If the specific gravity is less than 1.23, the battery needs to be recharged.



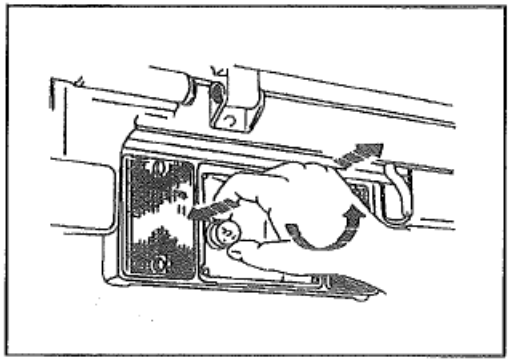
**Cleaning of battery**

If the external part of the battery is fouled, clean with tepid water. Apply a thin coat of Vaseline or grease to the battery terminals to prevent corrosion.



**Headlights**

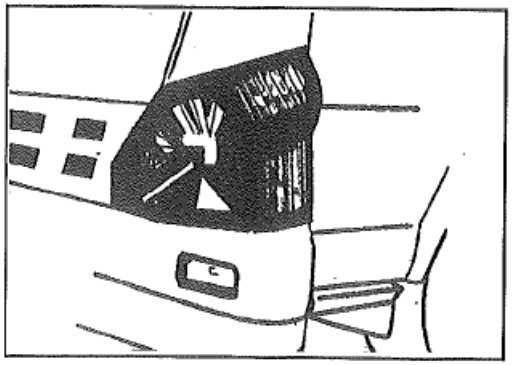
Proper aiming of the headlights is most important in assuring sufficient illumination on the highway without blinding other motorists. When lamp aiming is necessary it is advisable to contact an authorized dealer who has special equipment for this purpose.



**Replacing lamp bulbs**

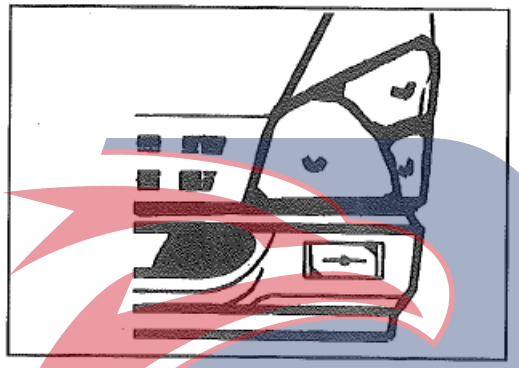
The removal position of each lamp is shown in Illustration for reference. **When replacing a bulb, make sure the lamp switch is "OFF". Use bulbs with the same wattage only.** The standard bulb wattage ratings are given below.

| Part | | Rated Power | |
|---|---|---|---|
| | | 12 Volt | No. of bulb |
| Headlight | | 60 watts /55 watts | 2 |
| Front combination lamp | Front turn signal lamp | 21 watts | 2 |
| | Clearance lamp | 5 watts | 2 |
| Rear combination lamp | Stop lamp/Taillamp | 21 watts /5 watts | 2 |
| | Turn signal lamp | 21 watts | 2 |
| | Backup lamp | 21 watts | 2 |
| License plate lamp | | 10 watts | 1 |
| Rear fog lamp | | 21 watts | 1 |
| Cornering lamp | | 5 watts | 4 |



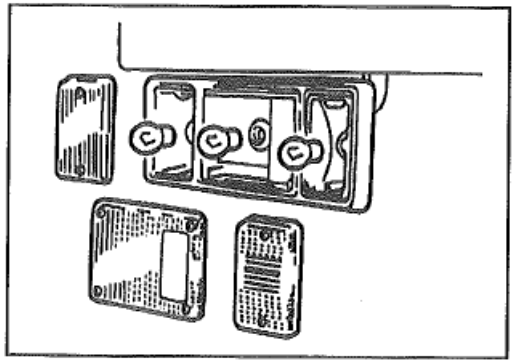
**Front combination lamp**

Unscrew the retaining screws and remove them.



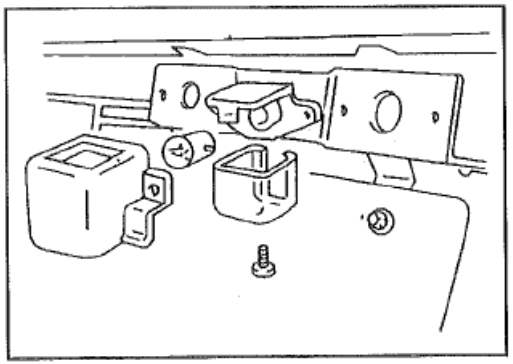
**Fog lamp**

Unscrew the retaining screws and remove the fog lamp.



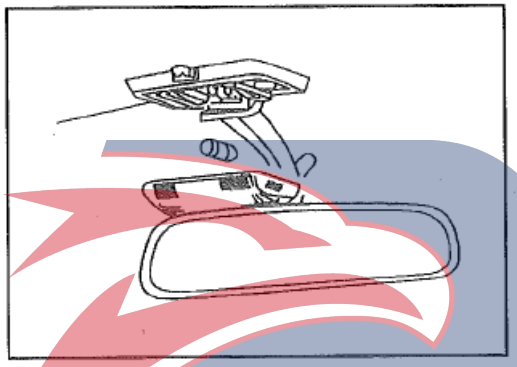
**Rear combination lamp**

Unscrew the retaining screws and remove them.



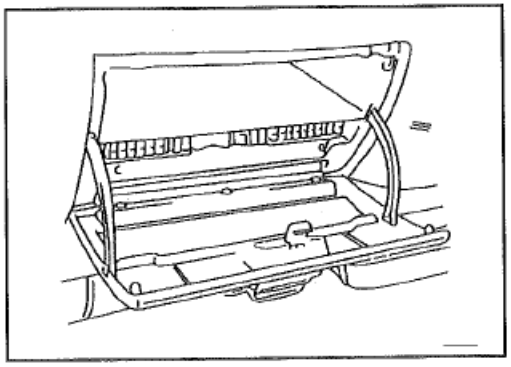
**License plate lamp**

Unscrew the retaining screws and remove the glass.



**Dome lamp**

The glass can be easily pulled out as long as a screwdriver is used.



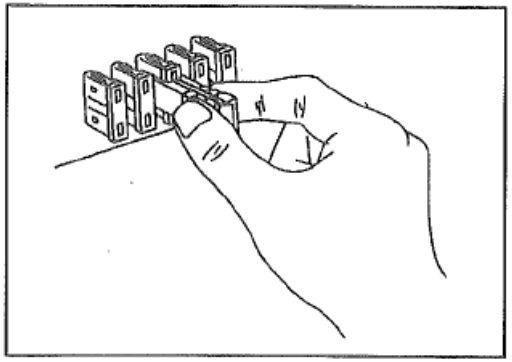
**Fuse box**

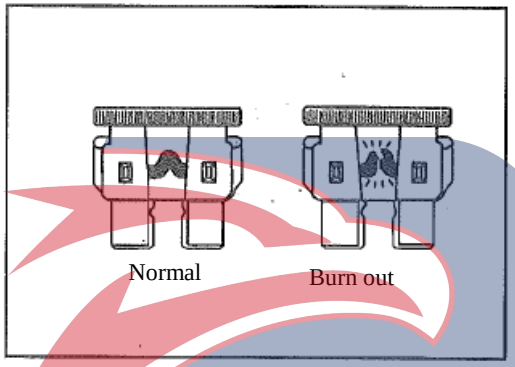
The fuse box is located under the toolbox. Open the hand tool cover to check and replace the fuse.

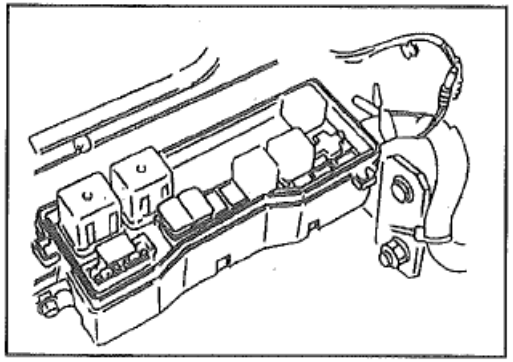
The tool box cover can be simply pulled out by hand.

The rated current value of the fuse and the applicable circuit name are recorded on the label on the inside of the box cover.

To replace the fuse, use the equipped fuse extractor.





**NOTE**

**If the fuse is found to fuse, check it to find out the cause of the fusing and take the necessary maintenance measures before replacing the fuse.**

**If replacing the fuse, you should turn the start switch to the "LOCK" position and must use a fuse with the same current value.**

**Fusible connecting line**

If the headlight or other electrical components are inoperative and the fuse is normal, check the fusible connecting line. If the fusible connecting line has fused, replace the fusible connecting line with the same current value.

**WARNING**

**In case of replacement, the genuine fusible connecting line of QingLing Motors must be used.**

**The copper wire shall not be installed even as temporary measures. It may result in greater damage and even fire.**

**If the circuit from the battery is overloaded, the fusible connecting line will fuse to protect the electrical circuit before all electrical lines are damaged.**

**WARNING**

**Before replacing the fusible connecting line, make sure to find out the cause of the overload of electric power.**

**Air conditioner refrigerant**

In the process of air conditioning use, the prescribed refrigerant should be filled or replaced when it is necessary to supplement or replace the refrigerant.

Refrigerant type: R134a

Specified filling amount (g): 730-750

**Special Considerations for the Brake Cylinder**

• The diameter of the front and rear wheel cylinder of 2765 wheelbase series model: φ8.57 mm, (front), φ25.4 mm (rear).

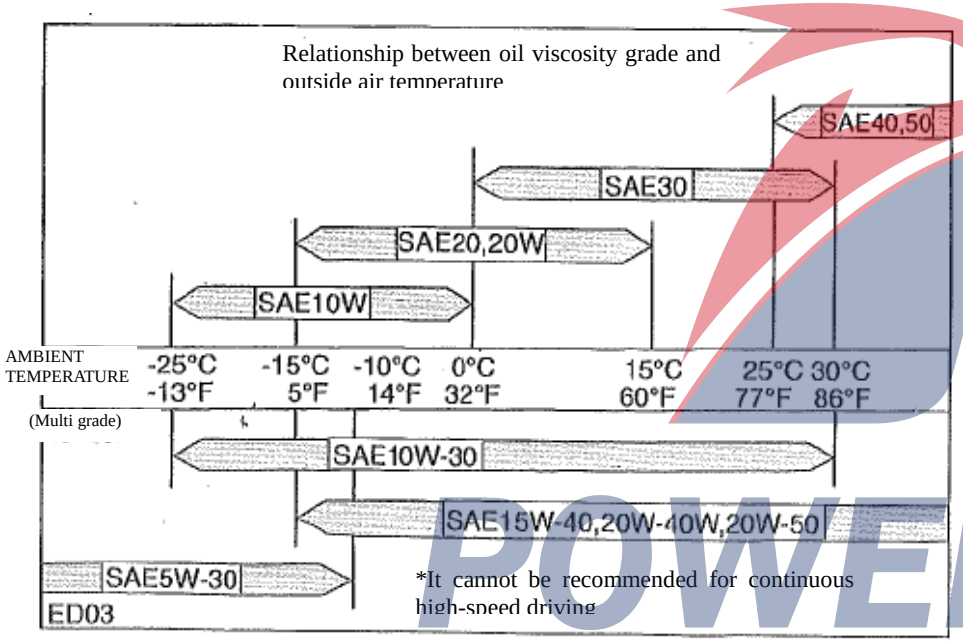
• The diameter of the front and rear wheel cylinder of 3360, 3815 wheelbase series model: φ28.57 mm, (front), φ28.57 mm (rear).

• When replacing or repairing, you must do according to the arrangement above mentioned.

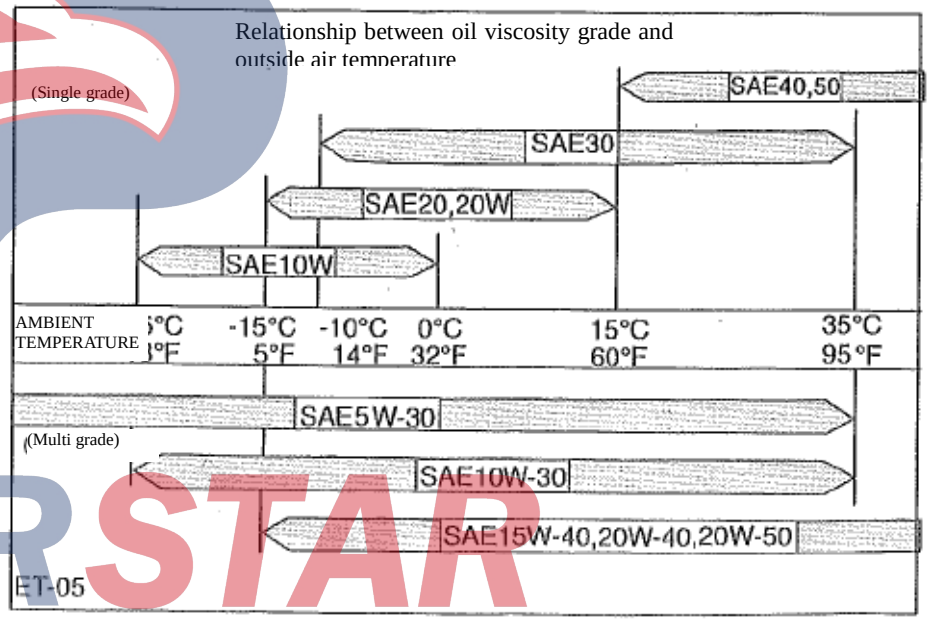
## LUBRICATION

Lubricants should be carefully selected according to the lubrication chart. It is also important to select viscosity of lubricants according to the ambient temperature by referring to the following table.

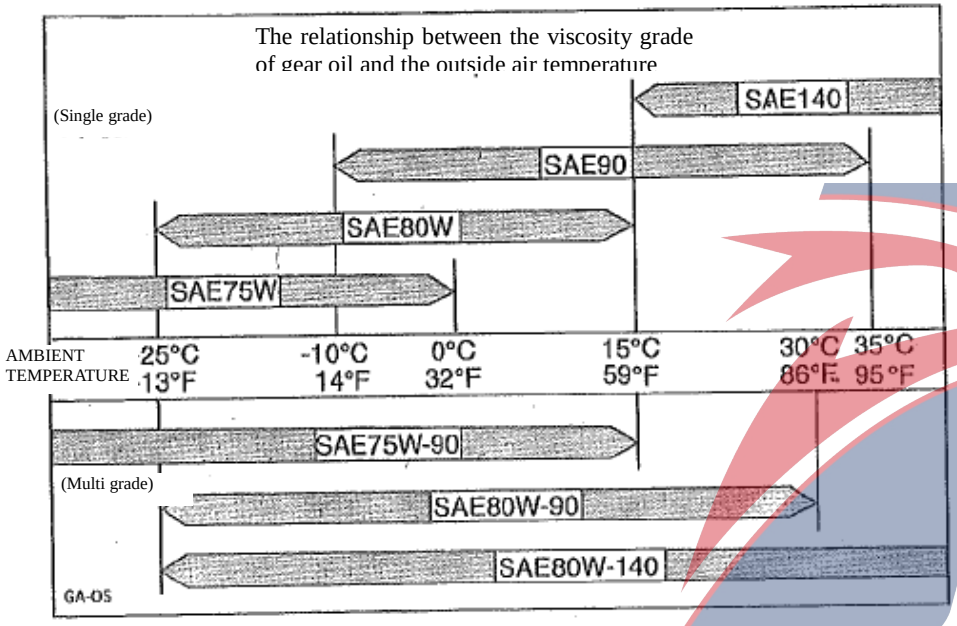
### DIESEL ENGINE OIL VISCOSITY CHART




### TRANSMISSION OIL VISCOSITY CHART



The relationship between the viscosity grade of gear oil and the outside air temperature



## RECOMMENDED BRAND FOR LUBRICATING GREASE AND DIESEL OIL

In order to get the highest performance and the longest service life of your QingLing vehicle, it is extremely important to select the appropriate lubricating grease and diesel oil according to the chart. The lubrication cycle on the periodic maintenance interval and the applicability of the warranty period of the new vehicle shall be based on the recommended lubricating grease. Recommended lubricating greases and diesel oils shall be used as a guide to the selection of appropriate grades and brand of oil.

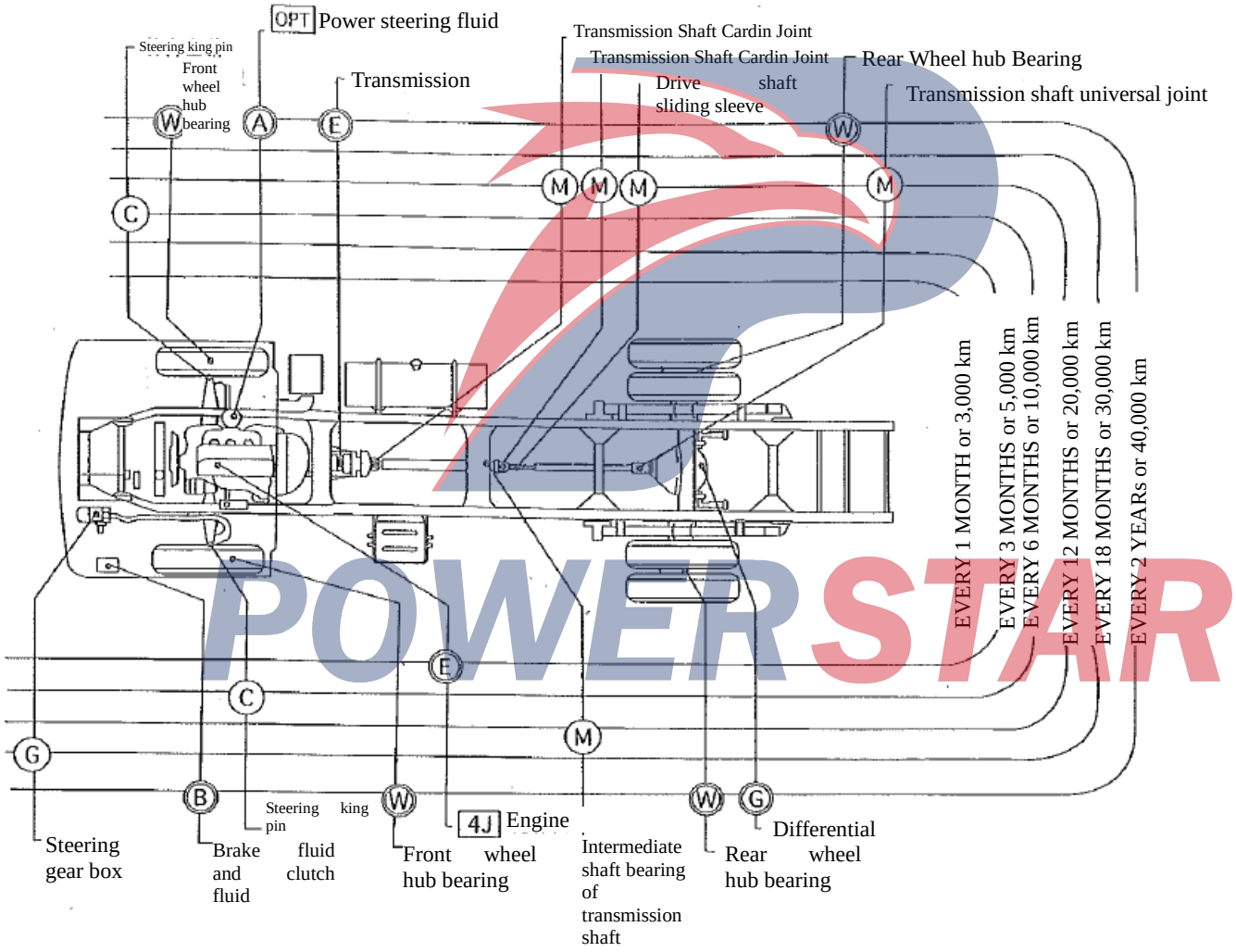
| Part | Recommended grease |
|---|---|
| Diesel engine crankcase | Diesel oil of Class CF-4 and above |
| Manual Transmission | Engine oil of Grade SG, SF, SE, SD or Grade SC, CE, CD or Grade CC |
| Rear axle<br>Gear box | Gear oil APIGL-5 |
| OPTPower steering mechanism | Automatic Transmission Oil Hyron ®-IIE |
| Hydraulic Brake System and Clutch System | SAEJ1703, FMVSS116 DOT.4 |

| Part | Recommended grease |
|---|---|
| Engine cooling system | Antifreeze (ethylene glycol base) |
| Wheel bearings | Wheel bearing grease or multipurpose grease NLGI No. 2 No, 3 |
| Grease nipple | Multipurpose grease NLGI No. 1 No, 2 |
| Union | Grease with molybdenum disulfide |
| | |
| Light oil | Standard |
| Fuel | JIS: NO.2<br>SAE: NO.2-D |

