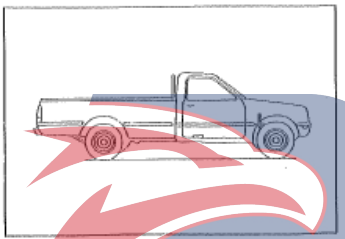
Important information

The following items are important for the proper management and economic operation of QingLing Motors. Before the business and sales work is started, be sure to fully understand the following contents and regulations.

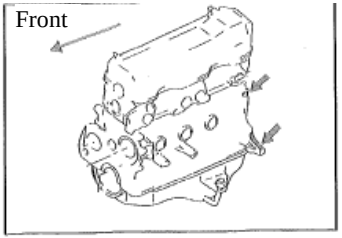


Chassis number and engine number

The chassis number position and engine number are important when users contact QingLing Motors Co., Ltd for any part repair or order, so they must be recorded.

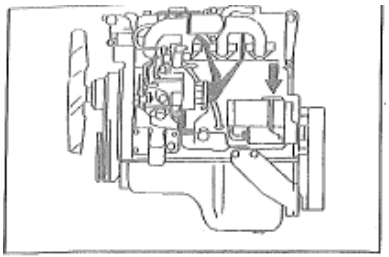
Chassis number and engine number

The chassis number is marked on the right side of the frame side rail under the right front wheel.



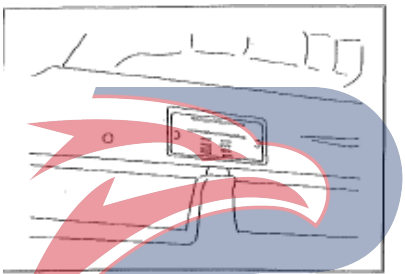
Engine Number: G

The engine type and number are marked on the left side of the cylinder block and on the exhaust heater insulator.



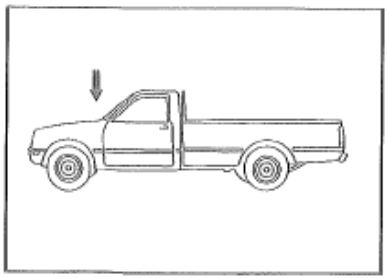
Engine Number: D

The engine number is marked on the left side of the cylinder block.



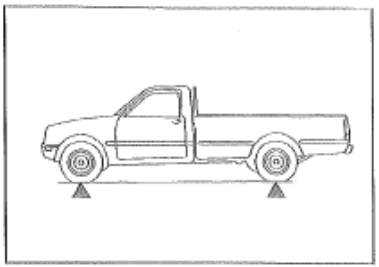
Vehicle nameplate installation position:

The vehicle nameplate is mounted on the front hoarding inside the engine compartment.



Installation position of vehicle identification plate:

The vehicle identification signage is mounted in front of the dashboard.



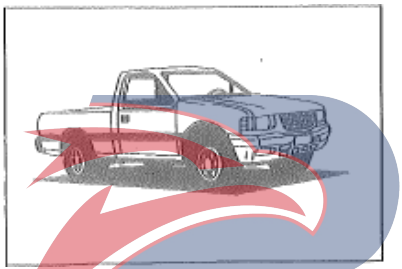
Overloading

Warning

Not only it may shorten the service life of the vehicle; it may also cause serious injuries and even accidents.

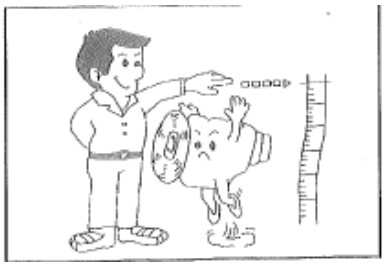
The load must be controlled within the total mass rating of the vehicle. At the same time, the load should be evenly distributed between the front and rear axles of the vehicle and the allowable carrying capacity cannot be exceeded.

Refer to “Main Data and Specifications” for the total mass rating of the vehicle and the allowable axle carrying capacity.

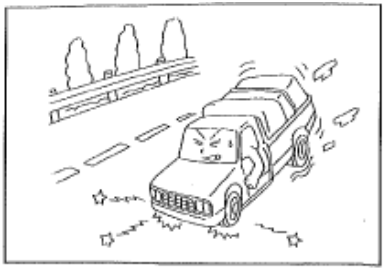


Operation of new vehicle

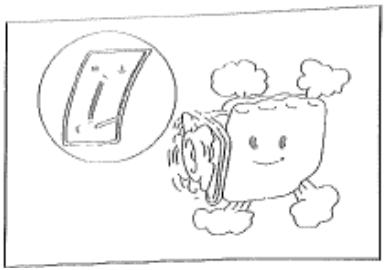
The good running-in and maintenance for a new vehicle have a great influence on its performances and service life. Therefore, the following precautions must be strictly observed during the initial run-in of 1,000 kilometers:



1. The vehicle speed should be maintained within the following range during the first 1,000 km of running-in period:



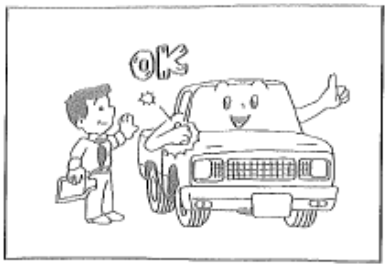
2. Avoid engine idling operation at high-speed, sudden start and braking and other similar driving operations.



3. Run the engine at idle until the engine is warmed up.

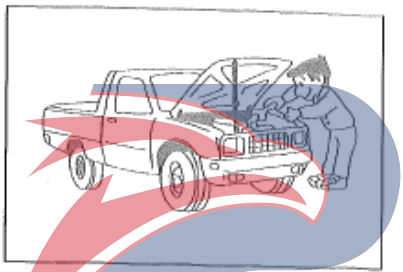
Maximum allowable speed of each gear during running-in period (Unit: km/h)

Model	Gear position	1st gear	2nd gear	3rd gear	4th gear	5th gear
4Z series engine		30	45	75	90	100
4×2 models		(20)	(30)	(50)	(55)	(65)
4J, 4K series engine		30	40	70	90	100
4×2 models		(20)	(30)	(45)	(55)	(65)
4Z series engine 4×4 models	High gear	25	40	65	90	100
		(15)	(25)	(40)	(55)	(65)
	Low gear	10	20	30	40	50
		(5)	(10)	(20)	(25)	(30)
4J , 4K series engine 4×4 models	High gear	20	35	60	85	95
		(10)	(20)	(35)	(50)	(60)
	Low gear	10	20	30	45	50
		(5)	(10)	(20)	(30)	(30)



Uses and precautions of new vehicle

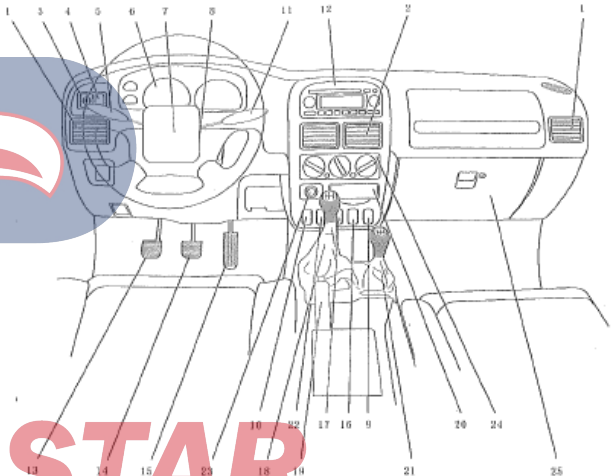
All parts and systems of the vehicle must be inspected. Please refer to the chapters "Controller and Instrument", "Before Driving the Vehicle" and "Driving" for inspection.



Service and maintenance

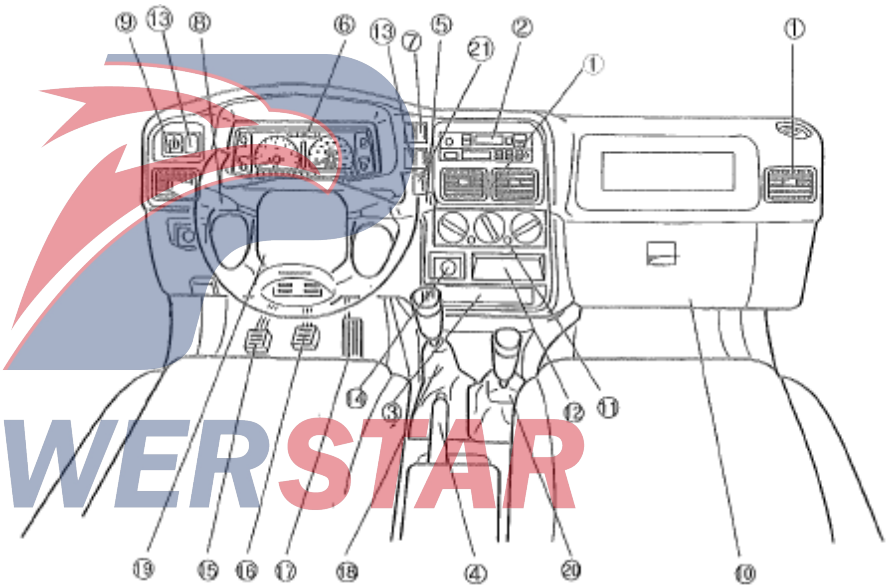
In order to implement safe repair and maintenance, and increase the vehicle reliability, the related parts on the vehicle should be inspected and adjusted. This can be done according to the chapter “Services and Maintenance”.

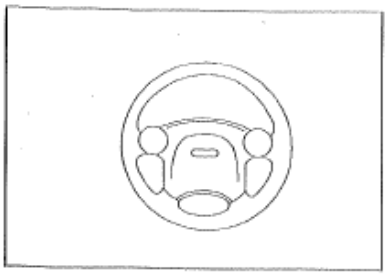
Controls and instructions



1. Side ventilation grille
2. Central ventilation grille
3. Power mirror switch
4. Hazard warning indicator switch
5. Combination switch
6. Dashboard
7. Steering wheel and horn button
8. Start switch
9. Button trim cap
10. Front fog lamp switch
11. Front window wiper and flush switch
12. CD player
13. Clutch pedal
14. Brake pedal
15. Accelerator pedal
16. Button trim cap
17. Button trim cap
18. Shift lever
19. Parking brake lever
20. Ashtray
21. Transfer case control lever
22. Button trim cap
23. Cigarette lighter
24. Heater and air conditioning controller
25. Glove box

1 Side ventilation grille
2 Audio device
3 Electric digital clock
4 Parking brake lever
5 Wiper switch
6 Instrument cluster
7 Danger warning flash switch
8 Combination switch
9 Power mirror switch
10 Glove box
11 HVAC controller
12 Ashtray
13 Button trim cap
14 Cigarette lighter
15 Clutch pedal
16 Brake pedal
17 Accelerator pedal
18 Shift lever
19 Steering wheel and horn button
20 Transfer case joystick
21 Fog lamp switch





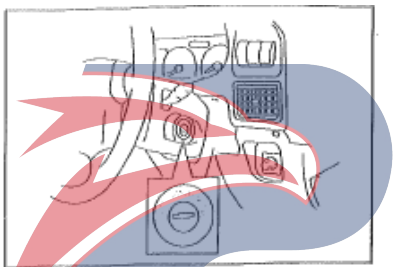
Steering wheel controller

Steering wheel and horn button

The horn button is mounted on the steering wheel; the horn will sound when the button is pressed.

Caution

Do not turn the steering wheel when the vehicle is stopped. When the steering wheel is locked, the vehicle cannot be moved, otherwise it will damage the steering mechanism of the vehicle.



Start switch

As shown, there are five positions on the switch.

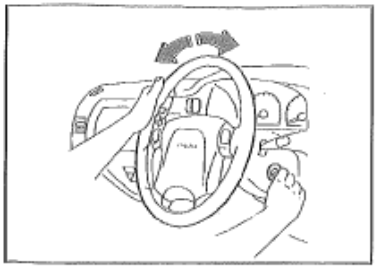
“LOCK”: The key can only be inserted or removed when the switch is in this position.

“OFF”: When the key is turned to the position, the engine will be shutdown.

“ACC” (accessory): in this position, the accessory circuit is switched on.

“ON”: When the vehicle is driven, the key should be maintained in the position.

“START”: the engine starts when the key is turned to this position. When the key is released, it will be automatically returned to “ON” position.

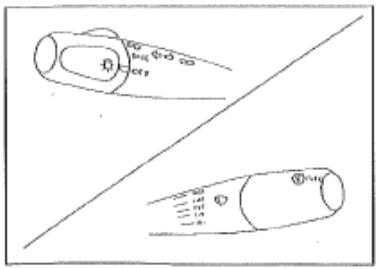


Caution

The starter must not be operated more than 15 seconds (gasoline engine) or 30 seconds (diesel engine) for one time.

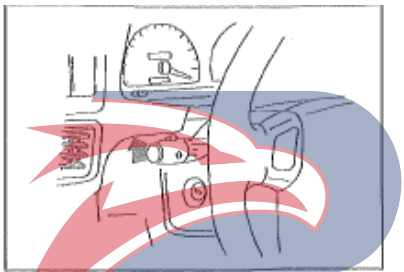
Do not turn the start switch to the "“LOCK” position while the vehicle is running, otherwise the steering wheel will be locked, which is very dangerous.

If it is difficult to turn the key from the “LOCK” position to the “OFF” position, turn the steering wheel slightly in either direction.



Combination switch

The combination switch handle is used to control the rear fog lamps, turn signals, headlight dimming device, overtaking lights, windshield wipers and scrubbers.



Light control switch

To turn on the width light, tail light, license plate light, and instrument panel light of the vehicle, turn the switch knob counterclockwise.

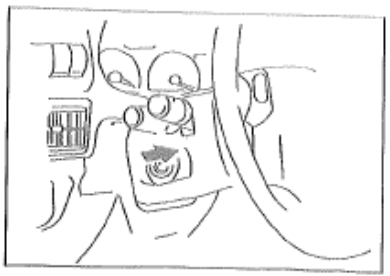
To turn on the headlights and the above lights, must turn the switch knob in counterclockwise direction continuously.

To turn on the rear fog lamps and the above lights, must turn the switch knob in counterclockwise direction to the upper dead position.

Turn signal switch

The handle of the switch is moved in the direction of the turn and the turn signal lights up, thus the turn signal indicator on the instrument panel is flashing.

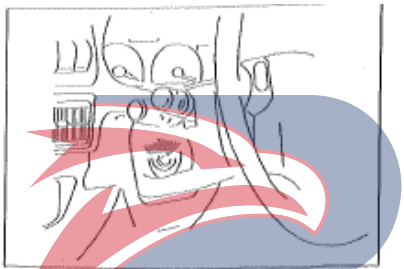
When the steering wheel is returned to the forward driving position, the switch handle will be automatically returned to the neutral position.



Headlight light-changing switch

When the handle is raised once, the headlight will be shifted from high beam to low beam or from high beam to low beam.

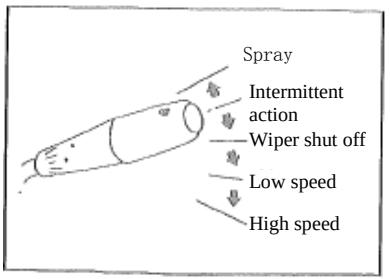
When the headlight is in the position of the high beam, the headlight high beam indicator on the instrument panel will light up.



High beam switch

Each time the turn signal switch is raised and released when the lighting switch is set to “0FF” or 1st position, the headlight high beam will light and extinguish.

To send an overtaking signal, operate the handle repeatedly. In this way, the daytime light flashes, and the low beam and high beam will illuminate alternatively at night.



Windshield wiper and scrubber control switch

When shifting the windshield wiper switch down to “LO” (low speed) position, the wiper will be moved slowly; when shifting it down to “HI” (high speed) position, it will be moved quickly.

When it is necessary to stop the wiper, turn it back to the “OFF” position.

V When shifting the windshield wiper switch handle down to “ ” position, the wiper will be intermittently operated at intervals of 3-4s.

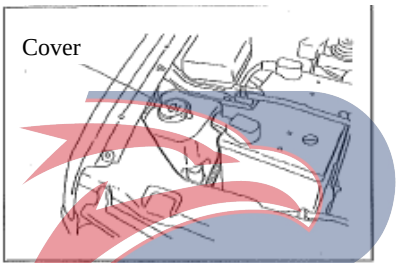
The wiper operates continuously while shifting the windshield wiper switch handle up to the “MIST” position and holding it in this position.

Caution

If the windshield is dry, do not operate the wiper to avoid scratching the windshield. Before using the wiper, must remove ice and snow from the wiper blade. If the wiper blade freezes on the windshield, care should be taken to loosen the blade or to melt the ice.

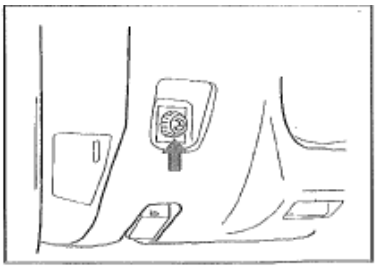
Windshield washer switch

Pull out the wiper switch handle to start the scrubber. Even if the wiper is not operated, the wiper will move backward at the same time and until the handle is pushed back. In models with intermittent wipers, the wipers can be operated continuously for a short time after the wiper switch handle is released.



Windshield washer tank

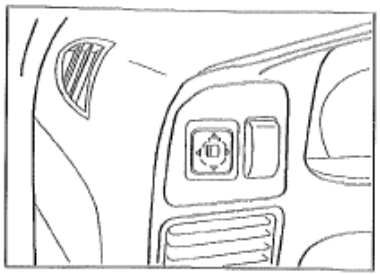
The tank can only be filled with normal water or genuine Isuzu washing liquid.

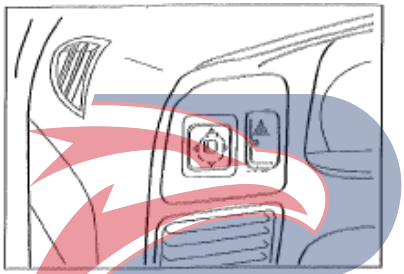


Instrument cluster

Idling control button (Diesel Euro 2 models)

After the engine is cold started, turn this button clockwise to raise the idle speed so that the engine can quickly return to normal speed. When driving, the button should be placed in its original position.



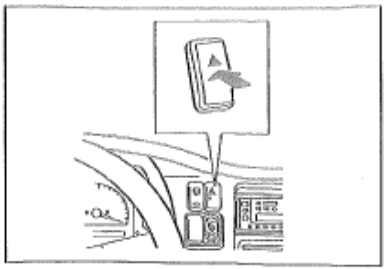


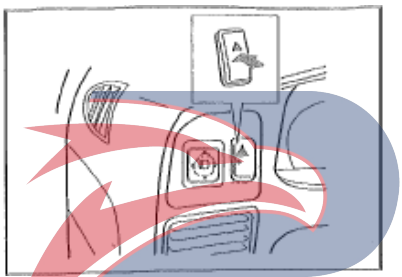
Remote control switch of rear view mirror

This is a four-way floating switch that incorporates a toggle switch inside the float switch.

The toggle switch is used to select the left or right rearview mirror to be adjusted.

The float switch is used to adjust the selected mirror in four directions (up, down, left, and right).





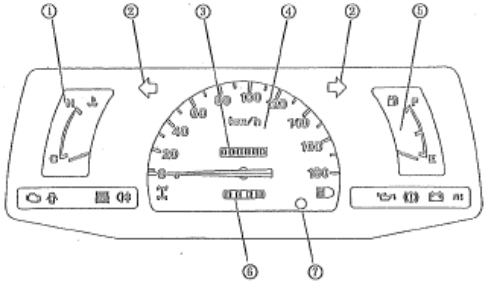
Danger warning flash switch

When this switch is pressed, all the turn signals will flash regardless of the position of the turn signal switch.

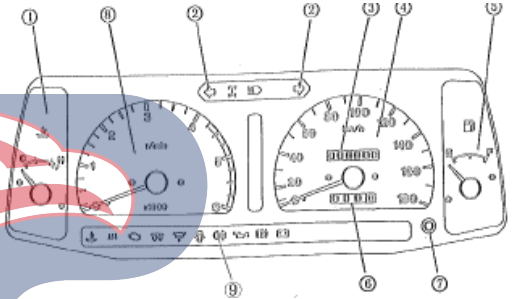
Press again to turn off.

Caution

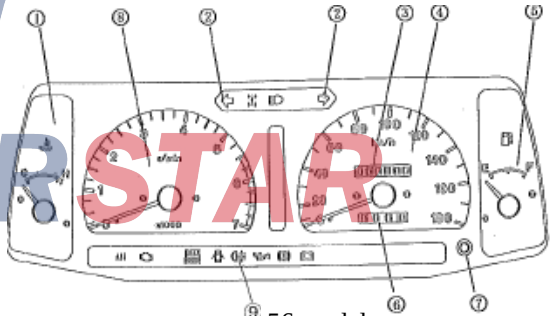
When the vehicle is in danger of causing a traffic accident, it is necessary to use the danger warning flash to alert drivers of other vehicles.



54 models



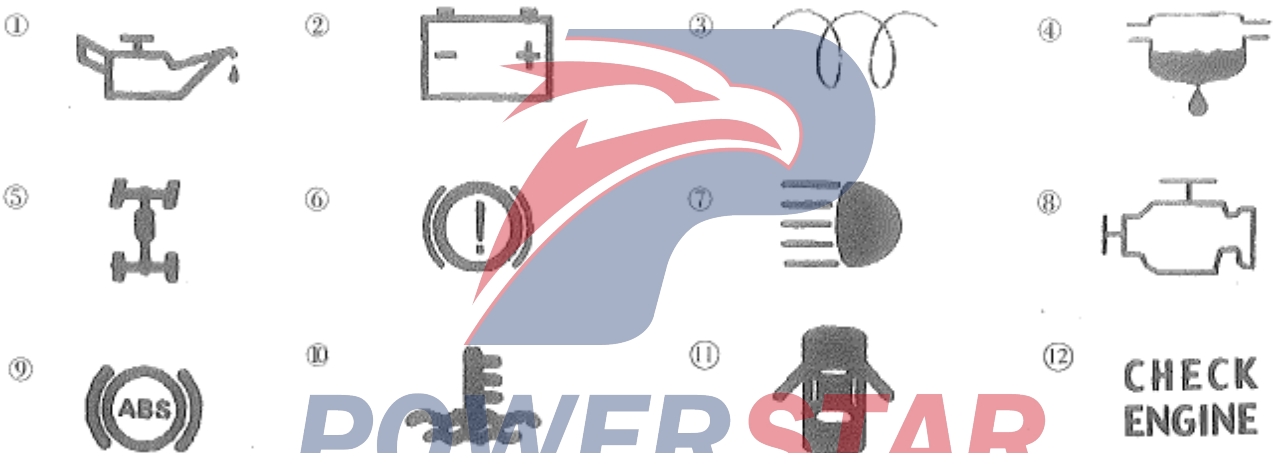
44×46 models



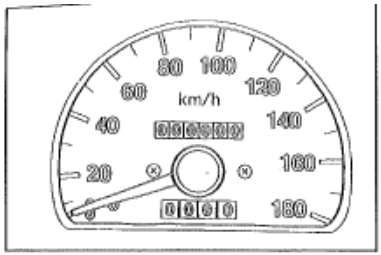
56 models

Instruments and indicators

①Temperature gauge
②Turn signal indicator
③Odometer
④Speedometer
⑤Fuel gauge
⑥Trip counter
⑦Reset button
⑧Engine tachometer V
⑨Rear fog lamp

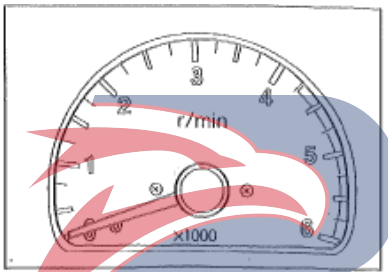


①Oil pressure indicator
②Generator charge indicator
③Indicator for preheating D
④Water indicator of fuel filter D
⑤4WD indicator 4WD
⑥Braking system indicator
⑦High beam indicator
⑧ EOBD indicator
⑨ABS indicator
⑩Water temperature indicator
⑪Door status indicator
⑫ Indicator light for engine self-diagnose



Speedometer

The speedometer is used to indicate the speed in km/h.

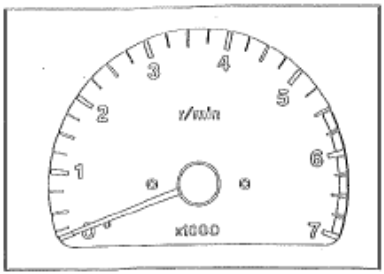


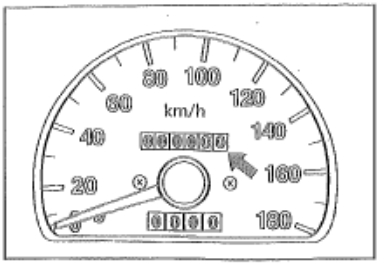
Engine tachometer V

The engine tachometer is used to indicate the revolutions per minute (rpm) and the red zone indicates the critical engine speed.

Caution

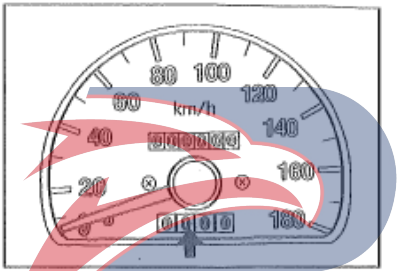
When the pointer of the tachometer is in the red area of the dial, the vehicle must not be driven. If the tachometer pointer enters the red zone and the vehicle is driven continuously, the engine may be damaged seriously.





Odometer

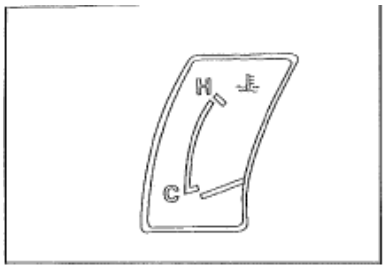
The odometer records the cumulative travel distance in kilometers. The rightmost black figure indicates 0.1 km.

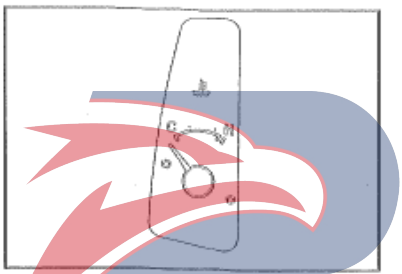


Mileage counter and reset knob

The mileage counter reset button is installed in the lower right of the speedometer.

Press the button to reset the mileage counter.



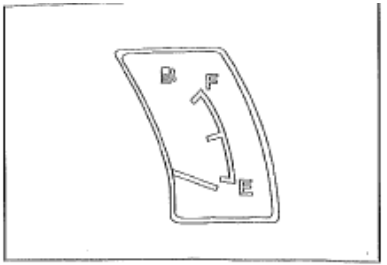


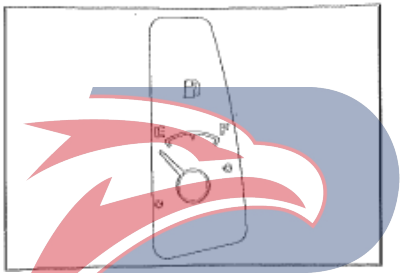
Temperature gauge

The water temperature gauge is used to indicate the temperature of engine coolant when the start switch is in the “ON” position. When the pointer is in the center of the thick line on the scale, the coolant temperature should be normal.

Caution

If the water temperature indicator indicates an overheating condition, stop the engine immediately and keep the engine idle until the coolant temperature drops to the normal condition.

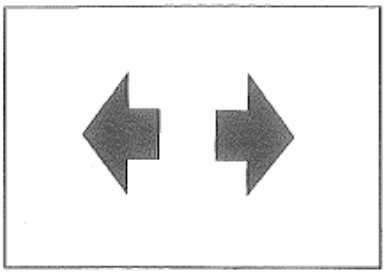




Fuel gauge

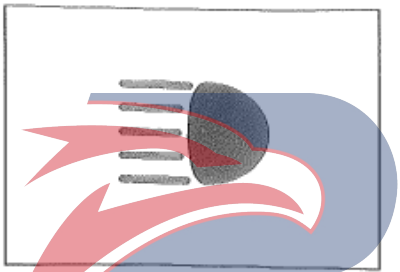
When the start switch is in “ON” position, the fuel gauge will indicate the oil level in the tank. The letters “F” and “E” denote "full" and " empty", respectively.

When the key is turned to the “0FF” position on the instrument panel with the engine tachometer, the pointer of gauge does not return to the “E (empty)” mark, but still indicates an approximate oil level.



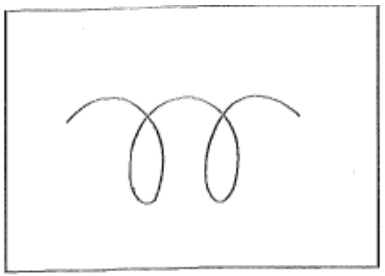
Turn signal indicator

When the switches of turn signal light or hazard warning light is turned on, the warning light flashes together with the turn signal light.



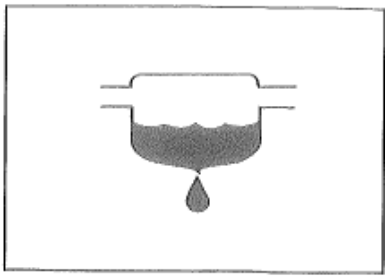
High beam indicator

The indicator will be turned on when the high beam of the headlights is used.



Indicator for preheating D

The preheating indicator will be turned on and held for a while or turned off immediately. The duration of waiting varies according to the temperature of the engine and the coolant. When the engine is started under cold status, the indicator will be turned off after the glow plug is fully heated. This means that the engine is ready to start.

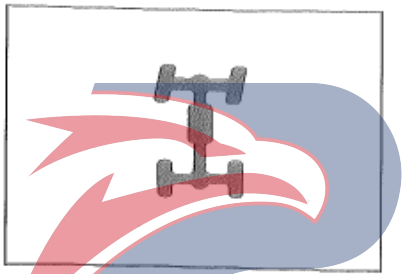


Water indicator of fuel filter D

When the water level in the water separator reaches a dangerous level, the fuel filter indicator G is on.

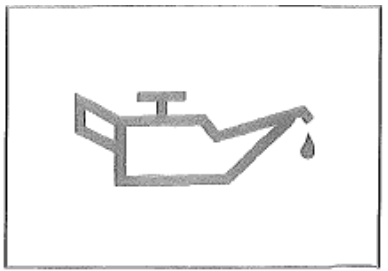
Caution

If the light comes on and it is still on during engine operation, it means that the water in the water separator needs to be drained.



4WD indicator 4WD

The four-wheel drive indicator lights up when the transfer lever is in the “4H” or “4L” position.

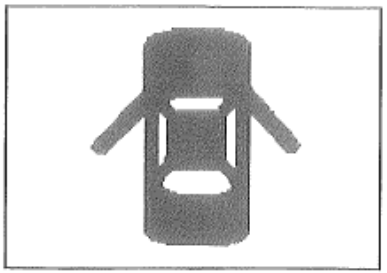


Oil pressure indicator

When the start switch is in the “ON” position, but the engine has not started yet, the oil pressure indicator lights up. If the light comes on during driving, the oil pressure is too low. At this time, stop the engine immediately and check the oil level in the crankcase of the engine.

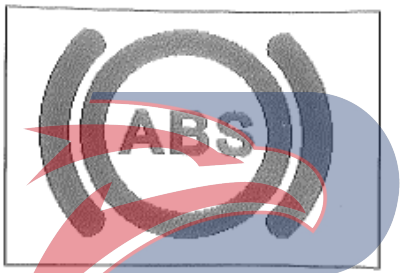
Caution

If the oil level is normal, go to the nearest QingLing dealer (repair station) to check the lubrication system. When it is turned on, the engine cannot be operated.



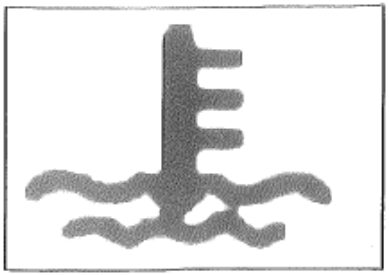
Door status indicator

Door not-closed indicator: When any one of the four doors is opened or not closed, the corresponding indicator will be turned on, to indicate that the door is not closed; the indicator will be turned off when the door is closed.



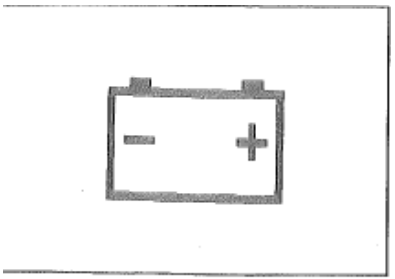
ABS indicator

When the start switch is turned to "ON" position, the indicator will be turned on and ABS will perform the self-test; it will be turned off after 2-4s, indicating that the system is operated normally. No light or long light, means that the system is faulty. At this time, you can continue driving at a low speed, but sudden braking should be avoided.



Water temperature indicator

If the engine coolant temperature is too high, its indicator will be turned on for warning, the vehicle should stop immediately on the wayside, to keep the engine running at an idle speed until the engine coolant is cooled to the normal temperature before continuous driving.

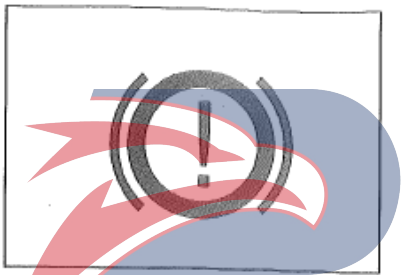


Generator charging indicator

When the start switch is turned to “ON” position, the generator indicator will be turned off when starting the engine.

Caution

When the engine is operated, that the indicator is turned on indicates that the generator circuit fails.

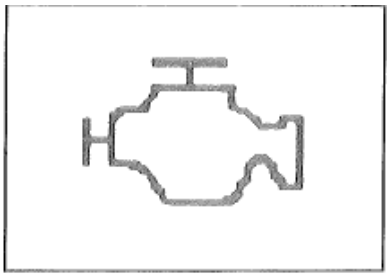


Braking system indicator

When the parking brake lever is pulled out, the start switch is in the “ON” position, and the brake light is on when the brake booster vacuum is insufficient.

Warning

If the indicator is turned on while driving, must park the vehicle immediately and check the brake fluid level in the tank. If the level is too low, the vehicle should be sent for repair.



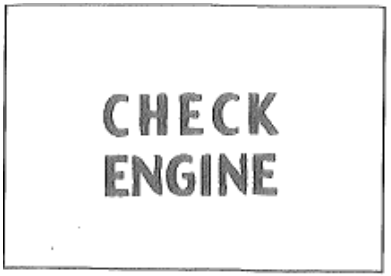
EOBD indicator

This lamp is lit when there is a fault in any of the discharge-related components connected to the On-Board Diagnostic (0BD) system or the on-board diagnostic (0BD) system itself, and when the engine fails.

When the start switch is set to the “ON” position before the engine is not started, the indicator lights on to indicate that the indicator light is operating normally (the indicator will go off shortly after the engine is started).

Warning

If this light is on while driving, you should immediately stop the vehicle at a safe place and set the key switch to “OFF” for 3-5 seconds, then restart the engine; if this light cannot go out, please go to the QingLing special service station as soon as possible for system maintenance. Failure to perform system maintenance for continuing driving may result in damage to the exhaust system and may also have an impact on fuel economy and driving performance.

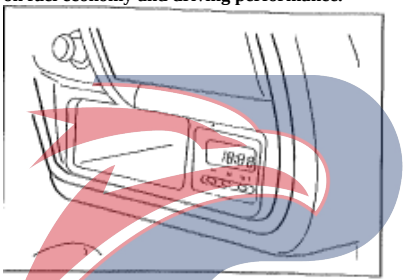


Indicator light for Engine self-diagnose

The engine's self-diagnose (CHECKENGINE) indicator on the dashboard shows if the system needs maintenance. When the start switch is set to the "ON" position before the engine is not started, the indicator lights up to indicate that the indicator is operating normally (the indicator will go off shortly after the engine is started). If the indicator does not illuminate when the start switch is set to the "ON" position before the engine is started, a system repair should be performed.

If the indicator light is intermittently or continuously lit during driving, it means that the vehicle is faulty and needs inspection and maintenance.

Even if the vehicle can still be driven without traction at the time, it should also be driven to a QingLing special repair station for system maintenance as soon as possible. In case of failure to perform system maintenance, any continue driving may result in damage to the drainage system, and may also cause an impact on fuel economy and driving performance.



Electric digital clock

When the start switch is in "ON" position, the time will be displayed. Reset the time to zero, and press the switch if necessary.

The function of each switch is as follows:

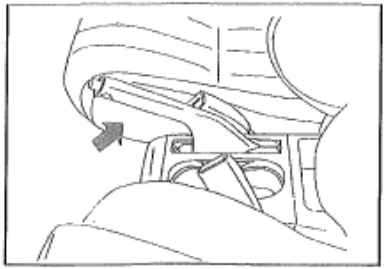
"M": When pressing the switch, the fast forward operation will be performed.

"H": When pressing this switch, the value of hours increases quickly.

"SET": When pressing the switch, the setting will be returned to zero (00).

When 1:01 ~ 1:29 is displayed, if pressing the reset switch, the clock will be reset to 1:00. When 1:30 ~ 1:59 is displayed, the clock will be reset to 2:00.

The clock does not display the seconds, but when the "SET" key is pressed, it starts running from seconds.



Parking brake lever (level type)

Fully pull up the parking brake handle between the seats to apply the parking brake.

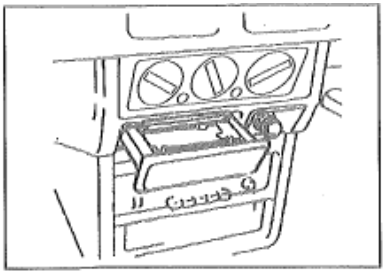
When releasing the parking brake, first pull the handle slightly upwards, then press and hold the button while pushing it down.

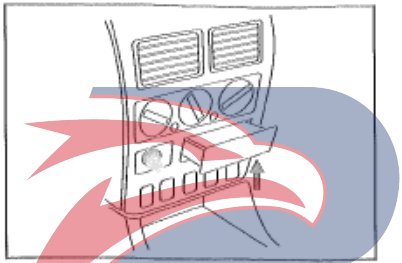
When the starting switch key is turned to the ON position, if the parking brake is not fully released, the brake system warning light will illuminate to remind the driver.

Never drive when parking brake is applied. Failure to do so may result in overheating or other damage to the parking brake mechanism.

Caution

When driving, parking brake should not be applied to avoid overheating or damage to the parking brake.



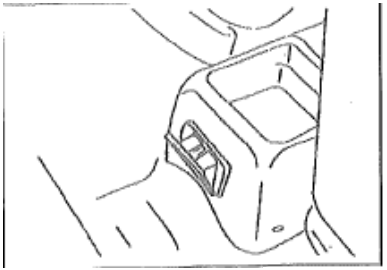


Ashtray

Caution

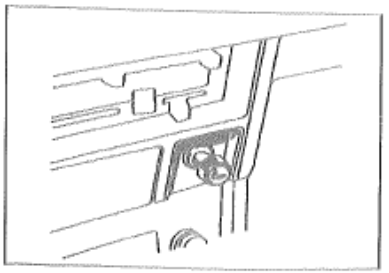
After using the ashtray, be sure to push it back to the original place. Otherwise, the remaining fire will ignite other cigarette butts and cause fire.

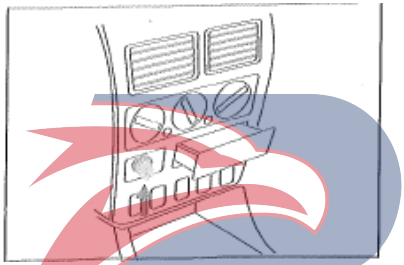
To use, pull the ashtray out of the outside. To clean, pull the entire ashtray down and pull it out to remove it.



Ashtray (rear side) W

The rear ashtray is installed at the rear of the middle dashboard. If it is pulled out, must press the fastening spring while pull out the ashtray outwards.