API: American Petroleum Institute SAE: American Society of Automotive Engineers JIS: Japanese Industrial Standards

FMVSS: Federal Motor Vehicle Safety Standards NLGI: National Association of Lubricating Grease Institute

# LUBRICATION CHART




◎Change

○Check, supply or lubricate

E: Engine oil

G: Gear oil

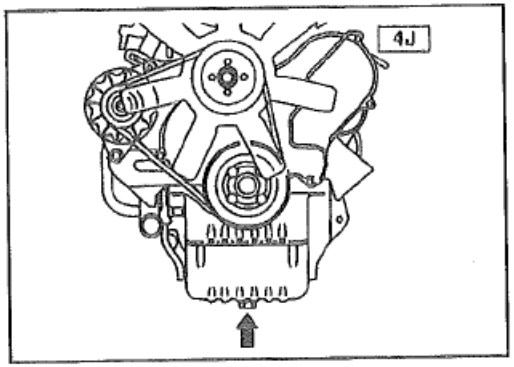
W: Wheel bearing grease

C: Multipurpose grease

M: Grease with molybdenum disulfide

B: Brake fluid

A: Automatic transmission fluid



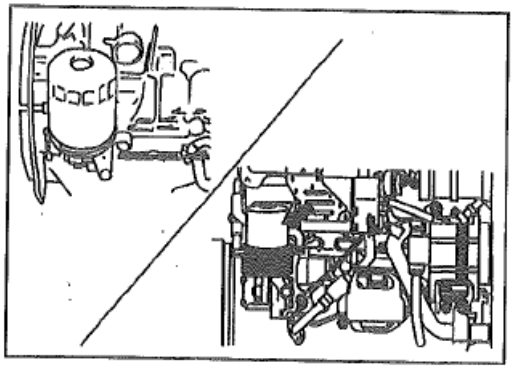

## LUBRICATION GUIDE

### Changing engine oil

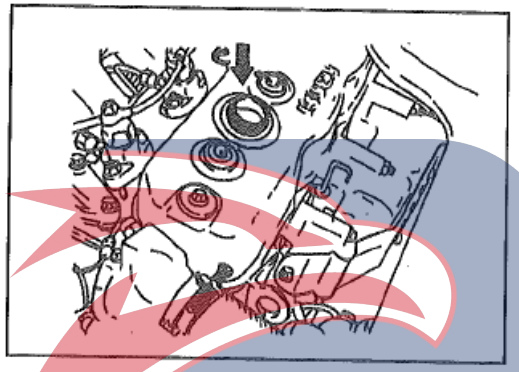
Drain the engine crankcase completely by removing the drain plug on the OPT lower part of the oil pan.

**WARNING**

**Hot engine oil can cause severe skin burns. Allow the engine to cool before draining the engine oil.**



After draining the oil from the engine crankcase and the oil filter, re-tighten the oil-drain plug.

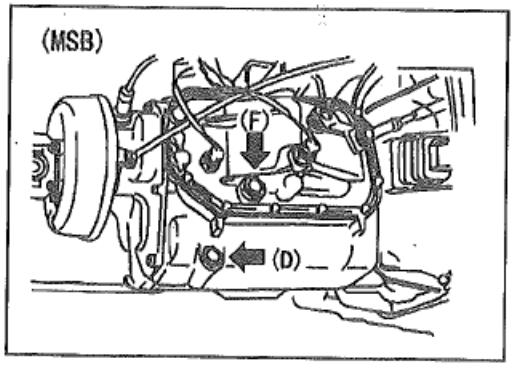


Slowly fill the engine crankcase through the filler port with new engine oil of the specified grade.

**NOTE**

**Please use the engine oil with the grade of CF-4 and above (refer to the section "Recommended grade for lubricating grease and diesel oil").**

When the engine crankcase is filled up to the high level mark on the oil dipstick, start and let the engine run at idle for a few minutes. Then stop the engine and recheck the oi l level and replenish, as necessary.

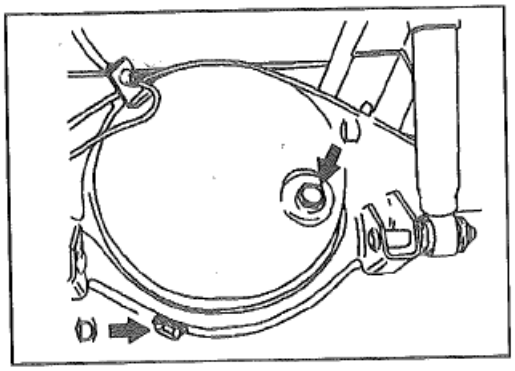



**Changing transmission oil**

Drain the transmission oil by removing the drain plug (D) on the under surface of the transmission case. Reassemble the drain plug and fill the transmission case up to the level plug (L) with **specified gear oil** through the level plug hole.

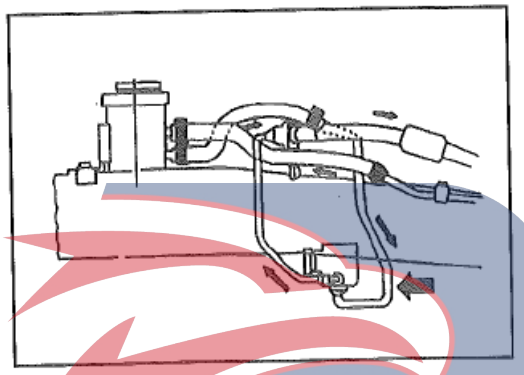
**WARNING**

**Gear oil is not allowed to be used in transmission oil. The oil grade shall be filled according to the oil grade recommended in the section of "Recommended grade for lubricating grease and diesel oil".**



**Changing differential oil**

Drain the rear axle case by removing the drain plug (D) on the under surface of the rear axle case. Reassemble the drain plug and fill the rear axle case up to the level plug (L) with **specified gear oil** through the level plug hole.



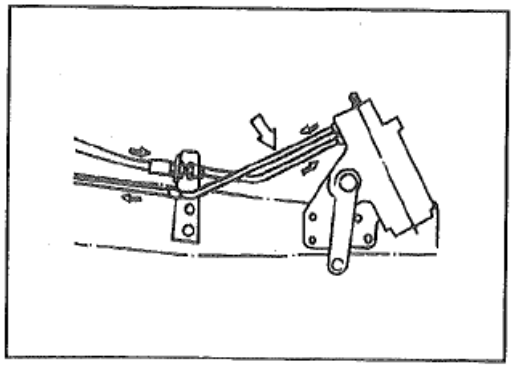
**OPT Changing power steering fluid**

**Draining:**

1. Jack up the front wheels until they are clear of the ground.

2. Remove the pipe between the steering mechanism and the power steering tank and the hose between the hydraulic pump and the power steering tank.

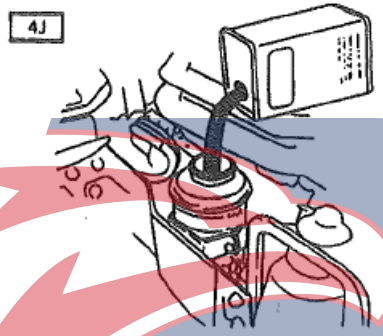
3. After the steering fluid is drained, rotate the steering wheel to the left and right and stop several times to the left and right respectively to completely discharge the residual steering fluid in the hydraulic circuit.



**Refilling:**

1. After securely installing the removed piping and hoses, inject the specified automatic transmission fluid into the liquid reservoir, which takes approximately two minutes.

2. When the fluid reservoir is filled up to the specified level, allow 2 or 3 minutes for the fluid to get down.

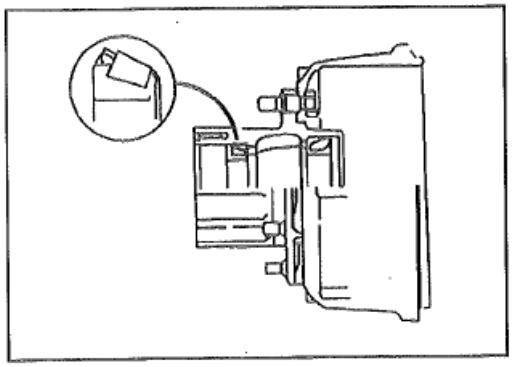



**3. Lower the front wheels to the ground. Start and let the engine run at idle for a few minutes.**

**Recheck the fluid level and replenish as necessary.**

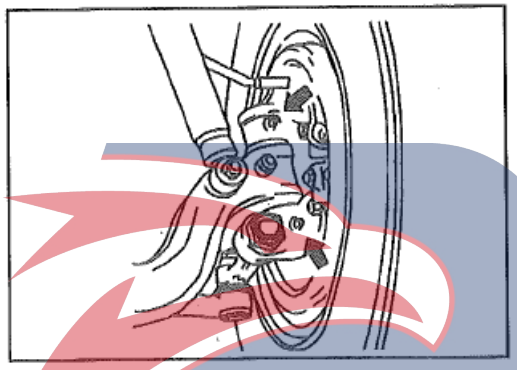
**NOTE**

**While refilling, keep the fluid reservoir replenished as necessary to prevent air from entering the hydraulic system.**



**Changing front and rear wheel hub bearing oil**

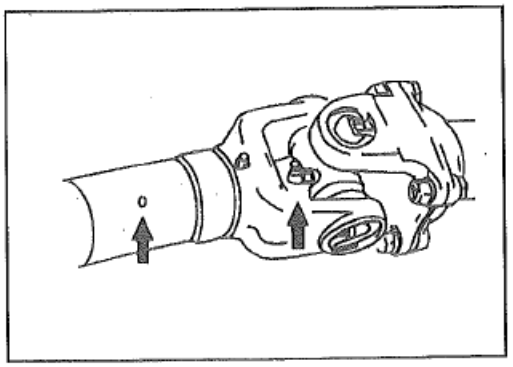
If grease in the hub bearing is required to be replaced, it is necessary to remove and re-assemble the bearing, so please contact Qingling Automobile Special Dealer (Maintenance Station).



**Lubricating part**

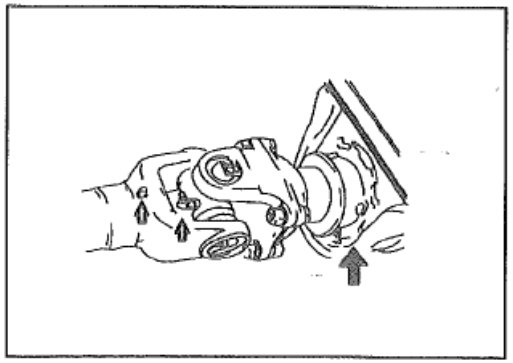
Lubricate the following parts with multipurpose grease:

Steering master pin (4 places)



Lubricate the following parts with grease containing molybdenum disulfide:

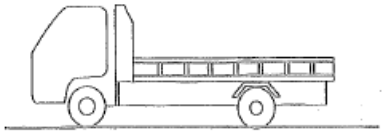
Universal joint and sliding sleeve



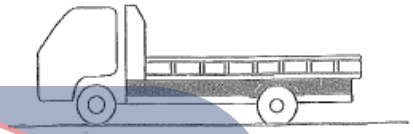
Lubricate the following parts with wheel bearing grease:

Intermediate bearing

**1. Isuzu trucks, classification by usage**



1 **Ordinary truck**



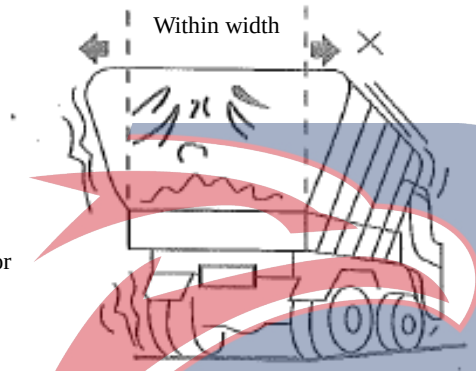
2 **Heavyweight truck**

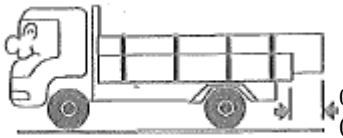
## 2. Loading limits

Good

Within width

Poor





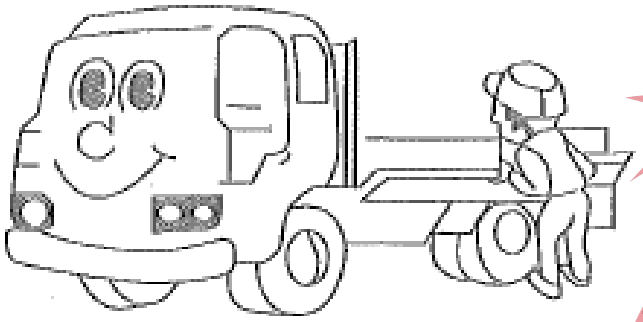
0.5m or less
(Not more than 1/20 of the total length)

1 Width of the goods cannot stick out of the truck bed.

2 Do not let the goods stick out of the truck bed as much as possible.

### 3. Loading example

Good



1 Gently open and close the sides of the truck.

Good

2 Unload with care.

Poor

Bump

Rough handling will shorten the life of the truck.

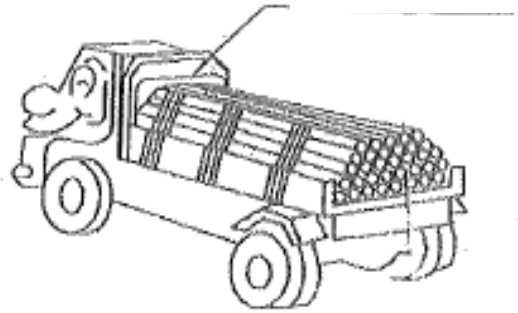
Poor

Thump

If you carelessly throw the goods around, the goods and the truck will cry out in pain.

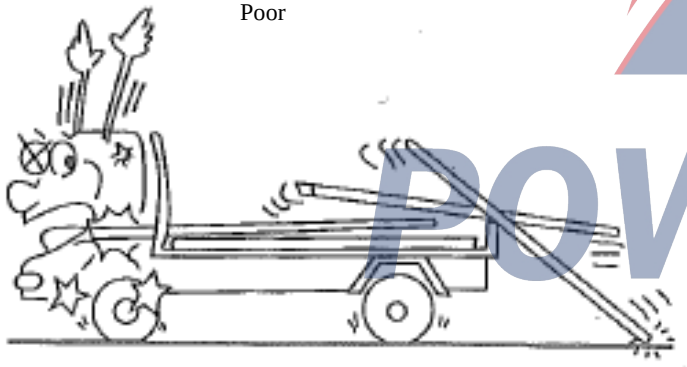
Good

Use protective plate when transporting steel



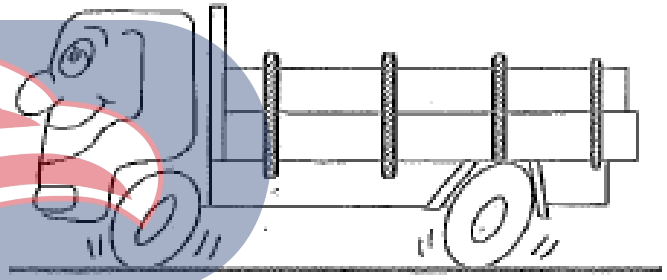
3 The goods should be bound tightly with a rope etc.

Poor



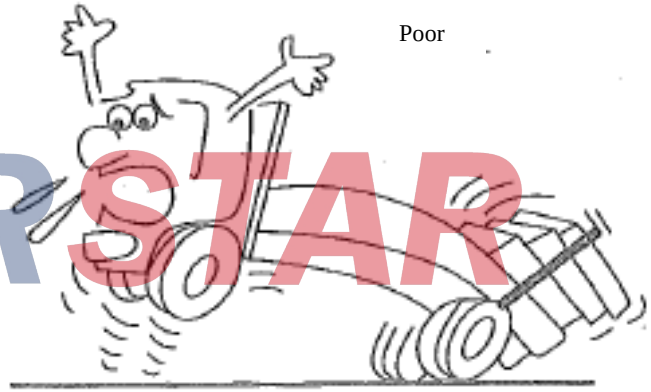
If they are not secured properly, the goods may scatter while in transit.

Good



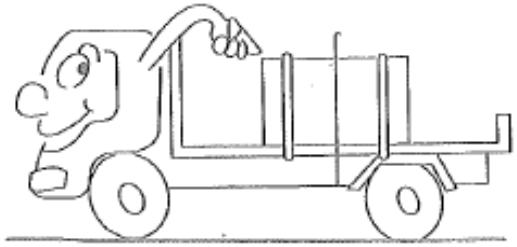
4 The goods should be loaded low and evenly.

Poor



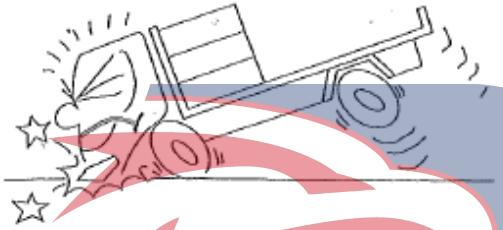
Not only will loading the goods unevenly make the vehicle unstable when driving, it may also damage the goods and the truck bed.

Good

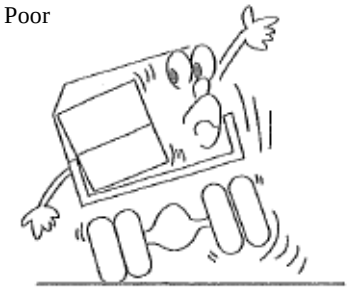


Large, tall items should be secured in the center of the truck bed.