Cigarette lighter

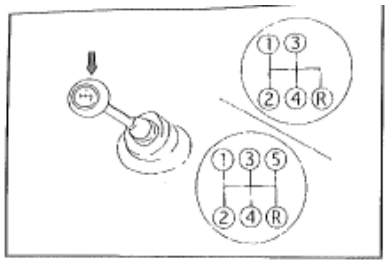
When in use, press the pinch hand down and it will heat up immediately within a few seconds.

The cigarette lighter will be automatically returned to its original position after it is heated.

Caution

If, after 18 seconds, the cigarette lighter does not return to its original position: it means there was a problem. At this time, pull it out by hand to the normal position.

The cigarette lighter socket cannot be used as a power outlet.



Floor controls

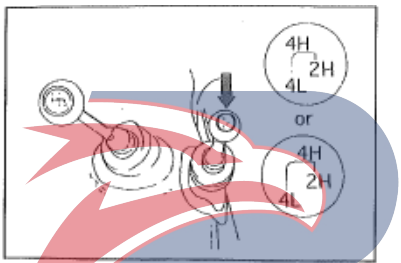
Shift lever

The shift lever is used to control the fully synchronous transmission. The gear position pattern is identified on the shift lever handle.

Caution

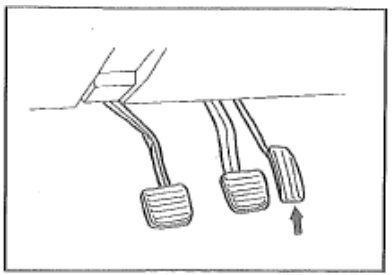
Before engaging the reverse gear, stop the vehicle completely.

The start switch is set to the “ON” position and the backup lamp illuminates when the reverse gear is engaged.



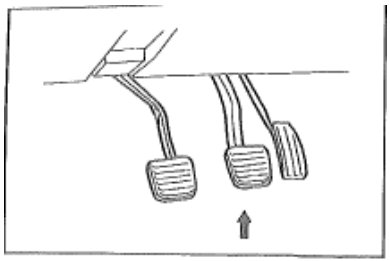
Transfer case lever 4WD

A common (partial time) 4WD transfer case can be used to select 2WD or 4WD mode. The shift pattern is indicated on the operating lever handle.



Accelerator pedal

To prevent unnecessary fuel consumption, the operation of the accelerator pedal must be smooth and appropriate.



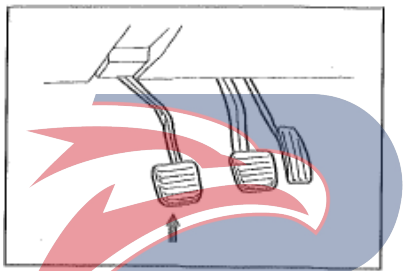
Brake pedal

Gently depress the brake pedal to avoid sudden braking. On a downhill, it is best to apply the foot brake and the engine brake at the same time.

Caution

Disc brake wear indicator:

The front disc brakes and the rear drum brakes are internally equipped with the wear indicators. When any brake lining is worn to the point required for replacement, it will send a scream or squeak. This sounds intermittently, or is heard when the wheel is turning, but it may stop when the pedal is depressed fully. Failure to replace the friction lining when replacement is required will result in greater damage.

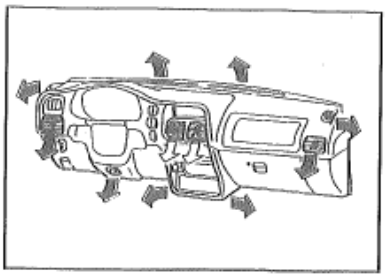


Clutch pedal

When disengaged, the clutch must be fully depressed. If this is not done, a gear rattle will occur.

Caution

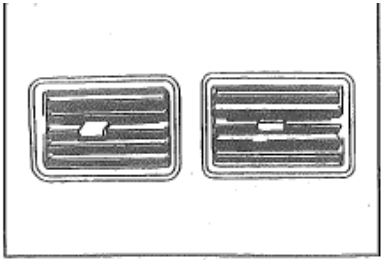
When the clutch is not operated, do not rest your feet on the clutch pedal.



Others

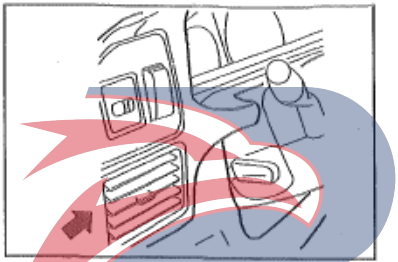
Ventilation device

A pair of central air outlets are arranged in the central part of the instrument panel. The side outlets are located on both ends of the dashboard.



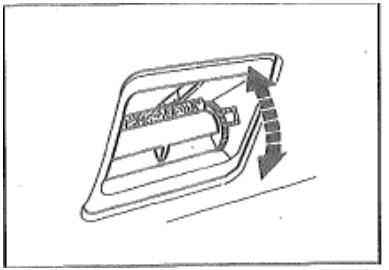
Central air outlets

The air flow direction can be adjusted with the handle up and down.



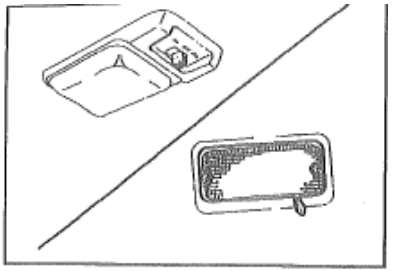
Side air outlet

The side outlets are located on the right and left sides of the dashboard. The handle located at the center of the outlet grille can be used to adjust the airflow direction up and down, left and right.



Air outlet at the knee height V

The air supply direction at the knee height can be adjusted up and down by rotating the ventilation grille.



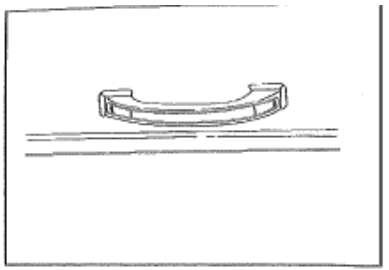
Dome lamp switch V

The following operations of the dome lamp switch are independent of the start switch positions.

① "OFF": The dome lamp is remained in "OFF" position.

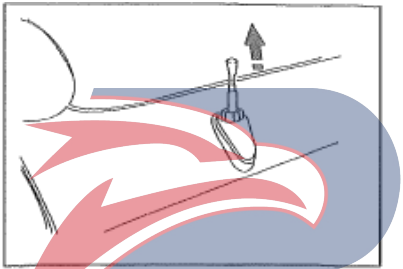
②"DOOR": The dome lamp will be turned on when one of the doors is opened.

③ "ON": The dome lamp is remained in "ON" status regardless of the door status.



Auxiliary armrest

Each auxiliary armrest is mounted on the roof rail above the side window.



Automatic antenna

If turning on the radio switch, the automatic antenna will automatically pop up to improve the receiving effect of the radio. If turning off the radio or the accessory circuit switch, the automatic antenna will be automatically retracted.

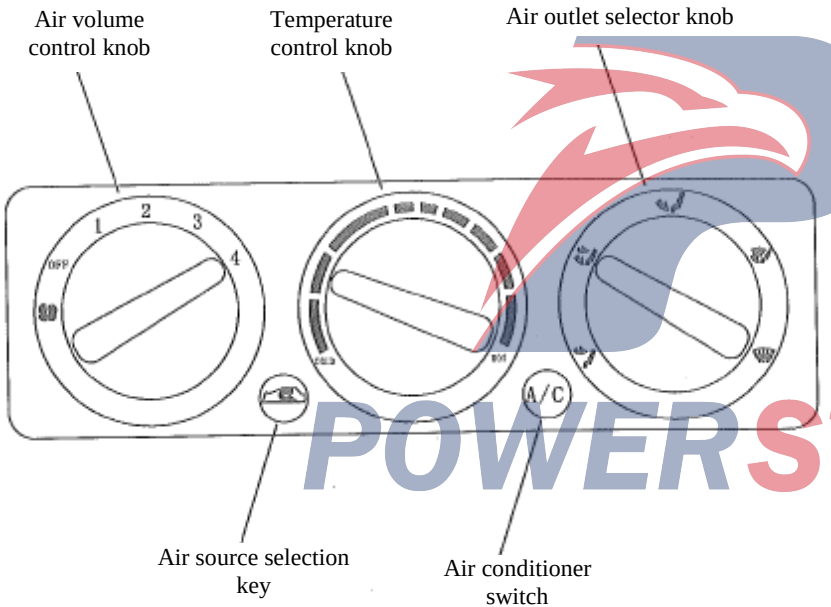
Hidden antenna V

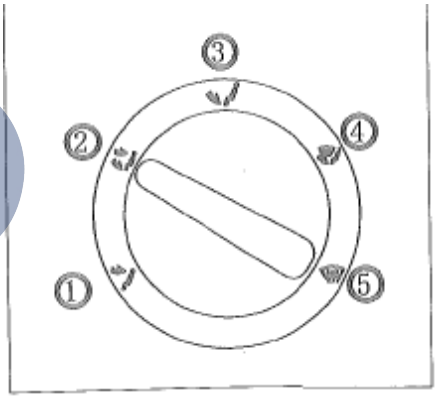
The hidden antenna shares a switch with the audio device. When the volume switch is turned on, the good audio effect can be achieved.

Manual antenna V

Pull out the antenna for better reception.

Heater - defroster and air conditioning system



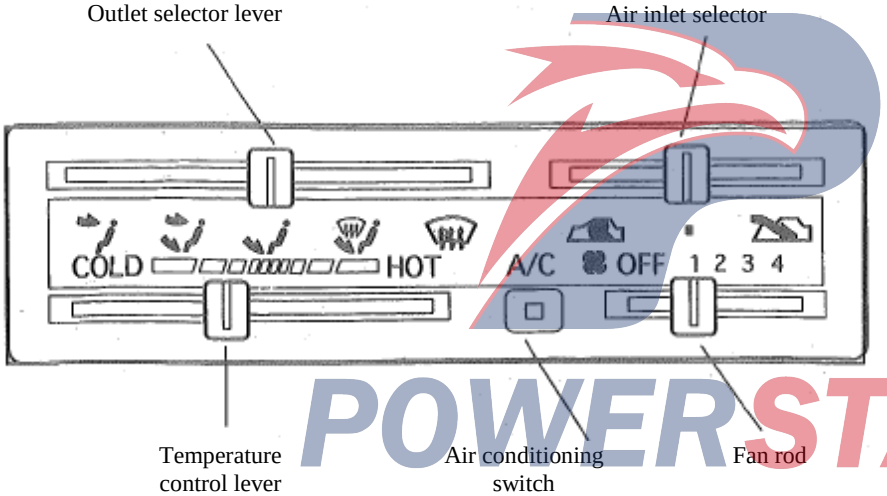


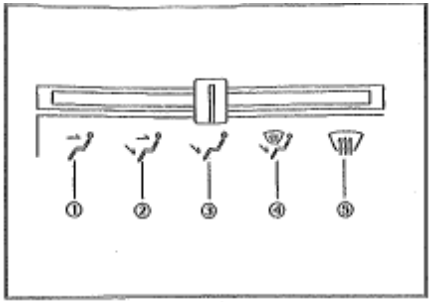
Air inlet and outlet selection knob

The selector lever adjusts the air flow from the heating device, the defroster and the air conditioner or the vent.

① Face (air blown to the face)
② Double planes (air blown to face and feet)
③ Bottom outlet (air blown to the feet)
④Bottom outlet and defroster (air blown to feet and windshield)
⑤Defroster (air blown to windshield)

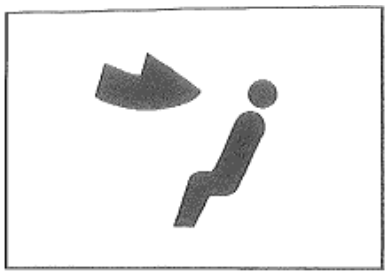
Heater - defroster and air conditioning system V





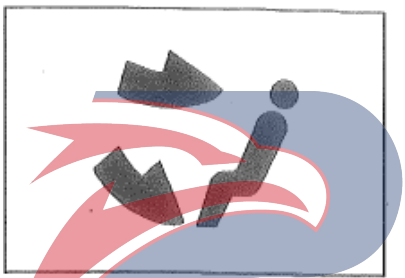
Outlet selector lever:
The selector lever is used to condition the air flow from the heater, defroster and air conditioning or outlet.

①Flat vent
②Double plane
③ Bottom outlet
④Bottom outlet and defroster
⑤Defroster



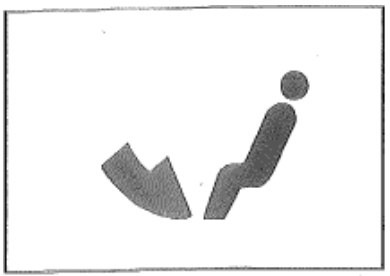
Flat outlet

The air will be conditioned through the system and exhausted from the upper outlet. The device is used in most air conditioning locations.



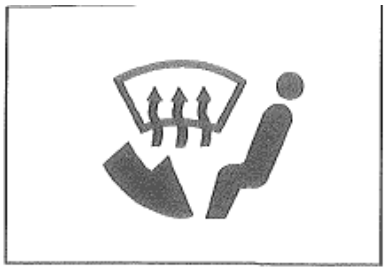
Double plane

Air is regulated and discharged from the upper air vent and the floor air vent. The air from the floor outlet is hotter than the air from the upper outlet in BILEVEL range. However, when the temperature control lever is moved to "FULLHOT" or "FULLCOLD", the temperature of the air from the floor air outlet is the same as the temperature of the air from the upper air outlet.



Bottom outlet

The air is discharged from the bottom outlet.

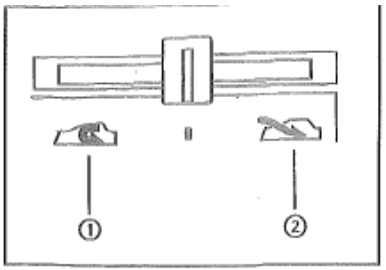


Bottom outlet and defroster

The air is discharged from the bottom outlet and a small amount of air is discharged from the defroster outlet and the side window defroster outlet.

Defroster

Air is conditioned and vented from the defroster outlet, and a small amount of air is exhausted through the side window defroster outlet. This position is only recommended for severe fog and icing conditions.

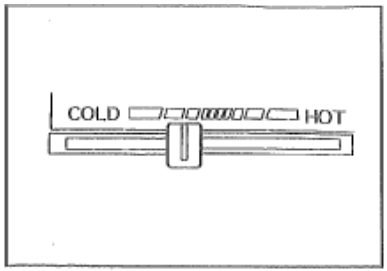


Air inlet selector V

By moving this selector lever leftward or rightward, the intake air of the outside air ② and the circulation of the inside air ① can be controlled.

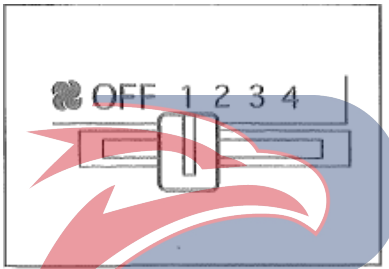
Caution

Only prolonged circulation of the internal air may cause that the windshields are blurred. To achieve the good ventilation, must switch to outside air as soon as possible.



Temperature control lever V

By sliding the temperature control lever horizontally, the room temperature can be controlled within the temperature range indicated on the panel.



Blast capacity of fan V

Slide the lever horizontally by the following method to control the amount of air discharged.

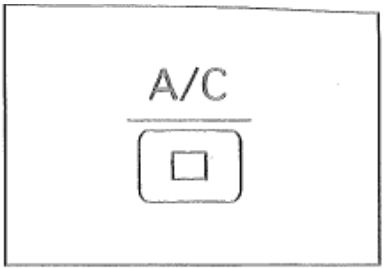
OFF: The fan power is turned off.

1……The fan speed is set in the low speed range.

2……The fan speed is set within the medium - low speed range.

3……The fan speed is set within the medium - high speed range.

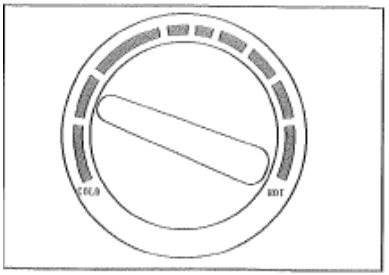
4……The fan speed is set in the high speed range.



Air conditioning switch V

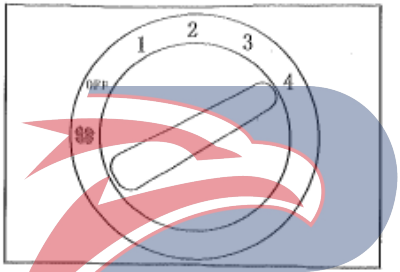
Press this switch to operate the air conditioning system. When the system is operated, LED indicator in the switch will be turned on. Press the switch again to turn off the air conditioning system.

If the fan control lever is not located in a certain position within the fan speed setting range and is in the off position, the air conditioning system cannot operate.



Temperature control knob

The rotary temperature control lever is used to control the temperature indicated on the dashboard within the room temperature range.



Fan control knob

Turn the fan control knob to control the fan speed and then the air flow as described below.

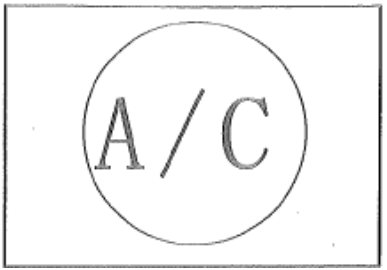
OFF... The fan does not turn on.

1……The fan speed is low.

2……The fan speed is slightly low.

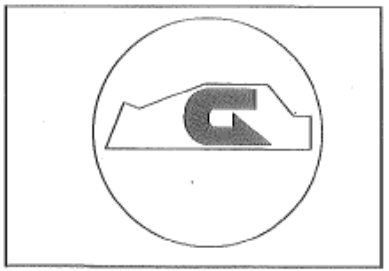
3……The fan speed is slightly high.

4……The fan speed is too high.



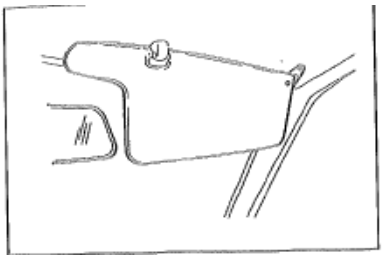
Air conditioner switch

Press this switch to operate the air conditioning system. When the system is operated, LED indicator in the switch will be turned on. Press the switch again to turn off the air conditioning.

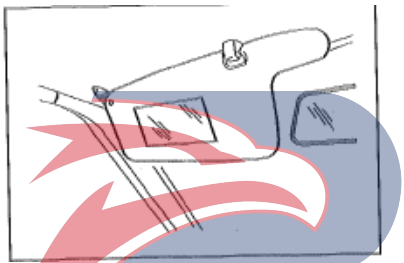


Air source selection key

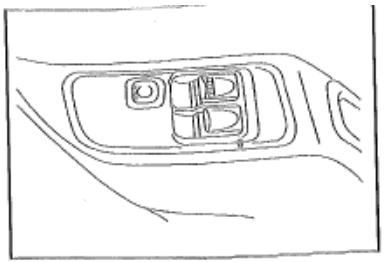
Press the button to perform the inner circulation



Sun visor:
When exposed to the sun, lower the sun visor. For assistants seat side.

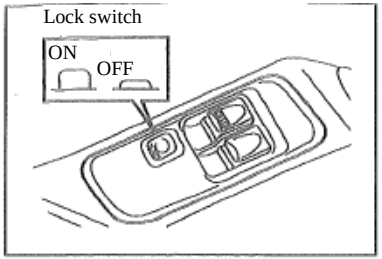


Vanity mirror:
The vanity mirror is mounted on the rear side of sun visor at the passenger side

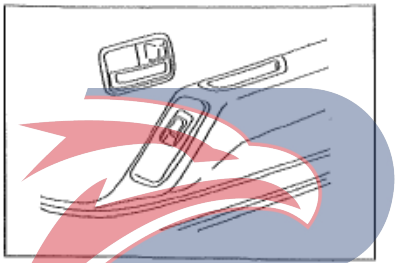


Electric window:
The window on either side of the vehicle can be turned on or off with a switch on the driver side. The opening and closing operation of each window can only be performed when the lock switch is in the “on” state. To open any window on the passenger's side, pull the switch to the lower side and press it until the window reaches the desired position.
To close the window, toggle back the switch back. When the window reaches the desired position, release the switch.
AUTO - To fully open the driver's side window, just press the switch slightly and release it.

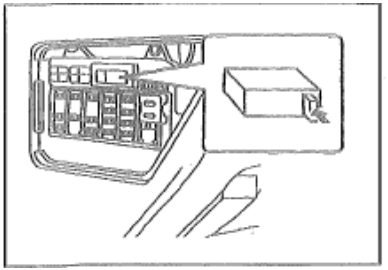

POWERSTAR



When the lock switch is pressed again, the power window will be unlocked.



If the driver's lock switch is turned on, the window control switch on the passenger's side does not work.

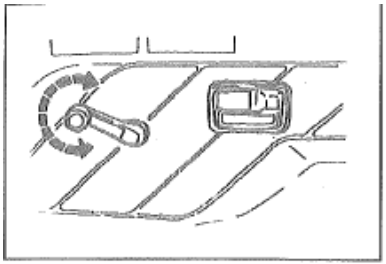


Circuit breaker inspection

If the power window is not operated normally, must check the circuit breaker first.

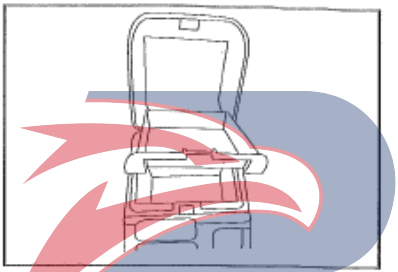
Turn the start switch to “OFF” position, and then press the button on the circuit breaker, to ensure that the parts of the circuit breaker can be re-operated without removal of the circuit breaker assembly.

If the circuit breaker is opened once again or the component does not action at all, must turn off the component switch and apply a QingLing dealer (service station) for repair.



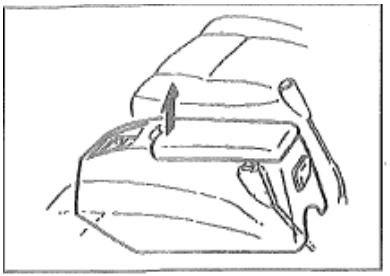
Adjustment handle V

Turn the door and window adjusting handles to adjust the height of the doors and windows.



Middle glove box

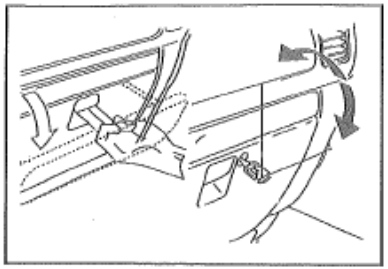
There is a middle glove box between the front seats. The middle glove box has two layers for more efficient utilization of the glove box space.



Middle glove box V

There is a middle glove box between the front seats.

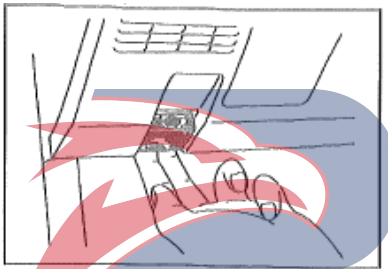
To open the middle glove box, pull up the top of the middle glove box cover.



Glove box

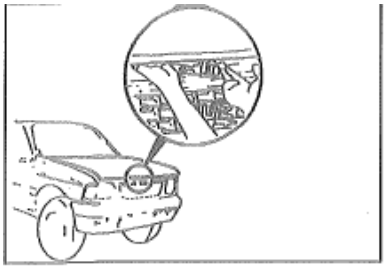
Pull the handle outwards to open the storage box.

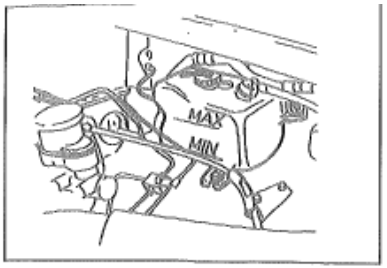
You can use the start switch key to lock and unlock the storage box.



Hood release lever:

To raise the hood, you must pull the release lever under the dashboard on the driver's side, open the hood lock, open the safety latch under the hood, and then lift the hood straight up to stop it in place. Make sure the end of strut rod engages with the hole in the hood reinforcement. When closing the hood, remove the support rod end from the hole in the hood reinforcement and return the support rod into the clip on the fold panel. Then, keep the hood at a certain distance from the locked position so that the hood is free to fall until it locks.



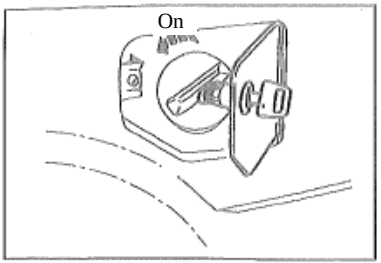


Radiator backup water tank:

The spare tank of radiator is installed in the front left side of the engine compartment.

Warning

The coolant level check or the coolant refilling should be performed at the reserve radiator tank, and the radiator filler cap cannot be removed unless necessary. See “Services and Maintenance” section for more details.

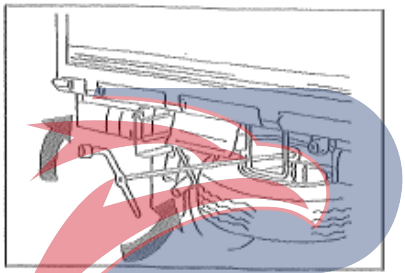


Fuel tank filler cap:

The vehicle is equipped with a lockable fuel injection cover that can be opened with the start key. After refilling, be sure to lock the fuel injection cover.

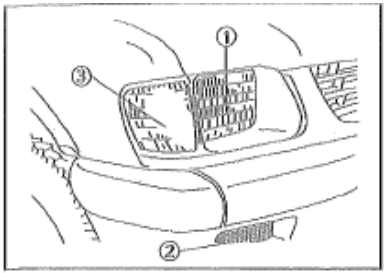
Caution

Gasoline engine: 93# or higher gasoline. (Octane number)
Diesel engine: 0# in the south and -10# or lower diesel in the north.



Spare tire carrier

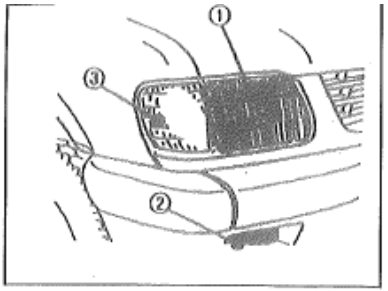
The spare tire is fastened to the rear of the frame with a chain. In order to lower the spare wheel, must insert the handle into the hole in the rear of the vehicle to engage it with the socket, and turn the handle counterclockwise. To lift it, turn the handle clockwise until it stops, then make another extra turn to secure the spare tire in the storage position.



Exterior lights V

Front:

① Headlight
② Front turn signal light
③ Front small light (front position light)



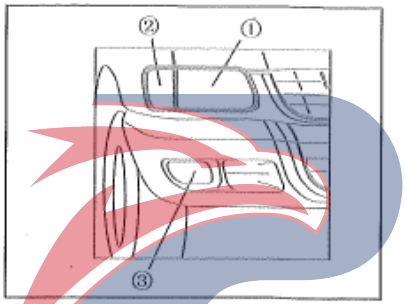
Exterior lights V

Front:

① Headlight

② Front turn signal light

③ Front small light (front position light)

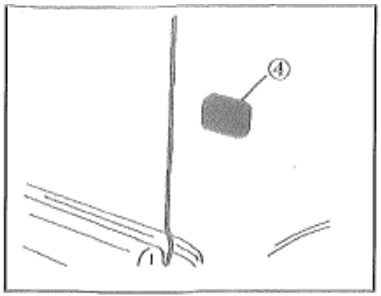


Exterior lights

① Headlight

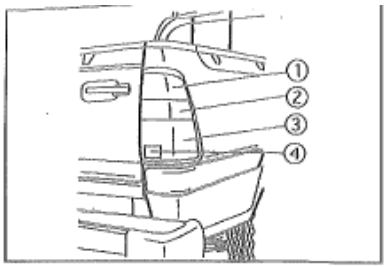
② Front turn signal and front small light (front position light)

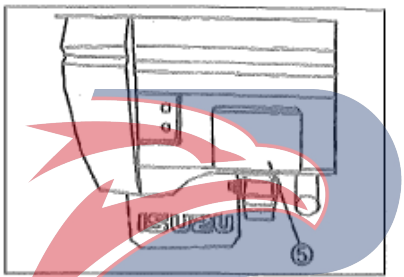
③ Front fog lights



Side:

④ Side turn signal





Rear:

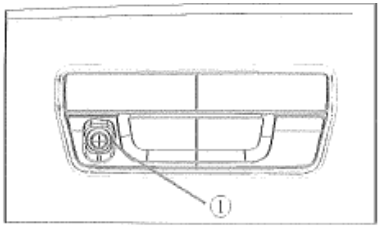
① Rear turn signal

② Reversing lamp

③ Rear position light and brake light

④ Rear retro reflector

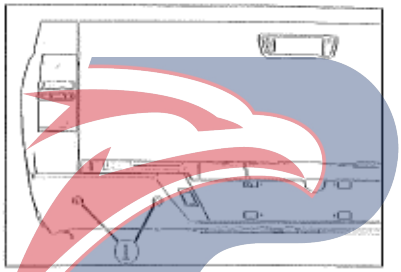
⑤ Rear fog lamp



Reverse image

① Reverse camera

When the reversing gear is engaged, the reversing image system automatically turns on the reversing camera located at the rear of the vehicle and clearly displays the status behind the vehicle on the MP5.



Reversing radar

① Radar probe

When reversing, the reversing radar can use the ultrasonic wave from the radar probe to calculate the distance to the obstacle and remind the driver.

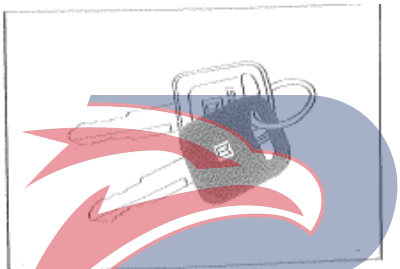
Rear traction hook

① Trailer hook cover

The rear bumper is equipped with a trailer hook cover. When a trailer is towed, open the cover to attach the rear towing hook. After the towing is completed, remove the tow hook and close the cover.

Before driving your vehicle

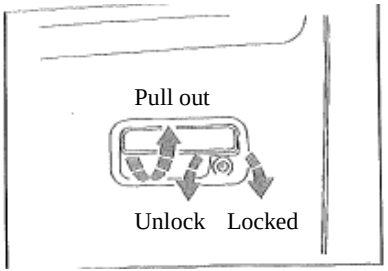
Proper management and driving can not only prolong vehicle life, but also save fuel and grease. Be careful to drive safely.



Operation control

Key

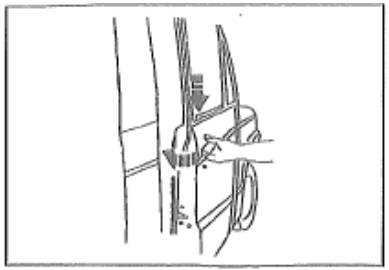
Each key is marked with a key number. Remember the key label and store it safely, such as in a wallet, never in the vehicle.



Outside door handle:

Pull the door handle and the door opens.

Insert the starter switch key into the door lock and lock the lock after turning.



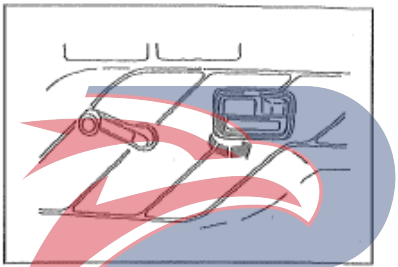
Door lock (Outside)

The door lock can be locked from the outside without the key.

Just press the door lock button on the inside of the door to the “LOCK” position, then pull out the door handle and close the door.

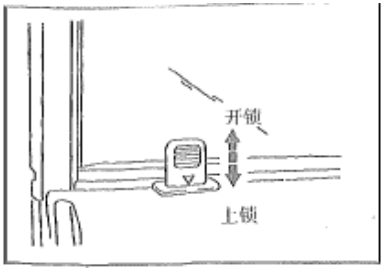
Caution

Be careful not to lock the key in the vehicle.



Inside door handle

Pull the handle inside the door to open the door.

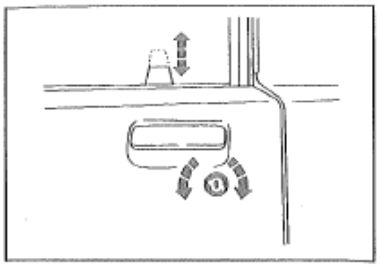


Lock the door (inside)

Close the door, press the door lock button and the door locks.

Caution

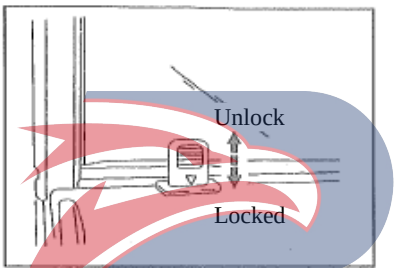
Before the vehicle starts, it is important to note whether the door is closed and locked. Especially when children are in the cab, pay extra attention to prevent accidents.



Automatic door lock

All automatic door locks on the doors can be controlled from the door lock button on the side of driver's seat. The door lock button function is independent of the start switch position. Locking and unlocking of the automatic door lock outside the vehicle

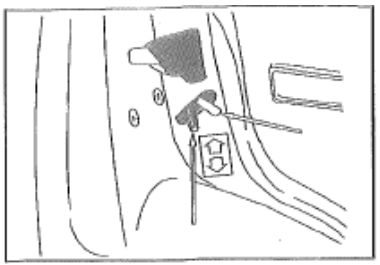
Insert the key into the door keyhole on the driver side. Turn the key clockwise to lock all the doors, and turn it counterclockwise to unlock all the doors.



Lock and unlock the automatic door lock in the vehicle

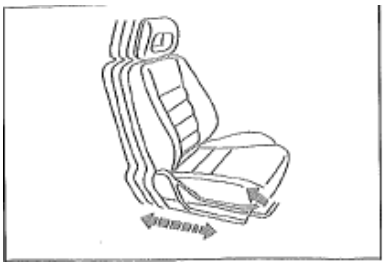
Push down the door lock button on the driver side to lock all the doors, and pull it up to unlock all doors.

Passengers can also lock and release individual door locks for each door.



Children protection door lock

As long as the child's door lock handle is pushed down and the door is closed, both rear doors can be automatically locked, and the rear door cannot be opened from inside the vehicle, regardless of the state of the door lock knob in the vehicle. To unlock the child protection door lock, open the door from outside the vehicle and lift the child protection door lock handle.



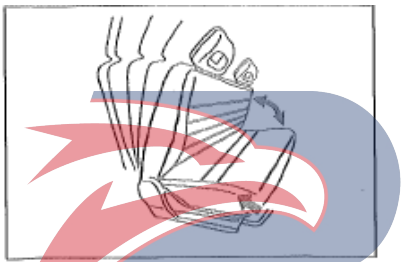
Driver's seat

Seat adjustment handle

The driver seat can be moved forward or backward to make comfort. Raise the adjustment handle on the lower front side of the seat and move the seat forward or backward as required. After adjusting the seat position, push the seat forward or backward to confirm that the seat adjustment handle is locked.

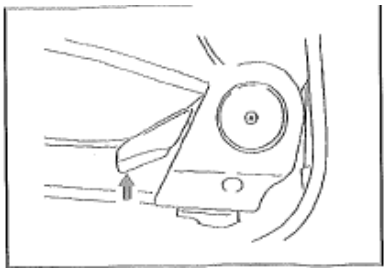
Warning

Never adjust your seat while the vehicle is moving.



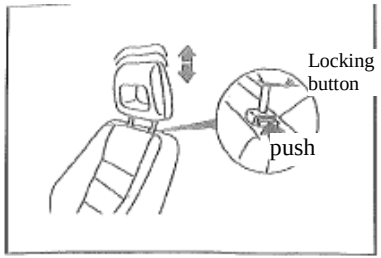
Rear seat

The rear seats can be turned over, and the space behind the backrest can be used effectively



Seat back:

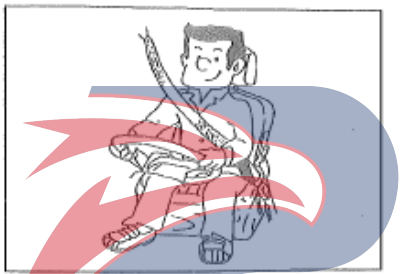
The tilt angle of front seat backrest can be adjusted by raising the adjustment handle on the door side of the seat.



Head protection device

Height adjustment

Press the lock button to unlock the head restraint. Move your head restraint device so that your head is basically in the middle of the head restraint.

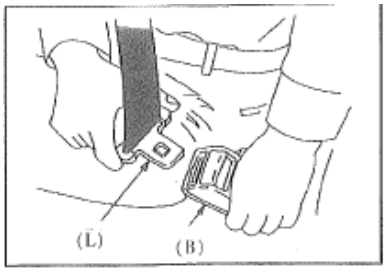


Front and rear seat belts

Your vehicle may be equipped with a three-point seat belt with a waistband and a shoulder strap as an optional accessory.

For the use of seat belts, please refer to the technical information on how to operate the following items.

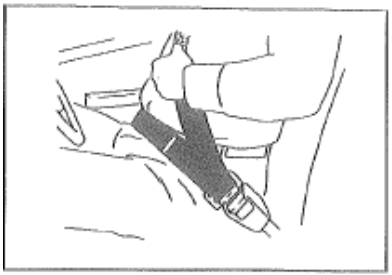
1. Adjust the front seat as needed, sit with the upper body upright and lean against the backrest.



2. Hold the seat belt's tabs (L) and pull the belt and straps so that they cross over the body. At this time, the buckle tab should be pulled to the position of the buckle (B) along with the seat belt, and it should be inserted into the open end of the buckle until it is buckled with a click sound.

Warning

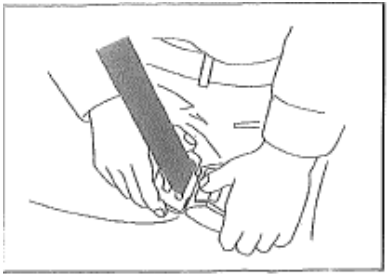
It is important to make the seatbelt in close contact with the body and lower it position, because the force generated from the seatbelt can be distributed on the stronger pelvis, other than on the abdomen in case of a collision. If a seatbelt is not fastened, a serious accident may cause injuries and even death.



The belt across the waist should be pressed down so that it is as close as possible to the pelvic part. Then, tighten the shoulder belt that passes through the tab hole and tighten it so that it is fit closely against the waist. In this way, the risk of body slipping out of the seat belt in the event of a vehicle accident can be reduced.

Warning

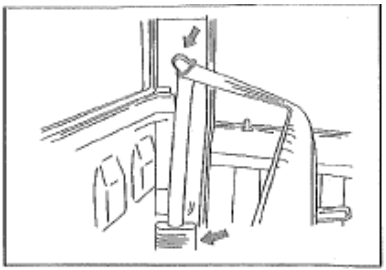
In order to avoid injury in case of an accident, a seatbelt cannot be used for more than two persons at the same time, and the seatbelt should not be twisted to prevent wear. Be careful not to trap the seatbelt clamp between the seat parts (metal parts) or catch it in the door.



A so-called “vehicle sensing retraction device” is equipped on the shoulder position of the front seatbelt. The design feature of this device is that the safety belt is only locked in the event of a sudden stop or vehicle collision, while in the rest of the case the seat belt can follow the wearer's movement to slide.

To unlock the seatbelt, must press the center position of the buckle.

When the seatbelt is not in use, it can be retracted into the retraction device for storage. When necessary, the positioning buckle can be moved along the front seat belt to fully retract the seat belt. In doing so, you can place the tab on the easy-to-reach door post.



Inspection and maintenance of the seat belt:

*** Regularly check seatbelts, buckles, tabs, retractors, and fasteners for damage, so as not to reduce the fastening device performances.**

*** Do not allow sharp or destructive things near the seat belt.**

*** Should the seat belt be replaced if it is cut, weak, worn, or cannot withstand an impact load.**

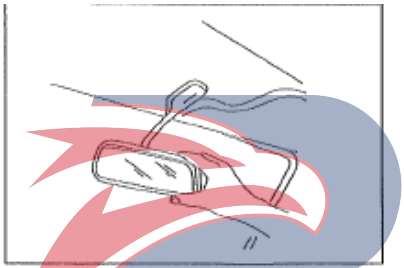
*** Check that the set bolts are fastened to the floor.**

*** The defective parts should be replaced.**

*** Keep the seat belt clean and dry.**

*** Wash the seatbelt only with soft soap solution and warm water.**

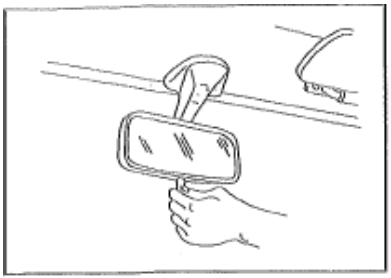
*** Do not bleach or stain the seatbelt, to avoid its performance attenuation.**



Mirror

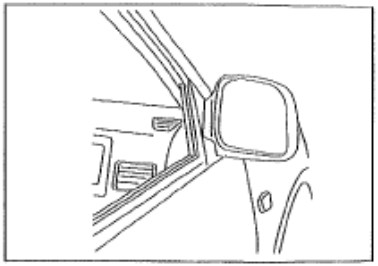
Interior rearview mirror:

Push the mirror up and down and left and right to adjust it.



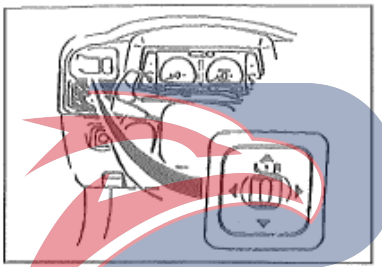
Interior rearview mirror: day and night

Push the rearview mirror up and down and left and right for adjustment. Switch the mirror to night condition to avoid the glare caused by the headlights behind.



Outside rearview mirror:

Adjust the outside mirror to see not only the scenes on both sides of the road behind you, but also the conditions on both sides of the vehicle. It can help you to determine the relationship with the rear object.



Outside electric rearview mirror

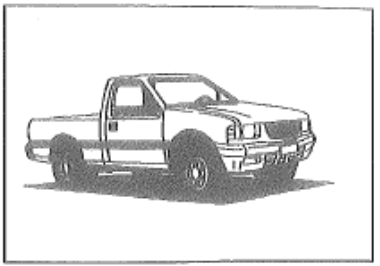
The rearview mirror adjustment switch on the console is used to control the electric rear-view mirrors.

When the central part of the adjustment switch is turned to the left, the left rearview mirror can be moved in up and down or left and right directions.

When adjusting the central part of the switch to the right, it is used to adjust the right side mirror.

Do not adjust the mirror when the vehicle is driving

Forced moving by hand will damage the power mirror.

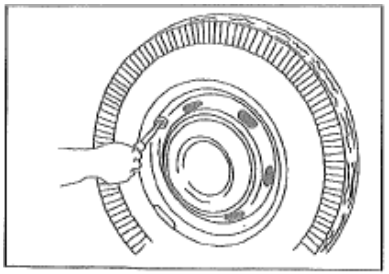


Driver's check list (regular inspection)

To ensure safe and reliable driving, the following items should be checked.

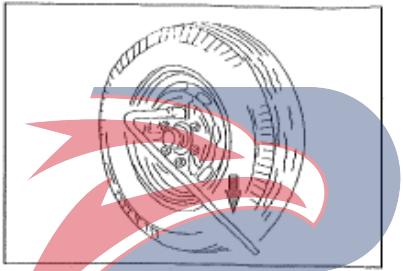
Caution

For the correct inspection procedure, please refer to the section "Service Guide".

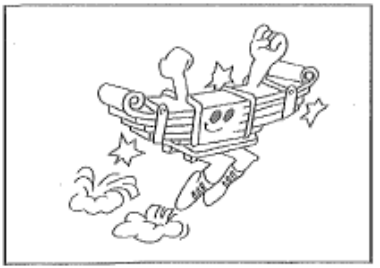


Outside

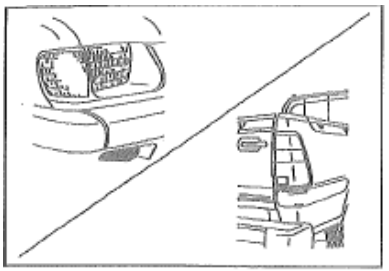
1. Check tires for inflation pressure and damage.



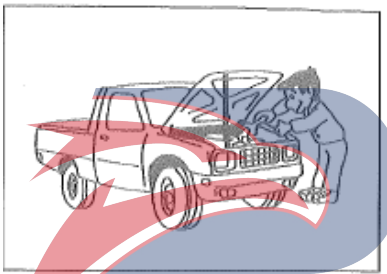
2. Check whether the wheel nuts are loosened.



3. Check whether the chassis springs are damaged.



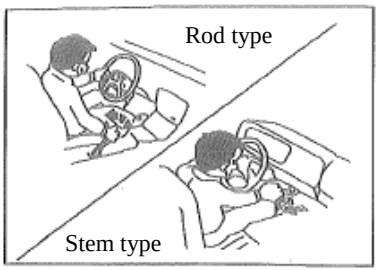
4. Check the lights for normal operation.



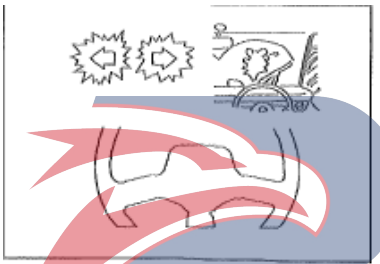
5. Check for oil, coolant, fuel, brake fluid and/or power steering fluid leaks.

Inside the cab

1. Check for steering wheel free play and looseness in mount.

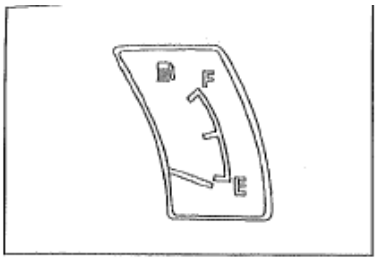


2. Check the stroke of the parking brake lever.

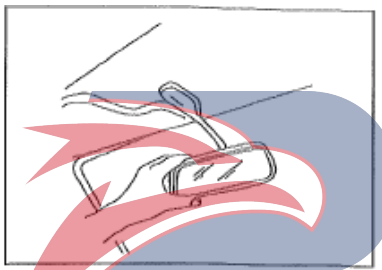


3. Check the horn, windshield wiper and turn signal for normal operation.

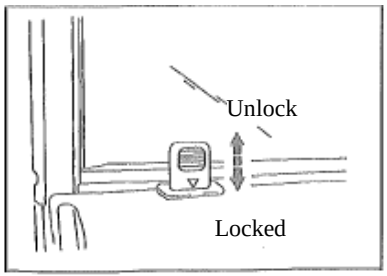
4. Check the instruments and indicators.



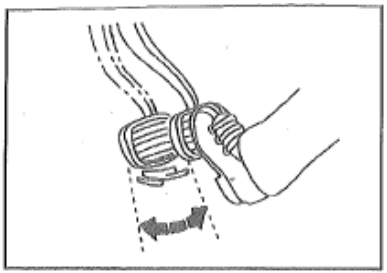
5. Check the fuel level in the fuel tank.



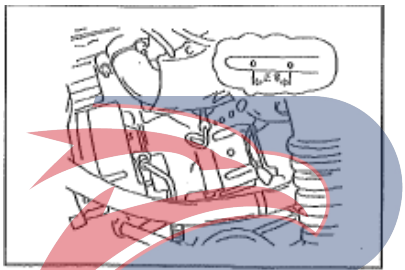
6. Check the safety angle of the rearview mirror.



7. Check the actions of the door lock mechanism.

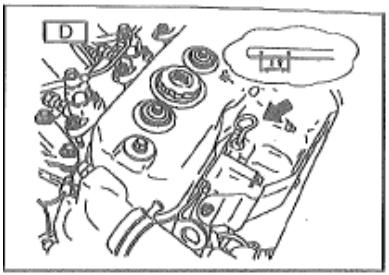


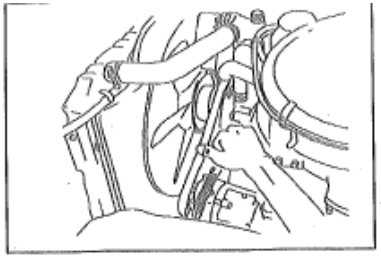
8. Check the stroke, height and function of clutch pedal.



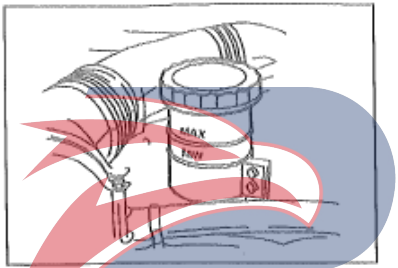
Inside the engine compartment

1. Check the engine oil level. It should be between the upper and lower marks.

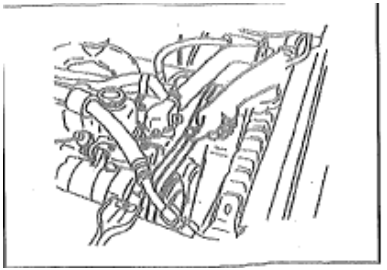




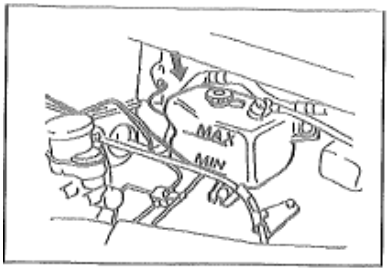
2. Check the tension of the fan belt.



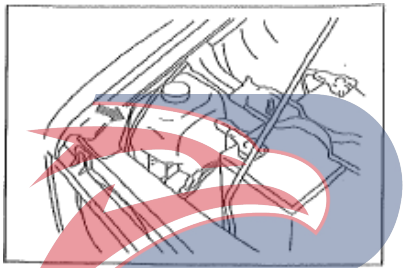
3. Check the power steering fluid level.



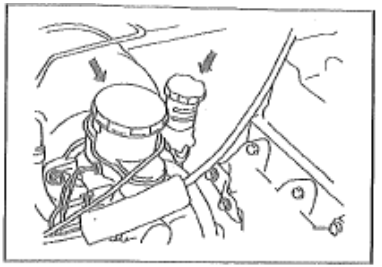
4. Check the tension of the power steering oil pump drive belt.



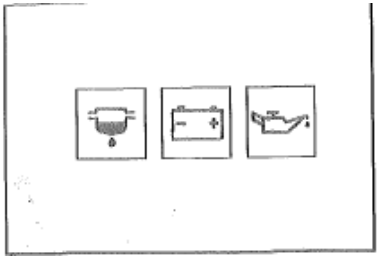
3. Check whether the engine coolant level and radiator cap are loose.



6. Check the level of the windshield washer fluid in the washer tank.

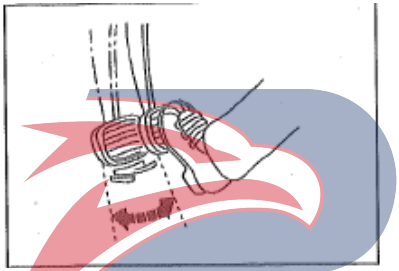


7. Check the brake fluid level in the brake and clutch (hydraulic control type) in the reservoir.

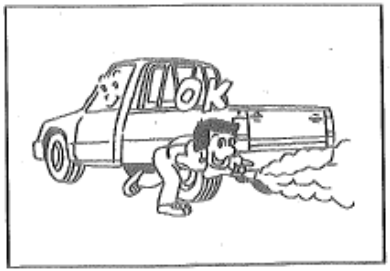


After the engine is started:

1. When the engine is operated, check whether the generator indicator, oil pressure indicator, [D] fuel filter indicator and [G] EOBD indicator are turned off and still maintained under “OFF” status.



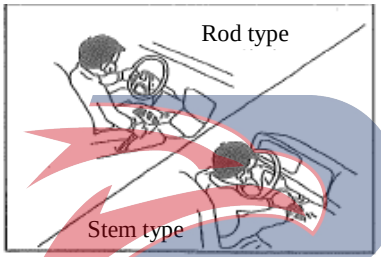
2. Check the free stroke, height and function of the brake pedal.



3. Check the abnormal engine noise and the exhaust color.

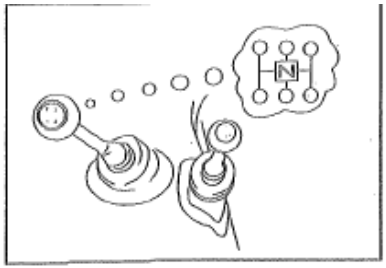
Driving

Proper maintenance and driving not only extends the life of the vehicle, but also helps to improve the economics of oil and fuel.



Preparation for starting engine

1. Pull up the parking brake lever.

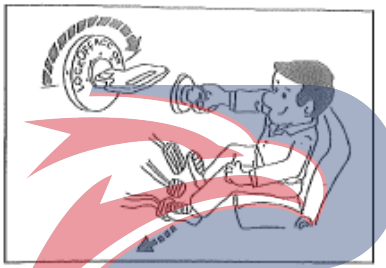


2. Place the transmission in neutral.

Start the engine G

Warm weather - above about °C:

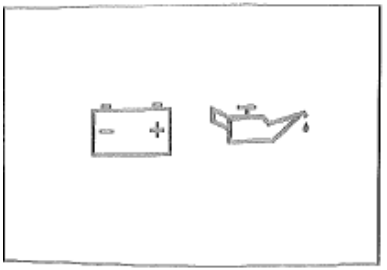
1. Depress the accelerator pedal to 1/2 of the stroke and release it.



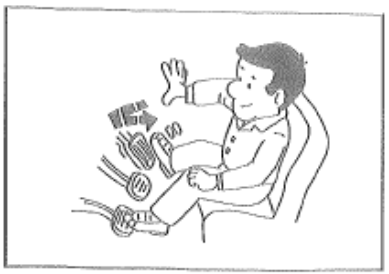
2. Depress the clutch pedal to the end and clockwise turn the start switch fully to “START” position. After starting the engine, must release the key immediately. The key will automatically return to the “ON” position.

Caution

Do not operate the starter continuously for more than 15s.



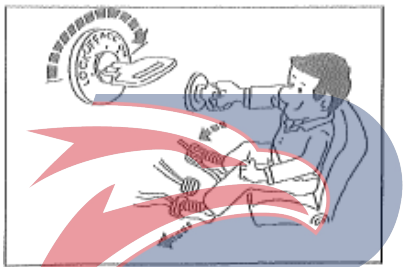
3. After starting the engine, must preheat the engine without depressing the accelerator pedal, and confirm that the oil pressure indicator and the generator indicator are turned off.



4. When the engine is operated smoothly (about 30s), gently depress the accelerator pedal and release it slowly to reduce the idle speed.

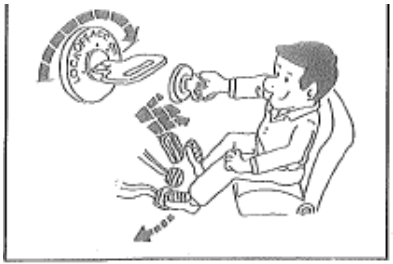
Caution

If the starter is repeatedly operated several times but the engine still does not start, check the fuel system and electrical system. Before the engine is restarted, must wait 30s or so to save the battery power.



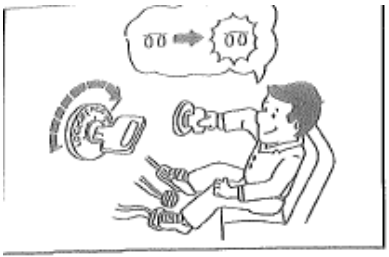
Heat machine:

1. Slowly depress the accelerator pedal to the end and hold it. Turn the key clockwise to the end.
2. Release the accelerator pedal immediately after starting the engine.



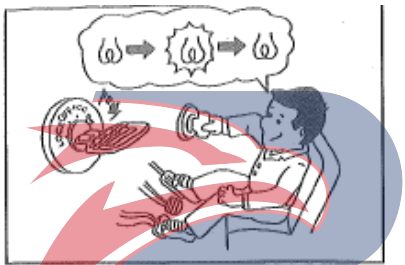
Cold weather - below about °C or if the vehicle has not been used for several days:

Before starting the engine, depress fully the accelerator pedal two or three times, and then follow the procedure of “warm weather” from item 2 to item 4.

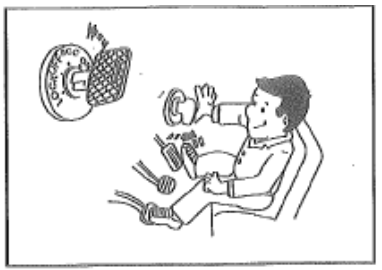


Start engine factory D

1. Turn the key to “ON” position. Check whether the oil pressure indicator, generator indicator, and fuel filter indicator (if fitted) are turned on. If it is warm, the warm-up indicator will light for 0.3 seconds and then go out. If it is cold, the indicator will light for 3.5 seconds or longer.



2. When the start switch is held in “ON” position for 2s, and the preheat indicator is turned off, must depress the accelerator pedal and the clutch pedal to the end, and turn the key to start the engine.



3. Turn the start switch key clockwise to start the engine

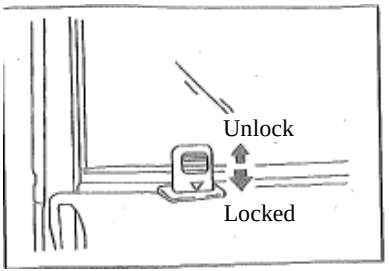
Engine - Start, release the key as soon as possible. The key will automatically return to the “ON” position.

Caution

Do not operate the starter continuously for more than 15s.

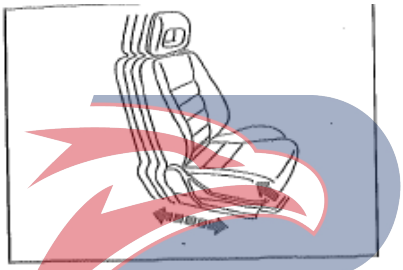
If the starter is repeatedly operated several times but the engine still does not start, check the fuel system and electrical system.

When starting the engine repeatedly, it must wait about 30 seconds and then start again to save the battery power.

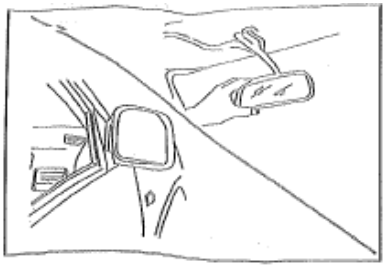


Before driving off

1. Lock all doors

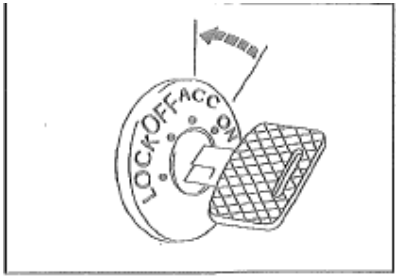


2. Adjust the seat position.



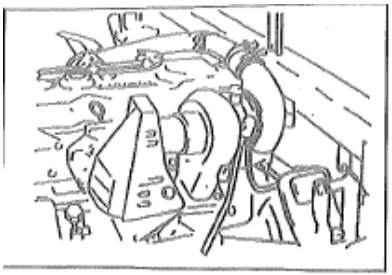
3. Adjust the inside and outside view mirrors.

4. Fasten the safety belt.



Stopping engine

Turn the start switch to the “ACC” (accessory) or “OFF” position.



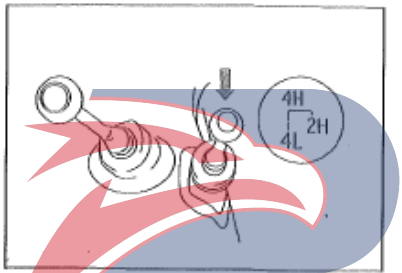
Precautions for Turbocharged Engine Operation Engine Startup

The turbocharged engine is started to ensure adequate lubrication of the rotating parts of the turbocharger bearing support. Do not race a cold engine.

Stopping engine

Caution

After driving at a high speed, idle for at least 3 minutes to allow it to cool down, which allows the turbocharger to return to idle while still being lubricated with engine oil, which will extend the life of the turbocharger bearing unit.

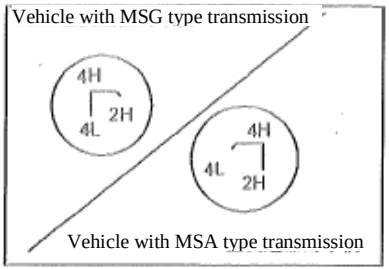


Part-time 4WD

4WD

Caution

To run-in the front axle parts on the regular [partial time] four-wheel drive device well, the vehicle should be driven 300 km in the rear wheel driven (2H) gear.



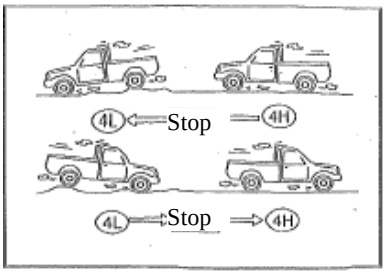
Operation of transfer

The transfer of common (partial time) four-wheel drive vehicle allows the driver to select two or four-wheel drive. The shift modes are marked on the transfer case lever handle.

2H: Rear-wheel drive, high-speed gear
4H: Four-wheel drive, high gear
4L: Four-wheel drive, low gear

*** There is no neutral position in the transfer case. Therefore, 2H, 4H, or 4L shall be able to be reliably engaged when operating the transfer lever.**

*** The transfer case joystick should be engaged in 2H position for normal driving.**



Shift the transfer case lever 4WD

The manual bushing can be rotated freely under the locked status of the hub.

2H<->4H; Allow shifting while driving.

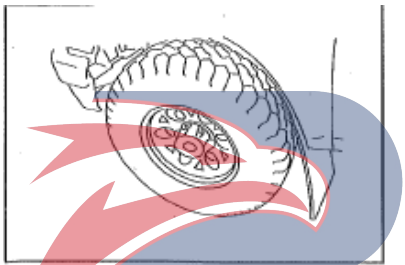
4H<->4L: Do not pull the transfer case handle while driving.

Freely rotatable automatic shaft 4WD

2H<->4H: Allow shifting when the vehicle stops.

4H<->2H: Allow shifting while driving.

4H<->4L: Do not pull the handle while driving.

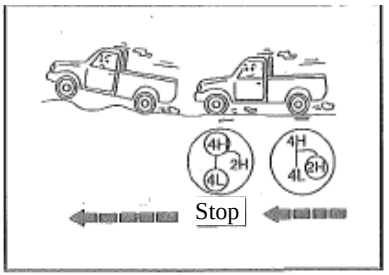


Freely rotatable shaft sleeve 4WD

Caution

To make sure that the front-wheel drive shaft parts are running-in well, must drive the vehicle 300km in 2WD mode when the shaft sleeve can be rotated freely.

To ensure good lubrication of front-wheel drive shaft parts, the vehicle should be driven at least 20km/month when the free-rotated bushing is engaged in "LOCK" position.



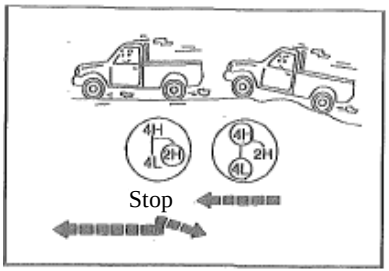
Automatic locking 4WD

When locked

1. Stop the car.
2. Engage 4H or 4L.
3. After starting the vehicle, the shaft sleeve will be locked automatically.

Caution

Once the shaft sleeve is locked, as long as the vehicle is driving in the same direction, the sleeve will continue to lock even if the transfer lever is engaged with 2H from 4L or 4H.

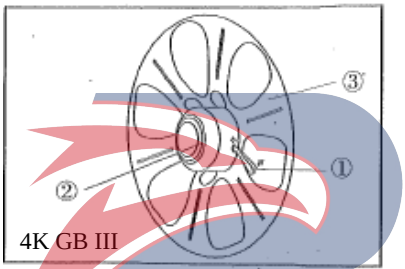


When unlocking: 4WD

1. Stop the car.
2. Engage 2H.
3. Slowly drive at least 1m in the opposite direction.

Caution

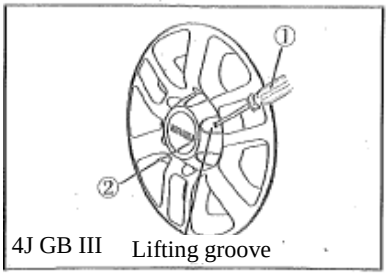
When you start the vehicle at 4L or 4H in the opposite direction, the shaft sleeve should be unlocked first and then locked. In cold areas at -10° or below temperature, when leaving the unattended vehicle, must lock the shaft sleeve.



4K GB III

Wheel cover removal 4WD

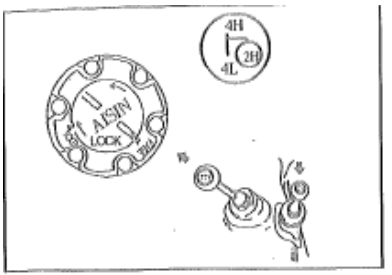
With the driver ① inserted into the hole of the wheel cover ②, remove the wheel cover ② as shown in the figure.



4J GB III Lifting groove

Wheel cover removal 4WD

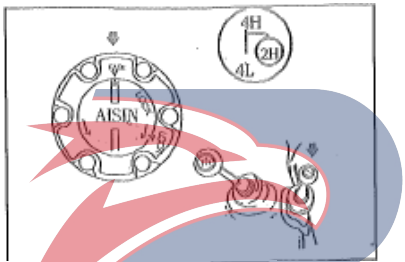
Align a flat screwdriver ① with the capping groove on the wheel cover ② and remove the wheel cover ② as shown in the figure.



Manual lock: 4WD

When locked

1. Stop the car.
2. Engage 4H or 4L.
3. Remove the wheel cover ②.
4. Turn the handle to “LOCK” position.

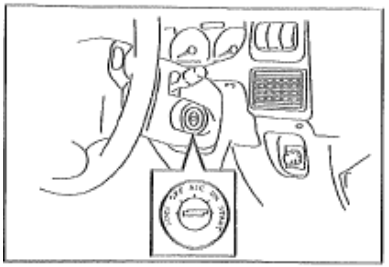


When unlocking: 4WD

1. Stop the car.
2. Engage 2H.
3. Remove the wheel cover ②.
4. Turn the handle to “FREE” position.

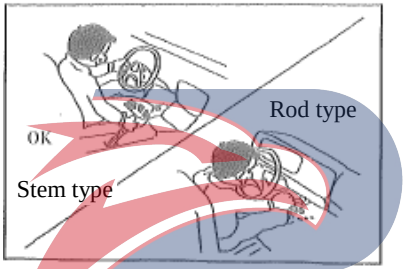
Caution

When driving the vehicle, both the left and right bushings shall be in the same position, i.e. the “LOCK” or “FREE” (unlock) position.

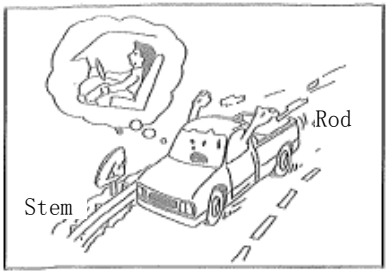


Parking:

1. Check whether the light and turn signal switches are turned off. Even if the start switch is turned off (0FF), the headlights, turn signals, and width lights work as usual.



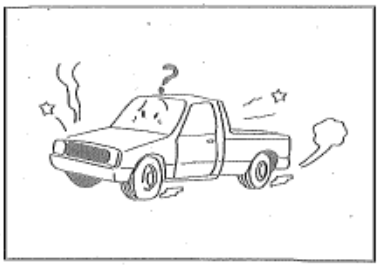
2. Apply the parking brake. If the vehicle is parked on an unattended slope, must block the wheels with the wheel stops.



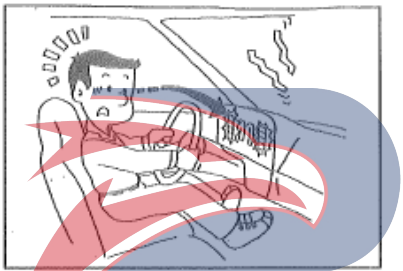
Driving precautions

1. Avoid the engine over speed.

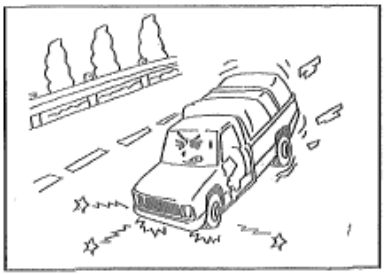
In case of driving downhill, special attention must be paid to prevent the engine from overspeeding, especially when shifting into a low gear, the engine is easy to overspeed.



2. When driving, if abnormal sound or odor is found, stop and check to find out the cause of the problem.

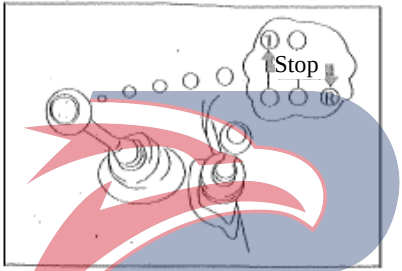


3. When driving, if it is found that the indicator light or the instrument has a normal phenomenon, stop for inspection and find out the cause of the malfunction.

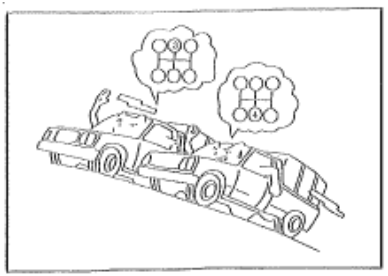


4. Avoid unnecessary sudden acceleration and sudden braking.

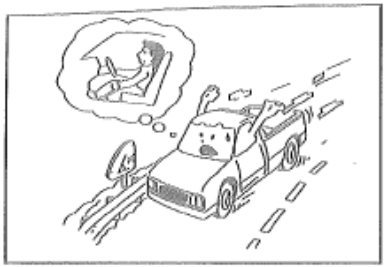
5. When driving, do not rest your feet on the clutch pedal. If this is done, there will be a partial separation that will cause premature wear of the clutch lining.



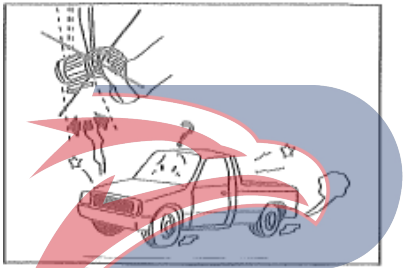
6. Before the reverse gear is engaged or the first gear is engaged after reversing, stop the vehicle completely.
When starting the vehicle, it is best to use the 1st gear, either on a slope or on ordinary road.



7. When climbing a hill, the low gear should be engaged before the engine operation, to avoid the engine overload.



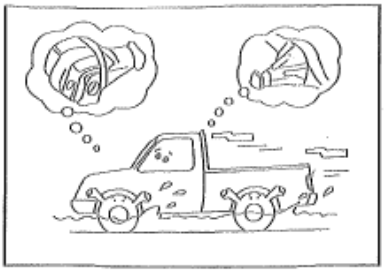
8. When driving on a downhill, engage the low-speed gear to reduce the engine rotation speed.



9. If repeatedly applying the foot brake on a long downhill:

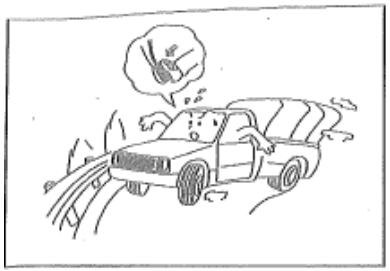
① Decrease the braking effect of the brake

② Decrease the braking effect of the brake

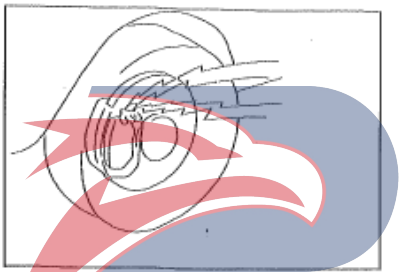


10. When the vehicle passes through shallow rivers or otters must pay special attention to driving; otherwise, water may enter the exhaust manifold, resulting a severe damage to the engine. After the vehicle has passed through a river or ponding, check whether the gear oil in the rear axle, 4WD front axle and transmission is mixed with water.

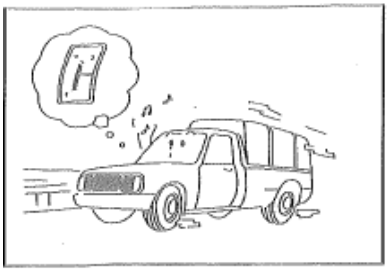
If there is water, the oil mixed with water must be drained and the specified oil must be refilled, otherwise the performance of the vehicle will be affected.



11. When driving in heavy rain or through shallow rivers, special cares must be taken, because dampened brakes can temporarily weaken the braking effect.

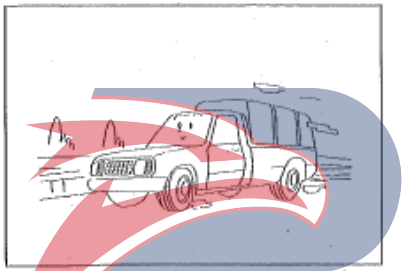


12. Brake wear indicator
The front brake is equipped with a wear alarm. If the brake pads on the front wheel are worn to near the maintenance limit, the wear level alarm will make a metallic friction sound (screaming alarm sound).
When such an alarm sounds, must go to QingLing Motors dealer (service station) to replace the front wheel brake linings.

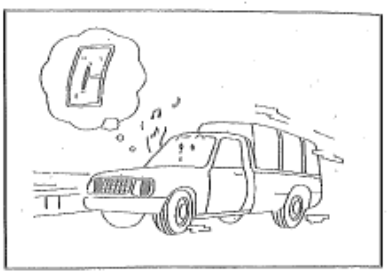


Driving for economy
1. Any high-speed driving at low-speed gear or low-speed driving at high-speed gear will increase the fuel consumption.

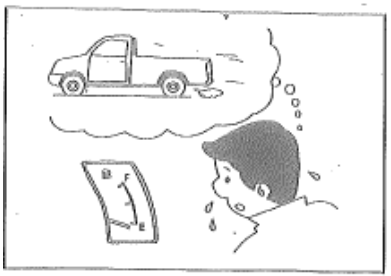
2. After the acceleration, engage the high-speed gear to ensure that the clutch is operated smoothly.



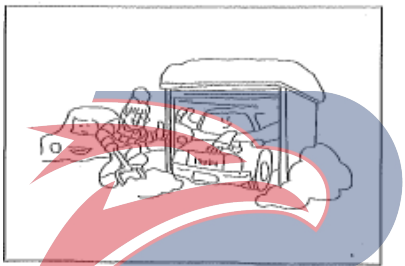
3. After shift to the top gear or overdrive, keep the speed as far as possible.



4. When driving, keep the coolant temperature within the normal range.



5. Inflated tires will reduce fuel economy.



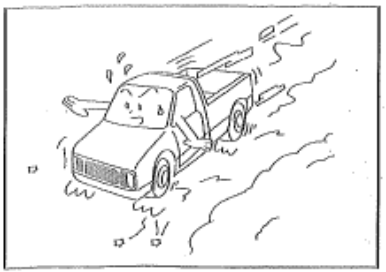
Precautions on driving in winter

If no thickened engine oil can be used, the recommended engine oil for low ambient temperatures should be filled.

Check the antifreeze in the coolant regularly.

Add washing liquid to the water in the windshield washer tank.

The battery's capacity will decrease as the ambient temperature decreases. However, even if the ambient temperature is low, the battery can ensure that the engine can start normally as long as the battery is fully charged.

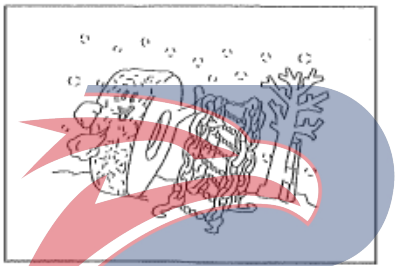


Driving on snowy or frozen roads

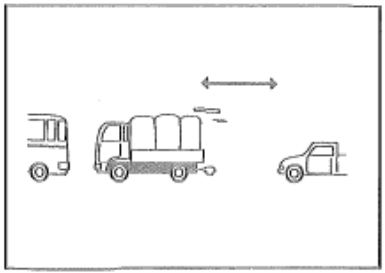
It is most important to void sudden acceleration, sudden braking, and sharp turns when driving on a snowy or frozen road.

In case of a skidding accident, the clutch should be disengaged and the vehicle must be controlled with the corrective steering action other than braking action.

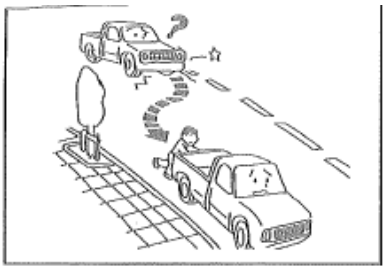
The melted salt and water have a bad effect on the braking effect. When there is salt water, in order to obtain the common braking effect, the brake pedal must be applied with more pressure. Therefore, after driving on a salty road, must repeatedly apply the brake to test its effect. Of course, when doing so, make sure that there is no danger to others. If the braking effect is severely reduced, it can be restored by depressing the brake several times.



It is best to use snow chains or snow tires. Use snow chains only on the drive wheels. The speed should not exceed 70 km/h. If the speed limit of the snow chains is lower, the regulations should be complied. Newly installed snow chains should be re-tightened after driving for two or three kilometers. Once driving on a road without snow and ice, remove the snow chains as soon as possible. In addition, must follow the manufacturer`s installation instructions.



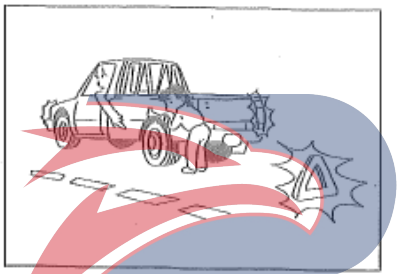
Pay attention to maintain the proper distance between the vehicles.



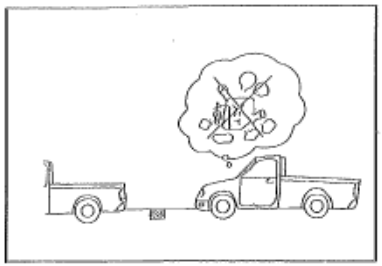
In case of an emergency

Emergency stop

1. For some reasons, if necessary, the vehicle should be kept on the right (or left) away from the traffic lane and should not be parked on the traffic lane.



2. After the parking brake or the spring brake is applied, the hazard warning indicator must be turned on regardless of daylight or night.



Emergency starting

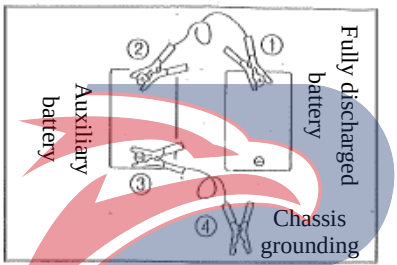
Warning

Do not start the engine when dragging a vehicle, because a forward impact will be produce when starting the engine, which may cause a collision with the trailer.

When starting the vehicle with the battery is fully discharged, an auxiliary battery with the same rated voltage as the discharged battery shall be used, for example, 12 volts.

Warning

Pay attention to the use of batteries to avoid serious injury to the human body and damage to your vehicle due to battery explosion, acid corrosion, electrical burnout, or damage of electrical components.



Connection procedure:

Using a jumper cable, another vehicle's battery can be used to start the engine.

1. Use a vehicle with the batteries with the same voltage.
2. Connect the jumper cables in the following order.

① Positive terminal of the discharged battery

② Positive terminal of the booster battery

③ Negative terminal of the booster battery

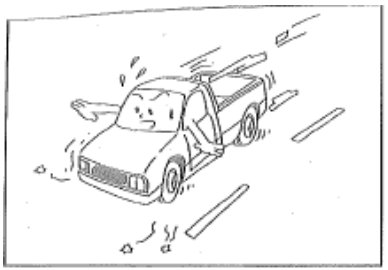
④ Ensure that the chassis of the vehicle with the fully discharged batteries is grounded as far as possible from the fully discharged batteries.