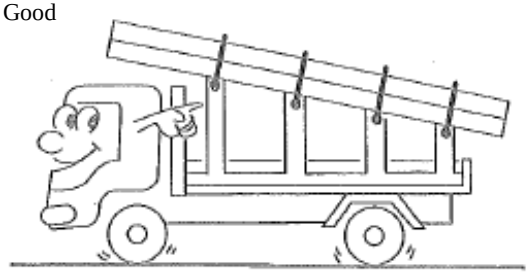
Poor



Poor



Good

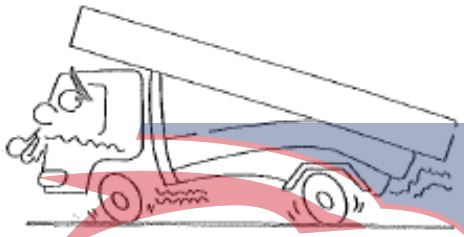


5 A rack must be used for long goods

**NOTE**

- **Regulations on height limits should be given priority.**
- **Because this method of loading raises the center of gravity, it entails the risk of tipping the truck, so take extra caution not to drive the truck too fast or make sudden brakes or turns.**

Poor

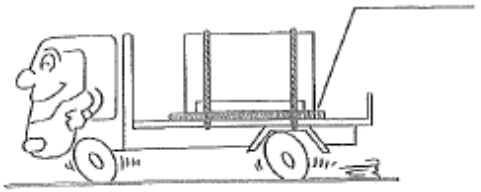


**If you only use the front frame and the rear support, the truck will groan.**

**※The rack should be counted as part of the goods.**

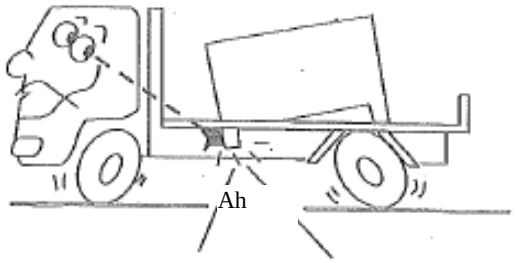
Good

Metal plate or sleeper



6 The weight of the goods should not be concentrated in one place but should be spread out.

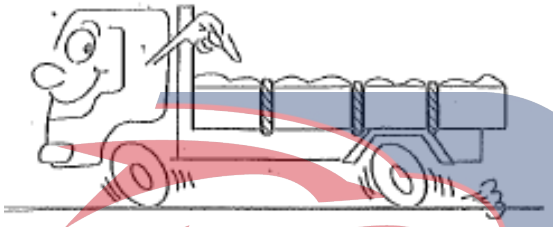
Poor




**If the load is not spread out, it will damage the bottom of the truck bed.**

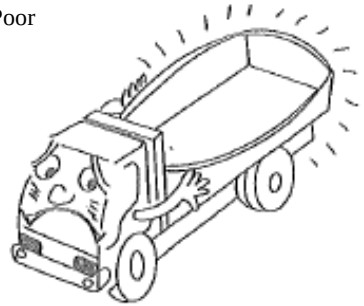
**※ A metal sheet or pallet should be counted as part of the goods.**

Good



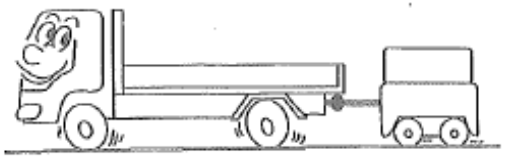
7Loose items in transit should be fastened securely at both sides with side boards.

Poor



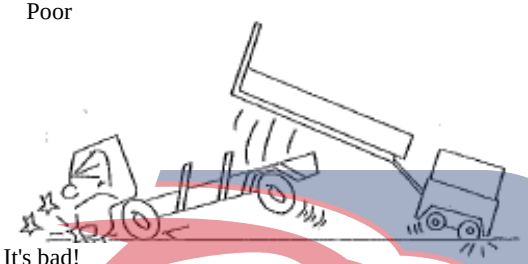
**If they are not secured, the sides of the truck bed could be deformed.**

Good



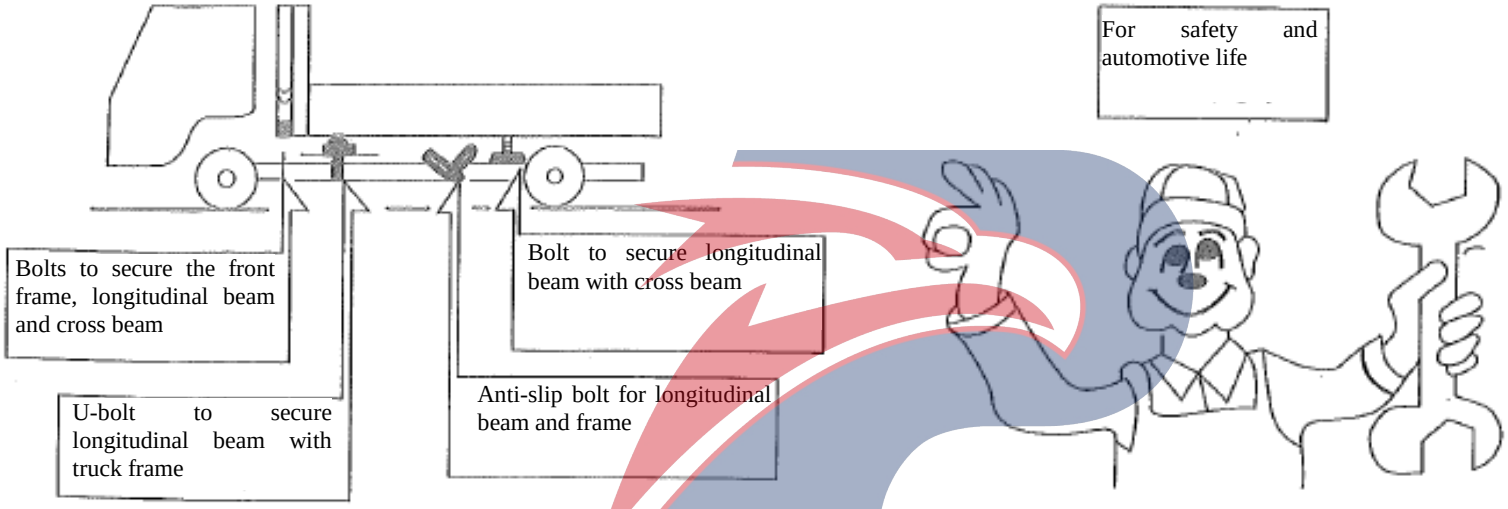
**8 Use the hook on the truck frame when towing.**

Poor

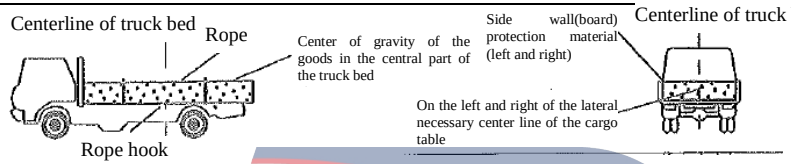
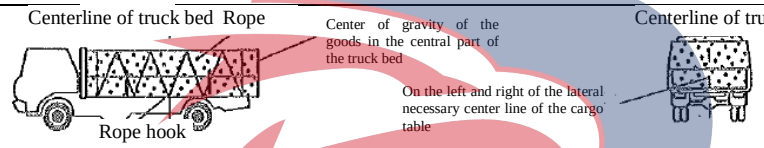
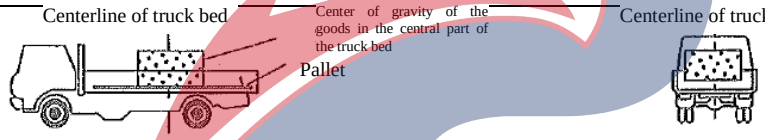
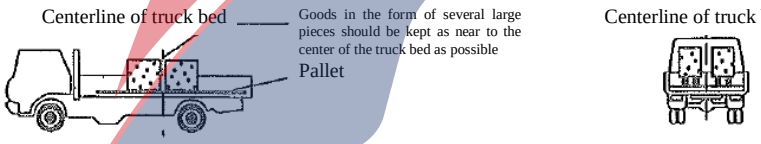
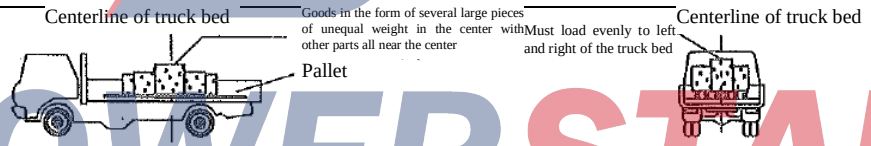
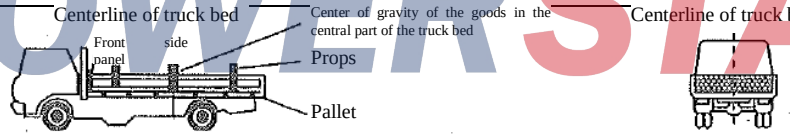
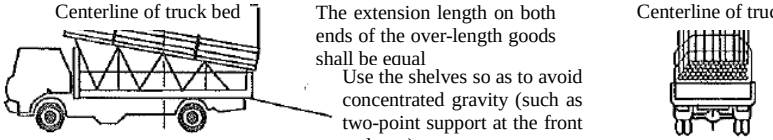


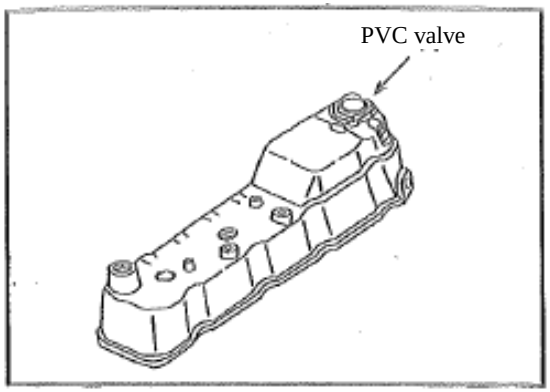
It's bad!

**The truck bed should definitely not be used for towing.**




| | |
|---|---|
| 1st time | When truck is received |
| 2nd times | One month after |
| 3rd time | 6 months after |
| 4th time and thereafter | Every 6 months |

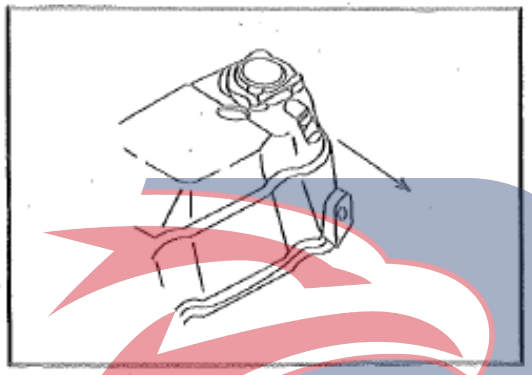
| Type of goods | Loading method | Method for protecting box |
|---|---|---|
| Loose items such as groceries, sandy soil, gravel and bricks. |  | Protection for side panels and rope should be used when loading sandy soil, gravel, bricks etc |
| Goods that are piled high such as groceries. |  | Fasten with rope hooks. |
| For large items such as machinery and equipment parts.<br>Note: The center of the truck bed refers to the intersection of the diagonal lines of the bottom of the box. The line passing through this intersection point that is vertical to the truck bed is called the truck bed center line. |  | Place steel plates, plywoods or vertical pallets on the bottom of the truck bed. |
| |  | |
| |  | |
| Long items such as timber, electric poles, steel pipes. |  | Protective material laid against the front side panel (wood or steel plate). Support with props or lay on pallets. |
| Over length goods (goods length exceeding the length of the container, e.g. steel plate, strip steel, etc.) |  | Use shelves |




**Forced ventilation system for crankcase (PVC) system**

**Inspection and repair**

If excessive wear or damage is found during inspection, it is necessary to adjust, repair and replace the parts.

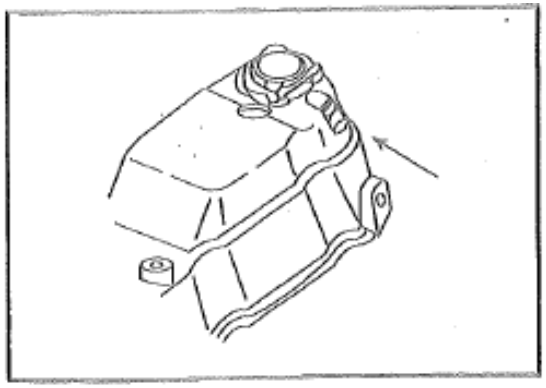


**PCV valve**

1. Blow air from cylinder head side through PCV valve

PCV valve must be opened freely.

If not, the PCV valve must be replaced.



2. Purge the air from the inlet manifold through the PCV valve.

PCV valve must prevent air flow.

If not, the PCV valve must be replaced.