3. After connecting the cables, start the engine on the vehicle with the auxiliary battery.
4. Slightly increase the engine speed of the vehicle with the auxiliary battery and then start the engine with the discharged battery.
5. After starting the engine, disconnect the cables in the reverse order of connection.

Caution

Do not connect the positive and negative wiring terminals

Do not remove the battery cable from the terminal block while the engine is running. It may cause any failure of the electrical system.



Power braking system

* If the power assist is lost due to engine stall or other reasons, the spare vacuum assist can be used at least two to engage the brake normally.
* The system is designed so that as long as the brake pedal is depressed and keep depressed, the vehicle can be stopped completely with redundant vacuum. However, the redundant vacuum is partially exhausted each time the brake pedal is depressed and released.

Warning

When the assistance is lost, do not apply the brake repeatedly unless the steering control must be operated on a slippery surface.

* Even if the power assist is not used, the vehicle can be parked by depressing the brake pedal harder. However, even if the brake is fully functional, the stopping distance may be longer.

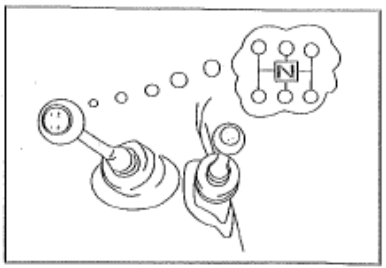
Precautions

1. When ABS is operated, the vibration of the brake pedal can be felt, and the operation sound of the hydraulic controller can be heard, which is a normal phenomenon. Do not worry about it.

2. After ABS is installed, the braking performance can be improved in most cases, especially on icy or wet roads, but it is also necessary to maintain a sufficient braking distance.

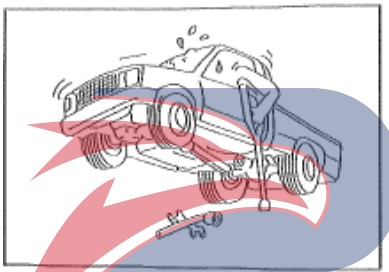
3. When ABS detects a fault, the ABS warning indicator will be continuously on; at the time, ABS will not action, but the conventional braking system will be operated normally. The brake can be applied normally.

4. ABS warning indicator will be turned off approximately 2s after starting the vehicle, and then the warning indicator can be turned on only when ABS fails. Therefore, once ABS warning indicator is turned on but cannot be turned off, please go to the service station.



Towing

When towing, be sure to use proper equipment to avoid damage to the vehicle. When towing the vehicle, the drivetrain, shaft, transmission, and steering system must be in operation. Use only towing equipment designed specifically for this purpose, as directed by the equipment manufacturer. You must use a separate security chain. When towing the vehicle, the parking brake must be released, the transmission must be engaged in neutral, and the key should be turned to the “OFF” position. It should be fixed to the main component of the vehicle.



Caution

Do not attach it onto the bumper or related bracket. When the engine is not operated, the power braking booster should not be operated.

Front wheels off the ground

1. Transfer is engaged in the 2H gear.4WD
2. Place the transmission in neutral position.
3. Maximum speed: 50 km/h.
4. Longest distance: 80km.

Caution

When driving over 80 km, remove the rear drive shaft from the rear axle bracket and fasten it in a safe position.

Rear wheels off the ground

1. Engage the transfer case in 2H position and unlock the front sleeve. 4WD
2. Place the transmission in neutral position.
3. Maximum speed: 50 km/h.
4. Longest distance: 80km.

Caution

• When towing a vehicle in the position, the steering wheel must be fastened to keep the front wheels in a straight forward position.

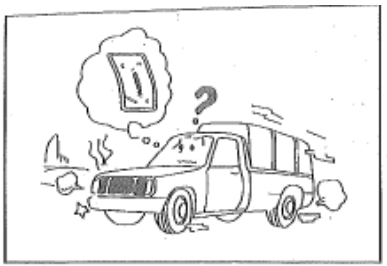
• Turn the start switch key to "OFF" position.

Four wheels are grounded

1. Engage the transfer case in 2H position; the front axle should be rotated freely. 4WD
2. Place the transmission in neutral position.
3. Maximum speed: 50 km/h.
4. Longest distance: 80km.

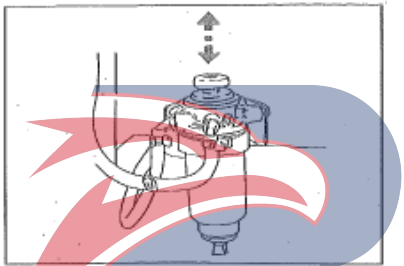
Caution

When the distance or vehicle speed is greater than the above value, the rear drive shaft and front drive shaft on the front axle and rear axle brackets shall be disassembled. It should be fastened in a safe position.

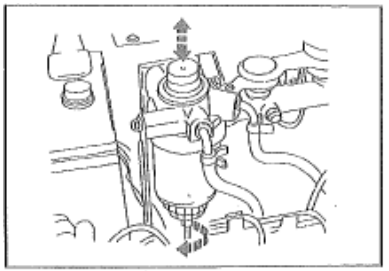


Deflation of the fuel system D

If the fuel tank becomes empty, air will enter the fuel system. If the fuel system contains air, fuel cannot flow smoothly into the engine. To avoid the case, the fuel system must be exhausted.

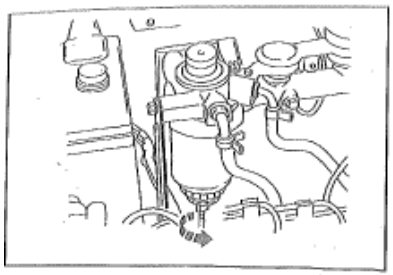


1. Operate the manual pump on the fuel-water separator and vent the air in the fuel system into the fuel injection pump.
2. After the ventilation operation is completed, start the engine with the start switch.
3. If the engine cannot be started within 10s, repeat Steps 1 and 2.

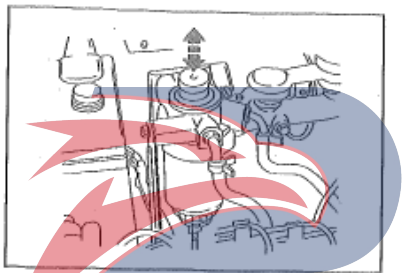


Water separator D

1. Park the vehicle in a safe place.
2. Open the engine hood and place a container (with approx. 0.2L capacity) below the hose of the water separator drain plug.



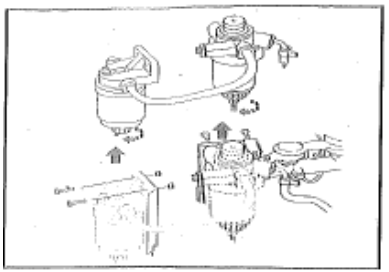
3. Turn the drain plug counterclockwise (about 5 turns) to loosen it, operate the start pump up and down until the water separator is filled fully with fuel.
4. After the water is drained, turn the drain plug clockwise to tighten it, and operate the start pump several times up and down.



5. After starting the engine, confirm that there is no oil leakage at the drain plug. Also check that the fuel filter indicator light is off.

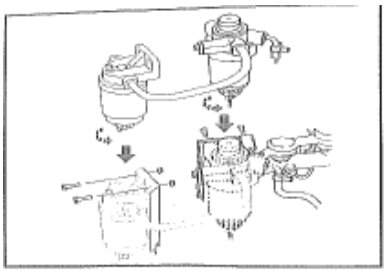
Caution

If the water separator needs to be drained regularly, must ask QingLing Motors dealer (service station) to drain the water completely from the fuel tank.



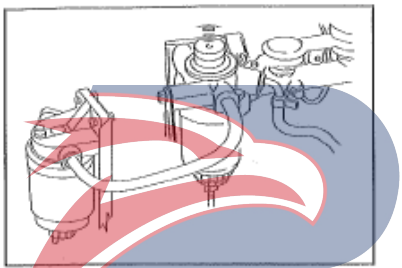
Water separator (4K diesel Euro 3 models)

1. Park the vehicle in a safe place and shutdown the engine.
2. Open the engine hood and remove the two fuel filters (pre-filter and fine filter).

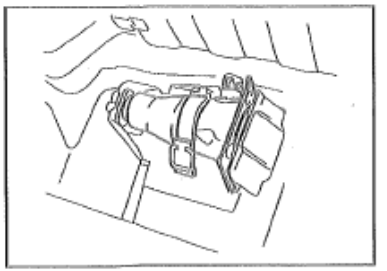


3. Turn the drain plug counterclockwise (approximately 5 turns) to loosen it and drain the water in the fuel filter into a container.

4. After the water is drained completely, turn the drain plug clockwise to tighten it, install the two fuel filters (pre-filter and fine filter), and operate the start pump mounted on the fine filter several times up and down.

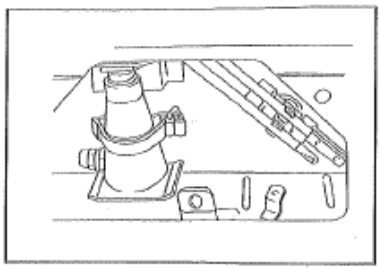


5. After starting the engine, confirm that there is no leakage at the drain plug and check whether the fuel filter indicator is turned off.

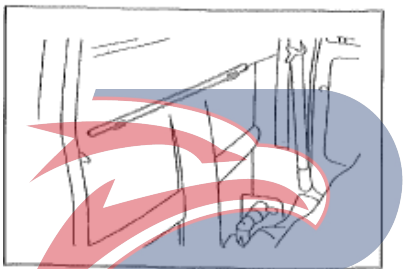


Jacking instructions and changing a flat tire

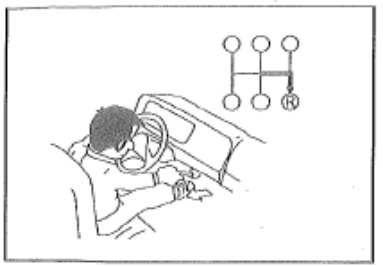
Jack, common tools and spare tire wrench are stored in a storage box behind the seat in a single-row cab.



In the vehicles with double-row seat cab, the jack, spare wheel wrench and jack handle are placed under the movable seat on the passenger seat side. W



In the vehicles with single row seat cab, the jack handle is placed in the back wall.

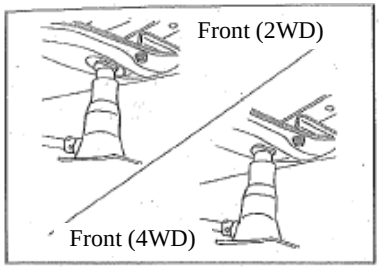


Ready

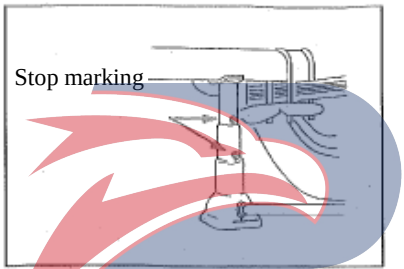
1. Park the vehicle on a flat surface and apply the parking brake forcedly.
2. Engage the transmission into REVERSE position.
3. Turn on the hazard warning indicator.
4. Block the wheel on the diagonal side of the jacking position.
5. Loosen but do not remove wheel nuts.

Caution

The wheel nut on the wheel is threaded right.



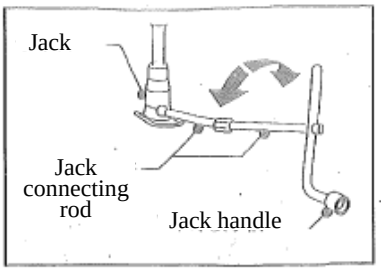
6. Place the jack in front of the proper lifting point, 2WD: The concave bottom of the cab mounted center bracket.
4WD: the bottom recess of the crossbeam behind the cab mounting center bracket.



Rear:
On the underside of the rear axle housing near the wheel.

Warning

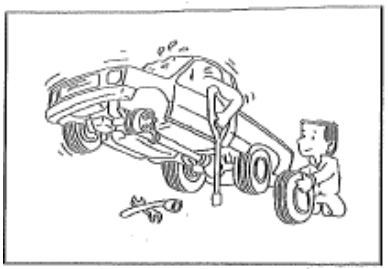
The jack cylinder is of two-stage type. When two cylinders are extended upward, their stop signs can be seen. This mark indicates that the jack has reached its maximum height .If the jack cylinder is stopped by its own stopper, be careful and immediately stop pumping oil. Any further extension of the jack cylinder may result in its damage.
Never go under the jacked vehicle. Do not start or rotate the engine while jacking up the vehicle.



Notice on jack
As shown, install the jack handle to the jack. Turning the jack handle clockwise will allow the jack to jack up the vehicle, while turning it counterclockwise will put the vehicle down.

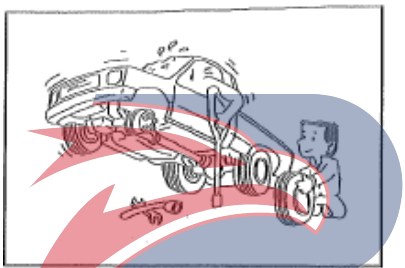
Warning

Do not jack the vehicle on a slope or soft ground. Otherwise, it will cause a great danger.
The vehicle shall not be lifted in any other location than the prescribed jacking fulcrum.

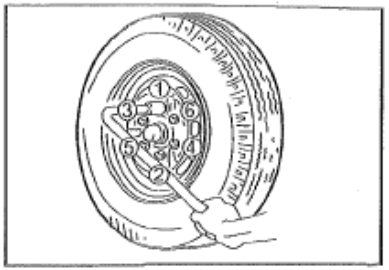


Wheel replacement

1. Jack the vehicle slightly off the ground, unscrew the wheel nuts, remove the wheel, and install the spare wheel.



2. With the tapered end of the wheel nut toward the wheel, install the wheel nuts and temporarily tighten them with the wheel nut wrench. The wheel nut must be in contact with the wheel hub. Turn the jack handle counterclockwise to lower the vehicle to the ground.



3. Tighten the wheel nuts in the order shown with a wheel nut wrench.

At the time, firmly tighten the wheel nuts by applying a force of 441N onto the end of the wheel wrench.

Torque for wheel nut: N•m
117.6


POWERSTAR

Services and Maintenance

In order to maintain safety and economic efficiency of driving, regular inspections and repairs should be carried out in accordance with the recommendations presented in this chapter.

Maintenance schedule

To ensure the safety and economy of driving, regular inspections and repairs should be performed according to the maintenance schedule.

If you need special tools for repair, please consult with QingLing dealers (service stations).

Servicing work:

I: Check, clean, correct or replace as needed.

A: Adjust.

R: Replace.

T: Tighten to the specified torque.

L: Lubrication.

When checking the following items, check the regular items together.

* Symbol: Driving under harsh and difficult conditions requires more frequent maintenance. Refer to the section "schedule of regular maintenance under severe driving conditions".

Services and Maintenance

Maintenance schedule

I: Check and correct, if necessary, replace A: Adjustment

R: Replace or exchange T: Tighten to the specified torque L: Lubrication

Technical maintenance cycle × 1000 km	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
The odometer reading or number of months comes first	-	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Engine																					
Idle speed and acceleration	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
[G] Air cleaner element	-	-	I	-	I	I	-	I	R	-	I	-	I	-	I	-	R	-	I	-	I
[D] Dry air filter element	-	I	I	I	I	I	I	I	R	I	I	I	I	I	I	I	R	I	I	I	I
[V][G] Air prefilter	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
* Engine oil	-	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Oil leakage and pollution	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
* [G] Oil filter	-	R	R	-	R	-	R	-	R	-	R	-	R	-	R	-	R	-	R	-	R
* [D] Oil filter	-	R	-	R	-	-	R	-	-	R	-	-	R	-	-	R	-	-	R	-	-
Fuel leakage	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
[G] Cylinder head bolt	-	T	-	-	T	-	-	-	T	-	-	-	T	-	-	-	T	-	-	-	T
Valve clearance	-	A	-	-	A	-	-	-	A	-	-	-	A	-	-	-	A	-	-	-	A
[G] Fuel filter	-	-	-	-	R	-	-	-	R	-	-	-	R	-	-	-	R	-	-	-	R
[D] Fuel filter	-	-	-	R	-	-	R	-	-	R	-	-	R	-	-	R	-	-	R	-	-
[G] Fuel pump function	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Fuel tank	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
[D] Injection pressure and spray conditions	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
[D] Fuel injection timing	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I

Maintenance schedule

I: Check and correct, if necessary, replace A: Adjustment

R: Replace or exchange T: Tighten to the specified torque L: Lubrication

Technical maintenance cycle × 1000 km	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
The odometer reading or number of months comes first	-	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Compression pressure																					
G Gasifier function	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
G Breaker cam and shaft	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
G Ignition distributor cover and rotor	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
G Ignition distributor vacuum advance function	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
G Spark plug	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
G Ignition timing	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Water leakage of cooling system	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Tension and damage of fan belt	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
*Exhaust pipe and mounting frame damaged or loose	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Radiator coolant	-	-	-	-	R	-	-	-	R	-	-	-	R	-	-	-	R	-	-	-	R
Blockage or damage to all hoses and tubes in the engine compartment	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
V Timing belt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clutch																					
Clutch oil	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Clutch function	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Clutch pedal free play and pedal stroke	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I

Maintenance schedule

I: Check and correct, if necessary, replace A: Adjustment

R: Replace or exchange T: Tighten to the specified torque L: Lubrication

Technical maintenance cycle × 1000 km	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
The odometer reading or number of months comes first	-	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Transmission or transmission with transfer																					
* Oil for transmission or transmission with transfer	-	-	R	-	-	-	-	-	R	-	-	-	-	-	-	-	R	-	-	-	-
Oil leakage	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Looseness in gear control mechanism	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Transmission shaft																					
Loose connection	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
* The knuckle and spline are worn	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Universal joints and splines	-	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Front and rear axles																					
* Differential oil (front and rear)	-	-	R	-	-	-	-	-	R	-	-	-	-	-	-	-	R	-	-	-	-
Oil leakage	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Drive shaft deformation or damage	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Deformation or damage of axle shell	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I

Maintenance schedule

I: Check and correct, if necessary, replace A: Adjustment

R: Replace or exchange T: Tighten to the specified torque L: Lubrication

Technical maintenance cycle × 1000 km	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
The odometer reading or number of months comes first	-	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Steering system																					
Steering gear oil	-	-	-	-	-	-	-	-	-	-	-	-	I	-	-	-	-	-	-	-	-
Power steering oil	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	R
Oil leakage	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
* The steering system is loosened or damaged	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
Power steering hose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-
Free stroke of steering wheel	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Steering Function	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Left and right turning radius	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Front wheel positioning	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Connecting bolt	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
Service brake																					
Brake fluid	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Brake system leakage	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Braking function	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
* Wear of rear brake lining and brake drum	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
* Disc brake pad and brake disc	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
Brake 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	I
Loose or damaged brake pipe and hose connections	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I

Maintenance schedule

I: Check and correct, if necessary, replace A: Adjustment

R: Replace or exchange T: Tighten to the specified torque L: Lubrication

Technical maintenance cycle × 1000 km	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
The odometer reading or number of months comes first	-	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Parking brake																					
Parking brake function	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Stroke of parking brake lever	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Loose or damaged cable and damaged rail	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Wear or damage of ratchet mechanism	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Suspensions																					
Damage to the spring of the steel plate	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Loose or damaged mounting bracket	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Oil leakage of shock absorber	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
Loose mount of the shock absorber	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
Wear of suspension bush rubber or damaged springs	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
The action is imbalanced due to weakness	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Wheel																					
Wheel nut	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Wheel hub damage	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Hub bearing grease	-	-	-	-	R	-	-	-	R	-	-	-	R	-	-	-	R	-	-	-	R
The front or rear hub bearings are loosened	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
Tire pressure and damage	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Tire rotation	-	-	R	-	R	-	R	-	R	-	R	-	I	-	I	-	I	-	I	-	I

Maintenance schedule

I: Check and correct, if necessary, replace A: Adjustment

R: Replace or exchange T: Tighten to the specified torque L: Lubrication

Technical maintenance cycle × 1000 km	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
The odometer reading or number of months comes first	-	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
Electrical devices																					
Starter function	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Specific weight of battery electrolyte	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-
Loose or damage of electrical wiring and terminals	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Starter brush wear	-	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Wear of alternator brush	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Emission system																					
Forced crankcase ventilation system	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
[G] Air injection reactor system	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
[D] Exhaust recirculation system	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
[G] Auxiliary system	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I
[G] Evaporant emission control system	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Others																					
Vehicle height	-	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I	-	-	-	I
Bolts and nuts on the chassis and the body	-	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I	-	I

Maintenance schedule under severe driving conditions

Severe driving conditions

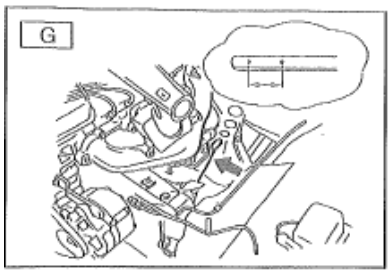
A: Frequent short-distance round trip

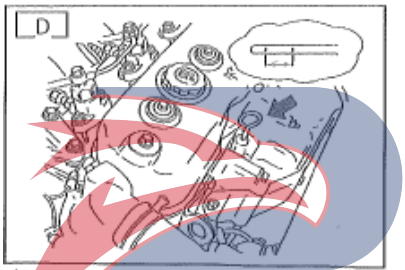
B: Driving on a rough road.

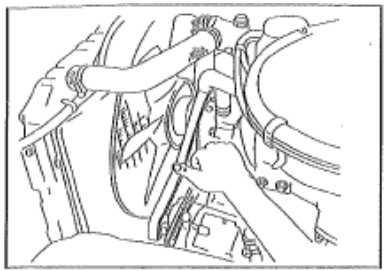
C: Driving on dusty roads

D: When driving in the cold season and/or on a salty road

Item	Cycle		Condition				
			A	B	C	D	A+D
Engine oil	Every 2,500 kilometers	Replace once			●		●
Oil filter	G Every 5,000 kilometers	Replace once			●		●
	D Every 7,000 kilometers	Replace once					
Exhaust pipes and its mounting parts	Every 10,000 kilometers	Check once	●	●		●	
Air cleaner element	Every 20,000 km	Replace once			●		
Relaxation and damage of the steering system	Every 5,000 kilometers	Check once		●			
Wear of universal joint and sliding sleeve	Every 10,000 kilometers	Check once		●			
Transmission oil	The first replacement occurs at the first 20,000 km				●		
	once every 10,000km	Replace once					
Differential oil	During first 20,000 kilometers	First replacement			●		
	Once every 10,000km	Replace once					
Brake shoe and brake drum of rear brake	Every 5,000 kilometers	Check once	●	●	●		
Front brake pedal and brake disc	Every 5,000 kilometers	Check once	●	●	●		







Maintenance guide

Regular inspection

Oil level

Pull out the oil level gauge (oil gauge) and clean it. Then insert it again.

Pull out the oil gauge again to check if the oil level is between the two oil level marks. Also check the oil contamination on the oil gauge.

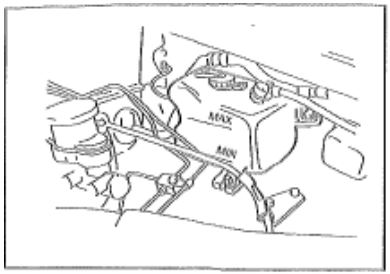
When checking the level of engine oil, the vehicle should be parked on a flat surface (Before the engine runs).

If the engine is operated, must maintain the engine stop for 5min to stabilize the oil level before the oil level check.

Fan belt

When the middle of the belt is pressed with a force of 98 Newton's, the deflection of the belt is about 10 mm.

At the same time, check the belt for cracks and damage.



Coolant level

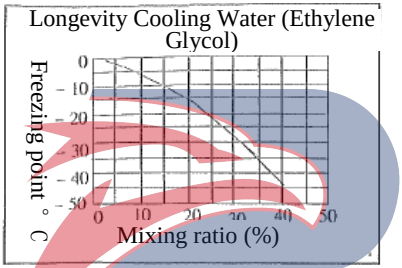
Check the coolant level and, if necessary, fill the radiator reserve tank: if the coolant level in the reserve tank is below the “MIN” (lower limit) line, check the cooling system for leaks and fill to the “MAX” (upper limit) line.

Caution

The reserve tank must not be filled with excess coolant. The radiator filler cap can be removed only if absolutely necessary.

The coolant level must be checked when the engine is cold.

Be sure to refer to the chart on the left and determine the appropriate mixture ratio of coolant for the antifreeze based on the ambient temperature.



Supplementary rust inhibitors or additives that claim to improve the cooling capacity and are sold shall not be added to the cooling system without the approval of the QingLing Motors.

When adding or replacing the coolant, do not use well water or river water, but must use the antifreeze.

It is recommended to use original Isuzu engine coolant or equivalent for adding or replacement. Use of any other coolant without preservative may cause corrosion of the engine and the radiator.

If the concentration of genuine Isuzu engine coolant exceeds 60%, the long-term thermal characteristics of the coolant will be reduced, which may cause the engine to overheat. If the concentration drops below 20%, corrosion resistance may decrease. The coolant concentration should be adjusted within the range of 20% ~ 60% as shown in the above table.

Engine coolant replacement

1. When replacing engine coolant, make sure the engine is cold.

Warning

Do not loosen or remove the radiator filler cap when the coolant is heated to a high temperature. Otherwise, the hot vapor or boiling water may cause burns. When unscrewing the radiator filler cap, after the coolant temperature in the radiator is decreased, place a thick cloth on the filler cap and slowly unscrew the filler cap to reduce the internal pressure.

2. Remove the radiator filler cap and loosen the drain valves on the radiator and on the cylinder block to drain the coolant from the cooling system.

Caution

For optimal cooling effect, the engine cooling system should be flushed at least once a year. It is advisable to flush the cooling system including the radiator before using antifreeze (ethylene-glycol based).

If it is found that the engine antifreeze is leaked from tiny cracks, replace the damaged rubber hose. QingLing Motors Co., Ltd. recommends Isuzu genuine engine antifreeze (ethylene-glycol-based) or equivalent; do not add any other rust inhibitor or additive into the cooling system.

Caution

If the method of replacing or filling the coolant is improper, sometimes the coolant overflows from the filling port even before the engine and radiator are completely filled.

If the engine is running in this state, the disadvantage of excessive coolant injection may cause the engine to overheat. To avoid this failure, take the following precautions when injecting coolant into the cooling system.

3. Must re-fill the coolant to the filler port with a filling hose with the outer diameter of smaller than the diameter of filler port. Otherwise, the air between the filler port and the filling hose will hinder completely filling the system.

4. Maintain the filling rate of no more than 9L/min. If the maximum speed is exceeded, the air may enter forcedly in the engine and the radiator. In addition, the overflow of coolant from the filler port will increase, making it difficult to confirm whether the cooling system is completely full.

5. After the cooling system is full, pull out the filling hose and check that the air trapped in the system has been drained and the water level has dropped. At this time, the coolant level should be lowered, therefore, repeat filling until the coolant level no longer falls.

6. After filling the radiator directly with coolant, add the coolant to the highest water level indicator on the reserve tank.

7. Install and tighten the radiator filler cap and start the engine. Operate the engine at idling for 2-3min, stop the engine and remove the radiator filler cap again.

Warning

Do not loosen or remove the radiator filler cap when the coolant is heated to a high temperature. Otherwise, the hot vapor or boiling water may cause burns. When unscrewing the radiator filler cap, after the coolant temperature in the radiator is decreased, place a thick cloth on the filler cap and slowly unscrew the filler cap to reduce the internal pressure.

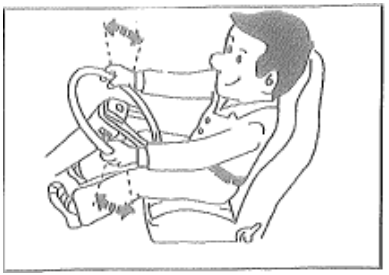
If the coolant level drops, the coolant should be refilled.

8. After tightening the radiator filler cap, warm up the engine at 2000 rpm. Adjust the heater switch to the maximum temperature position and allow the coolant to flow into the heating system for circulation.

9. After confirming that the thermostat has been opened by the pointer position of water temperature indicator, continue running at idle speed for 5 minutes, and then stop the engine.

10. After the engine is cooled down, check the coolant level again via the filler port. Perform re-filling if necessary. If there is a serious problem with the coolant, check the hoses of cooling system and the reserve tank for leaks.

11. Fill the coolant into the reserve tank until the coolant level is up to “MAX” (upper limit) mark line.

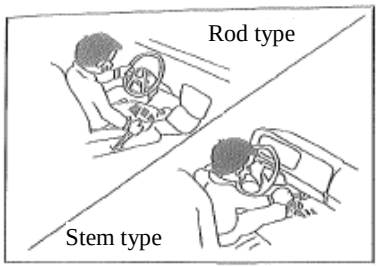


Steering wheel

Check if the steering wheel is loose and if the free play is too large. The standard for the free travel of the steering wheel is 10-30 mm. Check the steering mechanism for any abnormal phenomena such as sway, deviation, heavy steering, etc.

Caution

If the steering wheel has excessive free play, looseness and other abnormalities, please go to the nearest QingLing dealer (service station) for inspection.

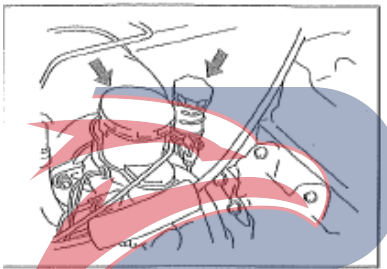


Parking brake lever stroke:

Normal stroke of the parking brake lever:

Stem type	9 to 11 grooves
Rod type	6 to 8 grooves

When a 294N of force is applied



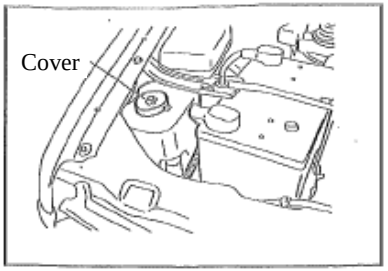
Brake fluid level

Make sure the liquid level in the brake fluid tank is at the marking line. If the fluid level is too low, the recommended hydraulic brake fluid should be added.

If the vehicle is equipped with a brake with a level indicator: container, there is no need to check the level regularly.

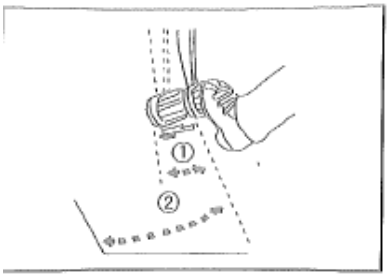
Warning

If the brake system indicator is lit in driving, the brake fluid container should be filled with the recommended hydraulic fluid until it reaches the marking line.

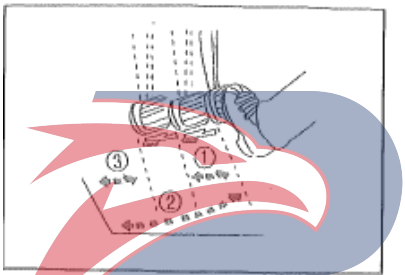


Windshield washer fluid level

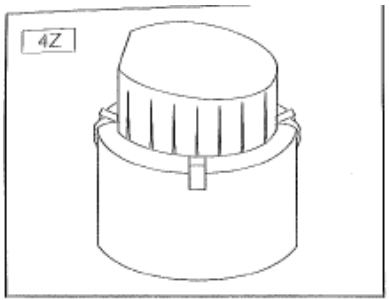
Make sure that there is enough washing liquid in the washer. In addition, check the operation of the windshield washer.

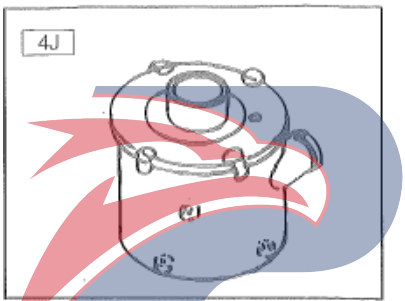


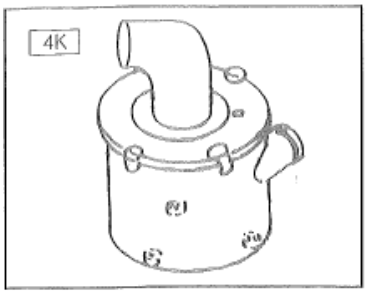
Free play of clutch pedal and Standard height: mm
① Free stroke: 5 ~ 15
② Height: 178 to 188
Free play of clutch pedal is automatically adjusted.



Standard values of brake pedal free stroke, height and margin
Standard height: mm
① Free stroke: 6 ~ 10
② Height: 174 to 184
③ Margin: greater than 75
(When depress the brake pedal with a 490N force)







Periodic maintenance

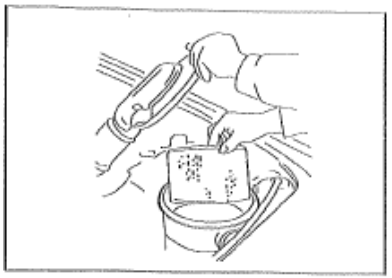
Air filter

The use of air filter elements that are clogged will not only reduce the engine's output power, but also increase fuel consumption. Therefore, the air filter element should be maintained as described below.

Caution

Must align the matching marks on the air filter cover and the housing in advance, and then reinstall the filter cover, to prevent dust from entering the filter. When replacing the filter element, be sure to use an Isuzu filter element that differs in structure and function from the dry air filter element. Because the original filter cartridge can ensure the normal filtration effect before the specified replacement cycle, even if it is contaminated,

it cannot be cleaned.

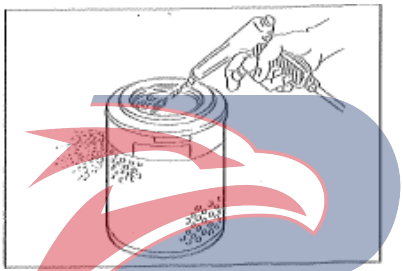


Except that the air filter needs to be temporarily removed during the vehicle maintenance, it must always be installed in place; otherwise the fire returned from the engine intake manifold may cause a fire risk.

G

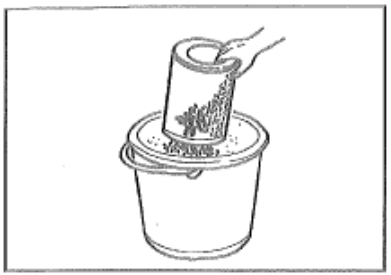
Air filter cartridge cleaning

The filter element should be cleaned according to one of the following methods.



When the filter element is contaminated by dust but is dry:

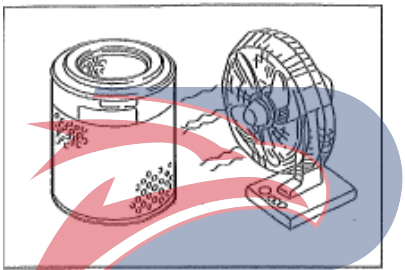
While rotating the filter cartridge manually, the compressed air is fed from the inside to the filter cartridge. The pressure of compressed air should not exceed 700 kPa.



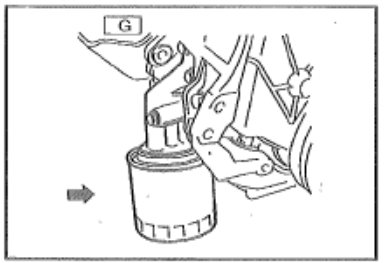
When the filter cartridge is contaminated with carbon black and oil stains: D

1. Dilute the filter cleaner cleaning agent (Donaldson ND 1500) with water to prepare the cleaning solution and immerse the filter in the cleaning solution for about 20min.

2. Remove the filter cartridge and rinse it with running water. Water pressure should not exceed 280 kPa.



3. Place the filter cartridge in a well-ventilated place to dry it. Dry the filter cartridge with an electric fan quickly. Do not use compressed air or naked fire for fast drying. It is advisable to naturally dry the filter element and use a spare filter element, since it usually takes two or three days for the filter element to dry.

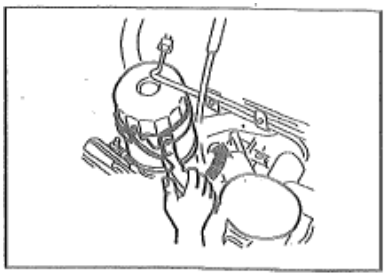


Oil filter G

1. Turn the oil filter counterclockwise to loosen it with a filter wrench.
2. Wipe the upper cover assembly surface with a rag to ensure that the new fuel filter can be fitted completely.
3. Gently lubricate O-ring and turn the oil filter until the sealing surface is matched with O-ring. Turn it another turn with the filter wrench.

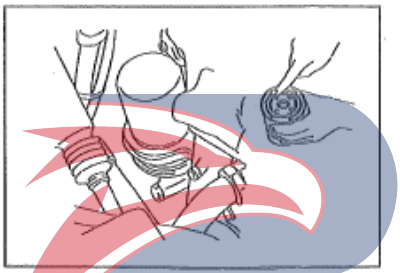
Caution

Check the oil level in the engine. If necessary, fill to the specified oil level. Start the engine and check the oil filter for oil leakage. When replacing, use the genuine Isuzu oil filter assembly.



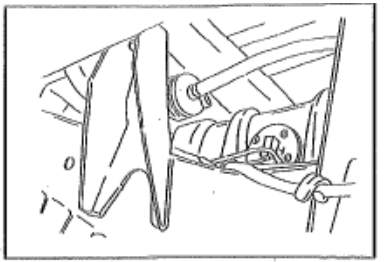
Oil filter D

1. Turn the oil filter counterclockwise to loosen it with a filter wrench.
2. Wipe the upper cover assembly surface with a rag to ensure that the new fuel filter can be fitted completely.
3. Gently lubricate O-ring and turn the oil filter until the sealing surface is fitted with O-ring. Turn it another turn with the filter wrench.



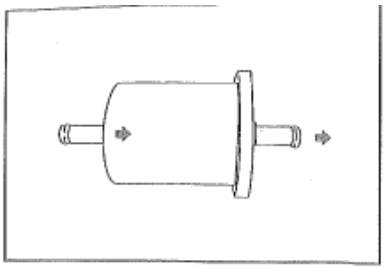
Caution

Check the oil level in the engine. If necessary, fill the oil to the specified level and start the engine to check the oil filter for leakage. If necessary, must use the genuine Isuzu oil filter assembly.



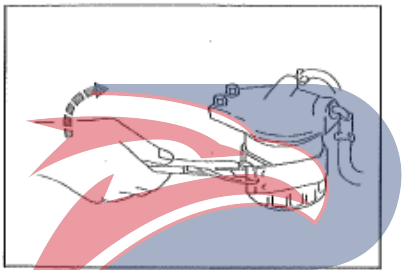
Fuel filter G

1. Remove the fuel filter cartridge assembly from the bracket, move the fuel hose clamp to the hose direction, remove the inlet and outlet hoses, and then remove the fuel filter assembly.
2. Install the new fuel filter assembly, connect the inlet and outlet hoses to the fuel filter assembly, fasten the hose with a pipe clamp, and then connect the fuel filter assembly on the bracket.



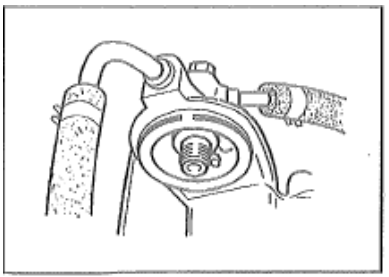
Caution

The fuel filter assembly should be provided with an inlet and an outlet. Install the hose properly. For replacement, genuine Isuzu fuel filter assembly should be used.

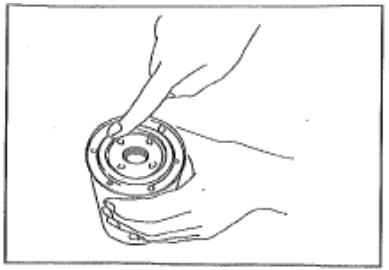


Fuel filter D

1. Turn the fuel filter counterclockwise with a filter wrench to loosen it.



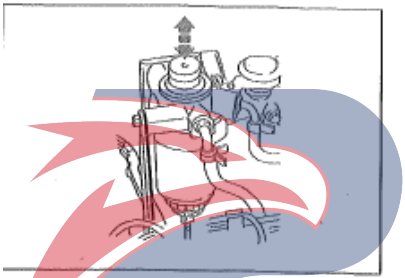
2. Wipe the upper cover assembly surface with a cotton cloth to ensure that the new fuel filter can be fitted completely.



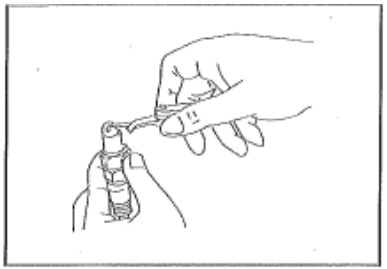
3. Gently lubricate O-ring. Carefully install and turn the filter assembly clockwise to prevent spillage until the O-ring engages with the seal surface of filter cap. Turn the filter assembly back 1/3 ~ 2/3 turns with the filter wrench

Caution

Replace it with a genuine Isuzu fuel filter assembly.



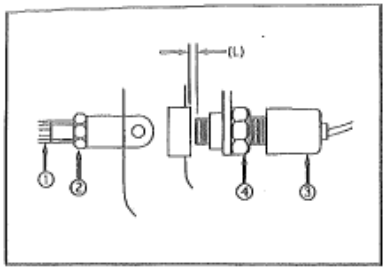
4. Operate the prime pump on the water separator several times to vent the air from the fuel system.
5. After the exhaust operation is completed, start the engine with start switch
6. If the engine cannot be started within 10s, the exhaust operation should be performed again.



Spark plug G

Insert the thickness gauge between the electrodes on the spark plug to check the spark plug gap. If the gap is correct, you will feel a little bit strenuous.

Clearance of spark plug: 0.7-0.8 mm



Clutch pedal adjustment

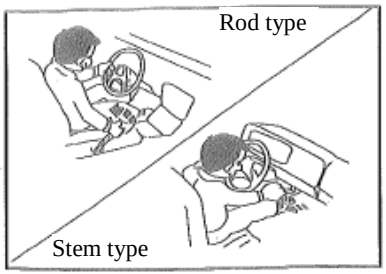
1. Loosen the lock nut 2 on the clutch master cylinder push rod. Turn the pusher ① by hand to adjust the clutch pedal height to the specification value.
2. After completing the adjustment, tighten the lock nut 2.
3. Turn the clutch switch 3 or the stopper bolt 3 until the switch bolt 3 or the stopper bolt 3 is just contacted with the clutch pedal arm.

• Turn the clutch switch 3 or the stopper screw nut 3 back from the position half a turn and measure the gap (L) between the clutch pedal arm and the clutch switch bolt end face 3 or the stopper bolt end face 3.
• Tighten the lock nut 4.
• Connect the clutch switch connector.

Clearance between clutch switch and clutch pedal (L): 0.5-1.5 mm (0.020 to 0.059)

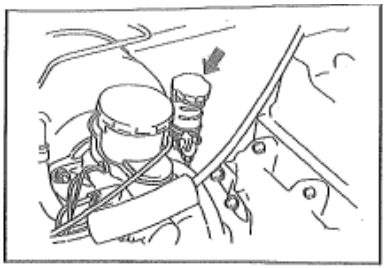
Deflation of clutch hydraulic circuit

If air enters into the clutch piping, it can cause clogging of the clutch. Therefore, if the clutch reservoir has become empty or the hydraulic piping has been removed because the clutch fluid has not been filled, bleed should be performed. The ventilation operation should be performed by two persons.

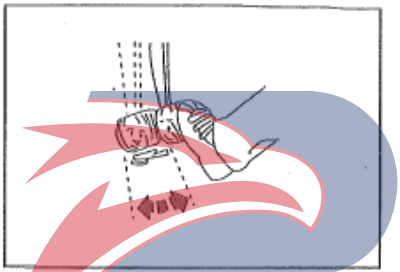


The ventilation should be performed as follows:

1. Apply the parking brake.



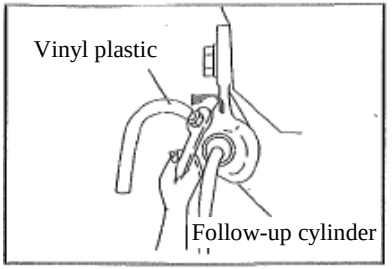
2. Check the clutch fluid level in the reservoir and add the clutch fluid if necessary.



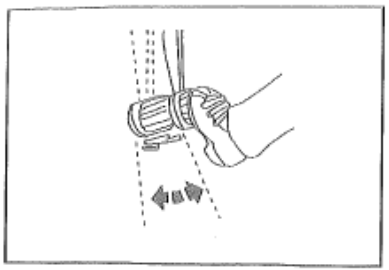
3. Remove the rubber cap from the ventilation screw and wipe the ventilation screw. Connect a vinyl pipe to the bleeder screw, and then insert the other end of the plastic pipe into a transparent container.

4. Repeatedly depress the clutch pedal several times and then hold it.

5. Loosen the drain screw to drain the clutch fluid with bubbles into a container, and then tighten the screws immediately.



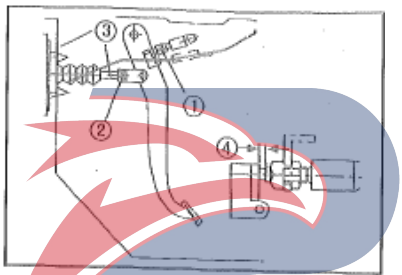
6. Carefully release the clutch pedal and repeat the above procedure until there is no air bubbles in the clutch liquid drained in the container. During deflation, the clutch fluid in the clutch reservoir should be maintained at the specified level. Finally, reinstall the rubber cap.



Brake pedal adjustment

When the pedal is fully released, the push rod is used as a brake pedal stopper. The height adjustment of brake pedal should be carried out as follows:

1. After confirming that the pedal is fully pulled back by the pedal return spring, measure the brake pedal height.



2. If the measured value is not within the specified pedal height range, the brake pedal should be adjusted as follows:

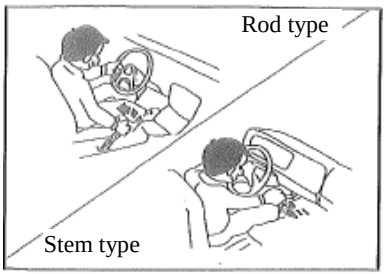
① Release the parking light switch.

② Loosen the push rod lock nut.

③ Adjust the brake pedal to the specified height and rotate the push rod in the appropriate direction.

④Adjust the parking light switch.

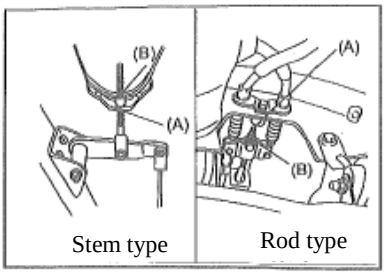
Gap: 0.5-1.0mm



Parking brake and main brake adjustment

The front wheels are equipped with disc brakes with automatic adjusters.

The rear brake adjustment mechanism operates by engaging and releasing the parking brake, instead of operating the main brake to make it work.



The parking brake should be adjusted as follows:

① Fully release the parking brake lever.

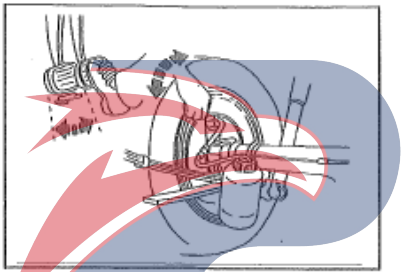
② Loosen the lock nut (A).

③ Depress the brake pedal and release it again until the rear brake is regulated automatically.

④ Turn the adjusting nut (B) until all slack has disappeared from the cable.

⑤ Install the lock nut.

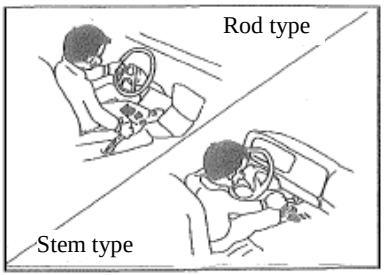
When pulled with 294 Newton's of force, the normal stroke of the parking brake lever is 9-10 teeth (handle) or 6-8 (rod) teeth.



Hydraulic brake line deflated

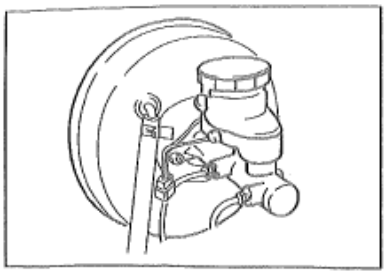
If the air enters the hydraulic brake circuit, it may cause poor braking effect.

When the brake fluid level in the tank is low, or when the brake pipe is not connected, must carry out the exhaust operation and repair before use. The deflation can be performed by two people.

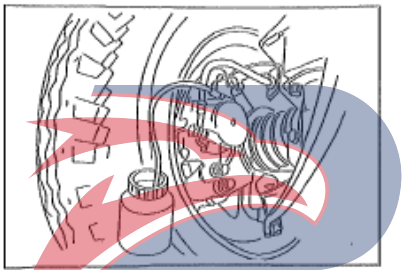


The ventilation should be performed as follows:

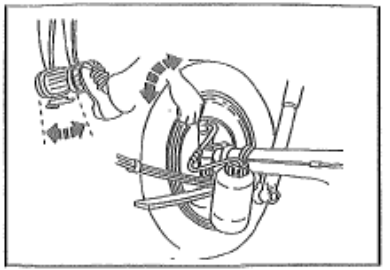
1. Start the engine and apply the parking brake.



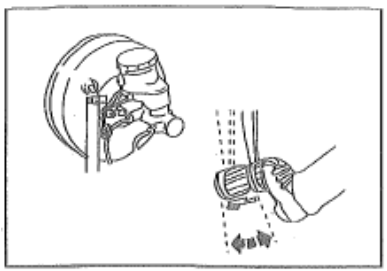
2. Check the brake fluid level in the container and add it if necessary.



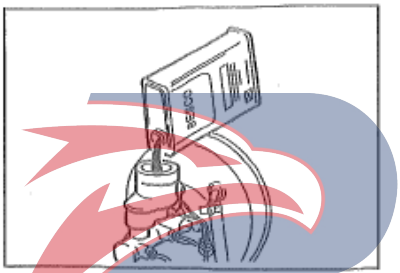
3. Remove the rubber cap from the ventilation screw and clean the ventilation screw, attach it to a vinyl tube, and insert the other end of the vinyl tube into a clear container.



4. Repeatedly depress the brake pedal and hold it.
5. Loosen the bleeder screw, fill the brake fluid with air bubbles into the container, and immediately tighten the bleeder screw.



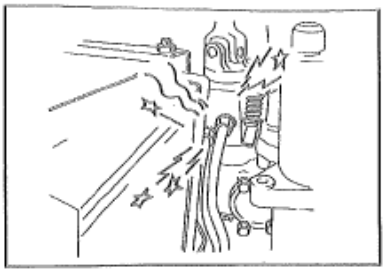
6. Slowly release the brake pedal and repeat the above procedure until there is no bubbles from the brake fluid pumped into the container. During the deflation process, the brake fluid should be maintained at the specified fluid level, and the rubber cap should be reinstalled in the end.



7. After ventilation of each wheel, must check the brake fluid level in the brake fluid container and add it if necessary.

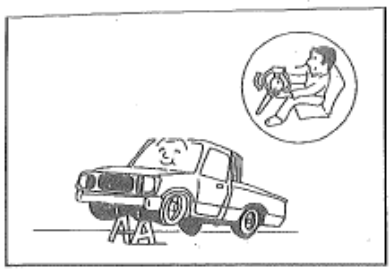
Caution

If the exhaust is performed when the engine is shutdown, the brake booster will be adversely affected.



Deflation of power steering hydraulic circuit

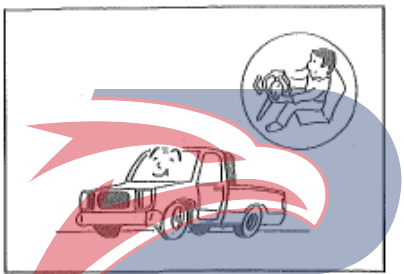
When the steering wheel is rotated, any abnormal noise means there is air in the hydraulic system. At this time, deflation should be performed as follows.



1. Jack the front wheels off the ground.
2. When the engine is not operated, turn the steering wheel to the left and right several times.

Caution

During ventilation, check the fluid level and add it if necessary.

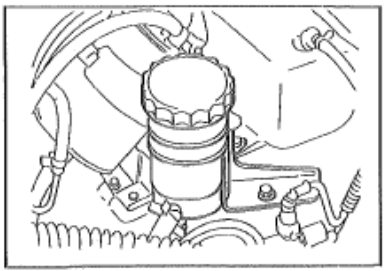


3. When the engine is operated at idling speed, turn the steering wheel to the left and right several times.

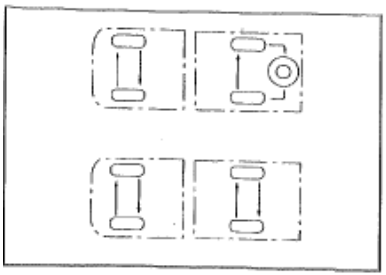
Caution

Do not turn the steering wheel to the locked position and leave it for 5 seconds, otherwise the liquid temperature will rise sharply.

4. When the engine is operated at idling speed, drop the vehicle on the ground and turn the steering wheel fully to the left and right several times.

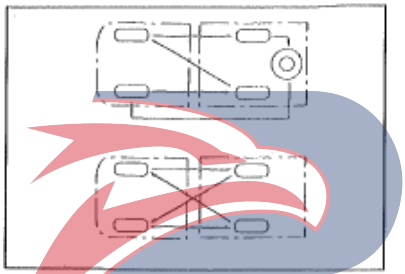


5. Place the steering wheel in a forward driving position and stop the engine, to make sure that the liquid level in the tank is not increased. If the level is increased significantly, it indicates that the air is not completely drained from the system and Step 4 should be performed again.
6. Check the fluid level in the reservoir and check the connections for leakage.

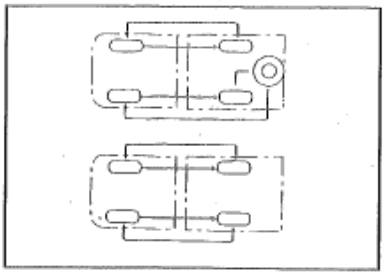


Wheel replacement

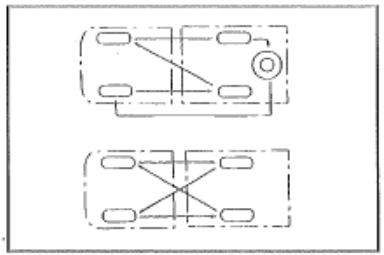
When the front and rear wheels have different sizes, they should be interchanged. Replace the front and rear wheels on the same side.



When the front and rear wheels are the same size, rotate the wheels as shown.



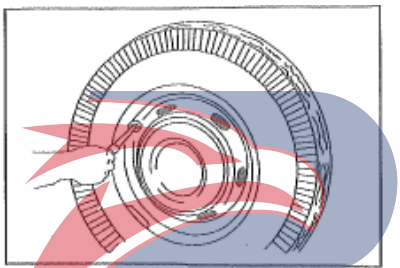
If it is a radial tire, exchange the front and rear wheels on the same side as shown.



If the radial tires are worn on one side, they can be displaced as shown in the figure.

Caution

After the wheels are displaced, the front and rear tire pressures should be adjusted and the wheel nuts should be tightened.



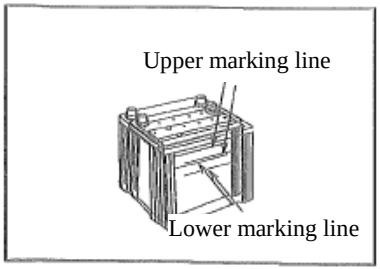
Tire pressure

The standard tire pressure is listed in the table below.

Caution

The tire pressure should be checked in cold status. (The vehicle should be stored for more than 3h or driven less than 1.6km).

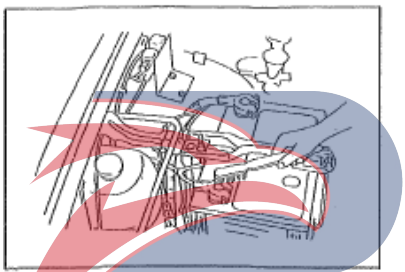
Tires	Tire factory pressure: MPa	
	Front wheel	Rear wheel
P215/75R15	0.2	0.2
LT215/75R15	0.25	0.25
LT235/75R15	0.25	0.25



Battery electrolyte specific gravity

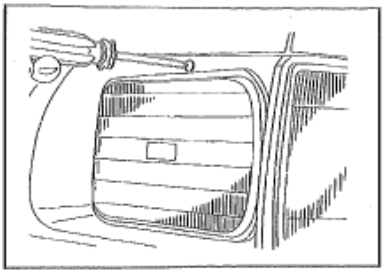
If the new vehicle is already equipped with a battery which have been maintained for normal use, it is not necessary to install a new battery and fill water to it.

If the electrolyte level is below the lower limit marked on the side of the battery, do not attempt to start the vehicle or perform battery charging and testing with a jumper cable.



Clean the battery

If the external parts of the battery are dirty, it can be cleaned with slightly warm water. The battery terminals should be coated thinly with petroleum jelly or grease to prevent corrosion.



Headlights

Properly align the headlights to ensure adequate lighting on the road without causing glare to other drivers, which is the most important work.

When you need to adjust the headlights, it is best to contact a QingLing dealer (service station) with special equipment.

Replacing light bulbs

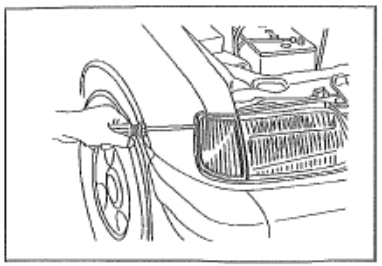
The method of removing the bulb is shown in the figure.

Caution

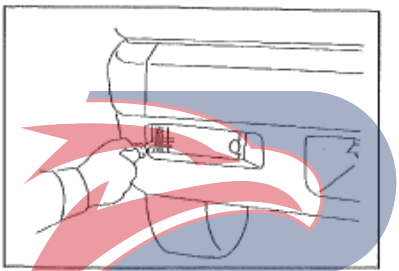
When replacing the light, make sure that the light switch is set to the “OFF” (switch off) position. The bulb should be replaced with a new one with same capacity.

The power ratings for standard bulbs are listed in the following table

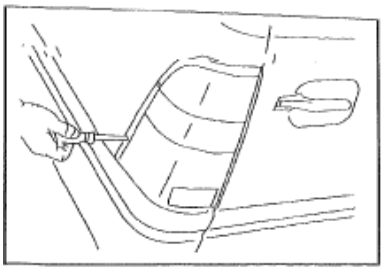
Region		Watt power	Number of bulbs
Headlights		45/40	2
√ Halogen headlight		60/55	2
Front turn signal light		21	2
Side turn signal		5	2
Width light		5	2
√ Rear fog lamp		21	1
Rear combination lamp	Turn signal	21	2
	Parking light and tail light	21/5	2
	Reversing lamp	21	2
License plate light		5	2
Ceiling light		10	1
√ Spotlight		5	2
√ Working lamp		5	1



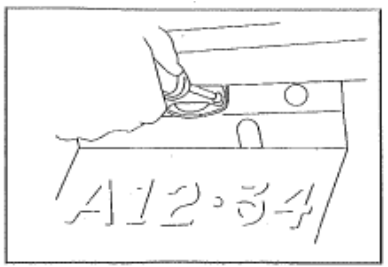
Side Marker Lamp
Remove the radiator grille and remove the (3) screws.



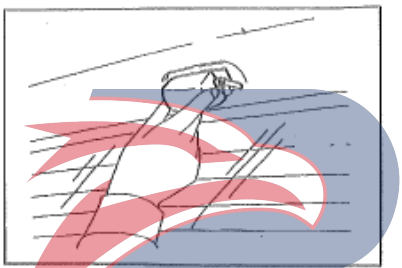
Front turn signal light
Loosen the two screws to fasten the lampshade.



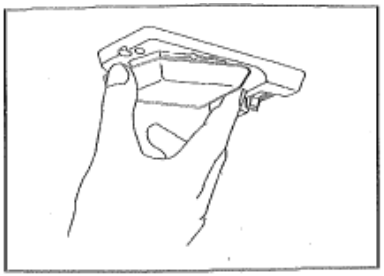
Rear combination lamp
Loosen the 4 or 8 screws to fasten the lampshade.



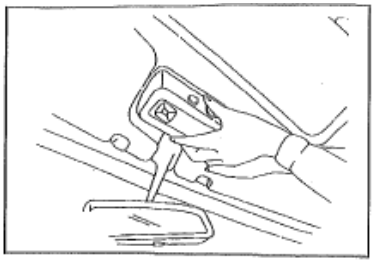
License plate light
Loosen one or both screws that secure the bulb cover.



Roof lights
The lampshade can be pulled out manually.

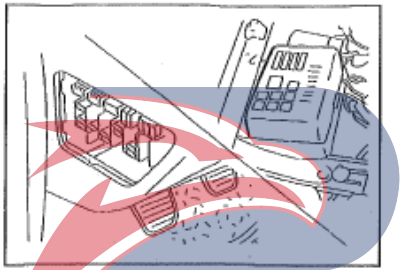


The lampshade can be easily removed manually and then pulled out and remove the bulb from the socket. W



Spotlight V

Simply remove the spotlight assembly by pulling it out by hand. Then, turn its bulb counterclockwise to remove it from the socket.

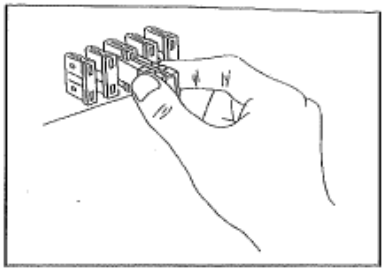


Fuse box

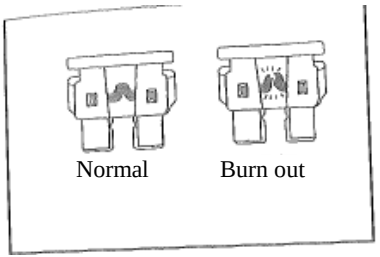
The fuse box is mounted under the dashboard on the driver side and inside the engine compartment.

The box lid can be easily removed manually.

Three spare fuses (20A, 5A and 10A) listed in the main fuse circuit and amperage list



If a fuse is needed to be replaced, the supplied fuse remover should be used.



The right part of the figure is a blown fuse.

When replacing the fuse, use a spare fuse with the same amperage.

Caution

* If necessary, the fuse must be replaced with the spare fuse with the capacity marked on the fuse box.

* If the spare fuse is also blown, must go to the nearest QingLing Motors dealer (service station) for circuit check.

Fused box: Engine compartment

Ampere		Scope of application
1	15A	Hazard warning flash
2	10A	Horn
3	-	—
4	20A	Blower
5	10A	Air conditioning device
6	-	-
7	10A	Charging (diesel engine)
8	10A	Headlight: Left
9	10A	Headlight: Right
10	-	-
11	10A	Brake light
12	15A	Tail light
13	-	-
14	10A	Automatic choke (on the gasoline engine)

Fuse box instrument panel:

Ampere		Scope of application
1	10A	Starter
2	-	-
3	15A	Engine -1
4	10A	Engine -2
5	-	-
6	-	-
7	15A	Instrument (LHD)
8	-	-
9	-	-
10	-	-
11	20A	Windshield wipers
12	15A	Backup light/turn signal light
13	10A	Indoor lights
14	20A	Door lock
15	-	-
16	-	-
17	-	-
18	15A	-
19	15A	Audio system
20	20A	Cigarette lighter
21		Rear fog lamp

Ampere		Scope of application
22	10A	Rear fog lamp
23	-	-
24	-	-
27	30A	Power window

Fuse box: engine compartment (4Z Euro 3)

Ampere		Scope of application
1	15A	Hazard warning flash
2 -	10A	Horn
3	20A	Blower
4	10A	Air conditioning device
.5	10A	Front fog lights
6	30A	ABS-1
7	30A	ABS-2
8	10A	Headlight - Left
9	10A	Headlight - Right
10	10A	Brake light
11	10A	Tail light
12	10A	Rear fog lamp
13	30A	Fuel heating device
14	25A	ECM

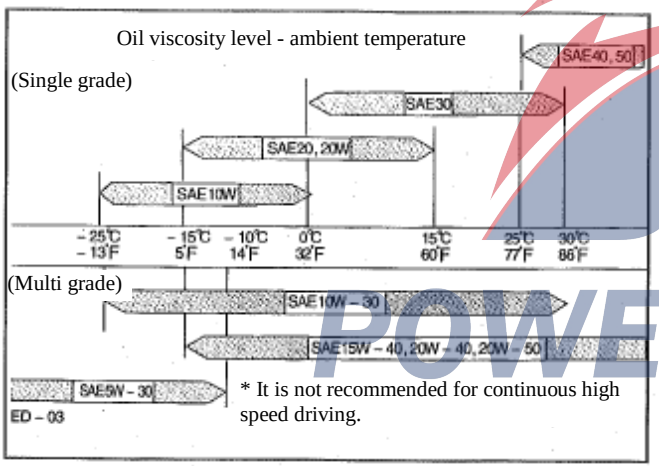
Fuse box: engine compartment (4Z Euro 3)

Ampere		Scope of application
1	15A	Hazard warning flash
2	10A	Horn
3	20A	Blower
4	10A	Air conditioning device
5	10A	Front fog lights
6	-	-
7	10A	ECH2
8	10A	Headlight - Left
9	10A	Headlight - Right
10	10A	Brake light
11	10A	Tail light
12	10A	Rear fog lamp
13	15A	ECM1
14	20A	Fuel pump

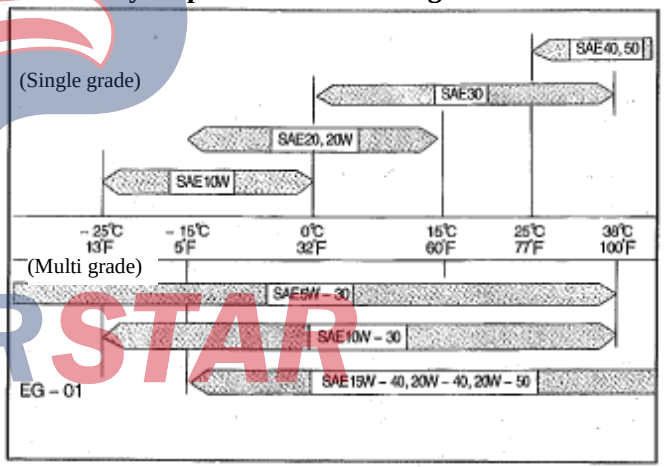
Lubrication

Lubricants should be carefully selected according to the lubrication chart. Referring to the chart below, it is also important to select the viscosity of the lubricant based on the ambient temperature.

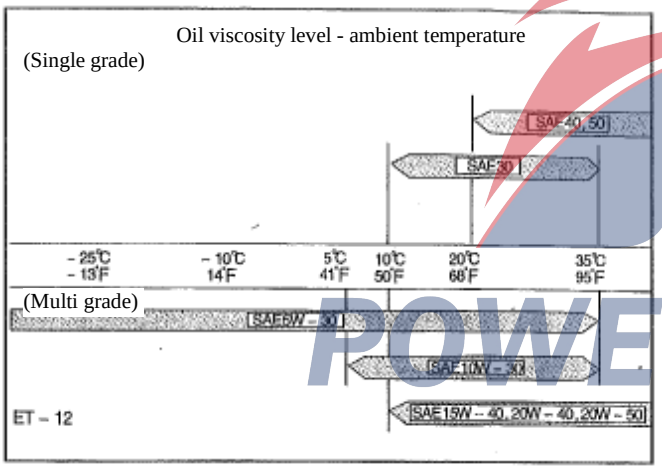
Oil viscosity map **For diesel engines**



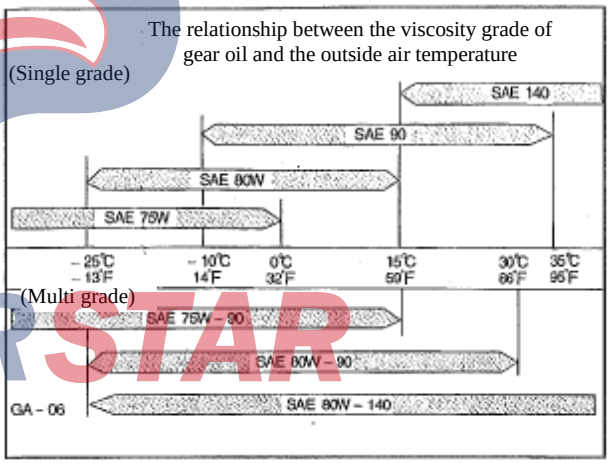
Oil viscosity map **For engine oil**



Oil Viscosity Diagrams for Transmissions and Transfer



Gear oil viscosity figure for front and rear axles



Recommended grease grade

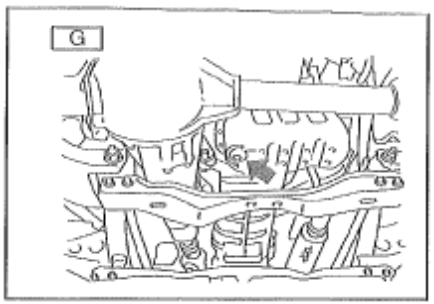
In order to maximize the performance and longevity of your Isuzu vehicle, it is of utmost importance to select the right lubricant according to the relevant chart. The lubrication cycle on the periodic maintenance schedule and the guaranteed range and duration of the new vehicle are based on the use of the recommended grease. The recommended grease is shown in the following table and should be used as a guide for selecting the appropriate grade and brand.

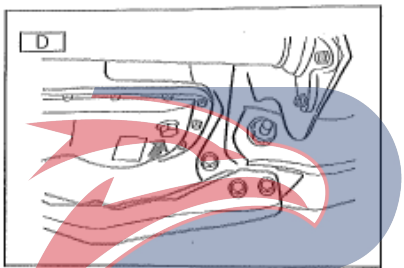
Grease

Greasing points		Grease and oil grades		
Engine crankcase		Gasoline Engine Oil API SMS SAE15W-40 (-10°C or higher), SAE5W-30 (-10°C or lower) API CF-4 grade SAE15W-40 (-10°C or above) or SAE5W-30 (-10°C or below) oil is used in the turbocharged diesel engines.		
Manual Transmission	Ambient temperature	Above 10°C	API CD level SAE 15W-40 Engine oil	Or for the same oil in the engine crankcase
		Below 10°C	API CD level SAE 5W-30 Engine oil	
Power steering		Dexron-11 D or Dexron-11 E		
Differential gear		Gear oil API GL-5 SAE80W-90		
Hydraulic brake system and clutch system		SAE J1703,FMVSS116 DOT.3 or DOT.4		
Wheel bearing		Wheel bearing grease or multi-purpose grease NLGI No.2 or 3No.4		
Grease filling nozzle		Multi-purpose grease NLGI N0.1 or 2 or 3		
Knuckle		Grease with molybdenum disulfide		

Greasing points	Category
Storage tank for clutch fluid and brake fluid	Hydraulic brake system brake fluid SAEJ1703 FMVSS116D0T. Level e
Engine cooling system	High-quality glycol-based antifreeze

Fuel	Standard
Gasoline	GB 17930-2006
Diesel	GB 19147-2003

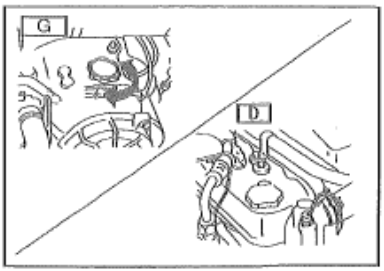




Lubrication guide

Oil replacement

When the engine is hot, remove the drain plug in the lower part of the engine oil pan, drain the oil in the engine crankcase, and install the drain plug.

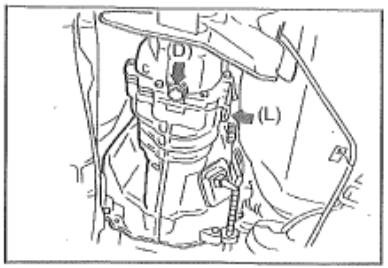


Then fill with new oil of the specified grade from the filler port; SH engine oil is used for the gasoline engine.

Caution

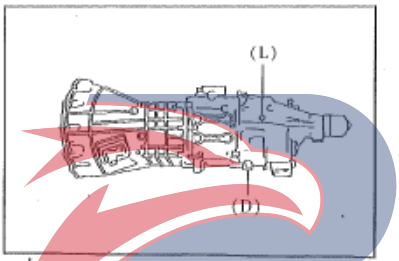
The diesel engine uses CF-4 oil (see section "Recommended lubricants and diesel fuel")

When the engine crankcase oil is filled to the high oil level mark of the oil gauge, start the engine, idle for a few minutes, then stop, recheck the oil level, and refill as necessary.



Transmission oil replacement

Disassemble the drain plug (D) under the transmission case and drain oil in the transmission case. Check the screw hole through the oil surface and fill the specified oil into the transmission case until it reaches the oil level inspection plug (L).



Replacement of transmission oil of transmission with transfer

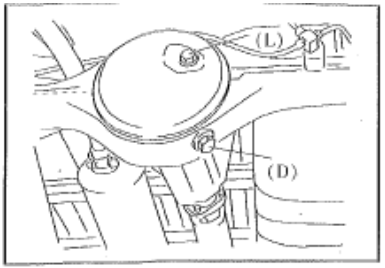
4WD

Remove the drain plug (D) and drain the oil in the transmission with the transfer case.

Inject the specified oil into the transmission through the oil level check plug hole until the oil level check plug (L).

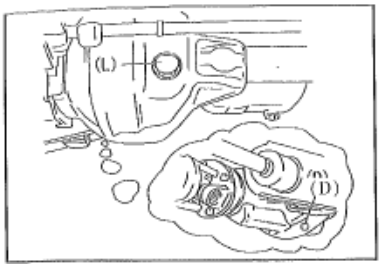
Caution

When replacing the transmission oil of transmission with transfer, replace the oil in the transmission and transfer separately.



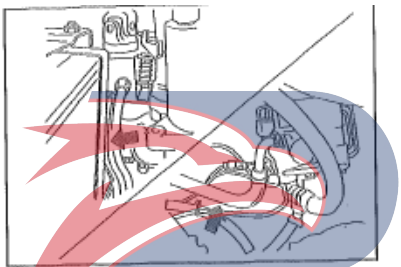
Differential oil replacement

Remove the drain plug (D) and drain the gear oil from the rear axle housing. Check the screw hole from the oil level, and fill the specified gear oil into the rear axle housing until reaching the oil level inspection plug (L).



Differential oil replacement (front axle) 4WD

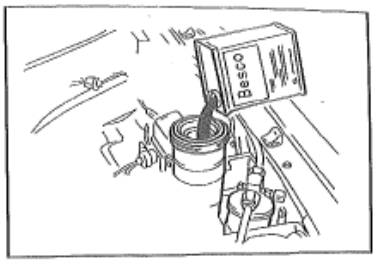
Remove the drain plug (D) and drain the gear oil in the front axle housing. Check the screw hole from the oil level, and fill the specified gear oil into the rear axle housing until reaching the oil level inspection plug (L).



Replacement of power steering fluid

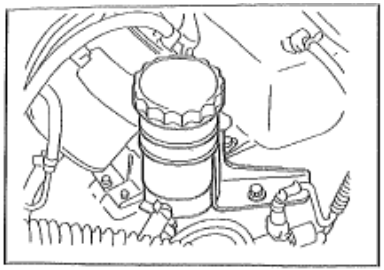
Vent

1. Jack the front wheel from the ground.
2. Remove the hose between the steering mechanism and the liquid tank and the hose between the pump and the liquid tank.
3. After the bleeding is completed, rotate the steering wheel all the way to the left and right several times to remove the residual liquid in the hydraulic system.



Refuel:

1. Install the fluid tube and hose and fill the specified power steering fluid into the liquid tank.
2. After the liquid tank is filled to the specified level, wait for 2-3min.When refilling, fill the tank as needed to prevent air from entering the hydraulic system.



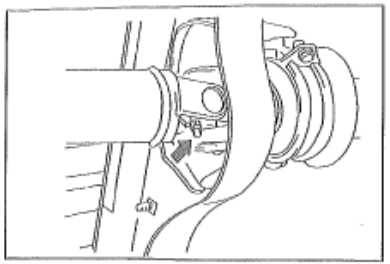
3. Ensure that the front wheels are on the ground. Start the engine and operate it at idling for a few minutes. Check the fluid level again and fill if necessary.

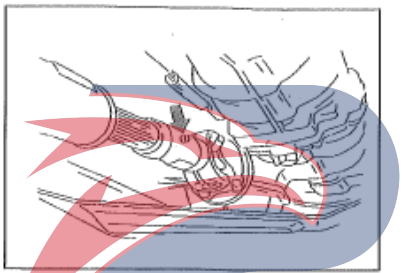
Inspection of manual steering gearbox

If leakage or penetration of gear oil is found, check the oil seal or gasket of the manual steering gearbox. If they are damaged, please go to the nearest QingLing Motors dealer (service station) for repair.

Re-inject the grease on front and rear hub bearings

When this is needed, it is best to send the vehicle to the QingLing dealer (service station) for refilling, because this top job needs disassembly and reassembly of the mechanism.





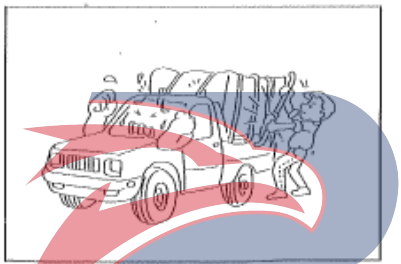
The following points should be lubricated with MoS2 grease: 4WD

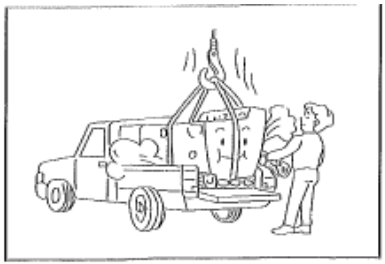
Drive shaft universal joint and sliding sleeve.

Correct loading method

Any overloading or uneven loading is dangerous. Please make the correct loading based on the maximum load standard value. Any improper loading method may cause cargo instability, local overload as well as damage to the cargo deck and the frame. Do not apply an excessive force.

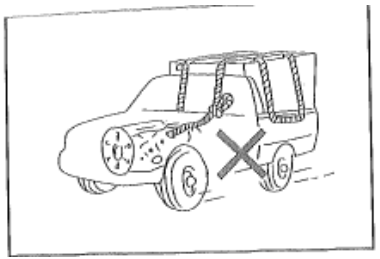
Securely fasten the cargo with a tarpaulin or rope to prevent it from falling off, but do not apply an excessive force on the tarpaulin or rope. Otherwise, it may cause the rope to break or damage the side fence, the rear fence, the safety fence, and other parts.



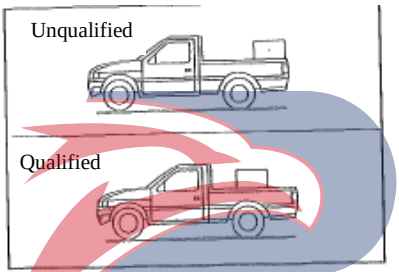


When loading heavy cargo

When loading heavy cargo, it should be padded and fixed with wire ropes to prevent its movement. At this time, you must not exert excessive force to fix the goods.

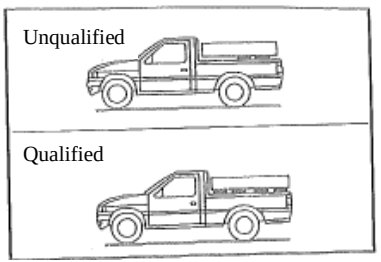


Keep there is a gap between the flammable materials and the cab and the safety fence, and ensure that the end of tarpaulin or the rope is firmly fastened, without free hanged section in the gap behind the cab. Otherwise, the heat from the engine may cause a fire during driving.