**PCV hose and connector**

Inspect the hoses and connectors for cracks, leaks, or other damage

# 6 MAIN DATA AND SPECIFICATIONS

## MAIN DATA AND SPECIFICATIONS

| | | |
|---|---|---|
| **Engine** | | |
| Model | | 4KH1-TCG40 |
| Type | | In-line four-cylinder, water-cooled, supercharged cold, high pressure common rail diesel engine |
| Compression ratio | (ratio 1) | 15.9 |
| Total piston displacement | (ml) | 2999 |
| Valve clearance | | |
| Intake valve | mm | 0.4 |
| Exhaust valve | mm | 0.4 |
| Fuel injection pressure | (MPa) | 1.80 |
| Injection timing (static) | (°) | 0° |
| Firing order | | 1-3—4-2 |
| Fan belt tension | mm | 8-12 |
| Idling speed | (rpm) | 675-725 |
| Engine oil capacity | **liters** | 6-8 |
| Engine coolant capacity | **liters** | 12 |
| Tightening torque of oil pan drain plug | (N·m) | 45 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Transmission** | | MSB | | | | | |
| Model | | | | | | | |
| Type | | 6-speed transmission (overdrive gear for 5th), synchromesh for 1st to 5th | | | | | |
| | | 1st | 2nd | 3rd | 4th | 5th | Rev. |
| Gear ratio | MSB-5SM | 5.016 | 2.524 | 1.489 | 1.000 | 0.713 | 4.783 |
| | MSB-5S | 5.016 | 2.672 | 1.585 | 1.000 | 0.77 | 4.783 |
| Lubricating oil capacity (L) | | | | 2.7 | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL104 0A1EA | QL104 0A1EW | QL104 1A1EW | QL106 0A1FA | QL3070 ZA1FAJ | QL104 0A1FW | QL106 1A1FA | QL104 0A1FA | QL107 0A1HA | 3L106 0A1HW | QL107 0A1HH | QL107 1A1HA | QL105 0A1HW | QL104 0A1HH | QL106 0A1HA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | | | | | | |
| Vehicle length (mm) | 4800 | 4775 | | 5280 | 5035 | 5280 | | | 5950 | | | | | | |
| Vehicle width (mm) | 1695 | | | 1880 | 1945 | 1880 | | | | | | | | | |
| Vehicle Height (mm) | 2160 | | | 2280 | 2180 | 2270 | 12280 | 12270 | 2280 | 2270 | 2280 | | 2260 | 2270 | 2280 |
| Wheel base (mm) | 2490 | | | 2765 | | | | | 3360 | | | | | | |
| Tread: Front: (mm) | 1385 | | | 1504 | | | | | | | | | | | |
| Rear: (mm) | 1395 | | | 1425 | | | | | | | | | | | |
| Minimum clearance (mm) lifting from the ground | ≥190 | | | | | | | | | | | | | | |
| Area of compartment ($m^2$) | 4.96 | 3.30 | | 6.44 | 5.80 | 4 .58 | 6.44 | 6.44 | 7.65 | 5.79 | 6.85 | 7.65 | 5.79 | 6.85 | 7.65 |
| Drive type | 4X2 | | | | | | | | | | | | | | |
| Number of axles | 2 | | | | | | | | | | | | | | |
| Weight | | | | | | | | | | | | | | | |
| Kerb mass (kg) | 2100 | | | 2350 | 2950 | 2420 | 2350 | | 2420 | 2565 | 2420 | | 2565 | 2420 | |
| Loading mass (kg) | 1450 | 1250 | 1750 | 4000 | 3500 | 1490 | 3500 | 1950 | 4500 | 3500 | 4500 | 4000 | 1950 | 1850 | 3500 |
| Gross vehicle mass (kg) | 3680 | 3675 | 4175 | 6480 | 6580 | 4235 | 5980 | 4430 | 7050 | 6390 | 7050 | 6550 | 4840 | 4400 | 6050 |
| Full load shaft load: front axle (kg) | 1630 | 1635 | 1760 | 2210 | 2160 | 1655 | 2090 | 1750 | 2400 | 1850 | 2400 | 2240 | 1790 | 1540 | 2150 |
| Rear axle (kg) | -2050 | 2040 | 2415 | 4270 | 4420 | 2580 | 3890 | 2680 | 4650 | -4B40 | 4450 | 4310 | 305.0. | 2860 | 3900,. |
| Integrated fuel consumption (L/100km) | ≤12.1 | ≤12.1 | ≤12.8 | ≤16.4 | ≤16. | ≤12.2 | ≤16.4 | ≤12.2 | ≤17.3 | ≤16.4 | ≤17.3 | ≤16.4 | ≤15.9 | ≤12.2 | ≤16.4 |
| Fuel consumption implementation standard | QC/ lT 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | | | | | | |
| Max. speedof vehicle | ≥105 | | | | | | | | | | | | | | |
| Maximum gradeability | ≥30 | | | | | | | | | | | | | | |
| Emission level | GB17691-2005 (GB V), GB3847-2005 | | | | | | | | | | | | | | |
| Number of passengers allowed in the cab (person) | 2 | 2+3 | | 2 | | 2+3 | 2 | | 2+3 | 2 | | 2+3 | | 2 | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL104 0A1EA | QL104 0A1EW | QL104 1A1EW | QL106 0A1FA | QL3070 ZA1FAJ | QL104 0A1FW | QL106 1A1FA | QL104 0A1FA | QL107 0A1HA | QL106 0A1HW | QL107 0A1HH | QL107 1A1HA | QL105 0A1HW | QL104 0A1HH | QL106 0A1HA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | | | | | |
| Model | 4KH1-TCG40 | | | | | | | | | | | | | | |
| Rated power (kW/ rpm) | 88/2900 | | | | | | | | | | | | | | |
| Maximum net power (kW/ rpm) | 87/2900 | | | | | | | | | | | | | | |
| Torque (N • m/ rpm) | 290/1500 | | | | | | | | | | | | | | |
| Fuel type | Diesel | | | | | | | | | | | | | | |
| Fuel tank capacity (liters) | 75 | | 63 | 100 | | 84 | 100 | | | 84 | 100 | | 84 | 100 | |
| CLUTCH | | | | | | | | | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | | | | | | |
| Diameter (mm) | φ250 | | | | | | | | | | | | | | |
| Pedal free play(mm) | 12-22 | | | | | | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | | | | | |
| Model and type | MSB-5S | | | | | MSB-5SM | | | | | | | | | |
| REAR AXLE | | | | | | | | | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | | | | | | |
| Hypoid gear diameter (180m) | φ244 | | | | | φ292 | | | | | | | | | |
| Gear ratio (ratio 1) | 5.571 | | | | | 5.375 | | | | | | | | | |
| Lubricating oil capacity (liters) | 2.7 | | | | | 3 | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL104 0A1EA | QL104 0A1EW | QL104 1A1EW | QL106 0A1FA | QL3070 ZA1FAJ | QL104 0A1FW | QL106 1A1FA | QL104 0A1FA | QL107 0A1HA | QL106 0A1HW | QL107 0A1HH | QL107 1A1HA | QL105 0A1HW | QL104 0A1HH | QL106 0A1HA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | | | | | | |
| Steering Position | | Left | | | | | | | | | | | | | | |
| Type | | Circulating-ball type | | | | | | | | | | | | | | |
| Steering wheel free play | (mm) | 10 - 30 | | | | | | | | | | | | | | |
| Capacity | (L) | 0.54 | | | | | | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | | | | | | |
| Toe-in | (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | | | | | | |
| Camber | (°) | 1°15'±30' | | | | | | | | | | | | | | |
| Caster | (°) | 1°30’+60’ | | | | | | | | | | | | | | |
| King pin angle | (°) | 7°15’+40’ | | | | | | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | | | | | | |
| Type | | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | | | | | | |
| Pedal free play | (mm) | 4-7 | | | | | | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | | | | | | |
| Type | | Center drum brake acting on the output shaft of the transmission | | | | | | | | | | | | | | |
| Brake lever travel | (notches) | 5 ~ 8 (when pulling upward with 150 N) | | | | | | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL104 0A1EA | QL104 0A1EW | QL104 1A1EW | QL106 0A1FA | QL3070 ZA1FAJ | QL104 0A1FW | QL106 1A1FA | QL104 0A1FA | QL107 0A1HA | QL106 0A1HW | QL107 0A1HH | QL107 1A1HA | QL105 0A1HW | QL104 0A1HH | QL106 0A1HA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | | | | | | |
| Type: Front/Rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | | | | | | |
| Specification: front/ rear | 6/58/6+5 | | | | | | | | | | | | | | |
| WHEELS | | | | | | | | | | | | | | | |
| Tire Size: front wheel | 7.00-15 10PR or 7.00R15 10PR | 7.00-16 14PR or 7.00R16 14PR | 6.50- 16 10PR or 6.50R1 6 10PR | 7.00- 16 14PR or 7.00R2 6 14PR | 6.50-16 10PR or 6.50R1 6 10PR | 7 .00-16 14PR or 7.00R16 14PR | 6.50-16 10PR or 6.50R16 10PR | 7.00- 16 14PR or 7.00R1 6 14PR | | | | | | | |
| Rear wheel | 7.50-15 12PR or 7.50R15 10PR or 7.00-15 10PR or 7.00R15 10PR | 7.00-15 10PR or 7.00R15 10PR | 7.00-16 14PR or 7.00R16 14PR | 6.50-16 10PR or 6.50R 16 10PR | 7.00-16 14PR or 7.00R 16 14PR | 6.50-16 10PR Or 6.50R 16 10PR | 7.00-16 14PR or 7.00R16 14PR | 6.50-16 10PR or 6.50R16 10PR | 7.00-1614PR or 7.00R 16 14PR | | | | | | |
| ELECTRICAL | | | | | | | | | | | | | | | |
| Type | 12 Volt Electrical System for Negative pole Grounding | | | | | | | | | | | | | | |
| Battery (Volt/Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | | | | | | |
| Starter (volt/kw) | 12/2.6 | | | | | | | | | | | | | | |
| AC generator(Volt/Amp.h.) | 12 / 60 | | | | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL1040A 1HW | QL1040A 1HA | QL1070A 1KA | QL1070A 1KW | QL1070A 1KH | QL1071A 1KA | QL1060A 1KA | QL1070A 1KA1 | QL1070A 1KH1 | QL1050A 1KA |
|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | |
| Vehicle length (mm) | 5950 | | 6745 | | | | | | | |
| Vehicle width (mm) | 1880 | | | | | | | 2090 | | |
| Vehicle Height (mm) | 2260 | 2270 | 2300 | | | | | 2280 | 2270 | |
| Wheel base (mm) | 3360 | | 3815 | | | | | | | |
| Tread: Front: (mm) | 1504 | | | | | | | | | |
| Rear: (mm) | 1425 | | | | | | | | | |
| Minimum clearance lifting from the ground (mm) | ≥190 | | | | | | | | | |
| Area of compartment ($m^2$) | 5.79 | 7.65 | 9.04 | 7.18 | 8.23 | 9.04 | 9.04 | 10.00 | 9.11 | 10.00 |
| Drive type | 4x2 | | | | | | | | | |
| Number of axles | 2 | | | | | | | | | |
| Weight | | | | | | | | | | |
| Kerb mass (kg) | 2565 | 2420 | 2510 | 2690 | 2510 | | | 2660 | 2660 | 2660 |
| Loading mass (kg) | 1600 | 1850 | 4500 | 3500 | 4000 | | 3500 | 4500 | | 2200 |
| Gross vehicle mass (kg) | 4490 | 4400 | 7140 | 6515 | 6640 | | 6140 | 7290 | | 4990 |
| Full load shaft load: front axle (kg) | 1730 | 1540 | 2540 | 1955 | 2180 | | 2090 | 2575 | | 1840 |
| Rear axle (kg) | 2760 | 2860 | 4600 | 4560 | 4460 | | 4050 | 4715 | | 3150 |
| Integrated fuel consumption (L/100km) | ≤12.2 | | ≤ 17.3 | ≤ 16.4 | ≤16.4 | | | ≤17.3 | | ≤ 15.9 |
| Fuel consumption implementation standard | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | |
| Max. speedof vehicle | ≥ 105 | | | | | | | | | |
| Maximum gradeability | ≥30 | | | | | | | | | |
| Emission level | GB17691-2005(GB IV), GB3847-2005 | | | | | | | | | |
| Number of passengers allowed in the cab (person) | 2+3 | 2 | 2 | 2+3 | 2 | 2 | 2 | 2 | 2 | 2 |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL1040A 1HW | QL1040A 1HA | QL1070A 1KA | QL1070A 1KW | QL1070A 1KH | QL1071A 1KA | QL1060A 1KA | QL1070A 1KA1 | QL1070A 1KH1 | QL1050A 1KA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | |
| Model | | 4KH1-TCG40 | | | | | | | | | |
| Rated power | (kW/ rpm) | 88/2900 | | | | | | | | | |
| Maximum net power | (kW/ rpm) | 87/2900 | | | | | | | | | |
| Torque | (N • m/ rpm) | 290/1500 | | | | | | | | | |
| Fuel type | | Diesel | | | | | | | | | |
| Fuel tank capacity | (liters) | 84 | 100 | | 84 | 100 | | | | | |
| CLUTCH | | | | | | | | | | | |
| Type | | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | |
| Diameter | (mm) | φ250 | | | | | | | | | |
| Pedal free play | (mm) | 12-22 | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | |
| Model and type | | HSB-5SM | | | | | | | | | |
| REAR AXLE | | | | | | | | | | | |
| Type | | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | |
| Hypoid gear diameter | (mm) | φ292 | | | | | | | | | |
| Gear ratio | (ratio 1) | 5.375 | | | | | | | | | |
| Lubricating oil capacity | (liters) | . 3 | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL1040A 1HW | QL1040A 1HA | QL1070A 1KA | QL1070A 1KW | QL1070A 1KH | QL1071A 1KA | QL1060A 1KA | QL1070A 1KA1 | QL1070A 1KH1 | QL1050A 1KA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | |
| Steering position | | Left | | | | | | | | | |
| Type | | Circulating-ball type | | | | | | | | | |
| Steering wheel free play | (mm) | 10 - 30 | | | | | | | | | |
| Capacity | (L) | 0.54 | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | |
| Toe-in | (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | |
| Camber | (°) | 1°15'±3' | | | | | | | | | |
| Caster | (°) | 1°30' ± 60' | | | | | | | | | |
| King pin angle | (°) | 7°15'+40' | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | |
| Type | | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | |
| Pedal free play | (mm) | 4-7 | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | |
| Type | | Center drum brake acting on the output shaft of the transmission | | | | | | | | | |
| Brake lever travel | (notches) | 5 ~ 8 (when pulling upward with 150 N,) | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL1040 A1HW | QL1040 A1HA | QL1070 A1KA | QL1070 A1KW | QL1070 A1KH | QL1071 A1KA | QL1060 A1KA | QL1070 A1KA1 | QL1070 A1KH1 | QL1050 A1KA |
|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | |
| Type; Front/rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | |
| Specification: Front/ rear | 8/6+5 | | | | | | | | | |
| WHEELS | | | | | | | | | | |
| Tire Size: Front wheel | 6.50-16 10PR or 6.50R16 10PR | | | | 7.00-16 14P or 7.00R16 14PR | | | 6.50-16 10PR or 6.50R16 10PR | | |
| Rear wheel | 6.50-16 10PR or 6.50R16 10PR | | | | 7.00-16 14PR or 7.00R16 14PR | | | 6.50-16 10PR or 6.50R16 10PR | | |
| ELECTRICAL | | | | | | | | | | |
| Type | 12 Volt Electrical System for Negative pole Grounding | | | | | | | | | |
| Battery (Volt/Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | |
| Starter (volt/kw) | 12/2.6 | | | | | | | | | |
| AC generator (Volt/Amp.h.) | 12 / 60 | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5040XXYA1EA | QL5040XXYA1EAJ | QL5040XXYA1EW | QL5040XXYA1EWJ | QL5060XXYA1FA | QL5060XXYA1FAJ | QL5040XXYA1FW | QL5040XXYA1FWJ | QL5040XXYA1FA | QL5040XXYA1FAJ | QL5070XXYA1HA | QL5070XXYA1HAJ | QL5070XXYA1HI.J | QL5070XXYA1HWJ | QL5070XXYA1HH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | | | | | | |
| Vehicle length (mm) | 4870 | | | 4940 | | | 5385 | | | 5370 | | 5385 | | | 5995 |
| Vehicle width (mm) | 1768 1798 | | | 1768 | | | 1880 1910 | | | 1880 | | | 1880 1910 | | |
| Vehicle Height (mm) | 2630 | | 2460 | | 2815 | | 2780 | | 2805 | | 2825 | | 2775 | | 2825 2880 |
| Wheel base (mm) | 2490 | | | | | 2765 | | | | | 3360 | | | | |
| Tread: Front: (mm) | 1385 | | | | | | | | | 1504 | | | | | |
| Rear: (mm) | 1395 | | | | | | | | | 1425 | | | | | |
| Minimum clearance lifting from the ground (mm) | 190 | | | | | | | | | | | | | | |
| Area of compartment ($m^2$) | 5.32 | | 3.81 | | 6.48 | | 4.73 | | 6.48 | | 7.58 | | 5.79 | | 6.78 6.84 |
| Drive type | 4x2 | | | | | | | | | | | | | | |
| Number of axles | 2 | | | | | | | | | | | | | | |
| Weight | | | | | | | | | | | | | | | |
| Kerb mass (kg) | 2300 | | 2450 | | 2700 | | 2730 | | 2700 | | 2800 | | 2900 | | 2800 2910 |
| Loading mass (kg) | 1250 | | 3500 | | 1330 | | 1650 | | 4100 | | 3300 | | 4100 3990 | | |
| Gross vehicle mass (kg) | 3680 | | 4025 | | 6330 | | 4385 | | 4480 | | 7030 | | 6525 | | 7030 |
| Full load shaft load: (kg) Front axle | 1690 | | 1665 | | 2200 | | 1680 | | 1740 | | 2400 | | 1810 | | 2400 |
| Rear axle (kg) | 1990 | | 2360 | | 4130 | | 2705 | | 2740 | | 4630 | | 4715 | | 4630 |
| Integrated fuel consumption (L/ 100km) | ≤ 12.1 | | ≤12.8 | | ≤ 16.4 | | ≤12.2 | | ≤ 12.2 | | ≤ 17 ‘3 | | ≤16.4 | | ≤17.3 |
| Fuel consumption implementation standard | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | | | | | | |
| Max. speedof vehicle | ≥105 | | | | | | | | | | | | | | |
| Maximum gradeability | ≥30 | | | | | | | | | | | | | | |
| Emission Level | GB17691—2005(GB IV), GB3847—2005 | | | | | | | | | | | | | | |
| Number of passengers (person) allowed in the cab | 2 | | 2+3 | | 2 | | 2+3 | | 2 | | 2+3 | | 2 | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL504 OXXYA 1EA | QL504 OXXYA 1EAJ | QL504 OXXYA 1EW | QL504 OXXYA 1EWJ | QL506 OXXYA 1FA | QL506 OXXYA 1FAJ | QL504 OXXYA 1FW | QL504 OXXYA 1FWJ | QL504 0XXYA 1FA | QL504 0XXYA 1FAJ | QL507 0XXYA 1HA | QL507 0XXYA 1HAJ | QL507 OXXYA 1HW | QL507 OXXYA 1HWJ | QL507 0XXYA 1HH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | | | | | |
| Model | 4KH1-TCG40 ’ | | | | | | | | | | | | | | |
| Rated power (kW/ rpm) | 88/2900 | | | | | | | | | | | | | | |
| Maximum net power (kW/ rpm) | 87/2900 | | | | | | | | | | | | | | |
| Torque (N • m/ rpm) | 290/1500 | | | | | | | | | | | | | | |
| Fuel type | Diesel | | | | | | | | | | | | | | |
| Fuel tank capacity (liters) | 75 | | 63 | | 100 | | 84 | | 100 | | | | 84 | | 100 |
| CLUTCH | | | | | | | | | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | | | | | | |
| Diameter (mm) | φ250 | | | | | | | | | | | | | | |
| Pedal free play (mm) | 12-22 | | | | | | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | | | | | |
| Model and type | MSB-5S | | | | MSB-5SM | | | | | | | | | | |
| REAR AXLE | | | | | | | | | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | | | | | | |
| Hypoid gear diameter (mm) | φ244 | | | | φ292 | | | | | | | | | | |
| Gear ratio (ratio 1) | 5.571 | | | | 5.375 | | | | | | | | | | |
| Lubricating oil capacity (liters) | 2.7 | | | | 3 | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL504 OXXYA 1EA | QL504 OXXYA 1EAJ | QL504 OXXYA 1EW | QL504 OXXYA 1EWJ | QL506 OXXYA 1FA | QL506 OXXYA 1FAJ | QL504 OXXYA 1FW | QL504 OXXYA 1FWJ | QL504 0XXYA 1FA | QL504 0XXYA 1FAJ | QL507 0XXYA 1HA | QL507 0XXYA 1HAJ | QL507 OXXYA 1HW | QL507 OXXYA 1HWJ | QL507 0XXYA 1HH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | | | | | | |
| Steering Position | | Left | | | | | | | | | | | | | | |
| Type | | Circulating-ball type | | | | | | | | | | | | | | |
| Steering wheel free play | (mm) | 10-30 | | | | | | | | | | | | | | |
| Capacity | (L) | 0.54 | | | | | | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | | | | | | |
| Toe-in | (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | | | | | | |
| Camber | (°) | 1°15'±30' | | | | | | | | | | | | | | |
| Caster | (°) | 1°30'±60' | | | | | | | | | | | | | | |
| King pin angle | (°) | 7°15'+40' | | | | | | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | | | | | | |
| Type | | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | | | | | | |
| Pedal free play | (mm) | 4-7 | | | | | | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | | | | | | |
| Type | | Center drum brake acting on the output shaft of the transmission | | | | | | | | | | | | | | |
| Brake lever travel | (notches) | 5 ~ 8 (when pulling upward with 150 N,) | | | | | | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL504 OXXYA 1EA | QL504 OXXYA 1EAJ | QL504 OXXYA 1EW | QL504 OXXYA 1EWJ | QL506 OXXYA 1FA | QL506 OXXYA 1FAJ | QL504 OXXYA 1FW | QL504 OXXYA 1FWJ | QL504 0XXYA 1FA | QL504 0XXYA 1FAJ | QL507 0XXYA 1HA | QL507 0XXYA 1HAJ | QL507 OXXYA 1HW | QL507 OXXYA 1HWJ | QL507 0XXYA 1HH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | | | | | | |
| Type: Front/rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | | | | | | |
| Specification: front/ rear | 6/5 | | | | | | 8/6+5 | | | | | | | | |
| WHEELS | | | | | | | | | | | | | | | |
| Tire Size: front wheel | 7.00-15 10PRor 7.00R15 10PR | | | | 7.00-16 14PR or 7.00R16 14PR | | 6.50-16 10PR or 6.50R16 10PR | | | | 7.00-16 14PR or 7.00R16 14PR | | | | |
| Rear wheel | 7.50-15 12PR or 7.50R15 10PR or 7.00-15 10PR or 7.00R15 10PR | | 7.50-15 12PR or 7.50R15 10PR | | 7.00-16 14PR or 7.00R16 14PR | | 6.50-16 10PR or 6.50R16 10PR | | | | 7.00-16 14PR or 7.00R16 14PR | | | | |
| ELECTRICAL | | | | | | | | | | | | | | | |
| Type | 12 Volt Electrical System for Negative pole Grounding | | | | | | | | | | | | | | |
| Battery (Volt-Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | | | | | | |
| Starter (volt/kw) | 12/2.6 | | | | | | | | | | | | | | |
| AC generator (volt/amp.) | 12/60 | | | | | | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | | 0L5042XXY A1 HAJ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | | | |
| Vehicle length | (mm) | 5995 | | | | | | | | | | |
| Vehicle width | (mm) | 2160 | | | | | | | | | | |
| Vehicle Height | (mm) | 3115 | | | | | | | | | | |
| Wheel base | (mm) | 3360 | | | | | | | | | | |
| Tread: Front: | (mm) | 1504 | | | | | | | | | | |
| Rear: | (mm) | 1525 | | | | | | | | | | |
| Minimum clearance lifting from the ground | (mm) | 190 | | | | | | | | | | |
| Area of compartment | ($m^2$) | 8. 7 | | | | | | | | | | |
| Drive type | | 4X2 | | | | | | | | | | |
| Number of axles | | 2 | | | | | | | | | | |
| Weight | | | | | | | | | | | | |
| Kerb mass | (kg) | 2705 | | | | | | | | | | |
| Loading mass | (kg) | 1495 | | | | | | | | | | |
| Gross vehicle mass | (kg) | 4330 | | | | | | | | | | |
| Full load shaft load: front axle | (kg) | 1740 | | | | | | | | | | |
| Rear axle | (kg) | 2590 | | | | | | | | | | |
| Comprehensive fuel consumption of the Ministry of Communications | (L/100km) | ≤10. 8 | | | | | | | | | | |
| Fuel consumption implementation standard | | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | | |
| Max. speedof vehicle | | ≥105 | | | | | | | | | | |
| Maximum gradeability | | ≥30% | | | | | | | | | | |
| Emission Level | | GB 17691-2005(GB IV ) , GB3847-2005 | | | | | | | | | | |
| Number of passengers allowed in the cab | (person) | 2 | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5042XXY A1HAJ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | |
| Model | 4KH1-TCG40 | | | | | | | | | | |
| Rated power (kW/ rpm) | 88/2900 | | | | | | | | | | |
| Maximum net power (kW/ rpm) | 87/2900 | | | | | | | | | | |
| Torque (N • m/ rpm) | 290/1500 | | | | | | | | | | |
| Fuel type | Diesel | | | | | | | | | | |
| Fuel tank capacity (liters) | 100 | | | | | | | | | | |
| CLUTCH | | | | | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | | |
| Diameter (mm) | φ250 | | | | | | | | | | |
| Pedal free play (mm) | 12 ～22 | | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | |
| Model and type | MSB-5SM | | | | | | | | | | |
| REAR AXLE | | | | | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | | |
| Hypoid gear diameter (180m) | φ292 | | | | | | | | | | |
| Gear ratio (ratio 1) | 5. 375 | | | | | | | | | | |
| Lubricating oil capacity (liters) | 3 | | | | | | | | | | |

| Vehicle model | | 0L5042XXY A1HAJ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | |
| Steering Position | | Left | | | | | | | | | |
| Type | | Circulating-ball type | | | | | | | | | |
| Steering wheel free play | (mm) | 10 ～30 | | | | | | | | | |
| Capacity | (L) | 0. 54 | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | |
| Toe-in | (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | |
| Camber | (°) | 1°15’±30’ | | | | | | | | | |
| Caster | (°) | 1°30' ±60' | | | | | | | | | |
| King pin angle | (°) | 1°15' ±40' | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | |
| Type | | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | |
| Pedal free play | (mm) | 4～7 | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | |
| Type | | Center drum brake acting on the output shaft of the transmission | | | | | | | | | |
| Brake lever travel | (notches) | 5 ~ 8 (when pulling upward with 150 N,) | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | 0L5042XXY A1HAJ | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | | |
| Type: Front/rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | | |
| Specification: Front/ rear | 8/6+5 | | | | | | | | | | |
| WHEELS | | | | | | | | | | | |
| Tire Size: Front wheel | 6.50-16 10PR or | | | | | | | | | | |
| Rear wheel | 6.50R16 10PR | | | | | | | | | | |
| ELECTRICAL | | | | | | | | | | | |
| Type | 12 Volt Electrical System for Negative Pole Grounding | | | | | | | | | | |
| Battery (Volt/Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | | |
| Starter (volt/kw) | 12 / 2.6 | | | | | | | | | | |
| AC generator (Volt/Amp ) | 12/60 | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Project | | Unit | Chassis model | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 0L1042A1HAY | QL1061A1HAY | | | | |
| Emission Level | | | GB17691 -2005 (GB IV) , GB3847-2005 | | | | | |
| Number of passengers allowed in the cab | | person | 2 | | | | | |
| Kerb mass | | kg | 1905 | 1900 | | | | |
| Chassis axle load | Front axle | kg | 1250 | 1250 | | | | |
| | Rear axle | kg | 655 | 650 | | | | |
| Allowable maximum total mass | | kg | 4495 | 5800 | | | | |
| maximum axle load | Front axle | kg | 1805 | 2050 | | | | |
| | Rear axle | kg | 2690 | 3750 | | | | |
| Vehicle length | | mm (0L) | 5900 | | | | | |
| Vehicle width | | mm | 1695 | | | | | |
| Vehicle width(at rear axle) | | mm (BW L) | 1980 | 1980 | | | | |
| Vehicle height | | mm (OH) | 2150 | 2160 | | | | |
| Wheel base | | mm (WB) | 3360 | | | | | |
| Front track | | mm (FW) | 1504 | | | | | |
| Rear track | | mm (BWB) | 1525 | 1245 | | | | |
| Front suspension | | mm | 1015 | | | | | |
| Rear Overhang | | mm (ROH) | 1525 | | | | | |
| Approach angle | | ° | 24° | | | | | |
| Departure angle | | ° (a) | 20° | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL5070XXYA1HHJ | QL5070XLCA1HH | QL5070XLCA1HHJ | QL5060XXYA1HA | QL5060XXYAIHAJ | QL5070XLCA1HA | QL5070XLCAIHAJ | QL5050XXYA1HW | QL5050XXYA1HWJ | QL5040XXYA1HH | QL5040XXYA1HHJ | QL5040XLCA1HH | QL5040XLCA1HHJ | QL5040XXYA1HW | QL5040XXYA1HWJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | | | | | | | |
| Vehicle length | (mm) | 5995 | | | | | | | | | | | | | | |
| Vehicle width | (mm) | 1880 1910 | 1915 | 1975 | 1880 | 1910 | 1915 | 1975 | 1880 | 1910 | | | 1915 | 1975 | 1880 | 1910 |
| Vehicle Height | (mm) | 2825 2880 | 2940 | | 2825 | | 2940 | | 2765 | | 2825 | | 2940 | | 2765 | |
| Wheel base | (mm) | 3360 | | | | | | | | | | | | | | |
| Tread: Front: | (mm) | 1504 | | | | | | | | | | | | | | |
| Rear: | (mm) | 1425 | | | | | | | | | | | | | | |
| Minimum clearance lifting from the ground | (mm) | 190 | | | | | | | | | | | | | | |
| Area of compartment | ($m^2$) | 6.78 6.84 | 6.36 | | 7.58 | | 7.15 | | 5.79 | | 6.78 | | 6.36 | | 5.79 | |
| Drive type | | 4X2 | | | | | | | | | | | | | | |
| Number of axles | | 2 | | | | | | | | | | | | | | |
| Weight | | | | | | | | | | | | | | | | |
| Kerb mass | (kg) | 2800 2910 | 3200 | | 2800 | | 3200 | | 2900 | | 2680 | | | | 2800 | |
| Loading mass | (kg) | 4100 3990 | 3300 | | 3500 | | 3300 | | 1800 | | 1485 | | | | 1370 | |
| Gross vehicle mass | (kg) | 7030 | 6630 | | 6430 | | 6630 | | 5025 | | 4295 | | | | 4495 | |
| Full load shaft load: front axle (kg) | | 2400 | 2170 | | 2100 | | 2170 | | 1770 | | 1450 | | | | 1730 | |
| Rear axle | (kg) | 4630 | 4460 | | 4330 | | 4460 | | 3255 | | 2845 | | | | 2765 | |
| Integrated fuel consumption | (L/ 100km) | ≤7.3 | ≤16.4 | | | | | | ≤15.9 | | | | ≤12.2 | | | |
| Fuel consumption implementation standard | | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | | | | | | |
| Max. speedof vehicle | | ≥105km/h | | | | | | | | | | | | | | |
| Maximum gradeability | | ≥30% | | | | | | | | | | | | | | |
| Emission level | | GB17691- 2005 (GB IV), GB3047-2005 | | | | | | | | | | | | | | |
| Number of passengers allowed in the cab | (person) | 2 | | | | | | | 2 + 3 | | 2 | | | | 2 + 3 | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5070X XYA1HHJ | QL5070X LCA1HH | QL5070X LCA1HHJ | QL5060X XYA1HA | QL5060X XYAIHAJ | QL5070X LCA1HA | QL5070X LCAIHAJ | QL5050X XYA1HW | QL5050X XYA1HWJ | QL5040X XYA1HH | QL5040X XYA1HHJ | QL5040X LCA1HH | QL5040X LCA1HHJ | QL5040X XYA1HW | QL5040X XYA1HWJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | | | | | |
| Model | 4KH1-TCG40 | | | | | | | | | | | | | | |
| Rated power (kW/rpm) | 88/2900 | | | | | | | | | | | | | | |
| Maximum net power (kW/rpm) | 87/2900 | | | | | | | | | | | | | | |
| Torque (N • m/rpm) | 290/1500 | | | | | | | | | | | | | | |
| Fuel type | Diesel | | | | | | | | | | | | | | |
| Fuel tank capacity (liters) | 100 | | | | | | | 84 | | 100 | | | | 84 | |
| CLUTCH | | | | | | | | | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | | | | | | |
| Diameter (mm) | φ250 | | | | | | | | | | | | | | |
| Pedal free play (mm) | 12 ～22 | | | | | | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | | | | | |
| Model and type | MSB-5SM | | | | | | | | | | | | | | |
| REAR AXLE | | | | | | | | | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | | | | | | |
| Hypoid gear diameter (mm) | φ292 | | | | | | | | | | | | | | |
| Gear ratio (to 1) | 5. 375 | | | | | | | | | | | | | | |
| Lubricating oil capacity (liters) | 3 | | | | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5070X XYA1HHJ | QL5070X LCA1HH | QL5070X LCA1HHJ | QL5060X XYA1HA | QL5060X XYAIHAJ | QL5070X LCA1HA | QL5070X LCAIHAJ | QL5050X XYA1HW | QL5050X XYA1HWJ | QL5040X XYA1HH | QL5040X XYA1HHJ | QL5040X LCA1HH | QL5040X LCA1HHJ | QL5040X XYA1HW | QL5040X XYA1HWJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | | | | | |
| Steering Position | Left | | | | | | | | | | | | | | |
| Type | Circulating-ball type | | | | | | | | | | | | | | |
| Steering wheel free play (mm) | 10 ～30 | | | | | | | | | | | | | | |
| Capacity (L) | 0. 54 | | | | | | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | | | | | |
| Toe-in (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | | | | | | |
| Camber (°) | 1°15' ±30' | | | | | | | | | | | | | | |
| Caster (°) | 1°30' ±60' | | | | | | | | | | | | | | |
| King pin angle (°) | 7°15' ±40' | | | | | | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | | | | | |
| Type | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | | | | | | |
| Pedal free play (mm) | 4~7 | | | | | | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | | | | | |
| Type | Center drum brake acting on the output shaft of the transmission | | | | | | | | | | | | | | |
| Brake lever travel (notches) | 5 ~ 8 (when pulling upward with 150 N) | | | | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5070X XYA1HHJ | QL5070X LCA1HH | QL5070X LCA1HHJ | QL5060X XYA1HA | QL5060X XYAIHAJ | QL5070X LCA1HA | QL5070X LCAIHAJ | QL5050X XYA1HW | QL5050X XYA1HWJ | QL5040X XYA1HH | QL5040X XYA1HHJ | QL5040X LCA1HH | QL5040X LCA1HHJ | QL5040X XYA1HW | QL5040X XYA1HWJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | | | | | | |
| Type; Front/Rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | | | | | | |
| Specification: front/ rear | 8/6+5 | | | | | | | | | | | | | | |
| WHEELS | | | | | | | | | | | | | | | |
| Tire Size: front wheel | 7.00-16 14PR or 7.00R16 14PR | | | | | | | 6. 50-16 10PR or 6. 50R16 10PR | | | | | | | |
| Rear wheel | 7. 00-16 14PR or 7.00R16 14PR | | | | | | | 6.50-16 10PR or 6.50R16 10PR | | | | | | | |
| ELECTRICAL | | | | | | | | | | | | | | | |
| Type | 12 Volt Electrical System for Negative pole Grounding | | | | | | | | | | | | | | |
| Battery (Volt-Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | | | | | | |
| Starter (volt/kw) | 12/2.8 | | | | | | | | | | | | | | |
| AC generator (volt/amp.) | 12/60 | | | | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5050X XYA1HA | QL5050X XYA1HAJ | QL5040X XYA1HA | QL5040X XYA1HAJ | QL5040X LCA1HA | QL5040X LCA1HAJ | QL5070X XYA1KA | QL5070X XYA1KAJ | QL5070X XVA1KW | QL5070X XYA1KWJ | QL5070X XYA1KH | QL5070X XYA1KHJ | QL5071X XYA1KA | QL5071X XYA1KAJ | QL5070X XYA1KA1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | | | | | | |
| Vehicle length (mm) | 5995 | | | | | | 6790 | | | | | | | | |
| Vehicle width (mm) | 1880 1910 | | | | 1915 1975 | | 1880 1910 | | | | | | | | 2110 2160 |
| Vehicle Height (mm) | 2825 2880 | | 2825 | | 2940 | | 2910 | | 2825 | | 2900 2955 | | 2900 3080 2955 | | 2900 |
| Wheel base (mm) | 3360 | | | | | | 3815 | | | | | | | | |
| Tread: Front: (mm) | 1504 | | | | | | | | | | | | | | |
| Rear: (mm) | 1425 | | | | | | 1525 | | | | | | | | |
| Minimum clearance lifting from the ground (mm) | 190 | | | | | | | | | | | | | | |
| Area of compartment ($m^2$) | 7.58 7.64 | | 7.58 | | 7.15 | | 9.01 | | 7.21 | | 8.21 8.26 | | 9.01 9.06 | | 10.35 |
| Drive type | 4x2 | | | | | | | | | | | | | | |
| Number of axles | 2 | | | | | | | | | | | | | | |
| Weight | | | | | | | | | | | | | | | |
| Kerb mass (kg) | 2800 2910 | | 2680 | | | | 3000 | | 3050 | | 3000 3110 | | | | 3010 |
| Loading mass (kg) | 1860 1750 | | 1485 | | | | 4000 | | 3300 | | 4000 3890 | | 3500 3390 | | 3990 |
| Gross vehicle mass (kg) | 4790 | | 4295 | | | | 7130 | | 6675 | | 7130 | | 6630 | | 7130 |
| Full load shaft load: front axle (kg) | 1920 | | 1450 | | | | 2535 | | 1955 | | 2535 | | 2220 | | 2430 |
| Rear axle (kg) | 2870 | | 2845 | | | | 4595 | | 4720 | | 4595 | | 4410 | | 4700 |
| Integrated fuel consumption (L/100km) | ≤ 14.6 | | ≤12.2 | | | | ≤17.3 | | ≤ 16.4 | | ≤17.3 | | ≤ 16.4 | | ≤17.3 |
| Fuel consumption implementation standard | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | | | | | | |
| Max. speedof vehicle | ≥105 | | | | | | | | | | | | | | |
| Maximum gradeability | ≥30 | | | | | | | | | | | | | | |
| Emission Level | GB17691-2005(GB IV),GB3847-2005 | | | | | | | | | | | | | | |
| Number of passengers (person) allowed in the cab | 2 | | | | | 2+3 | | | | 2 | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5050X XYA1HA | QL5050X XYA1HAJ | QL5040X XYA1HA | QL5040X XYA1HAJ | QL5040X LCA1HA | QL5040X LCA1HAJ | QL5070X XYA1KA | QL5070X XYA1KAJ | QL5070X XVA1KW | QL5070X XYA1KWJ | QL5070X XYA1KH | QL5070X XYA1KHJ | QL5071X XYA1KA | QL5071X XYA1KAJ | QL5070X XYA1KA1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | | | | | |
| Model | 4KH1-TCG40 | | | | | | | | | | | | | | |
| Rated power (kW/ rpm) | 88/2900 | | | | | | | | | | | | | | |
| Maximum net power (kW/ rpm) | 87/2900 | | | | | | | | | | | | | | |
| Torque (N • m/ rpm) | 290/1500 | | | | | | | | | | | | | | |
| Fuel type | Diesel | | | | | | | | | | | | | | |
| Fuel tank capacity (liters) | 100 | | | | | | | | 84 | | 100 | | | | |
| CLUTCH | | | | | | | | | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | | | | | | |
| Diameter (mm) | φ250 | | | | | | | | | | | | | | |
| Pedal free play (mm) | 12-22 | | | | | | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | | | | | |
| Model and type | MSB-5SM | | | | | | | | | | | | | | |
| REAR AXLE | | | | | | | | | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | | | | | | |
| Hypoid gear (mm) diameter | φ292 | | | | | | | | | | | | | | |
| Gear ratio (to 1) | 5.375 | | | | | | | | | | | | | | |
| Lubricating oil (liters) capacity | 3 | | | | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5050X XYA1HA | QL5050X XYA1HAJ | QL5040X XYA1HA | QL5040X XYA1HAJ | QL5040X LCA1HA | QL5040X LCA1HAJ | QL5070X XYA1KA | QL5070X XYA1KAJ | QL5070X XVA1KW | QL5070X XYA1KWJ | QL5070X XYA1KH | QL5070X XYA1KHJ | QL5071X XYA1KA | QL5071X XYA1KAJ | QL5070X XYA1KA1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | | | | | |
| Steering Position | Left | | | | | | | | | | | | | | |
| Type | Circulating-ball type | | | | | | | | | | | | | | |
| Steering wheel free play (mm) | 10-30 | | | | | | | | | | | | | | |
| Capacity (L) | 0.54 | | | | | | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | | | | | |
| Toe-in (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | | | | | | |
| Camber (°) | 1° 15' ±30' | | | | | | | | | | | | | | |
| Caster (°) | 1°30' ±60' | | | | | | | | | | | | | | |
| King pin angle (°) | 7°15' ±40' | | | | | | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | | | | | |
| Type | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | | | | | | |
| Pedal free play (mm) | 4-7 | | | | | | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | | | | | |
| Type | Center drum brake acting on the output shaft of the transmission | | | | | | | | | | | | | | |
| Brake lever travel (notches) | 5 ~ 8 (when pulling upward with 150 N,) | | | | | | | | | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5050X XYA1HA | QL5050X XYA1HAJ | QL5040X XYA1HA | QL5040X XYA1HAJ | QL5040X LCA1HA | QL5040X LCA1HAJ | QL5070X XYA1KA | QL5070X XYA1KAJ | QL5070X XVA1KW | QL5070X XYA1KWJ | QL5070X XYA1KH | QL5070X XYA1KHJ | QL5071X XYA1KA | QL5071X XYA1KAJ | QL5070X XYA1KA1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | | | | | | |
| Type; Front/Rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | | | | | | |
| Specification: front/ rear | 8/6+5 | | | | | | | | | | | | | | |
| WHEELS | | | | | | | | | | | | | | | |
| Tire Size: front wheel | 6.50-16 10PR or 6.50R16 10PR | | | | | | | 7.00-16 14PR or 7.00R16 14PR | | | | | | | |
| Rear wheel | 6.50-16 10PR or 6.50R16 10PR | | | | | | | 7.00-16 14PR or 7.00R16 14PR | | | | | | | |
| ELECTRICAL | | | | | | | | | | | | | | | |
| Type | 12 Volt Electrical System for Negative pole Grounding | | | | | | | | | | | | | | |
| Battery (Volt-Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | | | | | | |
| Starter (volt/kw) | 12/2.6 | | | | | | | | | | | | | | |
| AC generator (volt/amp.) | 12 / 60 | | | | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5070XX YA1KA1J | QL5070XL CA1 KA | QL5070XL CA1KAJ | QL5070XX YA1KHI | QL5070XX YA1KH1J | QL5070XL CA1 KH | QL5070XL CAIKHJ | QL5050XX YA1KA | QL5050XX YA1KAJ | QL5040CC YA1EWJ | 0L5040CC YA1HAJ | QL5070CC YA1KAJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | | | | | |
| Vehicle length (mm) | 67 90 | 6980 | | 6790 | | 6980 | | 6790 | | 4940 | 5995 | 6790 |
| Vehicle width (mm) | 2110 2160 | 2010 | 2070 | 21 10 | 2160 | 2010 | 2070 | 2110 | 2160 | 18 18 | 1910 | 2160 |
| Vehicle Height (mm) | 2900 | 2990 | | 2900 | | 2990 | | 2890 | | 2715 | 2880 | 2990 |
| Wheel base (mm) | 3815 | | | | | | | | | 2490 | 3360 | 3815 |
| Tread: Front: (mm) | 1 504 | | | | | | | | | 1385 | 1 504 | 1504 |
| Rear: (mm) | 1525 | | | | | | | | | 1395 | 1425 | 1525 |
| Minimum clearance (mm) lifting from the ground | 1 90 v | | | | | | | | | | | |
| Area of compartment ($m^2$) | 10. 35 | 9.29 | | 9.43 | | 8.46 | | 10.35 | | 3.76 | 7. 57 | 10. 25 |
| Drive type | 4X2 | | | | | | | | | | | |
| Number of axles | 2 | | | | | | | | | | | |
| Weight | | | | | | | | | | | | |
| Kerb mass (kg) | 3010 | 3770 | | 3010 | | 3770 | | 3010 | | 2340 | 2715 | 3295 |
| Loading mass (kg) | 3990 | 3400 | | 3990 | | 3400 | | 1990 | | 1435 | 1650 | 3875 |
| Gross vehicle mass (kg) | 7130 | 7300 | | 7130 | | 7300 | | 5130 | | 4100 | 4495 | 7300 |
| Full load shaft load: front axle (kg) | 2430 | 2500 | | 2430 | | 2580 | | 1740 | | 1690 | 1570 | 2580 |
| Rear axle (kg) | 4700 | 4720 | | 4700 | | 4720 | | 3390 | | 2410 | 2925 | 4720 |
| Integrated fuel consumption (L/ 100km) | ≤17.3 | | | | | | | ≤15 . 9 | | ≤12.1 | ≤12.1 | ≤17.3 |
| Fuel consumption implementation standard | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | | | | | | |
| Max. speedof vehicle | ≥1 05 km / h | | | | | | | | | | | |
| Maximum gradeability | ≥30% | | | | | | | | | | | |
| Emission Level | GB 1 7691-2005 (GB IV ) , GB3847-2005 | | | | | | | | | | | |
| Number of passengers allowed in the cab (person) | 2 | | | | | 2+3 | | | | 2 | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5070XX YA1KA1J | QL5070XL CA1 KA | QL5070XL CA1KAJ | QL5070XX YA1KHI | QL5070XX YA1KH1J | QL5070XL CA1 KH | QL5070XL CAIKHJ | QL5050XX YA1KA | QL5050XX YA1KAJ | QL5040CC YA1EWJ | 0L5040CC YA1HAJ | QL5070CC YA1KAJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | | | | | | |
| Model | 4KH1-TCG40 | | | | | | | | | | | |
| Rated power (kW/ rpm) | 88/2900 | | | | | | | | | | | |
| Maximum net power (kW/ rpm) | 87/2900 | | | | | | | | | | | |
| Torque (N • m/ rpm) | 290/1500 | | | | | | | | | | | |
| Fuel type | Diesel | | | | | | | | | | | |
| Fuel tank capacity (liters) | 100 | | | | | | | | | 63 | 100 | |
| CLUTCH | | | | | | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | | | | | | |
| Diameter (mm) | φ 250 | | | | | | | | | | | |
| Pedal free play (mm) | 12 ～22 | | | | | | | | | | | |
| TRANSMISSION | | | | | | | | | | | | |
| Model and type | MSB-5SM | | | | | | | | | MSB-5S | MSB-5SM | |
| REAR AXLE | | | | | | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | | | | | | |
| Hypoid gear diameter (mm) | φ292 | | | | | | | | | φ244 | 292 | |
| Gear ratio (to 1) | 5. 375 | | | | | | | | | 5. 571 | 5. 375 | |
| Lubricating oil capacity (liters) | 3 | | | | | | | | | 2. 7 | 3 | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL5070XX YA1KA1J | QL5070XL CA1 KA | QL5070XL CA1KAJ | QL5070XX YA1KHI | QL5070XX YA1KH1J | QL5070XL CA1 KH | QL5070XL CAIKHJ | QL5050XX YA1KA | QL5050XX YA1KAJ | QL5040CC YA1EWJ | 0L5040CC YA1HAJ | QL5070CC YA1KAJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | | | | | | |
| Steering Position | Left | | | | | | | | | | | |
| Type | Circulating-ball type | | | | | | | | | | | |
| Steering wheel free play (mm) | 10 ～30 | | | | | | | | | | | |
| Capacity (L) | 0.54 | | | | | | | | | | | |
| Front wheel alignment | | | | | | | | | | | | |
| Toe-in (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | | | | | | |
| Camber (°) | 1° 15’ ± 30' | | | | | | | | | | | |
| Caster (°) | 1° 30’±60' | | | | | | | | | | | |
| King pin angle (°) | 7° 15’±40’ | | | | | | | | | | | |
| SERVICE BRAKE | | | | | | | | | | | | |
| Type | Dual-circuit hydraulic brake system with vacuum booster | | | | | | | | | | | |
| Pedal free play (mm) | 4-7 | | | | | | | | | | | |
| PARKING BRAKE | | | | | | | | | | | | |
| Type | Center drum brake acting on the output shaft of the transmission | | | | | | | | | | | |
| Brake lever travel (notches) | 5 ~ 8 (when pulling upward with 150 N,) | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL5070XX YA1KA1J | QL5070XL CA1 KA | QL5070XL CA1KAJ | QL5070XX YA1KHI | QL5070XX YA1KH1J | QL5070XL CA1 KH | QL5070XL CAIKHJ | QL5050XX YA1KA | QL5050XX YA1KAJ | QL5040CC YA1EWJ | 0L5040CC YA1HAJ | QL5070CC YA1KAJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | | | | | | |
| Type; | Front/Rear | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | | | | | | |
| Specification: | front/ rear | 8/6+5 | | | | | | | | | 6/5 | 8/6+5 | |
| WHEELS | | | | | | | | | | | | | |
| Tire Size: | front wheel | 7. 00-16 14PR or 7.00 R16 14 PR | | | | | | | 6. 50-16 10PR or 6. 50R16 10PR | | 7.00-15 10P or7.00R15 10PR | 6.50-16 10PR or 6. 50RI6 10PR | 7. 00-16 14PR or7.00R16 14PR |
| | Rear wheel | | | | | | | | | | 7.50-15 12PR or 7. 50R15 10PR | 6. 50-16 10PR or 6. 50R16 10PR | |
| ELECTRICAL | | | | | | | | | | | | | |
| Type | | 12 Volt Electrical System for Negative pole Grounding | | | | | | | | | | | |
| Battery | (Volt-Amp.h.) | 12/ 80 (2 in parallel) | | | | | | | | | | | |
| Starter | (volt/kw) | 12 / 2. 8 | | | | | | | | | | | |
| AC generator | (volt/amp.) | 12 / 60 | | | | | | | | | | | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | | QL1041 A 1FA | QL5041XXYA1FAJ | QL 1 041A1HA | OL1041 A 1HW | QL5041XXYA1HA | QL5040XGCA1HWJ | QL5040XXHA1HWJ |
|---|---|---|---|---|---|---|---|---|
| DIMENSIONS | | | | | | | | |
| Vehicle length | (mm) | 52 80 | 5305 | 5950 | 59 50 | 5 995 | 59 50 | |
| Vehicle width | (mm) | 1 880 | 1880; 19 10 | 188 0 | 1 880 | 1880 19 10 | 1 8 80 ; 1 910 | |
| Vehicle Height | (mm) | 2 2 70 | 28 15 | 2 2 7 0 | 2260 | 2825 | 276 5 | |
| Wheel base | (mm) | 2 7 6 5 | | | 3 360 | | | |
| Tread: Front: | (mm) | 1504 | | | | | | |
| Rear: | (mm) | 1 525 | | | | | | |
| Minimum clearance lifting from the ground | (mm) | 1 90 | | | | | | |
| Area of compartment | ($m^2$) | 6. 44 | 6.48 | 7.65 | 5. 79 | 7. 58 | 5. 79 | |
| Drive type | | 4X2 | | | | | | |
| Number of axles | | 2 | | | | | | |
| Weight | | | | | | | | |
| Kerb mass | (kg) | 2160 | 2 700 | 2 165 | 24 20 | 2 280 | 2800 | 20 00 |
| Loading mass | (kg) | 1 490 | 1 490 | 1 495 | 1 490 | 1 240 | 1 370 | 1 370 |
| Gross vehicle mass | (kg) | 3 7 80 | 4320 | 3 7 9 0 | 4235 | 3 6 5 0 | 4 4 9 5 | 44 95 |
| Full load shaft load: front axle | (kg) | 13 10 | 1 680 | 13 15 | 1 6 35 | 1 300 | 1 73 0 | 1 7 30 |
| Rear axle | (kg) | 2 4 7 0 | 2640 | 24 7 5 | 2600 | 2350 | 2 7 6 5 | 27 65 |
| Comprehensive fuel consumption of the Ministry of Communications | (L/100km) | ≤12.1 | ≤12. 3 | ≤12.1 | ≤12. 3 | ≤12.0 | ≤12.4 | ≤12.4 |
| Fuel consumption implementation standard | | QC/ T 924- 2011 Heavy Commercial Vehicle Fuel Consumption Limit (Phase I) | | | | | | |
| Max. speedof vehicle | | ≥105 k m / h | | | | | | |
| Maximum gradeability | | ≥3 0% | | | | | | |
| Emission Level | | GB17691 -2005 (GB IV) , GB3847-2005 | | | | | | |
| Number of passengers allowed in the cab | (person) | 2 | | 2+3 | 2 | | 2 + 3 | |

# MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL1041 A 1FA | QL5041XXYA1FAJ | QL 1 041A1HA | OL1041 A 1HW | QL5041XXYA1HA | QL5040XGCA1HWJ | QL5040XXHA1HWJ |
|---|---|---|---|---|---|---|---|
| ENGINE | | | | | | | |
| Model | 4KH1-TCG40 | | | | | | |
| Rated power (kW/ rpm) | 88/2900 | | | | | | |
| Maximum net power (kW/ rpm) | 87/2900 | | | | | | |
| Torque (N • m/ rpm) | 290/1500 | | | | | | |
| Fuel type | Diesel | | | | | | |
| Fuel tank capacity (liters) | 100 | | 84 | | 100 | | 84 |
| CLUTCH | | | | | | | |
| Type | Hydraulic control, diaphragm spring, single-chip dry type | | | | | | |
| Diameter (mm) | φ 250 | | | | | | |
| Pedal free play (mm) | 1 2 ～22 | | | | | | |
| TRANSMISSION | | | | | | | |
| Model and type | MSB-5SM | | | | | | |
| REAR AXLE | | | | | | | |
| Type | Full Floating, Spiral Small Umbrella Gear and hypoid Gear Drive | | | | | | |
| Hypoid gear diameter (mm) | φ292 | | | | | | |
| Gear ratio (to 1) | 5. 375 | | | | | | |
| Lubricating oil capacity (liters) | 3 | | | | | | |

## MAIN DATA AND SPECIFICATIONS

| Vehicle model | QL1041 A 1FA | QL5041XXYA1FAJ | QL 1 041A1HA | OL1041 A 1HW | QL5041XXYA1HA | QL5040XGCA1HWJ | QL5040XXHA1HWJ |
|---|---|---|---|---|---|---|---|
| STEERING | | | | | | | |
| Steering Position | Left | | | | | | |
| Type | Circulating-ball type | | | | | | |
| Steering wheel free play (mm) | 10 ～30 | | | | | | |
| Capacity (L) | 0. 54 | | | | | | |
| Front wheel alignment | | | | | | | |
| Toe-in (mm) | 3-7 (oblique tire); 0 ~ 4 (radial tire) | | | | | | |
| Camber (°) | 1° 15' ±30' | | | | | | |
| Caster (°) | 1° 30' ±60' | | | | | | |
| King pin angle (°) | 7°15' ±40' | | | | | | |
| SERVICE BRAKE | | | | | | | |
| Type | Dual-circuit hydraulic brake system with vacuum booster | | | | | | |
| Pedal free play (mm) | 4～7 | | | | | | |
| PARKING BRAKE | | | | | | | |
| Type | Center drum brake acting on the output shaft of the transmission | | | | | | |
| Brake lever travel (notches) | 5 ~ 8 (when pulling upward with 150 N,) | | | | | | |

## MAIN DATA AND SPECIFICATIONS

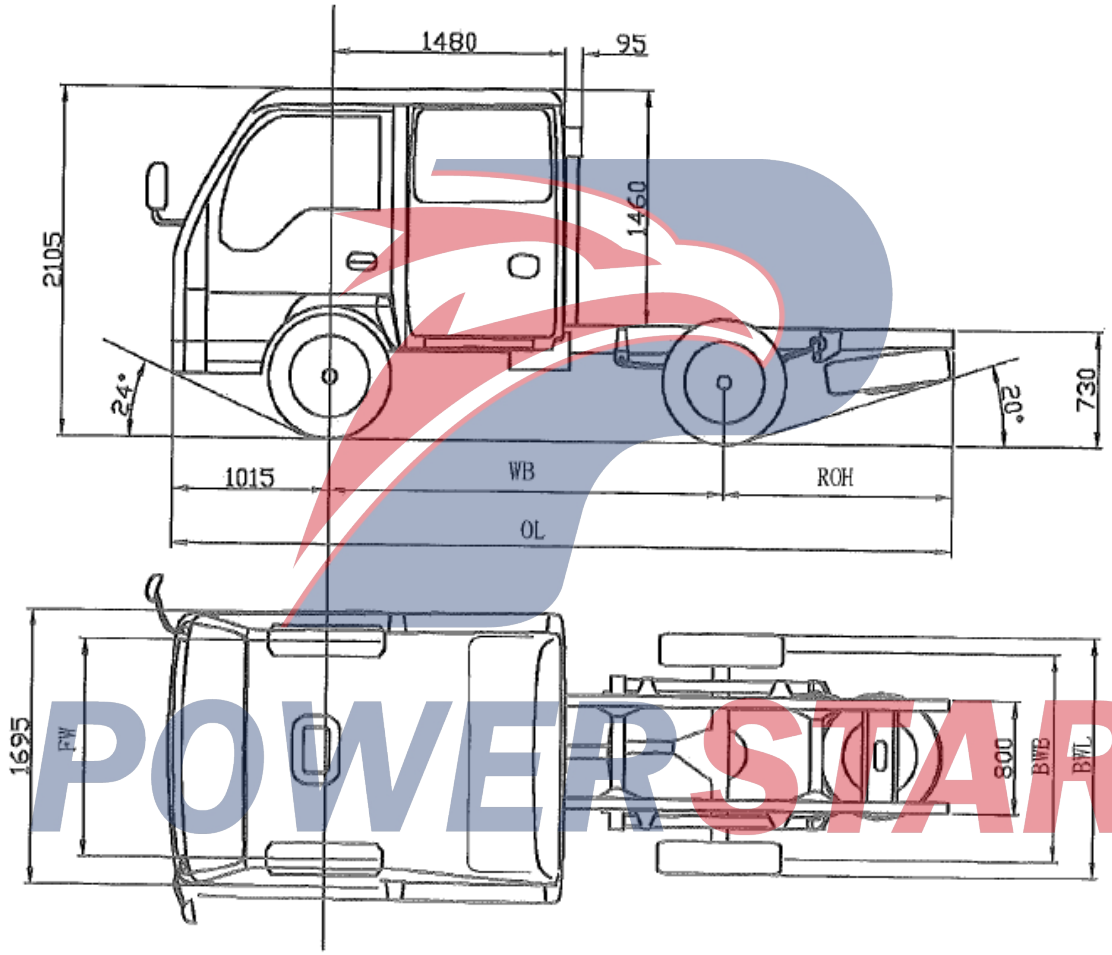
| Vehicle model | | QL1041 A 1FA | QL5041XXYA1FAJ | QL 1 041A1HA | OL1041 A 1HW | QL5041XXYA1HA | QL5040XGCA1HWJ | QL5040XXHA1HWJ |
|---|---|---|---|---|---|---|---|---|
| SUSPENSIONS | | | | | | | | |
| Type; r | Front/Rea | Semi-elliptical alloy steel leaf springs with hydraulic double acting telescopic shock absorbers | | | | | | |
| Specification: | front/ rear | 8/6+5 | | | | | | |
| WHEELS | | | | | | | | |
| Tire Size: | front wheel | 6.50-16 8PR or 6.50R16 8PR | 6. 50-16 10PR or 6.50R16 10PR | 6.50-16 8PR or 6.50R16 8PR | 6.50-16 10PR or 6.50R16 10PR | 6.50-16 8PR or 6.50R16 8PR | 6.50-16 10PR or 6. 50R16 10PR | |
| | Rear wheel | | | | | | | |
| ELECTRICAL | | 12 Volt Electrical System for Negative pole Grounding | | | | | | |
| Type | | 12/ 80 (2 in parallel) | | | | | | |
| Battery | (Volt-Amp.h.) | 12/ 2. 8 | | | | | | |
| Starter | (volt/kw) | 12/60 | | | | | | |