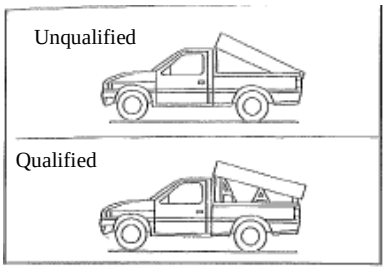


Loading method

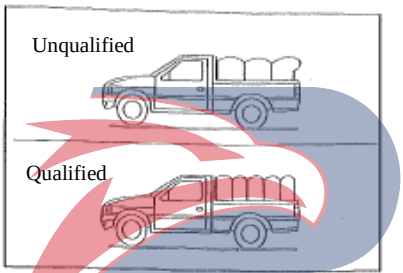
Do not leave a big space among the goods. The distribution of cargo should be even.



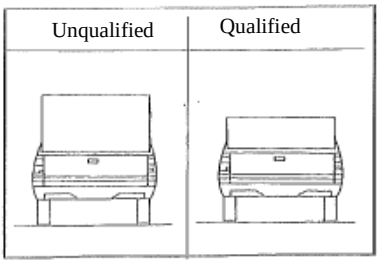
When the cargo is padded, the pads should be evenly arranged.



When transporting particularly long cargo, support frames should be added under the cargo. Do not load any cargo on the cab safety fence and on rear end of the cargo platform.



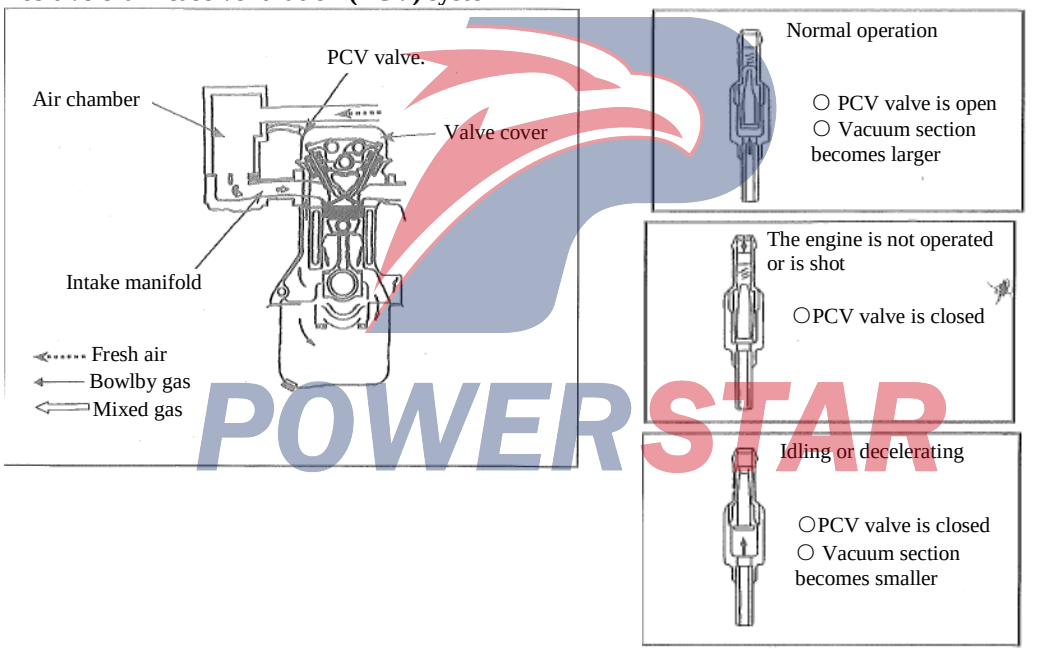
In order to ensure the cargo safety, they should be secured with tarpaulin and ropes to prevent them from falling off. Fasten the tarpaulin and other cargo fixing material with rubber strip or other suitable material.

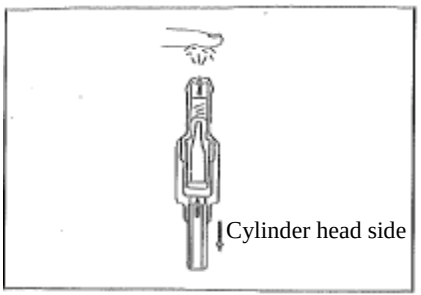


Avoid loading too high. The height of the loaded cargo should be reduced as much as possible to prevent the vehicle from being shaken laterally due to cross wind or cornering.

G Emission control system

Positive crankcase ventilation (PCV) system



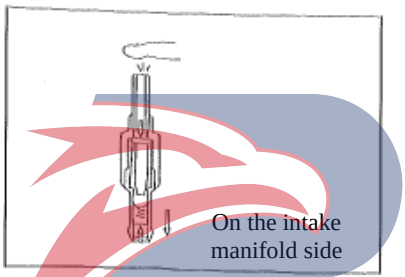


Inspection and repair

If there is an excessive wear or damage, must adjust, repair, or replace.

PCV valve

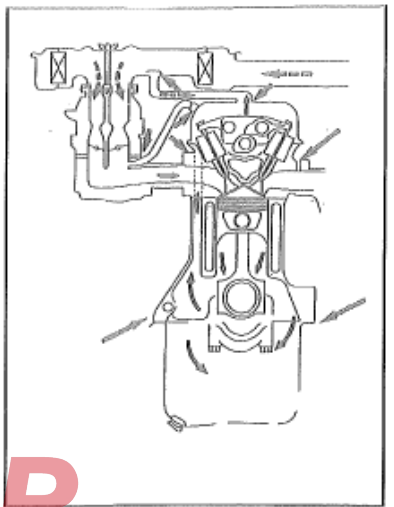
1. Blow the air on the cylinder head side via PCV valve. The air must pass freely through PCV valve; otherwise, PCV valve must be replaced.



2. Blow the air on the intake manifold side via PCV valve. PCV valve must be able to block the air flow; otherwise it must be replaced.

Warning

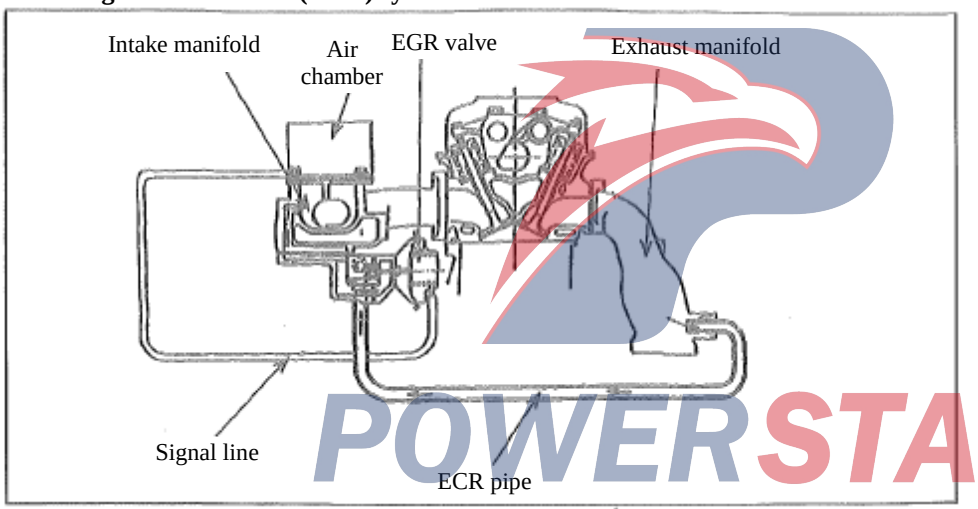
The air must not be sucked through PCV valve, and the oil sucked from PCV valve may cause a serious accident.



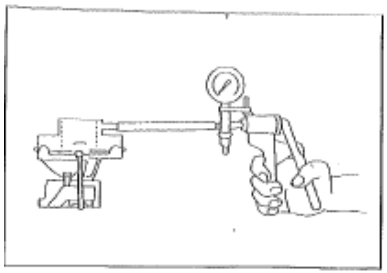
PCV hose and connector

Inspect hoses and fittings for cracks, leaks, or other damage.

Exhaust gas recirculation (EGR) system



The exhaust gas recirculation (EGR) system is an emission-related device. When the vehicle is under different conditions, its opened and closed status and the r opening sizes are different.



Inspection and repair

In case of finding excessive wear or damage during checking, carry out necessary adjustment, repair and replacement of parts.

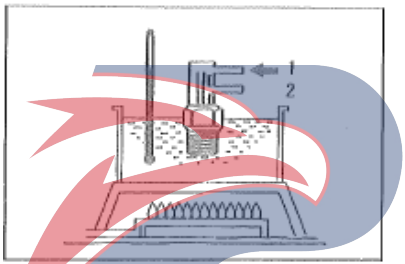
EGR valve

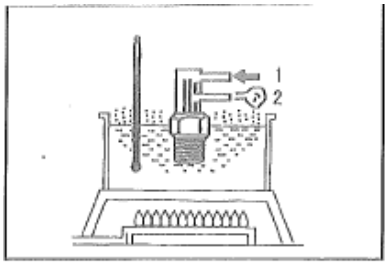
1. Vacuum EGR valve with a manual vacuum pump.
2. Place a finger on the diaphragm of the valve to check that the diaphragm actions with the vacuum applied to the valve.

EGR valve is fully opened:

140mmHg

In case of a fault, must replace EGR valve.



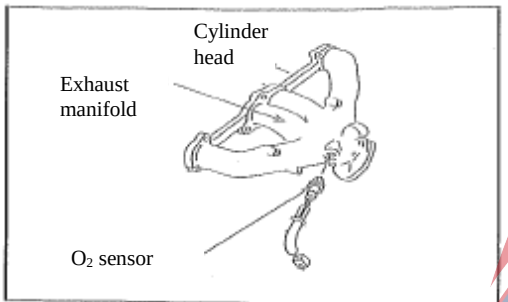


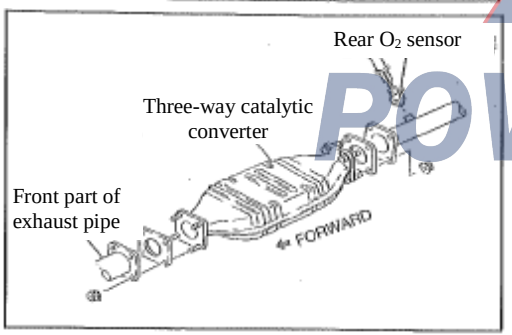
Thermal sensitive vacuum valve

1) Drain the cooling system when the engine is cold.
2) Pull off the vacuum hose and remove the vacuum valve.
3) Blow the air in the opening “1” while keep the vacuum valve under cold status (45 °) (115F), and the air should be vented from the opening “2”.
4) Apply the sealant onto the threads of the vacuum valve and install it in original position.
5) Connect the vacuum hose.
6) Fill the radiator with coolant.

If there is any problem, must replace the vacuum valve.

O_2 sensor

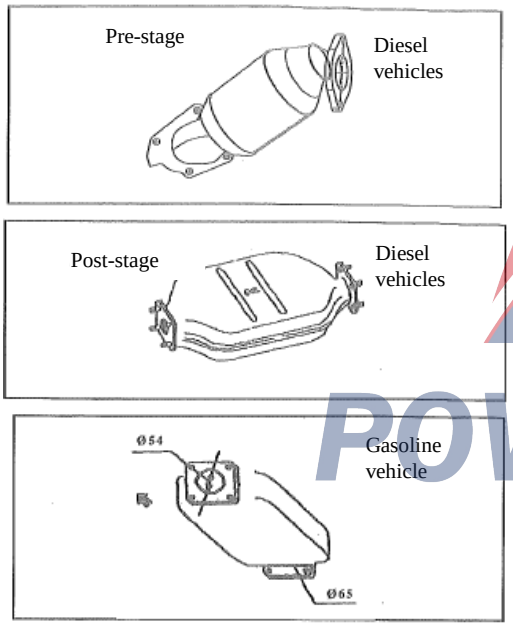




Caution

1. Use93# or higher high-quality unleaded gasoline can be used. Any leaded gasoline may damage the sensor.
2. The voltage of 0_2 sensor cannot be checked with an analog voltmeter, and it can only be checked with a digital voltmeter.
3. Before installation, the thread surface of the sensor must be coated with a layer of anti-adhesion agent.

Three-way catalytic converter

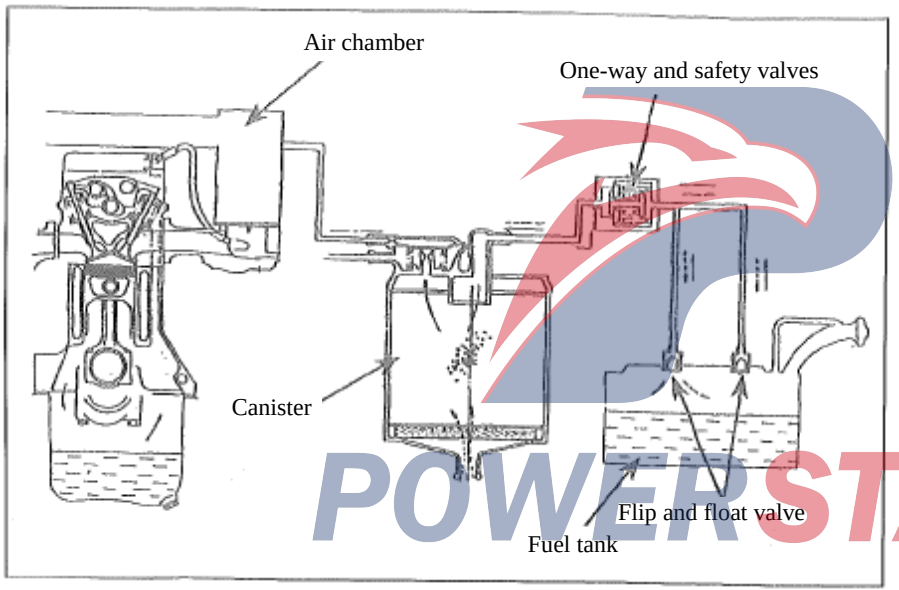


Caution

1. Only the normal operation of O_2 sensor can ensure the normal operation of the three-way catalytic converter. (Gasoline vehicles)
2. Control the exhaust temperature at 350-700° to ensure the optical operation condition of the three-way catalytic converter.
3. Euro 3 diesel vehicles are fitted with a two-grade catalytic converter.
4. Euro 2 diesel vehicles are not fitted the catalytic converter.

Warning

1. Any leaded gasoline is prohibited.
2. Do not disassemble the device freely.
3. If needed, must notice that the small-diameter side of the catalytic converter should be toward and the big-diameter side should be rearward during assembling process.(As shown in the figure)



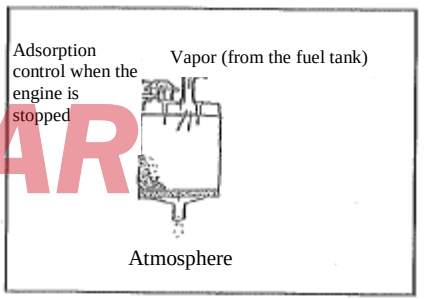
Canister

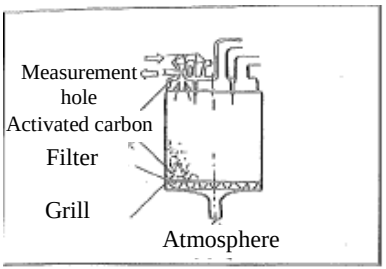
There is activated carbon in the carbon canister. The activated carbon can absorb the fuel vapor from the fuel tank.

The carbon canister is fitted with a desorption control valve. The valve is used to separate the fuel vapor in the activated carbon and delivery it into the intake manifold.

Euro 2 canister shall be placed on control valve diaphragm and driven by the inlet tube vacuum.

Leak of Euro 3 canister shall be realized through Electronic control valve.



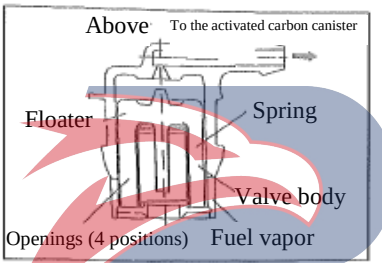


When the engine is operated, the vacuum will be applied onto the diaphragm. If the vacuum exceeds the specified value, the diaphragm will open the drain valve. The fuel vapor in the activated carbon will be sent to the engine gas chamber.

The fuel vapor venting rate can be adjusted with the engine intake manifold vacuum degree and the venting control valve opening.

Inspection and repair

If there is excessive wear or damage during the inspection, must implement the necessary adjustments, repairs, or replacements.



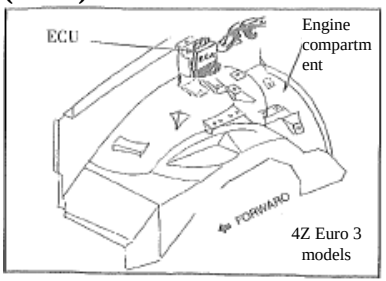
Fuel vapor pipe, fuel and filler cap

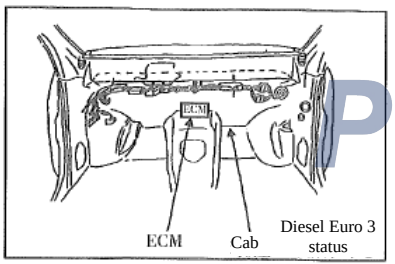
1. Visually check for loosened connections, and bent or broken corners.
2. Check for deformation, cracks, or oil leakage.

Flip and float valve

Check the flip valve or the float valve for oil leakage, distortion, dents, and the measurement hole for blockage, replace it if necessary.

Electronic Control Module (ECM)





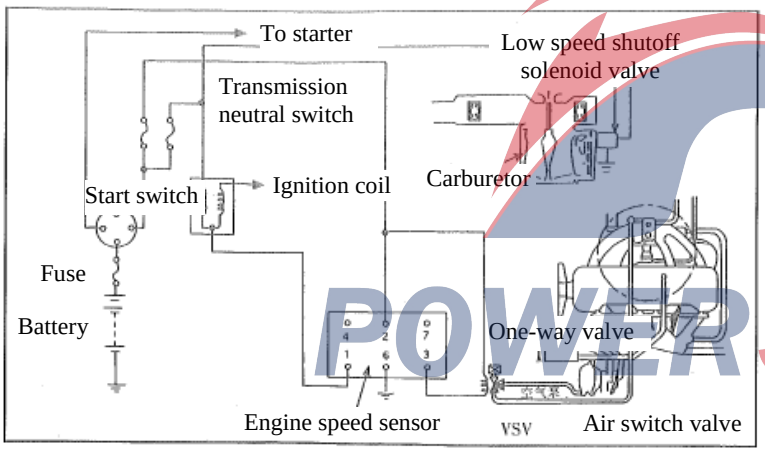
Caution

1. Do not remove ECM except for check.
2. ECM must not be subject to strong impact during use.
3. Do not insert ECM plug reversely or bend its pins.

Fuel cutoff system

During deceleration process, the system is used to cut off the low-speed oil supply circuit part to the carburetor. This will prevent the exhaust system from overheating and shooting.

Low speed shutoff solenoid valve	Operation conditions
OFF	Cut off fuel
ON	Recover fuel supply (not cut-out)



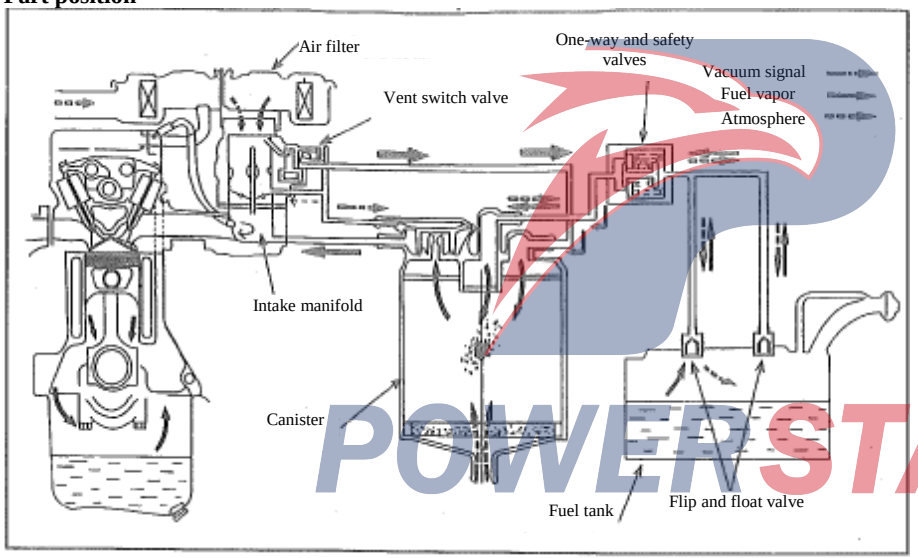
Engine speed sensor	AIR's VSV	Operation conditions
It will be activated above 3400rpm	OFF	No AIR (secondary air does not spray)
Restored from 3200rpm	ON	Normal AIR control

Engine speed sensor

The engine speed sensor can detect the engine speed by reading the ignition pulses of the ignition coil.

When the engine speed sensor is operated, VSV can be used to cut off the vacuum signal of the secondary air to prevent the converter from overheating.

Evaporative emission control (EEC) system
Part position



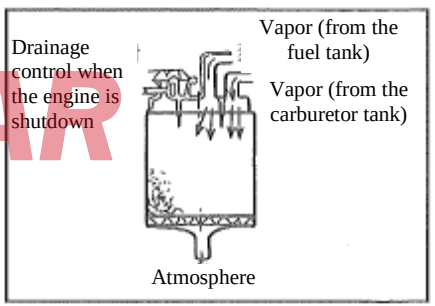
Canister

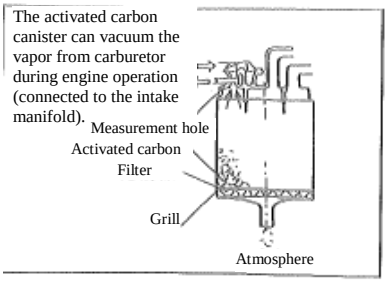
There is activated carbon in the carbon canister. The activated carbon can absorb the fuel vapor from the fuel tank.

The carbon canister is fitted with a desorption control valve. The valve is used to separate the fuel vapor in the activated carbon and delivery it into the intake manifold.

The ventilation control valve diaphragm is driven with the carburetor timing vacuum.

When the engine is not operated, the ventilation control valve should be closed with the diaphragm spring.





When the engine is running, the carburetor's timing vacuum acts on the diaphragm. If the vacuum exceeds the specified value, the diaphragm will open the drain valve. The fuel vapor in the activated carbon should be sent into the engine intake manifold.

The fuel vapor venting rate can be adjusted with the engine intake manifold vacuum degree and the venting control valve opening.

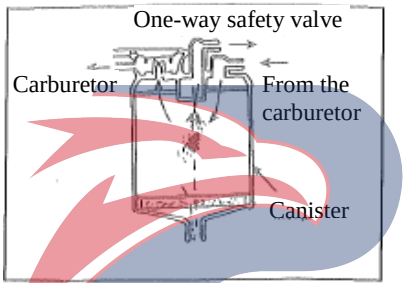
Inspection and repair

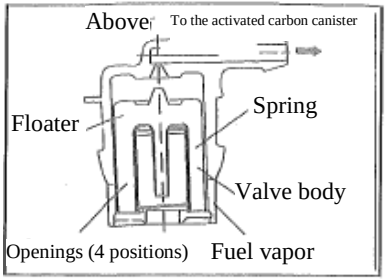
If there is an excessive wear or damage, must adjust, repair, or replace the relative part.

Drained control valve operation

Remove the canister and check the operation of the drain control valve as follows. If you find a fault, replace it.

1. When a positive pressure of 52kPa (7.51bs/in^2) is applied onto the channel port labeled with “V.C.”, the diaphragm should be no air leakage.





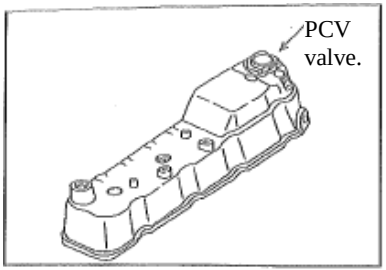
2. A negative pressure of 51 KPa (14.96 inHg) is applied onto the channel port labeled with “PURGE” and maintained. The negative pressure is gradually increased to the channel port labeled oil “v. C.”. If the bleed control valve starts to open when the pressure is between 24-29 kPa (7.1-8.7 inHg), the bleed control valve is working properly.

Fuel vapor pipe, fuel and filler cap

1. Visually check for loosened connections and bent or damaged corners.
2. Check for deformation, cracks, or oil leakage.

Flip and float valve

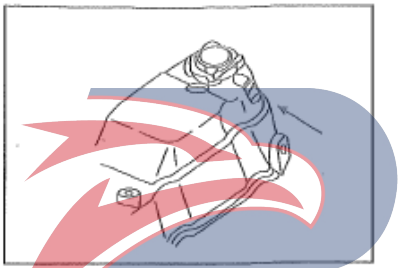
Check the flip valve or the float valve for oil leakage, distortion, dents, and the measurement hole for blockage; replace it if necessary.



Positive crankcase ventilation (PCV) system D

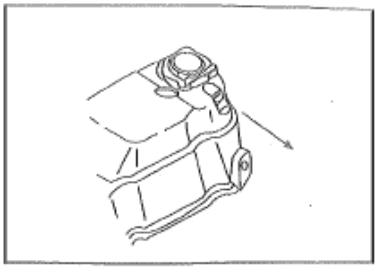
Inspection and repair

Excessive wear or damage found during the inspection. Necessary adjustments, repairs or replacement of parts should be made.



PCV valve

1. Blow the air on the cylinder head side via PCV valve. The air must pass through PCV valve freely. If not, the PCV valve must be replaced.
2. Blow the air on the intake manifold side via PCV valve. PCV valve must prevent air flow. If not, the PCV valve must be replaced.



PCV hose and connector

Inspect hoses and fittings for cracks, leaks, or other damage.

Main data and specifications

Vehicle model		QL1020NGDRC	QL1020NGDRA	G1L1030NGDRB	QL1020NGDRD	QL1020NGDSC
Drive type		4×2				4×4
Number of passengers		5 persons (including driver)				
General dimensions (mm)						
Total length		4740±50	4710±50		4975±50	
Total width		1690±15				
Total height		1640±15				1680±15
Internal dimensions of container		1486×1470×447	1456×1470×447		1486×1470×447	
Wheelbase		3025±30				
Wheel base	Front wheel	1460±15				1425±15
	Rear wheel	1435±15				
Minimum ground clearance			≥190 (for 215/75R15 tires)/≥205 (for 235/75R15 tires)			
Quality	(kg)					
Kerb mass		1485±40	1465±40	1485±40	1440±40	1565±40
Gross vehicle mass		2410±70	2290±70	2610±70	2215±70	2490±70
Loading mass		600+5 persons (950)	500+5 persons (850)	800+5 persons (1150)	450±5 persons(800	600±5 persons(950)

Main data and specifications

Vehicle model		QL1020NGDRC	QL1020NGDRA	G1L1030NGDRB	QL1020NGDRD
Engine					
Model and Type		4ZE3-MPI, 4-stroke, single-overhead-camshaft, multi-point EFI gasoline engine			
Rated power	(kw/rev/min)	89/4600			
Maximum torque	(N·m/r/min)	203/2600			
Compression ratio		9.2			
Displacement	(ml)	2559			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	8-12			
Idle	(r/min)	800			
Engine oil capacity	(liter)	5.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Gasoline (93 or more)			
Tightening torque of oil sump screw plug	(N·m)	83.3			

Main data and specifications

Vehicle model		QL1020NGDRC	QL1020NGDRA	G1L1030NGDRB	QL1020NGDRD
Clutch					
Type		Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play	(mm)	5.0-15.0			
Transmission					
Model and Type		MUA-5C 5-speed full-synchronous transmission			
		-		High and low speed manual switching	
Lubricant capacity	(liter)	2.95		4.4 (Including transfer case)	
Front axle					
Type		-		Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ	
Oil capacity	(liter)	-		1.4	
Drain plug tightening torque	(N·m)	-		68.6	
Tightening torque of drain plug	(N·m)	-		25.48	

Main data and specifications

Vehicle model		QL1020NGDRC	QL1020NGDRA	G1L1030NGDRB	QL1020NGDRD
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Steering system					
Type		Circulation ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

Vehicle model		QL1020NGDRC	QL1020NGDRA	G1L1030NGDRB	QL1020NGDRD
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber			
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber			
Electrical devices					
Type		12V system with negative terminal grounded			
Battery	(V/Ah)	12/60			
Starter	(V/kW)	12/1.2			
AC generator	(V/Ah)	12/60			
Wheel					

Tire size		Tire pressure (MPa)		Aluminum alloy ring	
Front wheel	Rear wheel	Front wheel	Rear wheel	4×2	4×4
P215/75R15	P215/75R15	0.2	0.2	6.5JJ×15	6.5JJ×15
V LT215/75R15	V LT215/75R15	0.25	0.25	V 6.5J×15	V 6.5J×15
V LT235/75R15	V LT235/75R15	0.25	0.25	V 6.5JJ×15 V 7J×15-12	V 6JJ×15 V 7J×15-12

Main data and specifications

Vehicle model	QL1030NGDSB	QL1020NGDSD	QL1020XGDRD	QL1020XGDSD	QL1020XGDRC
Drive type	4×4		4×2	4×4	4×2
Number of passengers	5 persons (including driver)				
General size (mm)					
Total length	4975±50	4975±50	4975±50	4975±50	4975±50
Total width	1690±15				
General layout	1680±15		1640±15	1680±15	1640±15
Internal dimensions of container	1486×1470×447				
Wheelbase	3025±30				
Tread front wheel	1425±15		1460±15	1425±15	1460±15
Rear wheel	1435±15				
Minimum ground clearance	≥190 (fitted with 215/75 R15 tires): ≥205 (fitted with 235/75R15 tires)				
Quality (kg)					
Kerb mass	1565±40	1520±40	1570±40	1700±40	1570±40
Gross vehicle mass	2690±70	2295±70	2345±70	2475±70	2495±70
Loading mass	800+5 persons (1150)	450±5 persons (800)	450±5 (person)	450±5 (person)	600±5 (person)

Main data and specifications

Vehicle model		QL1030NGDSB	QL1020NGDSD	QL1020XGDRD	QL1020XGDSD	QL1020XGDRC
Engine						
Model and Type		4ZE3-MPI, 4-stroke, single-overhead-camshaft, multi-point EFI gasoline engine		4KH1-TC1 4-stroke overhead-valve water-cooled turbocharged diesel engine		
Rated power	(kw/rev/min)	89/4600		89/3400		
Maximum torque	(N·m/r/min)	203/2600		260/1700		
Compression ratio		9.2		18.3±0.5		
Displacement	(ml)	2559		2999		
Firing order		1-3-4-2		1-3-4-2		
Fan belt tension/force	(mm)	8-12		8-12		
Idle	(r/min)	800		700±25		
Engine oil capacity	(liter)	5.5		6.5		
Coolant capacity	(liter)	10		10		
Fuel tank capacity	(liter)	53		53		
Fuel type		Gasoline (93 or more)		Diesel		
Tightening torque of oil sump screw plug	(N·m)	83.3		44.1		

Main data and specifications

Vehicle model	QL1030NGDSB	QL1020NGDSD	QL1020XGDRD	QL1020XGDSD	QL1020XGDRC
Clutch					
Type	Hydraulically actuator with dry one-piece diaphragm spring				
Pedal free play (mm)	5.0-15.0				
Transmission					
Model and Type	MUA-5C 5-speed full-synchronous transmission		MUA-5G 5-speed full-synchronous transmission		
	High and low speed manual switching		-	High and low speed manual switching	-
Lubricant capacity (liter)	4.4 (Including transfer case)		2.95	4.4 (Including transfer case)	2.95
Front axle					
Type	Forged iron housing and axle sleeve, full-float with CVJ and DOJ		-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ	-
Oil capacity (liter)	1.4		-	1.4	-
Filler plug tightening torque (N·m)	68.6		-	68.6	-
Tightening torque of drain plug (N·m)	25.48		-	25.48	-

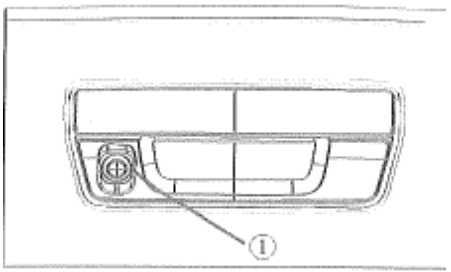
Main data and specifications

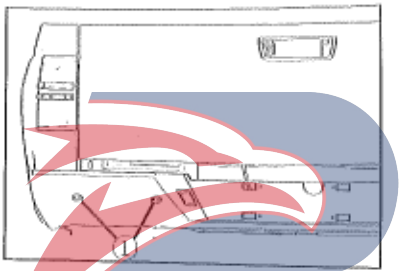
Vehicle model		QL1030NGDSB	QL1020NGDSD	QL1020XGDRD	QL1020XGDSD	QL1020XGDRC
Rear axle						
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type				
Oil capacity	(liter)	1.8				
Filler plug and drain plug Tightening torque	(N·m)	78.4				
Number of rear leaf springs	(Piece)	6				
Steering system						
Type		Circulation ball-type power steering				
Steering wheel free stroke	(mm)	10-30				
Oil capacity	(liter)	1				
Service brake						
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism				
Pedal free play	(mm)	6-10				
Parking brake						
Type		Mechanical inner expansion, acting on the rear wheel				
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)				

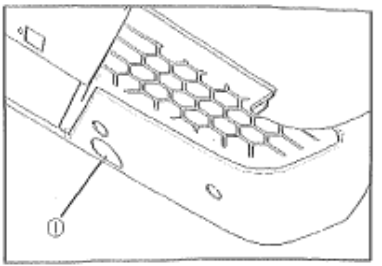
Main data and specifications

Vehicle model		QL1030NGDSB	QL1020NQDSD	QL1020XGDRD	QL1020XGDSD	QL1020XGDRC
Suspensions						
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber				
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber				
Electrical devices						
Type		12V system with negative terminal grounded				
Battery	(V/Ah)	12/80				
Starter	(V/kW)	12/2.8				
AC generator	(V/Ah)	12/60				
Wheel						

Tire size		Drive type		Tire pressure (MPa)		Aluminum alloy ring	
Front wheel	Rear wheel	4×2	4×4	Front wheel	Rear wheel	4×2	4×4
LT235/75R15	LT235/75R15	V		0.25	0.25	6.5JJ×15	6.5JJ×15
LT215/75R15	LT215/75R15	V	V	0.25	0.25	V 6.5JJ×15	V 6.5JJ×15
P215/75R15	P215/75R15		V	0.2	0.2	V 6.5J×15 V 7J×15-12	V 6.5J×15 V 7J×15-12







Reversing radar

① Radar probe

When reversing, the reversing radar can use the ultrasonic wave from the radar probe to calculate the distance to the obstacle and remind the driver.