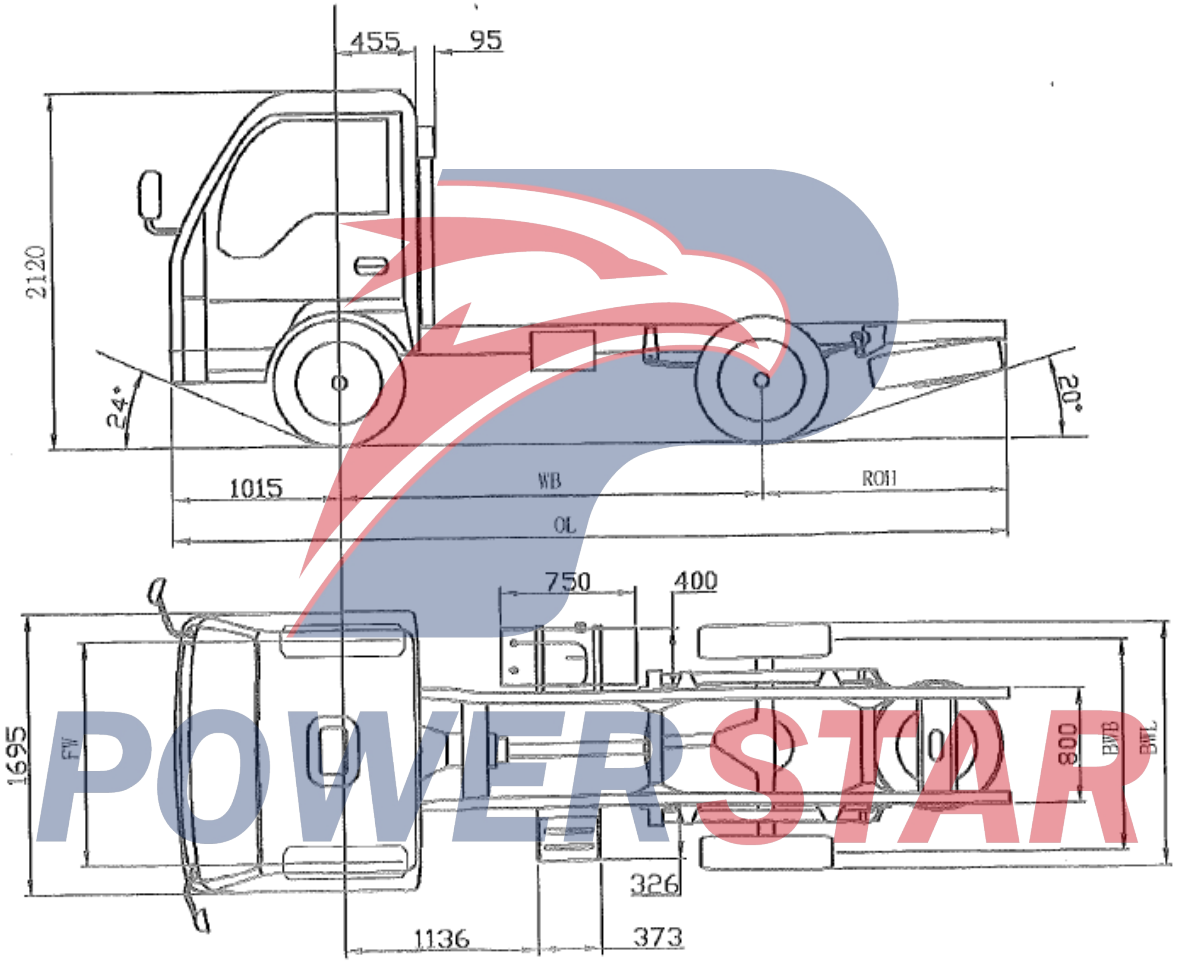
## Table of Chassis Parameters

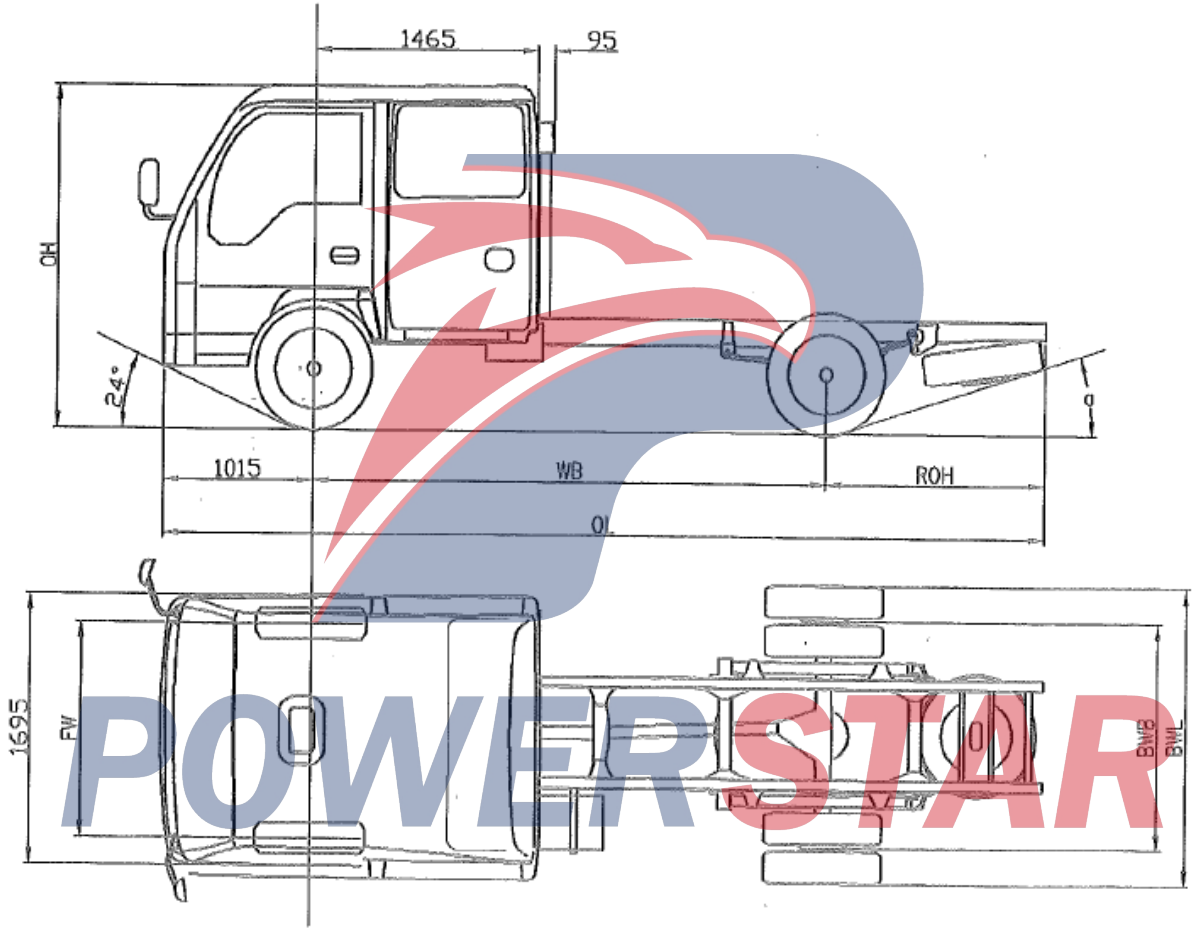
| Vehicle model | | Unit | QL1040 A1EAY | QL1040 A1EWY | QL1041 A1EWY | QL1060 A1EAY | QL1070 A1FAY | QL1040 A1FWY | QL1060 A1FAY | QL1050 A1FAY | QL1070 A1HAY | QL1070 A1HWY | QL1070 A1HHY | QL1071 A1HAY | QL1050 A1HWY | QL1040 A1HHY | QL1060 A1HAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emission Level | | | CiB17691-2005(GB IV) ,GB3847-2005 | | | | | | | | | | | | | | |
| Number of passengers allowed in the cab | | person | 2 | 2+3 | | 2 | | 2+3 | 2 | | | 2+3 | 2 | | 2+3 | 2 | |
| Kerb mass | | kg | 1700 | 1880 | | 1860 | 1870 | 2010 | 1870 | | 1900 | 2070 | 1900 | | 2070 | 1900 | |
| Chassis axle load | Front axle | kg | 1200 | 1310 | | 1250 | 1100 | 1250 | 1100 | 1110 | 1250 | 1320 | 1250 | 1250 | 1320 | 1250 | 1250 |
| | Rear axle | kg | 500 | 570 | | 610 | 770 | 760 | 770 | 760 | 650 | 750 | 650 | 650 | 750 | 650 | 650 |
| Allowable maximum total mass | | kg | 3840 | 3848 | 4200 | 6440 | 6720 | 4415 | 6195 | 4560 | 7300 | 6725 | 7300 | 6960 | 5090 | 4495 | 6435 |
| maximum axle load | Front axle | kg | 1780 | 1788 | 1780 | 2440 | 2300 | 1700 | 2150 | 1770 | 2580 | 2000<br>2010 | 2580 | 2250 | 1800 | 1570 | 2250 |
| | Rear axle | kg | 2060 | | 2420 | 4000 | 44201 | ^715 | 4045 | 2790 | 4720 | 4725<br>4715 | 4720 | 4710 | 3290 | 2925 | 4185 |
| Vehicle length | | mm(OL) | 4605 | | | 4785 | 5230 | | | | 5900 | | | | | | |
| Vehicle width | | mm(BWL) | 1695 | | | 1880 | | | | | | | | | | | |
| Vehicle width | | mm(OH) | 2120 | | | 2160 | | 2150 | 2160 | 2150 | 2160 | | | | 2150 | | 2160 |
| Vehicle height | | mm(WB) | 2490 | | | | 2765 | | | | 3360 | | | | | | |
| Wheel base | | mm(FW) | 1385 | | | | | 1504 | | | | | | | | | |
| Front track | | mm(BWB) | 1395 | | | | | 1425 | | | | | | | | | |
| Rear track | | mm | 1015 | | | | | | | | | | | | | | |
| Front suspension | | mm(ROH) | 1100 | | | 1280 | 1450 | | | | 1525 | | | | | | |
| Rear Overhang | | ° | 24 | | | | | | | | | | | | | | |
| Approach angle | | ° (a) | 20 | | | 14 | 16 | | | | | | | | | | |

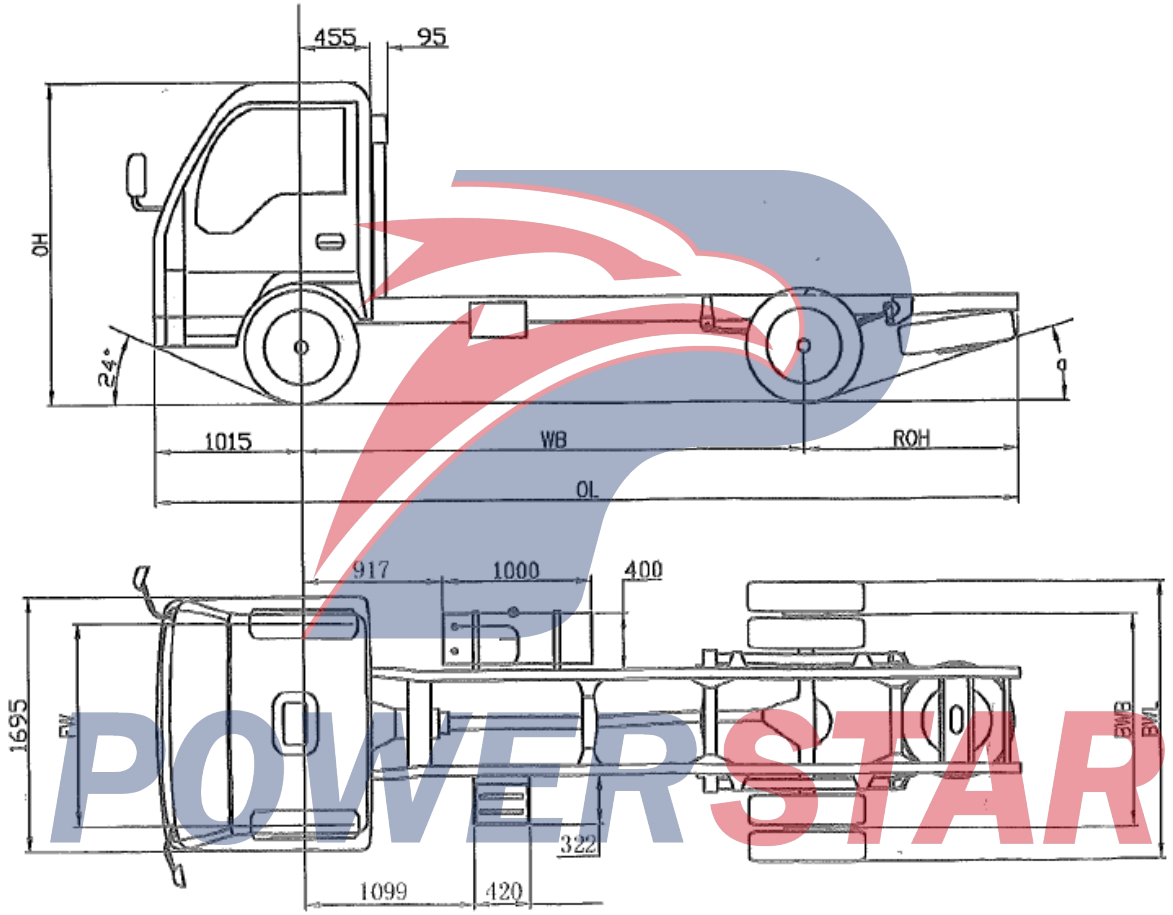
## Table of Chassis Parameters

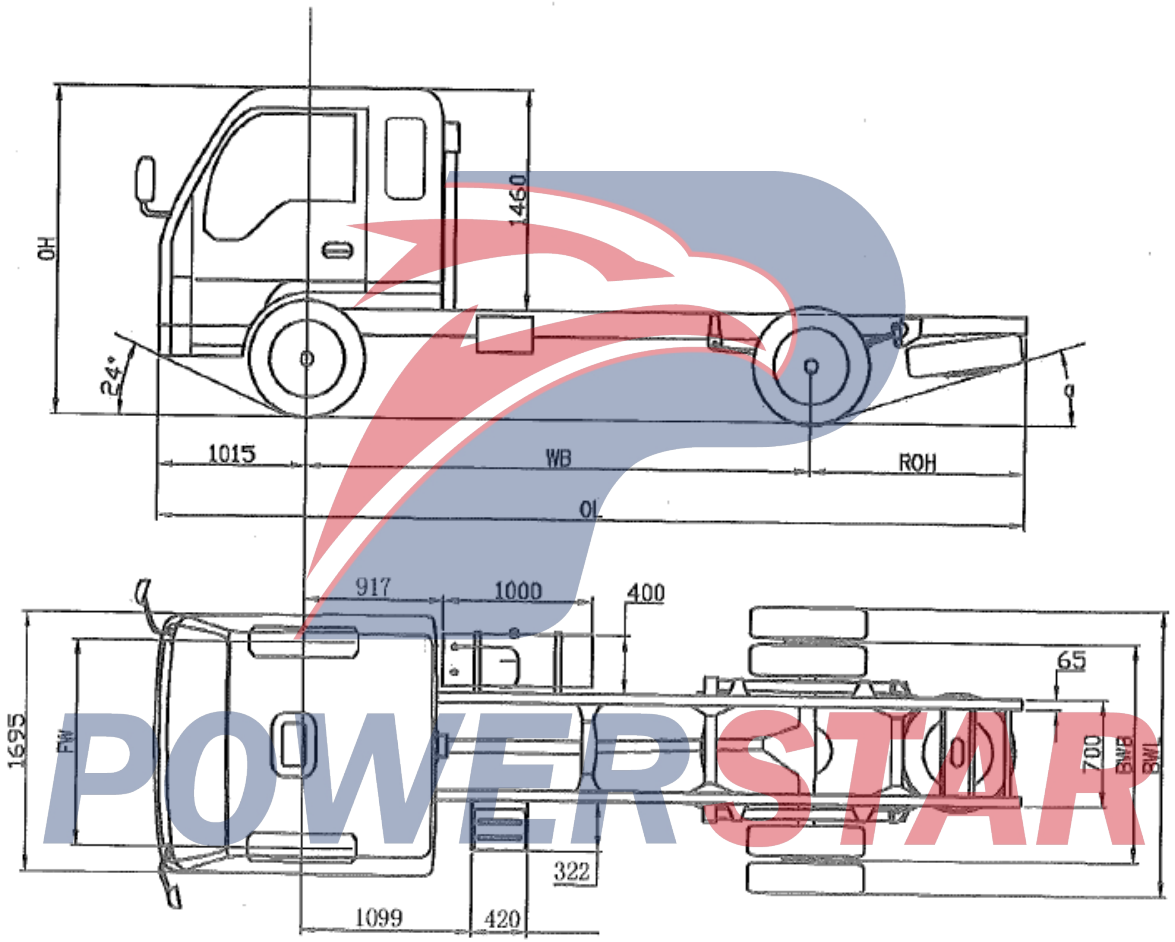
| Project | | Unit | ' Chassis model | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | QL1040 A1EAY | QL1040 A1EWY | QL1041 A1EWY | QL1060 A1EAY | QL1070 A1FAY | QL1040 A1FWY | QL1060 A1FAY | QL1050 A1FAY | QL1070 A1HAY | QL1070 A1HWY | QL1070 A1HHY | QL1071 A1HAY | QL1050 A1HWY |
| Emission Level | | | GB17691 -2005 (GB IV), GB3847-2005 | | | | | | | | | | | | |
| Number of passengers allowed in the cab | | person | 2 + 3 | 2 | | | 2 + 3 | 2 | | | | | | | |
| Kerb mass | | kg | 2070 | 1900 | | 2050 | 2150 | 2050 | | | 2110 | | | 1870 | 1800 |
| Chassis axle load | Front axle | kg | 1320 | 1250 | | 1310 | 1390 | 1310 | | | 1320 | | | 1110 | 1050 |
| | Rear axle | kg | 750 | 650 | | 740 | 760 | 740 | | | 790 | | | 760 | 750 |
| Allowable maximum total mass | | kg | 4495 | 4860 | 4495 | 7300 | 6810 | 7300 | 7108 | 6580 | 7300 | | 5440 | 3780 | 3790 |
| maximum axle load | Front axle | kg | 1370 | 1940 | 1570 | 2580 | 2090 | 2580 | 2390 | 2100 | 2580 | | 1945 | 1310 | 1315 |
| | Rear axle | kg | 2765 | 2920 | 2925 | 47 20 | | | 4718 | 4480 | 4720 | | 3495 | 2470 | 2475 |
| Vehicle length | | mm (OL) | 5900 | | | 6645 | | | | | 5600 | 6645 | | 5230 | 5900 |
| Vehicle width(at cab) | | mm | 1695 | | | | | | | | | | | | |
| Vehicle width(at rear axle) | | mm (BWL) | 1880 | | | | | | | | 1 980 | | | 1880 | |
| Vehicle height | | mm (OH) | 2150 | | | 21 60 | | | | | 2200 | 2190 | | 2150 | |
| Wheel base | | mm (WB) | 3360 | | | 3815 | | | | | | | | 2765 | 3360 |
| Front track | | mm (FW) | 1 504 | | | | | | | | | | | | |
| Rear track | | mm (BWB) | 1525 | | | | | | | | 1525 | | | 1425 | |
| Front suspension | | mm | 1015 | | | | | | | | | | | | |
| Rear Overhang | | mm (ROH) | 1 525 | | | 1815 | | | | | 770 | 1815 | | 1450 | 1525 |
| Approach angle | | ° | 24° | | | | | | | | | | | | |
| Departure angle | | ° (a) | 16° | | | | | | | | 28° | 14° | | 16° | |
| Height of frame from ground (at rear axle) | | mm | 730 | | | | | | | | | | | | |



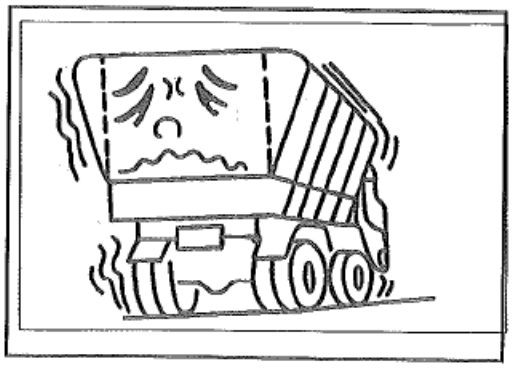

455
95
2120
24°
20°
1015
WB
ROH
OL
750
400
1695
FW
800
BWB
BWL
326
1136
373



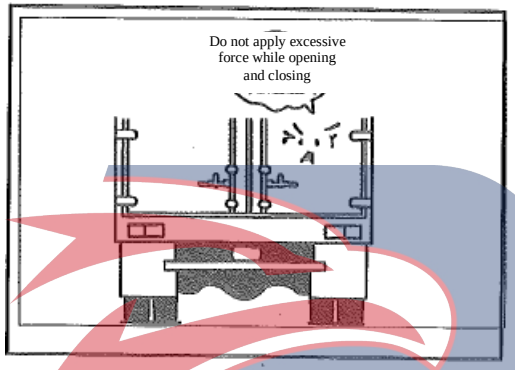

455
95
OH
24°
9
1015
WB
ROH
OL
917
1000
400
1695
FW
RWB
RWL
322
1099
420


OH
1460
24°
1015
WB
ROH
OL
917
1000
400
65
1695
FW
700
BWB
BWL
322
1099
420


POWERSTAR



**1. In order to avoid premature failure of the car body, it shall be loaded according to the essentials of the load. The carrying capacity must be within the rated range of the vehicle's total mass, and it is strictly prohibited to overload the vehicle.**

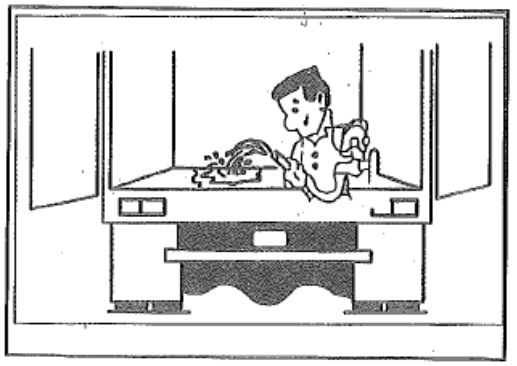



2 The opening sequence of the rear door is: the right rear door is opened first, and the left rear door is opened , the closing sequence is reverse .

**Caution:**

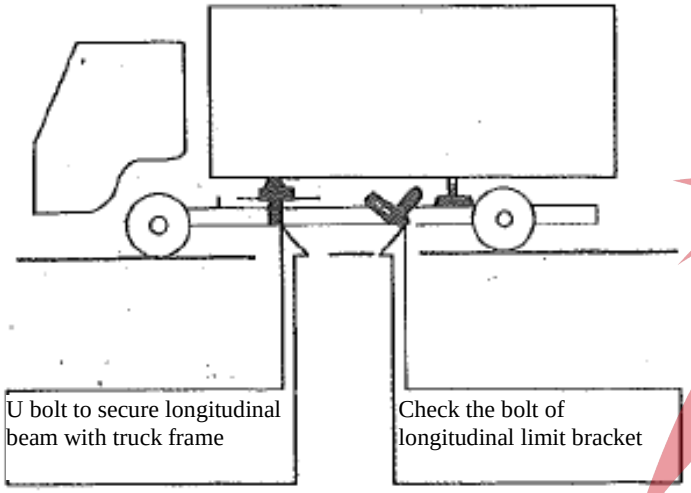
**1) When opening and closing the rear door, it is not allowed to force the rear door to avoid bumping the car body or causing deformation of the rear door.**

**2) The container is of closed structure. When the rear door is closed, passengers shall not be carried in the container, and the fresh and alive animals are not suitable for shipment too.**



3. After transporting corrosive substances such as strong acids and strong bases, it is required to clean the compartment in time to avoid corrosion of the compartment.

4. Take care when loading and unloading the goods to avoid injury, deformation and even damage to the vehicle body.




For safe life expectancy of the vehicle

| | |
|---|---|
| 1st time | When truck is received |
| 2nd time | After one month |
| 3rd time | After six month |
| 4th time and thereafter | Every six months |

## TOOLS WITH VEHICLE

| Serial number | Tool name | Specification | Quantity | Vehicle model | |
|---|---|---|---|---|---|
| | | | | Rated load 3T the following models | Rated load 3T above models |
| 1 | Workbasket | - | 1 | ☆ | ☆ |
| 2 | Double-ended wrench | 17x22 | 1 | ☆ | ☆ |
| 3 | Double-ended wrench | 12x14 | 1 | ☆ | ☆ |
| 4 | Double-ended wrench | 8X10 | 1 | ☆ | ☆ |
| 5 | Jaws | 150 | 1 | ☆ | ☆ |
| 6 | Adjustable wrench | 200X24 | 1 | ☆ | ☆ |
| 7 | "+"-"Combined driver | — | 1 | ☆ | ☆ |
| 8 | Wheel nut wrench | 41x19 | 1 | ☆ | ☆ |
| 9 | Valve wrench | - | 1 | ☆ | ☆ |
| 10 | valve wrench | QYH4D | 1 | ☆ | |
| | | QYH6 | 1 | | ☆ |
| 11 | | - | 1 | ☆ | ☆ |
| 12 | Wheel wrench | - | 1 | ☆ | ☆ |
| 13 | Backup lifter rocker | — | 1 | ☆ | ☆ |


POWERSTAR

The use, maintenance and precautions of QL3070ZA1FAJ dump truck are identical to QL1060A1FA except for power takeoff and its operating system, hydraulic system and hoisting system of container.

## ♦ Instructions for use of dumping function

### O Vehicle Start

1. Turn the start switch to the "ON" position and the warm-up indicator lamps up. Approximately 0.5 seconds (engine in warm-up) or 4.0 seconds (engine in cold state) , the lamp goes out.

2. After the warm-up indicator turns off, depress the accelerator and clutch pedal to the "START" position to start the engine.

### o Lifting

1. Under the parking status (transmission in neutral position), depress the clutch pedal, pull the power take-off handle to the reverse position, and make the power take-off drive gear to engage. Loosen clutch pedal again;

2. Pull up the handle of the control valve and lift the container. According to the load condition, the greater the accelerator is pressed, the faster the lifting speed is.