Main data and specifications

Vehicle model		QL1020XGDRB	QL1030XGDSC	QL1030XGDSB	QL6490XGCR	QL6490XGCS	QL6490XGLR	QL6490XGLS
Engine								
Model and Type		4KH1-TG1 4-stroke overhead-valve water-cooled turbocharged diesel engine						
Rated power	(kw/rev/min)	89/3400						
Maximum torque	(N·m/r/min)	260/1700						
Compression ratio		18.3±0.51						
Displacement	(ml)	2999						
Firing order		1-3-4-2						
Fan belt tension/force	(mm)	8-12						
Idle	(r/min)	700±25						
Engine oil capacity	(liter)	6.5						
Coolant capacity	(liter)	10						
Fuel tank capacity	(liter)	53						
Fuel type		Diesel						
Tightening torque of oil sump screw plug	(N·m)	44.1						

Main data and specifications

Vehicle model	QL1020XGDRB	QL1030XGDSC	QL1030XGDSB	QL6490XGCR	QL6490XGCS	QL6490XGLR	QL6490XGLS
Clutch							
Type	Hydraulically actuator with dry one-piece diaphragm spring						
Pedal free play(mm)	5.0-15.0						
Transmission							
Model and Type	MUA-5G 5-speed full-synchronous transmission						
	-	High and low speed manual switching		-	High and low speed manual switching	-	High and low speed manual switching
Lubricant capacity (liter)	2.95	4.4 (Including transfer case)		2.95	4.4 (Including transfer case)	2.95	4.4 (Including transfer case)
Front axle							
Type	-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ		-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ	-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ
Oil capacity (liter)	-	1.4		-	1.4	-	1.4
Filler plug tightening torque (N·m)	-	68.6			68.6	-	68.6
Tightening torque of drain plug (N·m)	-	25.48		-	25.48	-	25.48

Main data and specifications

Vehicle model		QL1020XGDRB	QL1030XGDSC	QL1030XGDSB	QL6490XGCR	QL6490XGCS	QL6490XGLR	QL6490XGLS
Handle								
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type						
Oil capacity	(liter)	1.8						
Filler plug and drain plug tightening torque	(N·m)	78.4						
Number of rear leaf springs	(Piece)	6						
Steering system								
Type		Circulation ball-type power steering						
Steering wheel free stroke	(mm)	10-30						
Oil capacity	(liter)	1						
Service brake								
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism						
Pedal free play	(mm)	6-10						
Parking brake								
Type		Mechanical inner expansion, acting on the rear wheel						
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)						

Main data and specifications

Vehicle model		QL1032AADW	QL1032CADW	QL10322DWR	QL10322DWS	QL1022UGDRC	QL1032UGDSC
Rear axle							
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type					
Oil capacity	(liter)	1.8					
Filler plug and drain plug tightening torque	(N·m)	78.4					
Number of rear leaf springs	(Piece)	6					
Steering system							
Type		Circulation ball-type power steering					
Steering wheel free stroke	(mm)	10-30					
Oil capacity	(liter)	1					
Service brake							
Type		Front plate is hydraulic disc type, and rear wheel is automatic adjustment drum brake, with vacuum servo mechanism					
Pedal free play	(mm)	6-10					
Parking brake							
Type		Mechanical inner expansion, acting on the rear wheel					
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)					

Main data and specifications

Vehicle model	QL10207GDRD	QL10207GDRC	QL10207GDRA	QL10307GDRB
Drive type	4×2			
Number of passengers	5 persons (including driver)			
General dimensions (mm)				
Total length	4975±50		4945±50	4975±50
Total width	1690±15			
Total height	1640±15			
Internal dimensions of container	1486×1470×447		1456×1470×447	1486×1470×447
Wheelbase	3025±30			
Wheel base Front wheel	1460±15			
Rear wheel	1435±15			
Minimum ground clearance	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Quality (kg)				
Kerb mass	1530±40		1530±40	
Gross vehicle mass	2305±70	2455±70	2355±70	2655±70
Loading mass	450	600	500	800

Main data and specifications

Vehicle model		QL10207GDRD	QL10207GDRC	QL10207GDRA	QL10307GDRB
Engine					
Model and Type		4JBI-TCT 4-stroke overhead-valve water-cooled turbocharged diesel engine			
Rated power	(kw/rev/min)	70/3600			
Maximum torque	(N·m/r/min)	206/1700			
Compression ratio		18.2			
Displacement	(ml)	2771			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	8-12			
Idle	(r/min)	770±25			
Engine oil capacity	(liter)	6.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Diesel			
Tightening torque of oil sump screw plug	(N·m)	44.1			

Main data and specifications

Vehicle model		QL10207GDRD	QL10207GDRC	QL10207GDRA	QL10307GDRB
Clutch					
Type		Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play	(mm)	5.0-15.0			
Transmission					
Model and Type		MUA-5S5 gear, full-synchronous transmission			
Ignition distributor		-			
Lubricant capacity	(liter)	2.95			
Front axle					
Type		-			
Oil capacity	(liter)	-			
Filler plug tightening torque	(N·m)	-			
Tightening torque of drain plug	(N·m)	-			

Main data and specifications

Vehicle model		QL10207GDRD	QLI0207GDRC	QL10207GDRA	QL10307GDRB
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Number of rear leaf springs	(Piece)	6			
Steering system					
Type		Circulation ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

Vehicle model		QL10207GDRD	QLI0207GDRC	QL10207GDRA	QLI0307GDRB
Suspensions					
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber			
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber			
Electrical devices					
Type		12V system with negative terminal grounded			
Battery	(V/Ah)	12/80			
Starter	(V/kW)	12/2.8			
AC generator	(V/Ah)	12/50			
Wheel					

Tire size		Drive type		Tire pressure (MPa)		Aluminum alloy ring	
Front wheel	Rear wheel	4×2	4×4	Front wheel	Rear wheel	4×2	4×4
LT235/75R15	LT235/75R15	V		0.25	0.25	6.5J×15	6.5J×15
LT215/75R15	LT215/75R15	V	V	0.25	0.25	V 6.5JJ×15	V 6.5JJ×15
P215/75R15	P215/75R15		V	0.2	0.2	V 6JJ×15	V 6JJ×15
						V 7J×15-12	V 7J×15-12

Main data and specifications

Vehicle model		QL10307GDSC	QL10307GDSB	QL65007GLR	QL65007GLS
Drive type		4×4		4×2	4×4
Number of passengers		5 persons (including driver)			
General size	(mm)				
Total length		4975±50		4975/5015±50	
Total width		1690±15			
Total height		4×2 drive: 1640±15	4×4 drive: 1680±15	1795	1840
Internal dimensions of container		1486×1470×447		-	
Wheelbase		3025±30			
Wheel base	Front wheel	4×2 drive: 1460±15	4×4 drive: 1425±15		
	Rear wheel	1435±15			
Minimum ground clearance		≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Quality	(kg)				
Kerb mass		1690±50		1665±50	1770±50
Gross vehicle mass		2615±70	2815±70	2540±70	2600±70
Loading mass		600	800	-	

Main data and specifications

Vehicle model		QL10307GDSC	QL10307GDSB	QL65007GLR	QL65007GLS
Engine					
Model and Type		4JB1-TGT, 4-stroke, overhead-valve, water-cooled turbocharged diesel engine			
Rated power	(kw/rev/min)	70/3600			
Maximum torque	(N·m/r/min)	206/1700			
Compression ratio		18.2			
Displacement	(ml)	2771			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	8-12			
Idle	(r/min)	770±25			
Engine oil capacity	(liter)	6.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Diesel			
Tightening torque of oil sump screw plug	(N·m)	44.1			

Main data and specifications

Vehicle model	QL10307GDSC	QL10307GDSB	QL65007GLR	QL65007GLS
Clutch				
Type	Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play (mm)	5.0-15.0			
Transmission				
Model and Type	MUA-5S 5-speed full-synchronous transmission			
Ignition distributor	High and low speed manual switching		-	High and low speed manual switching
Lubricant capacity (liter)	4.4 (Including transfer case)		2.95	4.4 (Including transfer case)
Front axle				
Type	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ		-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ
Oil capacity (liter)	1.4		-	1.4
Filler plug tightening torque (N·m)	68.6		-	68.6
Tightening torque of drain plug (N·m)	25.48		-	25.48

Main data and specifications

Vehicle model		QL10307GDSC	QL10307GDSB	QL65007GLR	QL65007GLS
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Number of rear leaf springs	(Piece)	6			
Steering system					
Type		Circulation, ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

Vehicle model		QL10307GDSC	QLI0307GDSB	QL65007GLR	QL65007GLS
Suspensions					
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber			
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber			
Electrical devices					
Type		12V system with negative terminal grounded			
Battery	(V/Ah)	12/80			
Starter	(V/kW)	12/2.8			
AC generator	(V/Ah)	12/50			
Wheel					

Tire size		Drive type		Tire pressure (MPa)		Aluminum alloy ring	
Front wheel	Rear wheel	4×2	4×4	Front wheel	Rear wheel	4×2	4×4
LT235/75R15	LT235/75R15	√		0.25	0.25	6.5J×15	6.5J×15
LT215/75R15	LT215/75R15	√	√	0.25	0.25	√ 6.5JJ×15	√ 6.5JJ×15
P215/75R15	P215/75R15		√	0.2	0.2	√ 6JJ×15	√ 6JJ×15
						√ 7J×15-12	√ 7J×15-12

Main data and specifications

Vehicle model		QL1020UGDRC	QL1030UGDRB	QL1020UGDSC	QL1030UGDSB
Drive type		4×2		4×4	
Number of passengers		5 persons (including driver)			
General size	(mm)				
Total length		4975/5029±50	4975±50	4975/5029±50	4975±50
Total width		1690±15			
General layout		1640±15		1680±15	
Internal dimensions of container		1486×1470×447			
Wheelbase		3025±30			
Wheel base	Front wheel	1460±15		1425±15	
	Rear wheel	1435±15			
Minimum ground clearance		≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Quality	(kg)				
Kerb mass		1485±40		1565±40	
Gross vehicle mass		2410±70	2610±70	2490±70	2690±70
Loading mass		600	800	600	800

Main data and specifications

Vehicle model		QL1020UGDRC	QL1030UGDRB	QL1020UGDSC	QL1030UGDSB
Engine					
Model and Type		4ZE4-MPI, 4-stroke, single-overhead-camshaft, water-cooled, multi-point EFI gasoline engine			
Rated power	(kw/rev/min)	89/4600			
Maximum torque	(N·m/r/min)	203/2600			
Compression ratio		9.2			
Displacement	(ml)	2559			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	8-12			
Idle	(r/min)	800			
Engine oil capacity	(liter)	5.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Gasoline(93# or more)			
Tightening torque of oil sump screw plug	(N·m)	83.3			

Main data and specifications

Vehicle model		QL1020UGDRC	QL1030UGDRB	QL1020UGDSC	QL1030UGDSB
Clutch					
Type		Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play	(mm)	5.0-15.0			
Transmission					
Model and Type		MUA-5C 5-speed fully synchronized meshing transmission			
Ignition distributor		-		High and low speed manual switching	
Lubricant capacity	(liter)	2.95		4.4 (Including transfer case)	
Front axle					
Type		-		Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ	
Oil capacity	(liter)	-		1.4	
Filler plug tightening torque	(N·m)	-		68.6	
Tightening torque of drain plug	(N·m)	—		25.48	

Main data and specifications

Vehicle model		QL1020UGDRC	QL1030UGDRB	QL1020UGDSC	QL1030UGDSB
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Number of rear leaf springs	(Piece)	6			
Steering system					
Type		Circulation ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

<table>
<tr><td colspan="2">Vehicle model</td><td>QL1020UGDRC</td><td>QL1030UGDRB</td><td>QL1020UGDSC</td><td>QL1030UGDSB</td></tr>
<tr><td colspan="2">Suspensions</td><td colspan="4"></td></tr>
<tr><td>Type</td><td>Front</td><td colspan="4">Double-arm independent suspension, torsion bar spring, hydraulic two-way shock absorber</td></tr>
<tr><td></td><td>Rear</td><td colspan="4">Semi-ellipse alloy leaf spring, hydraulic bidirectional shock absorber</td></tr>
<tr><td colspan="2">Electrical devices</td><td colspan="4"></td></tr>
<tr><td>Type</td><td></td><td colspan="4">12V system with negative terminal grounded</td></tr>
<tr><td>Battery</td><td>(V/Ah)</td><td colspan="4">12/60</td></tr>
<tr><td>Starter</td><td>(V/kW)</td><td colspan="4">12/1.2</td></tr>
<tr><td>AC generator</td><td>(V/Ah)</td><td colspan="4">12/60</td></tr>
<tr><td>Wheel</td><td colspan="5"></td></tr>
</table>

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	6.5J×15-12 V 6.5JJ×15-12 V 6.5JJ×15-12 V 7JJ×15-12
	V LT215/75R15	V LT215/75R15	0.25	0.25	
	V LT235/75R15	V LT235/75R15	0.25	0.25	
4×4	LT235/75R15	LT235/75R15	0.25	0.25	
	V P215/75R15	V P215/75R15	0.2	0.2	
	V LT215/75R15	V LT215/75R15	0.25	0.25	

Main data and specifications

Vehicle model		QL10202DWR1	QL10202DWR	QL10202DWR2	QL10302DWR3
Drive type		4×2			
Number of passengers		5 persons (including driver)			
General dimensions	(mm)				
Total length		4975±50	4975/5029±50	4975±50	4975±50
Total width		1690±15			
General layout		1640±15			
Internal dimensions of container		1486×1470×447		1456×1470×447	1486×1470×447
Wheelbase		3025±30			
Wheel base	Front wheel	1460±15			
	Rear wheel	1435±15			
Minimum ground clearance		≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Quality	(kg)				
Kerb mass		1530±40			
Gross vehicle mass		2305±70	2455±70	2355±70	2655±70
Loading mass		450	600	500	800

Main data and specifications

Vehicle model		QL10202DWR1	QL10202DWR	QL10202DWR2	QL10302DWR3
Engine					
Model and Type		4JB1CT, 4-stroke, overhead-valve, water-cooled, intercooled and turbocharged high-pressure common-rail diesel engine			
Rated power	(kw/rev/min)	72/3600			
Maximum torque	(N·m/r/min)	220/1800			
Compression ratio		17.5: 1			
Displacement	(ml)	2771			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	8-12			
Idle	(r/min)	770±25			
Engine oil capacity	(liter)	6.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Diesel			
Tightening torque of oil sump screw plug	(N·m)	44.1			

Main data and specifications

Vehicle model		QL10202DWR1	QL10202DWR	QL10202DWR2	QL10302DWR3
Clutch					
Type		Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play	(mm)	5.0-15.0			
Transmission					
Model and Type		MUA-5S5 gear, full-synchronous transmission			
Ignition distributor		-			
Lubricant capacity	(liter)	2.95			
Front axle					
Type		-			
Oil capacity	(liter)	-			
Filler plug tightening torque	(N·m)	-			
Tightening torque of drain plug	(N·m)	-			

Main data and specifications

Vehicle model		QL10202DWR1	QL10202DWR	QL10202DWR2	QL10302DWR3
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Number of rear leaf springs	(Piece)	6			
Steering system					
Type		Circulation ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

Vehicle model		QL1020DWR1	QL1020DWR	QL10202DWR2	QL10302DWR3
Suspensions					
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber			
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber			
Electrical devices					
Type		12V system with negative terminal grounded			
Battery	(V/Ah)	12/80			
Starter	(V/kW)	12/2.8			
AC generator	(V/Ah)	12/60			
Wheel					

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	15×6.5JJ-12
	V LT215/75R15	V LT215/75R15	0.25	0.25	V 6JJ×15-12
	V LT235/75R15	V LT235/75R15	0.25	0.25	V 7JJ×15-12
4×4	LT235/75R15	LT235/75R15	0.25	0.25	15×6.5JJ-12
	V P215/75R15	V P215/75R15	0.2	0.2	V 6JJ×15-12
	V LT215/75R15	V LT215/75R15	0.25	0.25	V 7JJ×15-12

Main data and specifications

Vehicle model		QL10302DWS	QL10302DWS3	QL65002R	QL65002S
Drive type		4×4		4×2	4×4
Number of passengers		5 persons (including driver)			
General size	(mm)				
Total length		4975/5029±50	4975±50	5015±50	
Total width		1690±15			
Total height		1680±15		1795±15	1840±15
Internal dimensions of container		1486×1470×447		-	
Wheelbase		3025±30			
Wheel base	Front wheel	1425±15		1460±15	1425±15
	Rear wheel	1435±15			
Minimum ground clearance		≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Mass	(kg)				
Kerb mass		1690±50		1665±50	1775±50
Gross vehicle mass		2615±70	2815±70	2540±70	2605±70
Loading mass		600	800	-	

Main data and specifications

Vehicle model		QL10302DWS	QL10302DWS3	QL65002R	QL65002S
Engine					
Model and Type		4JB1CT, 4-stroke, overhead-valve, water-cooled, intercooled and turbocharged high-pressure common-rail diesel engine			
Rated power	(kw/rev/min)	72/3600			
Maximum torque	(N·m/r/min)	220/1800			
Compression ratio		17.5: 1			
Displacement	(ml)	2771			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	8-12			
Idle	(r/min)	770±25			
Engine oil capacity	(liter)	6.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Diesel			
Tightening torque of oil sump screw plug	(N·m)	44.1			

Main data and specifications

Vehicle model	QL10302DWS	QL10302DWS3	QL65002R	QL65002S
Clutch				
Type	Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play (mm)	5.0-15.0			
Transmission				
Model and Type	MUA-5S5 gear, full-synchronous transmission			
Ignition distributor	High and low speed manual switching		-	High and low speed manual switching
Lubricant capacity (liter)	4.4 (Including transfer case)		2.95	4.4 (Including transfer case)
Front axle				
Type	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ		-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ
Oil capacity (liter)	1.4		-	1.4
Filler plug tightening torque (N·m)	68.6		-	68.6
Tightening torque of drain plug (N·m)	25.48		-	25.48

Main data and specifications

Vehicle model		QL10302DWS	QL10302DWS3	QL65002R	QL65002S
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Number of rear leaf springs	(Piece)	6			
Steering system					
Type		Circulation ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

Vehicle model		QL10302DWS	QL1302DWS3	QL65002R	QL65002S
Suspensions					
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber			
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber			
Electrical devices					
Type		12V system with negative terminal grounded			
Battery	(V/Ah)	12/80			
Starter	(V/kW)	12/2.8			
AC generator	(V/Ah)	12/60			

Wheel

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	15×6.5JJ-12
	V LT215/75R15	V LT215/75R15	0.25	0.25	V 6JJ×15-12
	V LT235/75R15	V LT235/75R15	0.25	0.25	V 7JJ×15-12
4×4	LT235/75R15	LT235/75R15	0.25	0.25	15×6.5JJ-12
	V P215/75R15	V P215/75R15	0.2	0.2	V 6JJ×15-12
	V LT215/75R15	V LT215/75R15	0.25	0.25	V 7JJ×15-12

Main data and specifications

Vehicle model	QL1020AADW1	QL1030AADW	QL1030AADW3	QL1030CADW1	QL1030CADW	QL1030CADW3	QL1031AADW	QL1031CADW
Drive type	4×2	4×2	4×2	4×4	4×4	4×4	4×2	4×4
Number of passengers	5 persons (including driver)							
General size (mm)								
Total length	4975±49						5029±50	
Total width	1690±15							
General layout	4×2 drive: 1640±15			4×4 drive: 1680±15				
Internal dimensions of container	1486×1470×447							
Wheelbase	3025±30							
Wheel base Front wheel	4×2 drive: 1460±14			4×4 drive: 1425±14				
Rear wheel	1435±14							
Minimum ground clearance	≥190 (fitted with 215/75 75R15 tires); ≥205 (fitted with 235/75R15 tires)							
Mass (kg)								
Kerb mass	1580±40			1730±40			1580±40	1730±40
Gross vehicle mass	2355	2505	2705	2505	2655	2855	2505	2655
Loading mass	450	600	800	450	600	800	600	

Main data and specifications

Vehicle model		QL1020AADW1	QL1030AADW	QL1030AADW3	QL1030CADW1	QL1030CADW	QL1030CADW3	QL1031AADW	QL1031CADW
Engine									
Model and Type		4KH1CT, in-line, four-cylinder, four-stroke, water-cooled, medium-cooler turbocharged, high-pressure common-rail engine							
Rated power	(kw/rev/min)	88/3400							
Maximum torque	(N·m/r/min)	280/1800							
Compression ratio		17.5: 1							
Displacement	(ml)	2999							
Firing order		1-3-4-2							
Fan belt tension/force	(mm)	10±2							
Idle	(r/min)	770±25							
Engine oil capacity	(liter)	6.5							
Coolant capacity	(liter)	7							
Fuel tank capacity	(liter)	53							
Fuel type		Diesel							
Tightening torque of oil sump screw plug	(N·m)	44.1							

Main data and specifications

Vehicle model	QL1020AADW1	QL1030AADW	QL1030AADW3	QL1030CADW1	QL1030CADW	QL1030CADW3	QL1031AADW	QL1031CADW
Clutch								
Type	Hydraulically actuator with dry one-piece diaphragm spring							
Pedal free play (mm)	5.0-15.0							
Transmission								
Model and Type	MUA-5G 5-speed full-synchronous transmission							
Ignition distributor	-			High and low speed manual switching			-	High and low speed manual switching
Lubricant capacity (liter)	2.95	2.95	2.95	4.4 (Including transfer case)			2.95	4.4 (Including transfer case)
Front axle								
Type	-			Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ			-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ
Oil capacity (liter)	-			1.4			-	1.4
Filler plug tightening torque (N·m)	-			68.6			-	68.6
Tightening torque of drain plug (N·m)	-			25.48			-	25.48

Main data and specifications

Vehicle model		QL1020AADW1	QL1030AADW	QL1030AADW3	QL1030CADW1	QL1030CADW	QL1030CADW3	QL1031AADW	QL1031CADW
Rear axle									
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type							
Oil capacity	(liter)	1.8							
Filler plug and drain plug tightening torque	(N·m)	78.4							
Number of rear leaf springs	(Piece)	6							
Steering system									
Type		Circulation ball-type power steering							
Steering wheel free stroke	(mm)	10-30							
Oil capacity	(liter)	1							
Service brake									
Type		Front plate is hydraulic disc type, and rear wheel is automatic adjustment drum brake, with vacuum servo mechanism							
Pedal free play	(mm)	6-10							
Parking brake									
Type		Mechanical inner expansion, acting on the rear wheel							
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)							

Main data and specifications

Vehicle model		QL1020AADW1	QL1030AADW	QL1030AADW3	QL1030CAW1	QL1030CAW3	QL1030CADW3	QL1031AADW	QL1031CADW
Suspensions									
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber							
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber							
Electrical devices									
Type		12V system with negative terminal grounded							
Battery	(V/Ah)	12/80							
Starter	(V/kW)	12/2.8							
AC generator	(V/Ah)	12/60							

Wheel

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	6.5J×15-12 √ 6JJ×15-12 √ 6.5JJ×15-12 √ 7JJ×15-12
	√ LT215/75R15	√ LT215/75R15	0.25	0.25	
	√ LT235/75R15	√ LT235/75R15	0.25	0.25	
4×4	LT235/75R15	LT235/75R15	0.25	0.25	6.5J×15-12 √ 6JJ×15-12 √ 6.5JJ×15-12 √ 7JJ×15-12
	√ P215/75R15	√ P215/75R15	0.2	0.2	
	√ LT215/75R15	√ LT215/75R15	0.25	0.25	

Main data and specifications

Vehicle model	QL1032AADW	QL1032CADW	QL10322DWR	QL10322DWS	QL1022UGDRC	QL1032UGDSC
Drive type	4×2	4×4	4×2	4×4	4×2	4×4
Number of passengers	5 persons (including driver)					
General size (mm)						
Total length	5418/5524±50					
Total width	1690±15					
General layout	4×2 drive: 1640±15			4×4 drive: 1675±15		
Internal dimensions of container	1840×1470×470					
Wheelbase	3379±30					
Wheel base Front wheel	4×2 drive: 1460±15			4×4 drive: 1425±15		
Rear wheel	1435±14					
Minimum ground clearance	≥190 (fitted with 215/75 75R15 tires); ≥205 (fitted with 235/75R15 tires)					
Mass (kg)						
Kerb mass	1630±40	1785±40	1630±40	1785±40	1505±40	1660±40
Gross vehicle mass	2555±70	2710±70	2555±70	2710±70	2430±70	2585±70
Loading mass	600					

Main data and specifications

Vehicle model	QLI032AADW	QL1032CADW	QL10322DWR	QL10322DWS	QL1022UGDRC	QL1032UGDSC
Engine						
Model and Type	4KmCT, in-line, four-stroke, water-cooled, turbocharged, high-pressure common-rail diesel engine		4JB1CT , 4-stroke, overhead-valve, water-cooled, intercooled and turbocharged high-pressure common-rail diesel engine		4ZE4-MPI, 4-stroke, single-overhead-camshaft, water-cooled, multi-point EFI gasoline engine	
Rated power (kw/rev/min)	88/3400		72/3600		89/4600	
Maximum torque (N·m/r/min)	280/1800		220/1800		203/2600	
Compression ratio	17.5: 1		17.5: 1		9.2: 1	
Displacement(ml)	2999		2771		2559	
Firing order	1-3-4-2					
Fan belt tension/force (mm)	10±2					
Idle (r/min)	770±25		770±25		800	
Engine oil capacity (liter)	6.5		6.5		5.5	
Coolant capacity (liter)	7		10		10	
Fuel tank capacity (liter)	53					
Fuel type	Diesel		Diesel		Gasoline(93# or more)	
Tightening torque of oil sump screw plug (N·m)	44.1				83.3	

Main data and specifications

Vehicle model	QL1032AADW	QL1032CADW	QL10322DWR	QL10322DWS	QL1022UGDRC	QL1032UGDSC
Clutch						
Type	Hydraulically actuator with dry one-piece diaphragm spring					
Pedal free play (mm)	5.0-15.0					
Transmission						
Model and Type	MUA-5G 5-speed full-synchronous transmission		MUA-5S 5-speed full-synchronous transmission		MUA-5C 5-speed fully synchronized meshing transmission	
Ignition distributor	-	High and low speed manual switching	-	High and low speed manual switching	-	High and low speed manual switching
Lubricant capacity (liter)	2.95	4.4 (Including transfer case)	2.95	44 (Including transfer case)	2.95	4.4 (Including transfer case)
Front axle						
Type	-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ	-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ	-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ
Oil capacity (liter)	-	1.4	-	1.4	-	1.4
Filler plug tightening torque (N·m)	-	68.6	-	68.6	-	68.6
Tightening torque of drain plug (N·m)	-	25.48	-	25.48	-	25.48

Main data and specifications

Vehicle model		QL1032AADW	QL1032CADW	QL10322DWR	QL10322DWS	QL1022UGDRC	QL1032UGDSC
Rear axle							
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type					
Oil capacity	(liter)	1.8					
Filler plug and drain plug tightening torque	(N·m)	78.4					
Number of rear leaf springs	(Piece)	6					
Steering system							
Type		Circulation ball-type power steering					
Steering wheel free stroke	(mm)	10 to 30					
Oil capacity	(liter)	1					
Service brake							
Type		Front plate is hydraulic disc type, and rear wheel is automatic adjustment drum brake, with vacuum servo mechanism					
Pedal free play	(mm)	6-10					
Parking brake							
Type		Mechanical inner expansion, acting on the rear wheel					
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)					

Main data and specifications

Vehicle model		QL1032AADW	QL1032CADW	QL10322DWR	QL10322DWR	QL1022UGDRC	QL1032UGDSC
Suspensions							
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber					
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber					
Electrical devices							
Type		12V system with negative terminal grounded					
Battery	(V/Ah)	12/80			12/60		
Starter	(V/kW)	12/2.8		12/2.8		12/1.2	
AC generator	(V/Ah)	12/60					
Wheel							

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	6.5J×15-12 √ 6JJ×15-12 √ 6.5JJ×15-12 √ 7JJ×15-12
	√ LT215/75R15	√ LT215/75R15	0.25	0.25	
	√ LT235/75R15	√ LT235/75R15	0.25	0.25	
4×4	LT235/75R15	LT235/75R15	0.25	0.25	6.5J×15-12 √ 6JJ×15-12 √ 6.5JJ×15-12 √ 7JJ×15-12
	√ P215/75R15	√ P215/75R15	0.2	0.2	
	√ LT215/75R15	√ LT215/75R15	0.25	0.25	

Main data and specifications

Vehicle model	QL1020ABGDC	QL1030ABGDB	QL1020ABGDE	QL1030CBGDC	UL 丨030GBGDB	QL1020CBGDE
Drive type	4×2			4×4		
Number of passengers	5 persons (including driver)					
General size (mm)						
Total length	4975/5029±50					
Total width	1690±15					
Total height		1640±15			1680±15	
Internal dimensions of container	1486×1470×447					
Wheelbase	3025±30					
Wheel base Front wheel	1460±15			1425±15		
Rear wheel	1435±15					
Minimum ground clearance	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)					
Mass (kg)						
Kerb mass	1440±40			1595±40		
Gross vehicle mass	2365±70	2565±70	2215±70	2520±70	2720±70	2370±70
Loading mass	600	800	450	600	800	450

Main data and specifications

Vehicle model		QL1020ABGDC	QL1030ABGDB	QL1020ABGDE	QL1030CBGDC	QL1030CBGDB	QL1020CBGDE
Engine							
Model and Type		4ZE5-MPI, 4-stroke, single-overhead-camshaft water-cooled, multi-point EFI gasoline engine					
Rated power	(kw/rev/min)	89/4600					
Maximum torque	(N·m/r/min)	203/2600					
Compression ratio		9.2: 1					
Displacement	(ml)	2559					
Firing order		1-3-4-2					
Fan belt tension/force	(mm)	10±2					
Idle	(r/min)	800±25					
Engine oil capacity	(liter)	5.5					
Coolant capacity	(liter)	10					
Fuel tank capacity	(liter)	53					
Fuel type		Gasoline(93# or more)					
Tightening torque of oil sump screw plug	(N·m)	83.3					

Main data and specifications

Vehicle model		QL1020ABGDC	QL1030ABGDB	QL1020ABGD	QL1030CBGDC	QL1030CBGDB	QL1020CBGDE
Clutch							
Type		Hydraulically actuator with dry one-piece diaphragm spring					
Pedal free play	(mm)	5.0-15.0					
Transmission							
Model and Type		MUA-5C 5-speed fully synchronized meshing transmission					
Ignition distributor		-		High and low speed manual switching			
Lubricant capacity	(liter)	2.95		4.4 (Including transfer case)			
Front axle							
Type		-		Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ			
Oil capacity	(liter)	-		1.4			
Filler plug tightening torque	(N·m)	-		68.6			
Tightening torque of drain plug	(N·m)	-		25.48			

Main data and specifications

Vehicle model		QL1020ABGDC	QL1030ABGDB	QL1020ABGDE	QL1030CBGDC	QL1030CBGDB	QL1020CBGDE
Clutch							
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type					
Oil capacity	(liter)	1.8					
Filler plug and drain plug tightening torque	(N·m)	78.4					
Number of rear leaf springs	(Piece)	6					
Steering system							
Type		Circulation ball-type power steering					
Steering wheel free stroke	(mm)	10-30					
Oil capacity	(liter)	1					
Service brake							
Type		Front plate is hydraulic disc type, and rear wheel is automatic adjustment drum brake, with vacuum servo mechanism					
Pedal free play	(mm)	6-10					
Parking brake							
Type		Mechanical inner expansion, acting on the rear wheel					
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)					

Main data and specifications

<table>
<tr><td colspan="2">Vehicle model</td><td colspan="6">QL1020ABGDC | QL1030ABGDB | QL1020ABGDE | QL1030CBGDC | QL1030CBGDB | QL1020CBGDE</td></tr>
<tr><td colspan="2">Suspensions</td><td colspan="6"></td></tr>
<tr><td>Type</td><td>Front</td><td colspan="6">Independent torsion bar spring with stabilizer bar and two-way shock absorber</td></tr>
<tr><td></td><td>Rear</td><td colspan="6">Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber</td></tr>
<tr><td colspan="2">Electrical devices</td><td colspan="6"></td></tr>
<tr><td>Type</td><td></td><td colspan="6">12V system with negative terminal grounded</td></tr>
<tr><td>Battery</td><td>(V/Ah)</td><td colspan="6">12/60</td></tr>
<tr><td>Starter</td><td>(V/kW)</td><td colspan="6">12/1.2</td></tr>
<tr><td>AC generator</td><td>(V/Ah)</td><td colspan="6">12/60</td></tr>
<tr><td>Wheel</td><td colspan="7"><table>
<tr><td rowspan="2">Drive type</td><td colspan="2">Tire size</td><td colspan="2">Tire pressure (MPa)</td><td rowspan="2">Aluminum alloy wheels</td></tr>
<tr><td>Front wheel</td><td>Rear wheel</td><td>Front wheel</td><td>Rear wheel</td></tr>
<tr><td rowspan="3">4×2</td><td>P215/75R15</td><td>P215/75R15</td><td>0.2</td><td>0.2</td><td rowspan="3">6.5J×15-12
V 6JJ×15-12 V 6.5JJ×15-12
V 7JJ×15-12</td></tr>
<tr><td>V LT215/75R15</td><td>V LT215/75R15</td><td>0.25</td><td>0.25</td></tr>
<tr><td>V LT235/75R15</td><td>V LT235/75R15</td><td>0.25</td><td>0.25</td></tr>
<tr><td rowspan="3">4×4</td><td>LT235/75R15</td><td>LT235/75R15</td><td>0.25</td><td>0.25</td><td rowspan="3">6.5J×15-12
V 6JJ×15-12 V 6.5JJ×15-12
V 7JJ×15-12</td></tr>
<tr><td>V P215/75R15</td><td>V P215/75R15</td><td>0.2</td><td>0.2</td></tr>
<tr><td>V LT215/75R15</td><td>V LT215/75R15</td><td>0.25</td><td>0.25</td></tr>
</table></td></tr>
</table>

Main data and specifications

Vehicle model		QL5020XXYBWWR	QL5020XXYBWWS
Drive type		4×2	4×4
Number of passengers		5 persons (including driver)	
General size	(mm)		
Total length		5069/5029±50	
Total width		1690±15	
General layout		1765±15	1820±15
Internal dimensions of container		1535×1495×1080	
Wheelbase		3025±30	
Wheel base	Front wheel	1460±10	1425±10
	Rear wheel	1435±10	
Minimum ground clearance		≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)	
Mass	(kg)		
Kerb mass		1540±45	1685±45
Gross vehicle mass		2315±65	2460±65
Loading mass		450	450

Main data and specifications

Vehicle model		QL5020XXYBWWR	QL5020XXYBWWS
Engine			
Model and Type		4ZE5-MPI 4-stroke single-overhead-camshaft water-cooled multi-point EFI gasoline engine	
Rated power	(kw/rev/min)	89/4600	
Maximum torque	(N·m/r/min)	203/2600	
Compression ratio		9.2: 1	
Displacement	(ml)	2559	
Firing order		1-3-4-2	
Fan belt tension/force	(mm)	10±2	
Idle	(r/min)	800±25	
Engine oil capacity	(liter)	5.5	
Coolant capacity	(liter)	10	
Fuel tank capacity	(liter)	53	
Fuel type		Gasoline(93# or more)	
Tightening torque of oil sump screw plug	(N·m)	83.3	

Main data and specifications

Vehicle model		QL5020XXYBWWR	QL5020XXYBWWS
Clutch			
Model		Hydraulically actuator with dry one-piece diaphragm spring	
Pedal free play	(ml)	5.0-15.0	
Transmission			
Modes and models		MUA-5C5-gear fully synchronized meshing transmission	
Ignition distributor		-	High and low speed manual switching
Lubricant capacity	(liter)	2.95	4.4 (Including transfer case)
Front axle			
Type		-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ
Oil capacity	(liter)	-	1.4
Filler plug tightening torque	(N·m)	-	68.6
Tightening torque of drain plug	(N·m)	-	25.48

Main data and specifications

Vehicle model		QL5020XXYWWR	QL5020XXYBWWS
Rear axle			
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type	
Oil capacity	(liter)	1.8	
Filler plug and drain plug tightening torque	(N·m)	78.4	
Number of rear leaf springs	(Piece)	6	
Steering system			
Type		Circulation ball-type power steering	
Steering wheel free stroke	(mm)	10-30	
Oil capacity	(liter)	1	
Service brake			
Type		Front plate is hydraulic disc type, and rear wheel is automatic adjustment drum brake, with vacuum servo mechanism	
Pedal free play	(mm)	6-10	
Parking brake			
Type		Mechanical inner expansion, acting on the rear wheel	
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)	

Main data and specifications

Vehicle model		QL5020XXYBWWR	QL5020XXYBWWS
Suspensions			
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber	
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber	
Electrical devices			
Type		12V system with negative terminal grounded	
Battery	(V/Ah)	12/60	
Starter	(V/kW)	12/1.2	
AC generator	(V/Ah)	12/60	
Wheel			

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	6.5J×15-12 V 6JJ×15-12 V 6.5JJ×15-12 V 7JJ×15-12
	V LT215/75R15	V LT215/75R15	0.25	0.25	
	V LT235/75R15	V LT235/75R15	0.25	0.25	
4×4	LT235/75R15	LT235/75R15	0.25	0.25	6.5J×15-12 V 6JJ×15-12 V 6.5JJ×15-12 V 7JJ×15-12
	V P215/75R15	V P215/75R15	0.2	0.2	
	V LT215/75R15	V LT215/75R15	0.25	0.25	

Main data and specifications

Vehicle model	QL1022BHWR	QL1022BHWR1	QL1032BHWS	QL1022BHWS1
Drive type	4×2		4×4	
Number of passengers	5 persons (including driver)			
General size (mm)				
Total length	5418/5524±50			
Total width	1690±15			
General layout	1620±15		1675±15	
Internal dimensions of container	1840×1470×470			
Wheelbase	3379±30			
Wheel base Front wheel	1460±10		1425±10	
Rear wheel	1435±10			
Minimum ground clearance	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Mass (kg)				
Kerb mass	1505±45		1660±45	
Gross vehicle mass	2430±65	2280±65	2585±65	2435±65
Loading mass	600	450	600	450

Main data and specifications

Vehicle model		QL1022BHWR	QL1022BHWR1	QL1032BHWS	QL1022BHWS1
Engine					
Model and Type		4ZE5-MPI, 4-stroke, single-overhead-camshaft water-cooled, multi-point EFI gasoline engine			
Rated power	(kw/rev/min)	89/4600			
Maximum torque	(N·m/r/min)	203/2600			
Compression ratio		9.2: 1			
Displacement	(ml)	2559			
Firing order		1-3-4-2			
Fan belt tension/force	(mm)	10±2			
Idle	(r/min)	800±25			
Engine oil capacity	(liter)	5.5			
Coolant capacity	(liter)	10			
Fuel tank capacity	(liter)	53			
Fuel type		Gasoline(93# or more)			
Tightening torque of oil sump screw plug	(N·m)	83.3			

Main data and specifications

Vehicle model		QL1022BHWR	QL1022BHWR1	QL1032BHWS	QL1022BHWS1
Clutch					
Type		Hydraulically actuator with dry one-piece diaphragm spring			
Pedal free play	(mm)	5.0-15.0			
Transmission					
Type and mode		MUA-5C5-gear fully synchronized meshing transmission			
Ignition distributor		-	High and low speed manual switching		
Lubricant capacity	(liter)	2.95	4.4 (Including transfer case)		
Front axle					
Type		-	Malleable cast iron housing and half-axle tube, full floating type with CVJ and DOJ		
Oil capacity	(liter)	-	1.4		
Filler plug tightening torque	(N·m)	-	68.6		
Tightening torque of drain plug	(N·m)	-	25.48		

Main data and specifications

Vehicle model		QL1022BHWR	QL1022BHWR1	QL1032BHWS	QL1022BHWS1
Rear axle					
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type			
Oil capacity	(liter)	1.8			
Filler plug and drain plug tightening torque	(N·m)	78.4			
Number of rear leaf springs	(Piece)	6			
Steering system					
Type		Circulation, ball-type power steering			
Steering wheel free stroke	(mm)	10-30			
Oil capacity	(liter)	1			
Service brake					
Type		Front plate is hydraulic disc type, and rear wheel is automatic adjustment drum brake, with vacuum servo mechanism			
Pedal free play	(mm)	6-10			
Parking brake					
Type		Mechanical inner expansion, acting on the rear wheel			
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)			

Main data and specifications

Vehicle model		QL1022BHWR	QL1022BHWR1	QL1032BHWS	QL022BHWS1
Suspensions					
Type	Front	Independent torsion bar spring with stabilizer bar and two-way shock absorber			
	Rear	Semi-ellipse alloy leaf spring, hydraulic retractable bidirectional shock absorber			
Electrical devices					
Type		12V system with negative terminal grounded			
Battery	(V/Ah)	12/60			
Starter	(V/kW)	12/1.2			
AC generator	(V/Ah)	12/60			
Wheel					

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	6.5J×15-12
	√ LT215/75R15	√ LT215/75R15	0.25	0.25	√ 6JJ×15-12 √ 6.5JJ×15-12
	√ LT235/75R15	√ LT235/75R15	0.25	0.25	√ 7JJ×15-12
4×4	LT235/75R15	LT235/75R15	0.25	0.25	6.5J×15-12
	√ P215/75R15	√ P215/75R15	0.2	0.2	√ 6JJ×15-12 √ 6.5JJ×15-12
	√ LT215/75R15	√ LT215/75R15	0.25	0.25	√ 7JJ×15-12

Main technical parameters of Class II chassis of 4K/4J/4Z China IV extended Pickup series of models

Item Model		Unit	QL1032BHWRY	QL1022BHWR1Y	QL1032BHWSY	QL1032BHWS1Y
Total mass		Kg	2560	2410	2715	2565
Kerb mass		Kg	1370	1370	1525	1525
Total length (OL)		mm	5273			
Total width		mm	1690			
Total height(OH)		mm	1640		1695	
Front suspension		mm	839			
Rear suspension(ROH)		mm	1055			
Wheelbase		mm	3379			
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)			
Wheel base	Front wheel	mm	1460		1425	
	Rear Tire(TR)	mm	1435			

Main technical parameters of Class II chassis on QL1020/1030 series of models

Item Model		Unit	QL10202DWR1Y	QL10202DWRY	QL10202DWR2Y	QL10302DWR3Y	QL10302DWSY	QL10302DWS3Y
Total mass		Kg	2410	2570	2470	2780	2740	2850
Kerb mass		Kg	1420				1580	
Total length (OL)		mm	4720					
Total width		mm	1690					
Total height(OH)		mm	1630				1670	
Front suspension		mm	785					
Rear suspension(ROH)		mm	910					
Wheelbase		mm	3025					
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)					
Wheel base	Front wheel	mm	1460			1425		
	Rear Tire(TR)	mm	1435					

Main technical parameters of Class II chassis on 4K GB III series models

Item Model		Unit	QL1030XGDRBY	QL1020XGDRCY	QL1020XGDRDY	QL1030XGDSBY	QL1020XGDSDY	QL1030XGDSGY
Total mass		Kg	2820	2610	2450	2950	2590	2750
Kerb mass		Kg	1460			1590		
Total length (OL)		mm	4720					
Total width		mm	1690					
Total height (0H)		mm	1670	1630		1670		
Front suspension		mm	785					
Rear suspension(ROH)		mm	910					
Wheelbase		mm	3025±30					
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)					
Wheel base	Front wheel	mm	1460			1425		
	Rear Tire(TR)	mm	1435					

Main technical parameters of Class II chassis on 4Z GB III series models

Item Model		Unit	QL1020NGDRAY	QL1020NGDRCY	QL1020NGDRDY	QL1020NGDSCY	QL1020NGDSDY	QL1030NGDRBY	QL1030NGDSBY
Total mass		Kg	2404±70	2530±70	2325±70	2614±70	2409±70	2740±70	2824±70
Kerb mass		Kg	1320±40			1440±40		1320±40	1440±40
Total length (OL)		mm	4720±50						
Total width		mm	1690±15						
Total height(OH)		mm	1630±15			1670±15		1630±15	1670±15
Front suspension		mm	1630±15				1690±15	1630±15	1670±15
Rear suspension(ROH)		mm	910±10						
Wheelbase		mm	3025±30						
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)						
Wheel base	Front wheel (TF)	mm	1460±15			1425±15		1460±15	1425±15
	Rear Tire(TR)	mm	1435±15						

Main technical parameters of Class II chassis on 4J GB III series models

Item Model		Unit	QL10207GDRDY	QL10307GDRCY	QL10207GDRAY	QL10307GDRBY	QL10307GDSCY	QL10307GDSBY
Total mass		Kg	2410	2570	2470	2780	2740	2850
Kerb mass		Kg	1420				1580	
Total length (OL)		mm	4720	4695	4720	4695	4720	
Total width		mm	1690					
Total height(OH)		mm	1630				1670	
Front suspension		mm	785					
Rear suspension(ROH)		mm	910	885	910	885	910	
Wheelbase		mm	3025					
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)					
Wheel base	Front wheel (TF)	mm	1460				1425	
	Rear Tire(TR)	mm	1435					