Until the vehicle is lifted to its place;

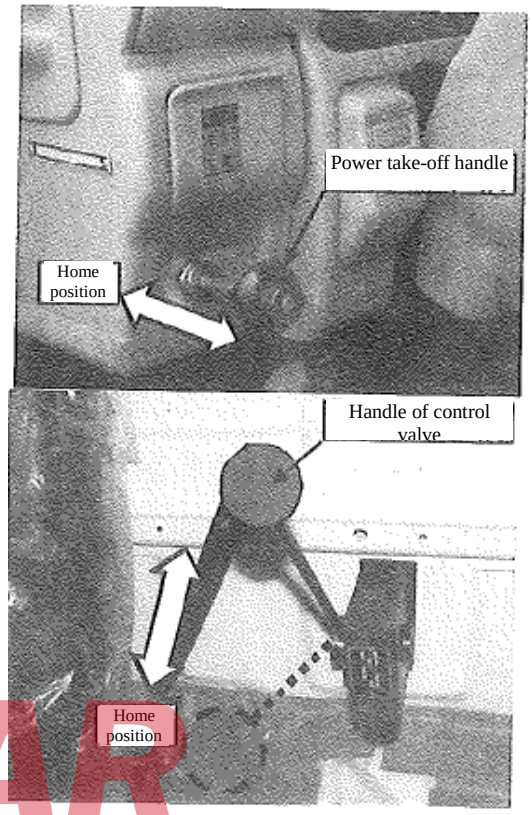
When the compartment is raised to the maximum position, depress the clutch pedal to cut off the power.

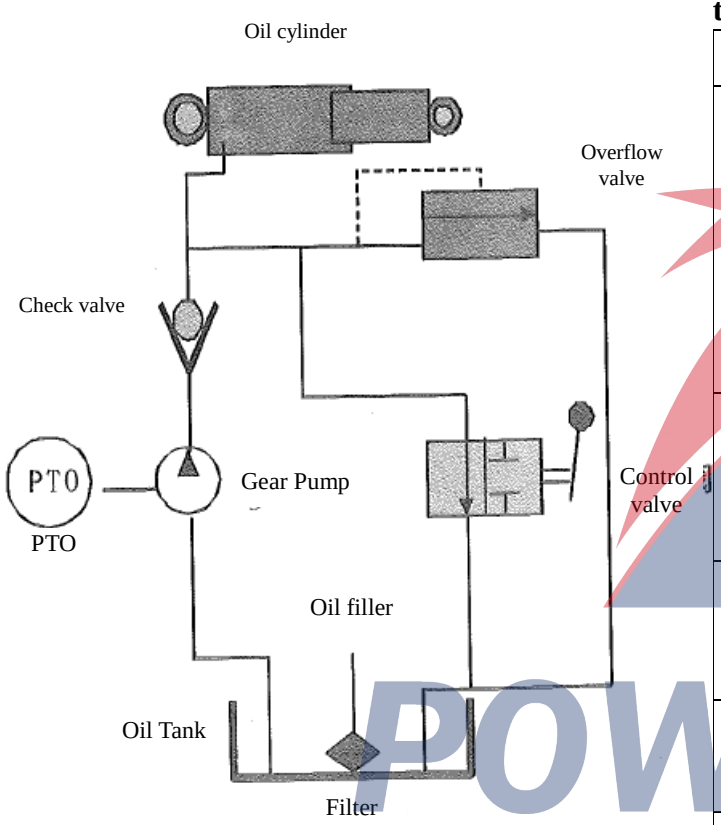
3. During hoisting, if the vehicle needs to be suspended, you are required to depress the clutch pedal. If you want to continue hoisting, release the clutch pedal.

### O Down

1. Press the control valve handle downward to the original position when it is required to fall back. By the self-weight of the vehicle, it returns into its original position.

2. During descending, if the vehicle is needed to be suspended, it is possible to pull up the control valve handle, if the handle is pressed down, the vehicle will continue to decrease.

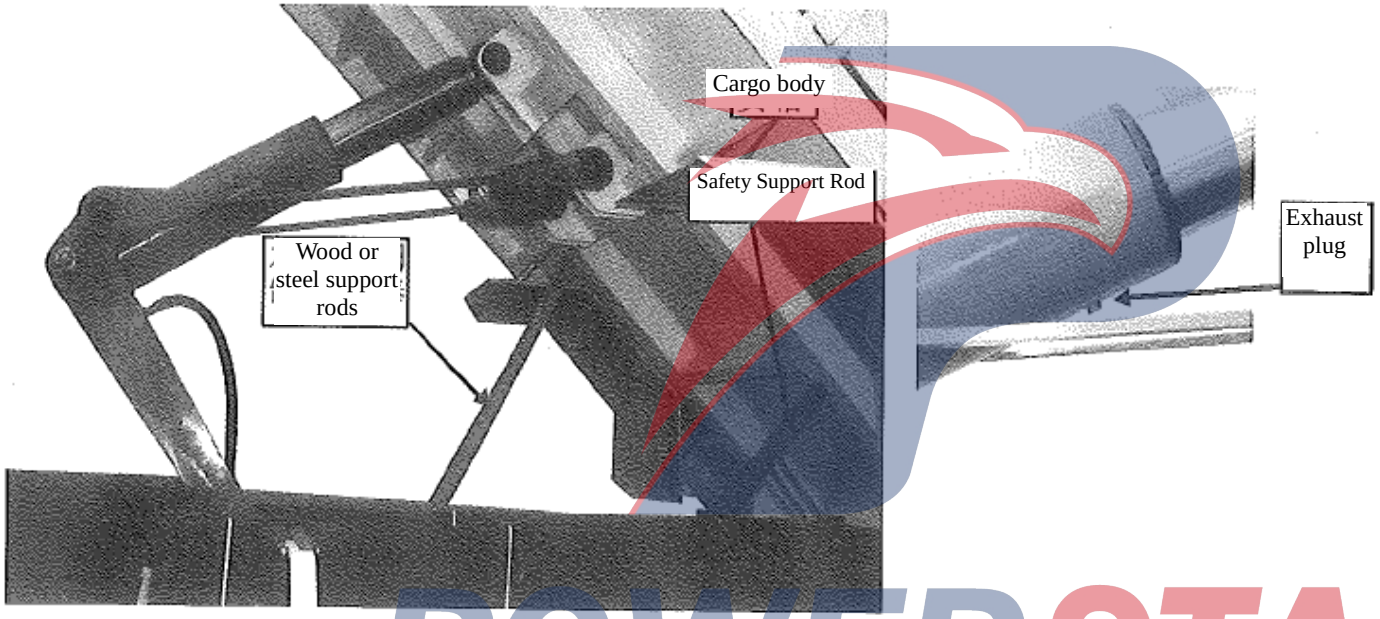


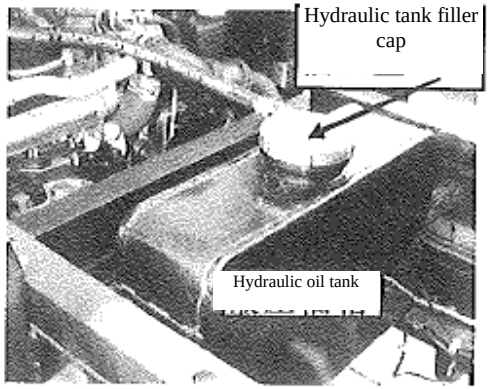



**Routine maintenance and lubrication table for hydraulic system of 600P dump truck**

| Serial number | Region | Content of service and maintenance | Cycle | oil mark | Consumption |
|---|---|---|---|---|---|
| 1 | Oil tank | Check for leaks | Daily | | |
| | | Check oil quantity | Weekly | No. 46 anti-wear hydraulic oil | Replenish as needed |
| | | Change the Hydraulic Oil | First guarantee (same as the whole vehicle), then every 12 months, or 10,000 km | No. 46 anti-wear hydraulic oil | 15L |
| 2 | PTO | Check whether there is leakage at the joint surface and the pipe joint, and there is no abnormal noise and other abnormal phenomena during operation. | Daily | - | - |
| 3 | Oil cylinder | Check whether there is any leakage in all parts, and there is no abnormal noise and other abnormal phenomena during operation | Daily | - | - |
| 4 | Control valve | Check whether there is leakage, damage and other abnormal phenomena at the joint | Daily | - | - |
| 5 | S Low-pressure line | Check all joints for leakage, damage and other abnormal phenomena | Daily | - | - |

## Operation Procedure for Oil Change of Hydraulic System of 600P Dump Truck






1. Lift the car, support the safety support rod, and then use a wooden or steel support rod to support the box reliably;

2. Put the oil receiving container ready, loosen the oil plug, put the oil in the hydraulic tank into the container, and then tighten the oil drain plug after the oil is drained;

3. Unscrew the oil filler cap of the hydraulic oil tank; fill the hydraulic oil of specified number into the hydraulic tank;

4. Remove the exhaust plug and place the drain plug under the breather. Start the engine and slowly raise the engine at idle speed (the control valve is placed in the small opening position). When the hydraulic oil flows out of the exhaust plug, the clutch shall be quickly pressed to shut down the engine. Tighten the exhaust plug and supplement the hydraulic oil to the hydraulic tank (to the specified volume of 15 litres, the oil level is about 120mm from the bottom of the tank), and then tighten the oil filler cover;

5. Take down the supporting bar, lower the safety support rod, and lower the container to the original position according to the lifting operation procedure, that is, complete the oil changing.



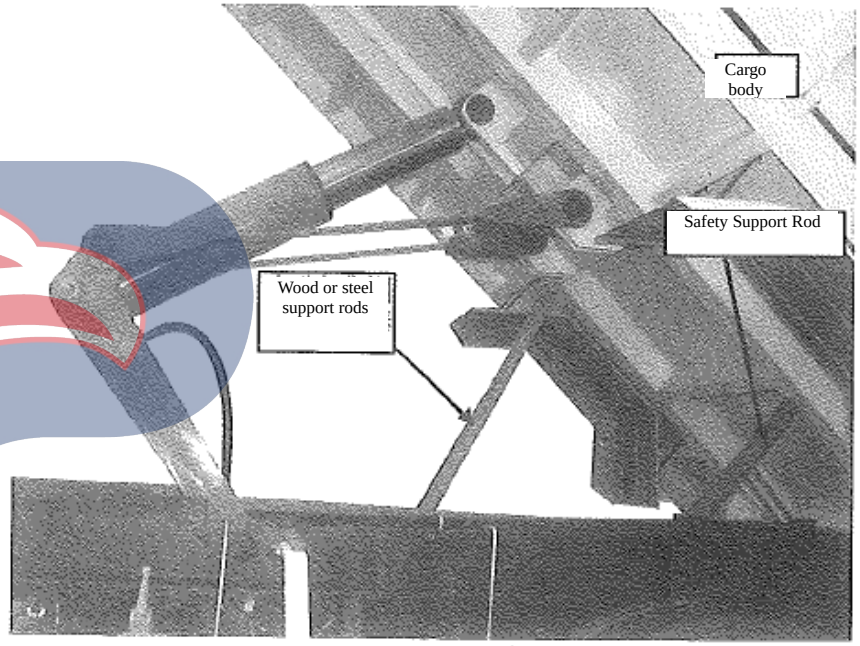

1. Daily inspection: Check whether all parts of lifting mechanism are damaged every day, and check the joint and rotating shaft for abnormal phenomena such as slacking.

2. Lubrication: The grease (multipurpose grease NLG, NO.1 or NO.2) shall be filled for every 12 months or 10,000 km at normal road surface; 6 months or 5000km for long time in downhole or malcondition.

## Special warning:

- During driving, the handle and control valve handle of the power take-off must be in place to avoid unsafe conditions raised during travel!
- It is strictly prohibited to enter the container under the lifting process!
- To check or maintain the chassis or hydraulic system, be sure to install the safety support rod!

Prior to replacing the lifting mechanism or the hydraulic system parts and before replacing the hydraulic oil, always support the container with a strong wooden or steel support rod and secure the safety rod to prevent safety accidents due to falling of the container.



| Model: | | QL3070ZA1FAJ |
|---|---|---|
| **Special organization parameters** | | |
| Maximum lifting angle | (°) | ≥45 |
| Lifting time | (S) | ≥16 |
| Drop-down Time | (S) | ≤16 |
| Oil pump specification | | GB32 Gear Pump |
| Oil tank capacity | (L) | 15 |
| **Chassis model** | | QL1060A1FAY |

# 10 REFRIGERATED VEHICLE MODEL

## Description of refrigeration vehicle model

If your vehicle is a refrigerated vehicle, please read the following carefully.

## Refrigerated vehicle model

The refrigerated truck is the vehicle type which is controlled within a certain range of temperature through the on-board refrigeration unit.

**WARNING**

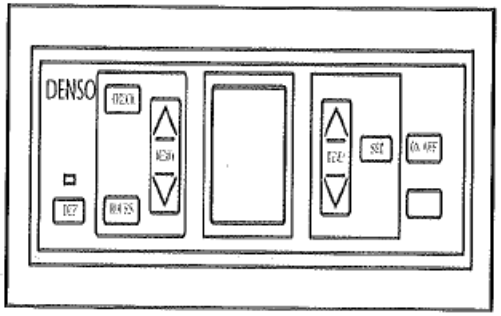
**Do not place any volatile or flammable items in the container.**

**Do not touch any frozen unit related parts except the control panel during operation of the refrigeration unit. Do not place the stick and hand in the air inlet or outlet.**

**The refrigerator must be stopped before the equipment is cleaned, repaired or inspected.**

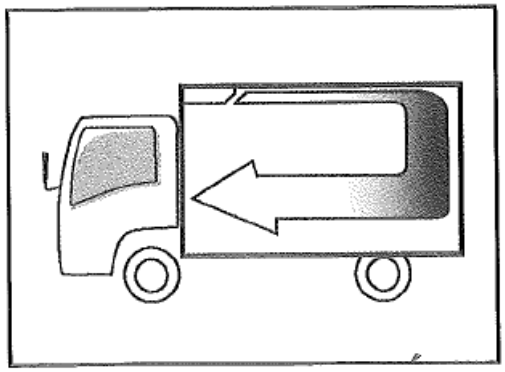
**The refrigeration unit is an exclusive device. If a problem occurs, please stop the vehicle in a safe zone and contact the nearest Qingling Motors Dealer (Maintenance Station) for inspection.**

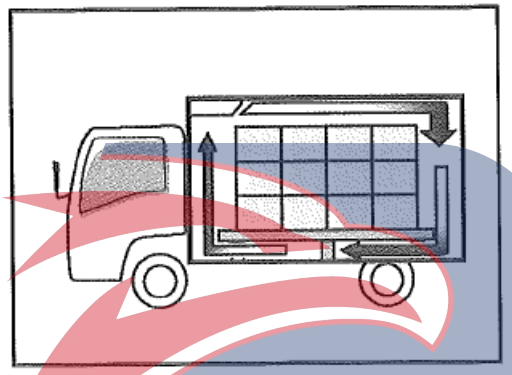
**Except for professional maintenance personnel of Qingling Motors Dealers (Maintenance Station), disassembling and repairing shall not be carried out without authorization.**

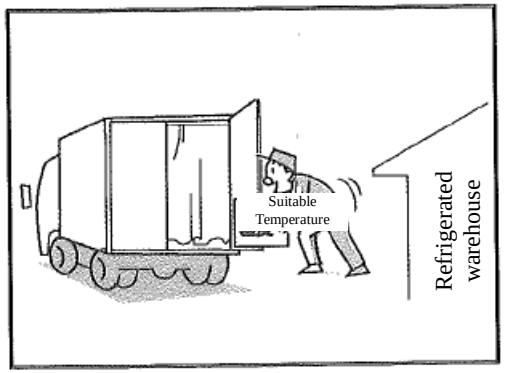



### Operating refrigerated unit

For use and operation of refrigerated units, refer to the transport refrigerator "Driver's Manual" supplied along with the vehicle.








**Precautions for Use**

1. In order to maintain the freshness of the transported goods, the temperature inside the container shall be pre-cooled to the required temperature before the goods are loaded. If the container is not pre-cooled and the goods are loaded, which will cause the temperature of the container to rise and affect the freshness of the goods after the goods is loaded.

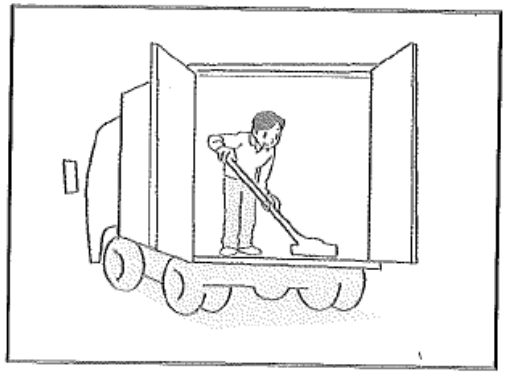
2. In order to ensure smooth air conditioning and uniform circulation, make sure that there is clearance between the top and side of the cargo compartment when loading. Pay particular attention not to stack goods above the air outlet.

3. In order to avoid the rise of temperature in the compartment (container), please handle the goods quickly. The door opening time is too long, and the temperature in the compartment will rise. Open the half door or use the masking curtain, etc. to improve the refrigeration effect. After the cargo is loaded, it is important to confirm that all the compartment (container) doors are closed in place, otherwise the refrigeration effect will be affected.



**WARNING**

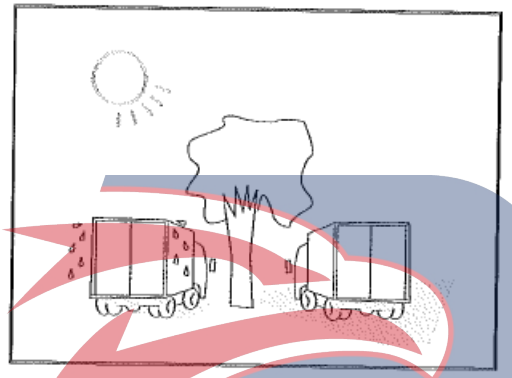
**Before closing the compartment door, be sure to confirm if there are no objects placed in the compartment and people are closed in the compartment.**



4. In order to give full play to the cooling capacity, please keep the compartment clean. Waste and dust will not only reduce the cooling effect but also cause damage to the refrigerator.

**WARNING**

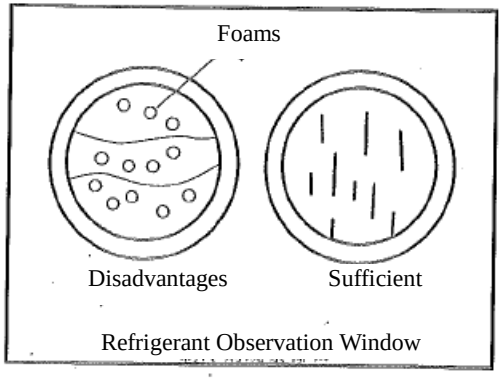
**When cleaning the vehicle or performing other maintenance operations, it is not possible to wet the control panel and cooling unit, otherwise they will be damaged.**



5. If possible, the vehicle shall be parked in the shadow, because the sun will affect the cooling effect of the refrigerating unit.

**NOTE**

**After the chiller unit is stopped, the temperature in the compartment will rise.**




**Routine Check:**

**Check before vehicle starts**

Check whether the V-belt is cut and cracked, and whether the tension is sufficient.

**Check after the freezing unit is started**

1. Does the operation LED lamp illuminate;
2. Whether the thermometer indication is normal;
3. Check whether the condenser fan motor rotates;
4. Whether the compressor is running;
5. Check whether the fan motor of cooling unit rotates or not;
6. Whether there is cold wind blowing out;
7. Whether the refrigerant is sufficient.

**Service and Maintenance**

In order to keep the refrigeration system in the optimum state, it is required to entrust QingLing Motors Dealers (Maintenance Station) for regular service and maintenance in accordance with the relevant requirements of the "Driver's Manual" for refrigerator supplied along with the vehicle.