Main technical parameters of Class II chassis on 4Z GB IV series models

Item Model		Unit	QLI030UGDRBY	QL1031UDWRY	QL1030UGDSBY	QL1031UDWSY	QL6500UGLRS	QL6500UGLSS
Total mass		Kg	2740	2595	2824	2740	2530	2614
Kerb mass		Kg	1320	1320	1440	1440	820	940
Total length (OL)		mm	4720	4774	4720	4774	4520	
Total width		mm	1690				1675	1660
Total height(OH)		mm	1630	1630	1670	1670	-	
Front suspension		mm	785	839	785	839	585	
Rear suspension(ROH)		mm	910					
Wheelbase		mm	3025					
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)				-	
Wheel base	Front wheel (TF)	mm	1460	1460	1425	1425	1460	1425
	Rear Tire(TR)	mm	1435					

Main technical parameters of Class II chassis on 4K GB IV series models

Item Model		Unit	QL10202DWR1Y	QL102020WR2Y	QL10202DWRY	QL10312DWRY	QL10302DWR3Y	QL10302DWSY	QL103120WSY	QL10302DWS3Y
Total mass		Kg	2410	2470	2570	2740	2780	2740	2925	2850
Kerb mass		Kg	2410	2470	2570	2740	2780	2740	2925	2850
Total length (OL)		mm	1420			1470	1420	1580	1620	1580
Total width		mm	4720	4720	4720/4774	4774	4720	4720/4774	4774	4720
Total height(OH)		mm	1690							
Front suspension		mm	1630					1670		
Rear suspension(ROH)		mm	910							
Wheelbase		mm	3025							
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)							
Wheel base	Front wheel (TF)	mm	1460	1460	1460	1460	1460	1425	1425	1425
	Rear Tire(TR)	mm	1435							

Main technical parameters of Class II chassis on 4J China IV series models

Item Model		Unit	QL10202DWR1Y	QL10202DWR2Y	QL10202DWRY	QL103120WRY	QL10302DWR3Y	QL10302DWSY	QL10312DWSY	QL10302DWS3Y
Total mass		Kg	2410	2470	2570	2740	2780	2740	2925	2850
Kerb mass		Kg	1420			1470	1420	1580	1620	1580
Total length (0L)		mm	4720	4720	4720/4774	4774	4720	4720/4774	4774	4720
Total width		mm	1690							
Total height (OH)		mm	1630					1670		
Front suspension		mm	785	785	785/839	839	785	785/839	839	785
Rear suspension (ROH)		mm	910							
Wheelbase		mm	3025							
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)							
Wheel base	Front wheel (TF)	mm	1460	1460	1460	1460	1460	1425	1425	1425
	Rear Tire (TR)	mm	1435							

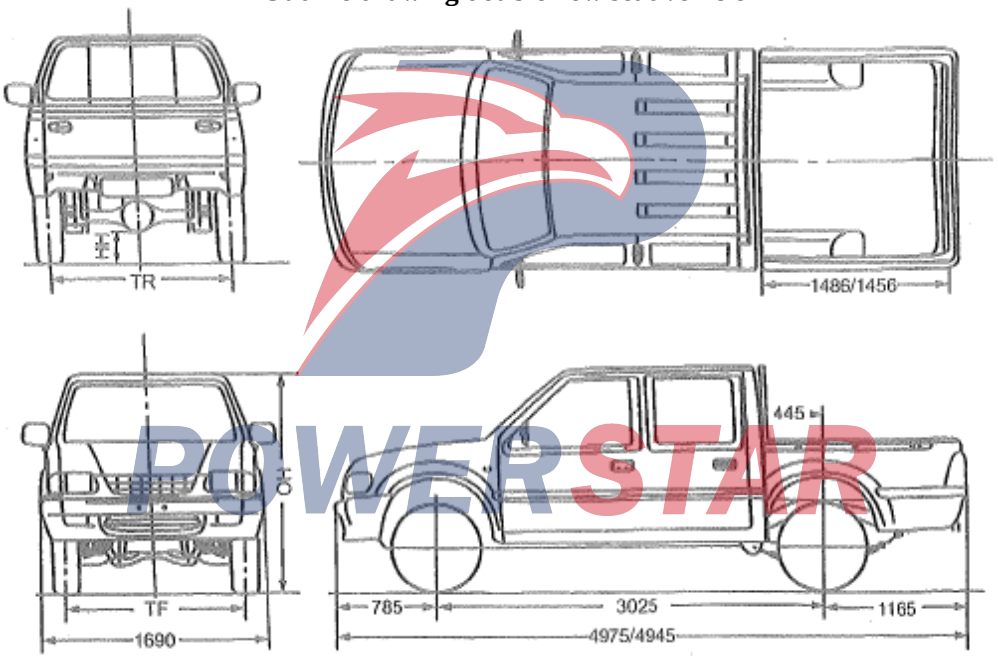
Main technical parameters of Class II chassis of 4K/4J/4Z China IV extended Pickup series of models

Item Model		Unit	QL1032AADWY	OJ032CADWY	QL10322DWRY	QL10322DWSY	QL1022UG DRCY	QL1032U6DSCY
Total mass		Kg	2685	2840	2685	2840	2560	2715
Kerb mass		Kg	1495	1650	1495	1650	1370	1525
Total length (OL)		mm	5273/5377					
Total width		mm	1690					
Total height(OH)		mm	1640	1695	1640	1695	1640	1695
Front suspension		mm	839					
Rear suspension(ROH)		mm	1055					
Wheelbase		mm	3379					
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)					
Wheel base	Front wheel (TF)	mm	1460	1425	1460	1425	1460	1425
	Rear Tire(TR)	mm	1435					

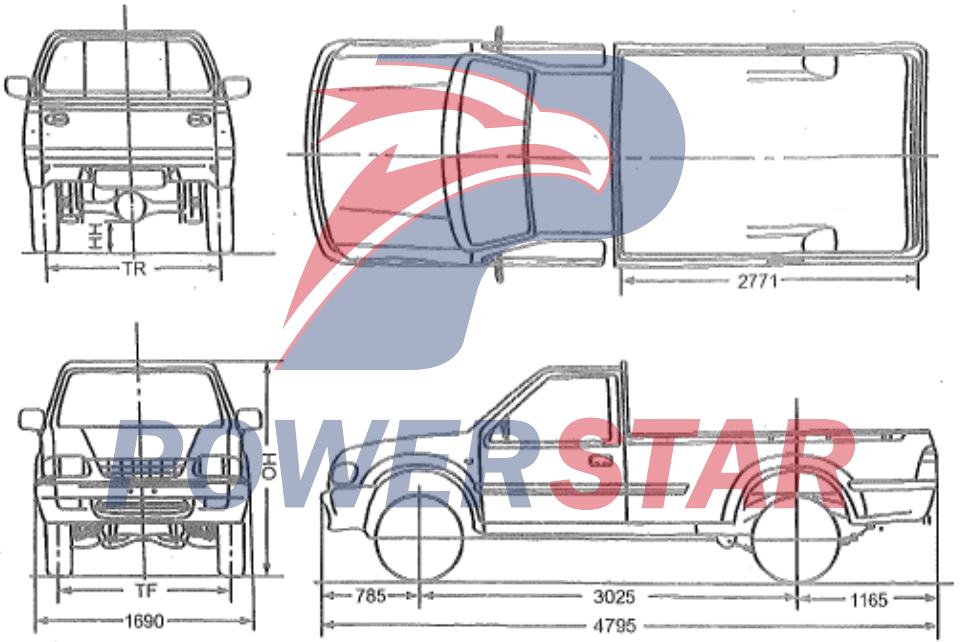
Main technical parameters of Class II chassis on 4Z GB V series models

Item Model		Unit	QL1020AAGDCY	QL1030ABGDBY	QL1020ABGDEY	QL1030CBGDCY	QL1030CBGDBY	QL1020UGDEY
Total mass		Kg	2495	2695	2345	2650	2850	2500
Kerb mass		Kg	1320			1440		
Total Length(0L)		mm	4720					
Total width		mm	1690					
Total height(OH)		mm	1630			1670		
Front suspension		mm	785					
Rear suspension(ROH)		mm	910					
Wheelbase		mm	3025					
Minimum ground clearance (HH)		mm	≥190 (fitted with 215/75 75R15 tires): ≥205 (fitted with 235/75R15 tires)					
Wheel base	Front wheel (TF)	mm	1460			1425		
	Rear Tire(TR)	mm	1435					

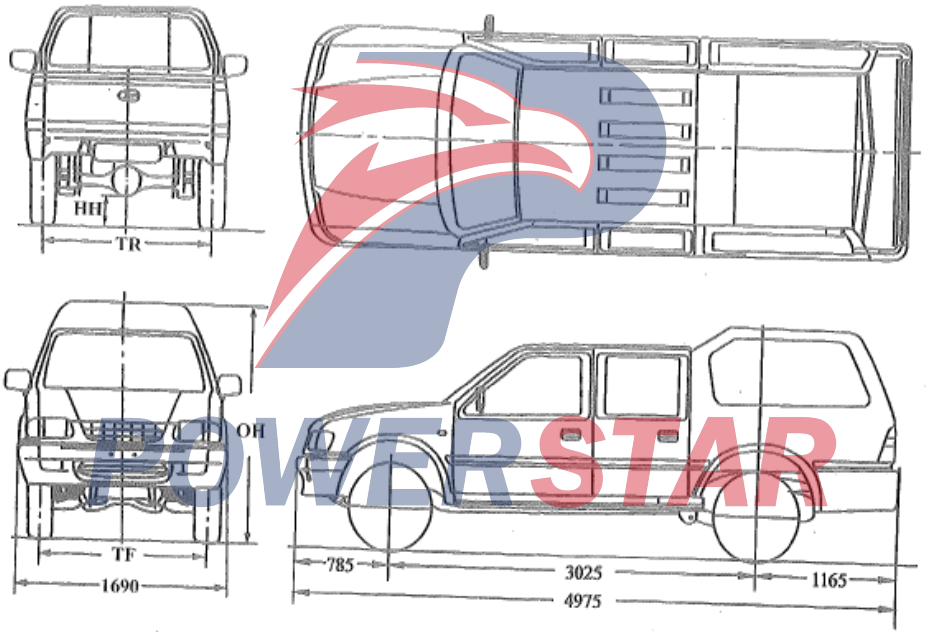
Outline drawing double-row seat vehicle



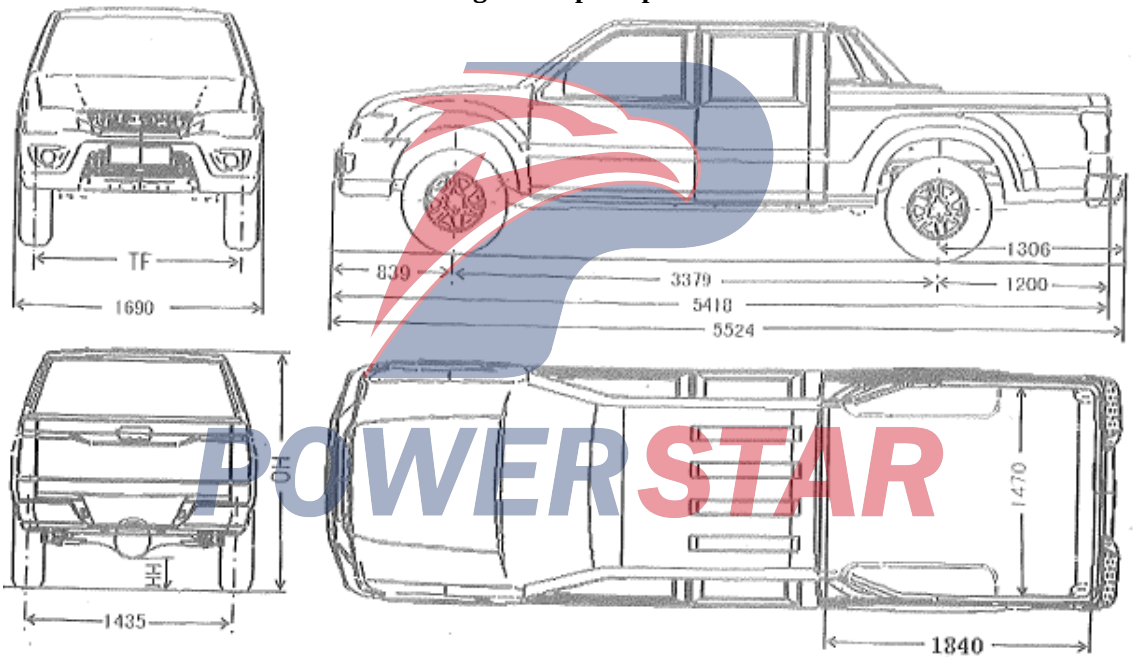
TF Outline drawing of single-row seat vehicle



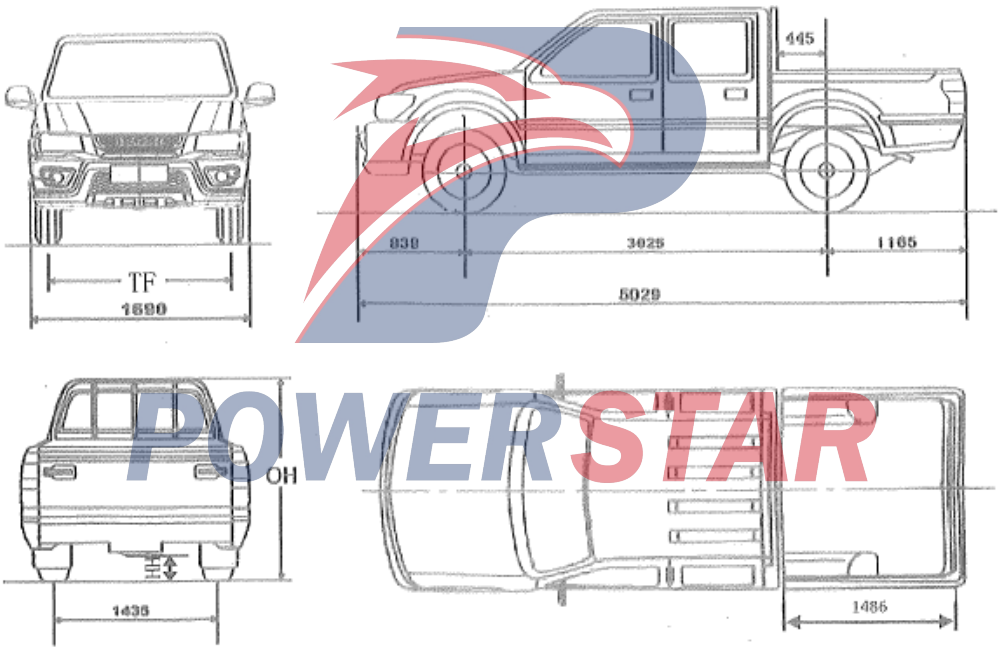
QL6490 series of vehicle outline



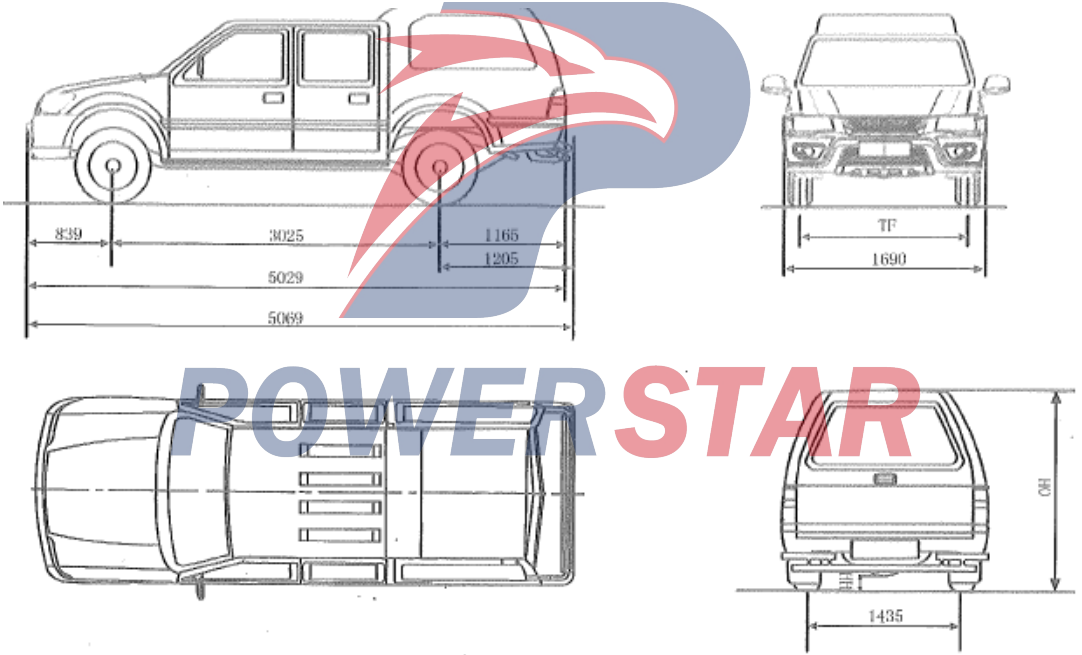
Outline of lengthened pickup series vehicles



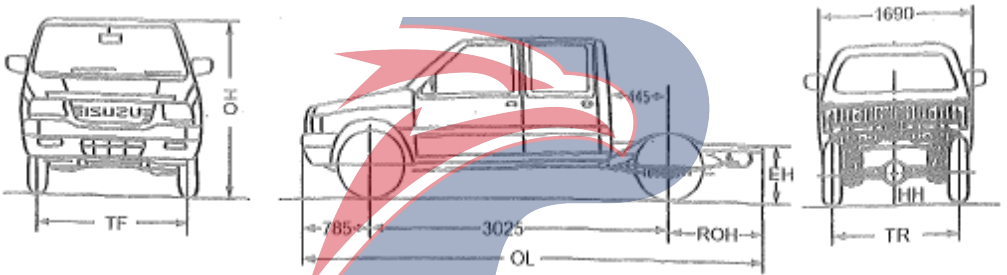
Outline drawing of 2015 double-row seat vehicle



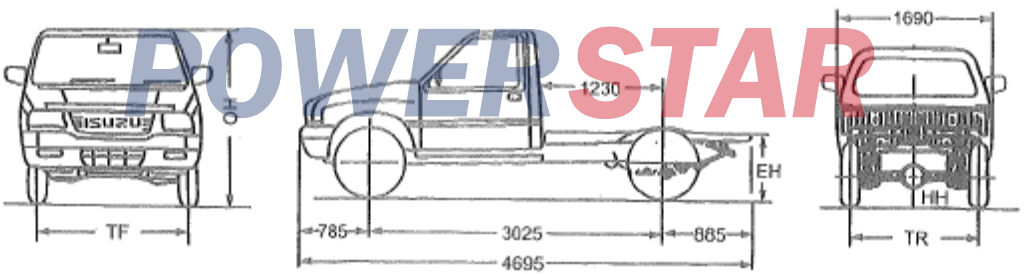
2015 version of double-row seat pickup outline



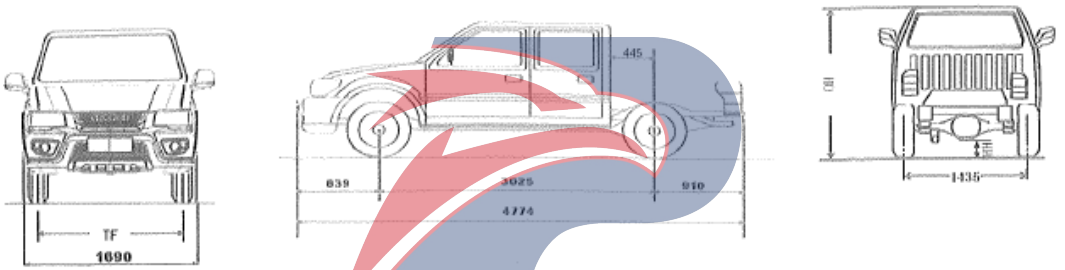
Outline drawing of double-row seat type II chassis



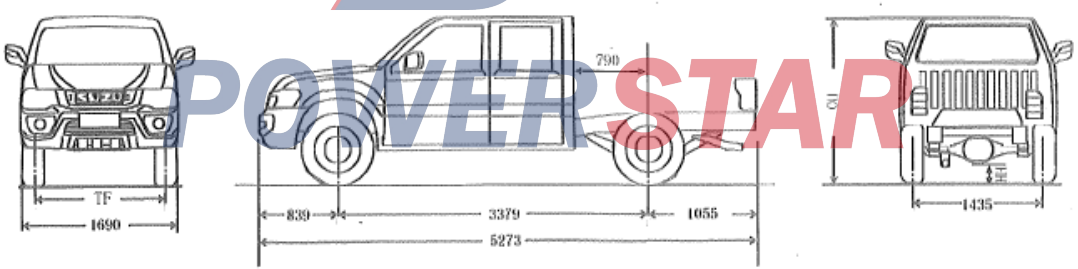
Outline of Class II chassis with single row seat



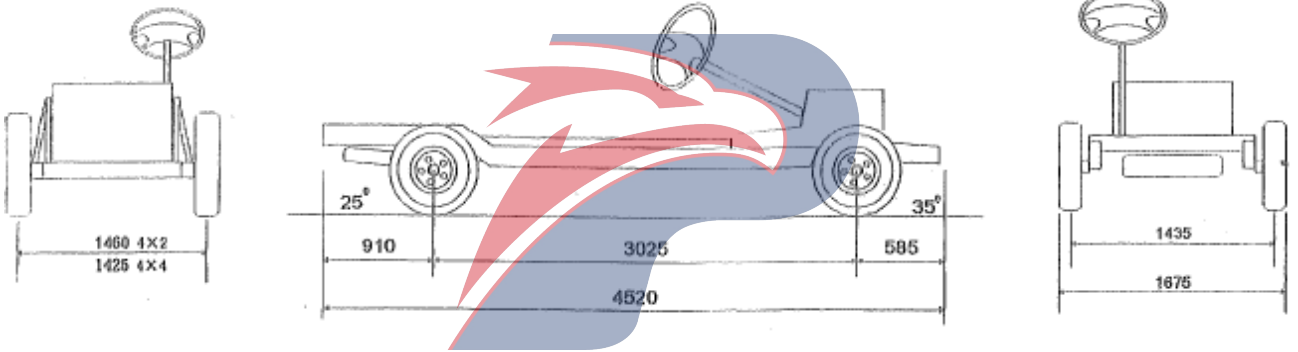
Outline drawing of 2015 double-row seat type II chassis



Lengthened Pickup series of Class II chassis profile



Outline drawing of three types of chassis

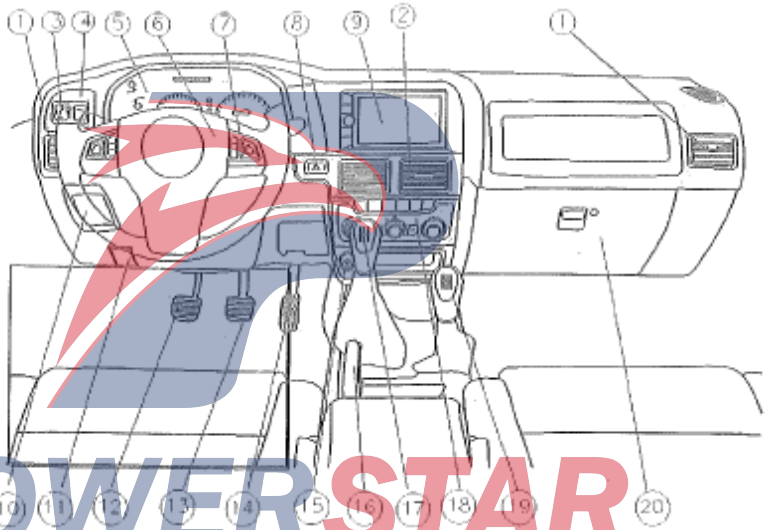


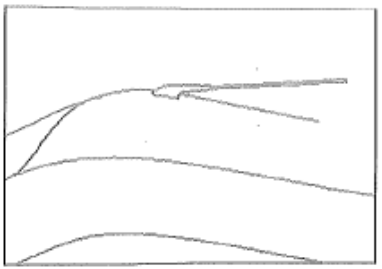
Tools with vehicle

SN	Tool name	Specifications	Quantity	Model	
				Diesel vehicles	Gasoline vehicle
1	Tool bag	-	1	☆	☆
2	Double-ended wrench	12×14	1	☆	☆
3	Double-ended wrench	8×10	1	☆	☆
4	Jaws	150	1	☆	☆
5	“+” “-”Combined driver	-	1	☆	☆
6	Wheel nut	-	1.	☆	☆
7	Wheel cap lever	-	1	☆	☆
8	Spark plug wrench	-	1	☆	☆
9	Oil pressure Jack	QLS1.5D	1	☆	☆
10	Rocker - jack and spare tire	-	1	☆	☆
11	Special screwdriver of wheel cover (4K China III models)	-	2	☆	☆
12	Hook (Long Pickup type)	-	1	☆	☆


POWERSTAR

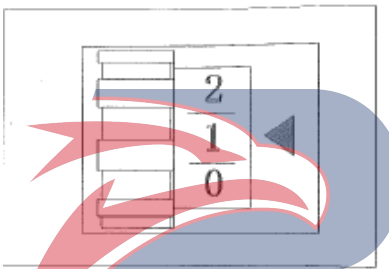
1 Side ventilation grille
2. Central ventilation grille
3. Power mirror switch
4. Fog lamp switch
5. Dashboard
6. Steering wheel and horn button
7. Start switch
8. Hazard warning switch
9. MP3 and Radio Assembly/MP5 and Navigator
10. Switch - headlight control
11. Engine hood switch
12. Clutch pedal
13. Brake pedal
14. Accelerator pedal
15. Cigarette lighter
16. Parking brake lever
17. Shift lever
18. Heater control mechanism
19. Transfer case control lever
20. Glove box





Passive antenna

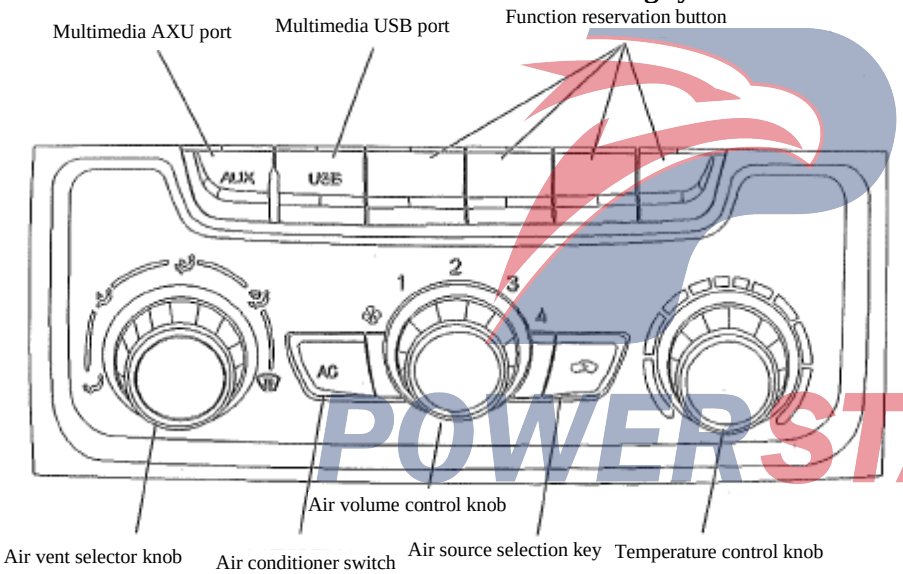
Turn on the radio switch and the stereo can get a good radio effect.

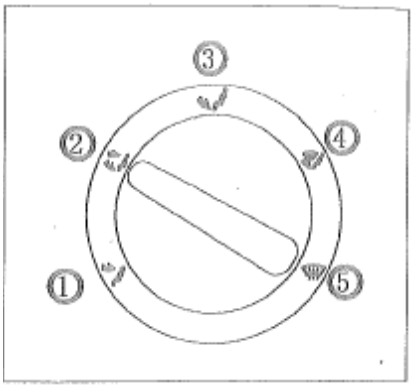


Switch - headlight control

Rotate the switch up or down to adjust the headlights up and down.

Heater - defroster and air conditioning system





Air inlet and outlet selection knob

The selector lever adjusts the air flow from the heating device, the defroster and the air conditioner or the vent.

① Face (air blown to the face)

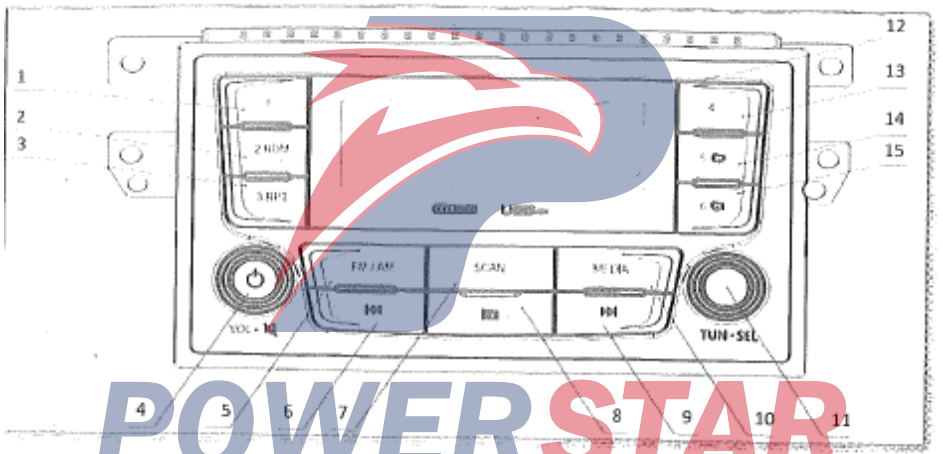
② Double planes (air blown to face and feet)

③ Bottom outlet (air blown to the feet)

④ Bottom outlet and defroster (air blown to feet and windshield)

⑤ Defroster (air blown to windshield)

Multimedia system - MP3



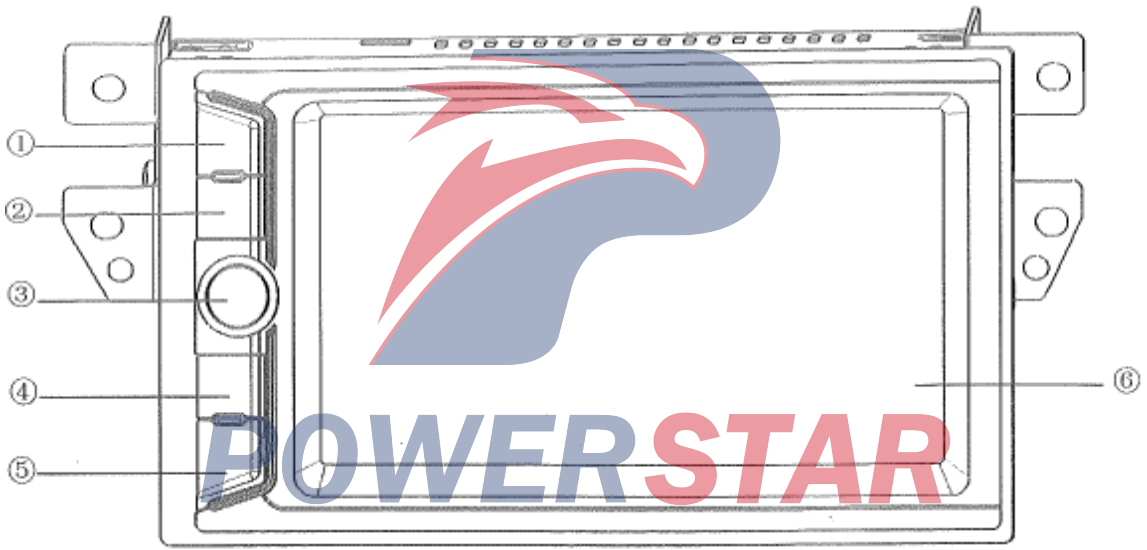
SN	Mode		
	Radio	SD/USB	AUX
1	Short press: call up pre-stored 1 station Long press: Save current radio station to pre-store 1	-	-
2	Short press: call up pre-stored 2 station Long press: Save current radio station to pre-store 2	Enter the random play mode	-

3	Short press: call up pre-stored 3station Long press: Save current radio station to pre-store 3	Enter repeat mode	-
4	Power on/off: short press to start up, long press to shut down; Rotation: Volume adjustment; Play status: button mute:		
5	FM1/FM2/FM3/AM1/AM2 switching	Switch to the previous radio status	
6	Automatically search for radio stations backward	Switch to the previous song	-
7	Short press: Browse for pre-stored radio stations Press and hold: Automatically search for stored stations	Enter browsing playback mode	-
8	SD card holder		
9	Automatically search for radio stations forward	Go to the next music	-
10	Play media switch button, short press cycle to switch between USB/SD/AUX media.		
11	Press: Enter bass, treble, left and right balance, front and rear balance, sound effect mode selection, clock setting options orderly. And rotate to adjust to the corresponding value.		
	Rotation: step-tuning radio stations	-	-

12	LCD display area		
13	Short press: call up pre-stored 4tation Long press: Save current radio station to pre-store 4	-	-
14	Short press: call up pre-stored 5station Long press: Save current radio station to pre-store 5	Switch to the next folder	-
1S	Short press: call up pre-stored 6station Long press: Save current radio station to pre-store 6	Switch to the previous folder	-

Note: The short press time should be greater than 0.5s and less than 2s; the long press time should be greater than or equal to 2s.

Multimedia System - MP5



Key Description:

① Menu button: Press the button to enter the menu interface.

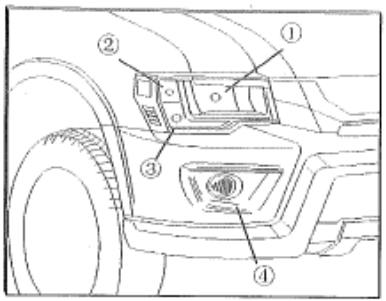
② Radio function button: When the navigator is not in the radio interface, press the button to directly enter the radio. When the navigator is in the radio interface, press the button for switching among FM1, FM2, FM3, AM1 and AM2.

③ On-OFF/Volume button - Press the button to turn on/off the radio, rotate it to the left or right to decrease and increase the volume respectively.

④ Navigation function buttons - Press this button to switch between navigation and other modes.

⑤ Media Card slot - Remove the card slot cover and insert the SD card to enter the media playback mode, which can play music, videos and pictures.

⑥ Touch screen



Exterior lights

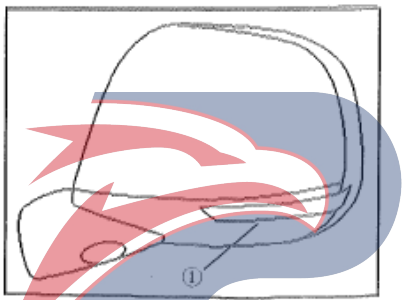
Front:

① Headlights (high beam/low beam)

② Front position lights

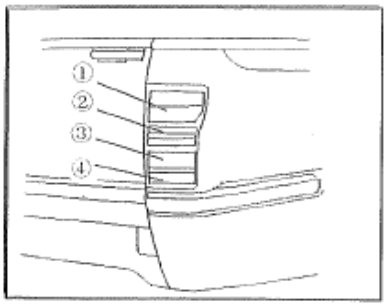
③ Front turn light

④ Front fog lights



Side:

① Side turn signal



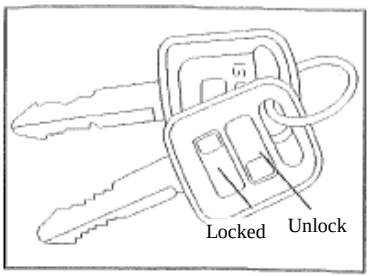
Rear:

① Parking/position lights

② Rear turn signal

③ Rear fog lamp (left) / reversing lamp (right)

④ Rear retro reflector

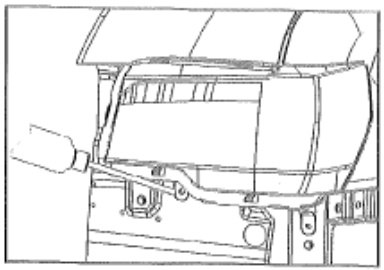


Key

Each key is engraved with a key number. Remember the key number and store it in a safe place, such as in a wallet; do not place it in the vehicle.

Operation control

Press the unlock button to unlock all doors and press the lock button to lock all doors.



Headlights

Properly align the headlights to ensure adequate lighting on the road without causing glare to other drivers, which is the most important work.

When you need to adjust the headlights, it is best to contact a QingLing dealer (service station) with special equipment.

Light replacement

The method of removing the bulb is shown in the figure.

Caution

When replacing the light, make sure that the light switch is set to the “OFF” (switch off) position. The bulb should be replaced with a new one with same capacity.

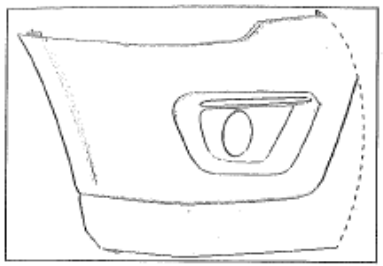
The power ratings for standard bulbs are listed in the following table

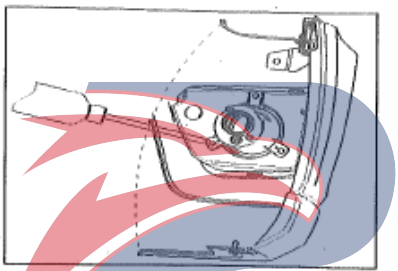
Region		Watt power	Number of bulbs
Headlights	Halogen headlight	60/55	2
	Front turn signal light	21	2
	Position lights	5	2
Front fog lights		55	2
Side turn signal light		0.2	8
Rear combination lamp	Rear fog lamp/reversing light	21	1/1
	Turn signal	21	2
	Parking lights/position lights	21/5	2
License plate light		5	2
Ceiling light		10	1
☑ Spotlight		5	2
☑ Working lamp		5	2

The power ratings for standard bulbs are listed in the following table

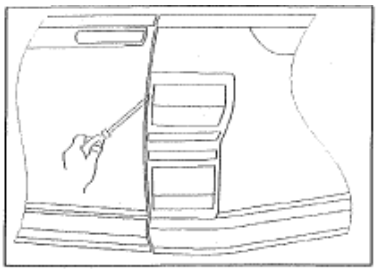
SN	Ampere	Scope of application
1	10A	Starter
2	-	
3	15A	Engine -1
4	15A	Engine -2
5	-	-
6	-	-
8	10A	Headlights
9	-	-
10	-	-
11	20A	Windshield wipers
12	15A	Backup light/turn signal light
13	20A	Indoor lights
14	20A	Door lock
15	-	-
16	-	-
17	20A	Power window
18	-	-

SN	Ampere	Scope of application
19	5A	Audio system
20	15A	Cigarette lighter
21	-	-
22	-	
23	5A	Audio system
24	15A	Audio system
25	-	-
26	-	-
27	30A	Power window





Front fog lamp:
Remove 3 screws to fix the front fog lamp from its rear.



Rear combination lamp:
Open the rear compartment, unscrew the 2 bolts fastened to the rear combination lamp, and pull out the lamp in the rear direction.

Dual-fuel model instructions

Respected user:

Thank you for choosing QL1030ACGDC/QL1030CCGDC dual fuel models produced by QingLing Motors Co., Ltd. (hereinafter referred to as “QingLing Motors”).In order to better protect your rights and interests, please be sure to read the manual delivered with your vehicle and go to the designated QingLing Motors special service station for appropriate maintenance according to the specified mileage or time limit.

Please note the following:

1. The user manual is only used for QL1030ACGDC/QL1030CCGDC dual- fuel models produced by QingLing Motors. Please refer to the chapter of this instruction for the use and maintenance of natural gas (CNG) system, and refer to the previous chapter of this instruction for the use and maintenance of the rest.
2. The pressure relief valve in the gas (CNG) system has been commissioned and qualified before delivery, and the user can not adjust or disassemble it by himself or in a non-QingLing Motors special service station; otherwise any resulted damage to the dual-fuel models and other parts should be the responsibility of the user.
3. Before you drive a dual-fuel vehicle in the first time, please be sure to read the manual carefully to understand the gasoline/gas switching method.
4. The compressed gas that meets the requirements of national standards should be used; otherwise, the resulted damage to the gas system and other parts should be the responsibility of the user.

QingLing Motors Co., Ltd.

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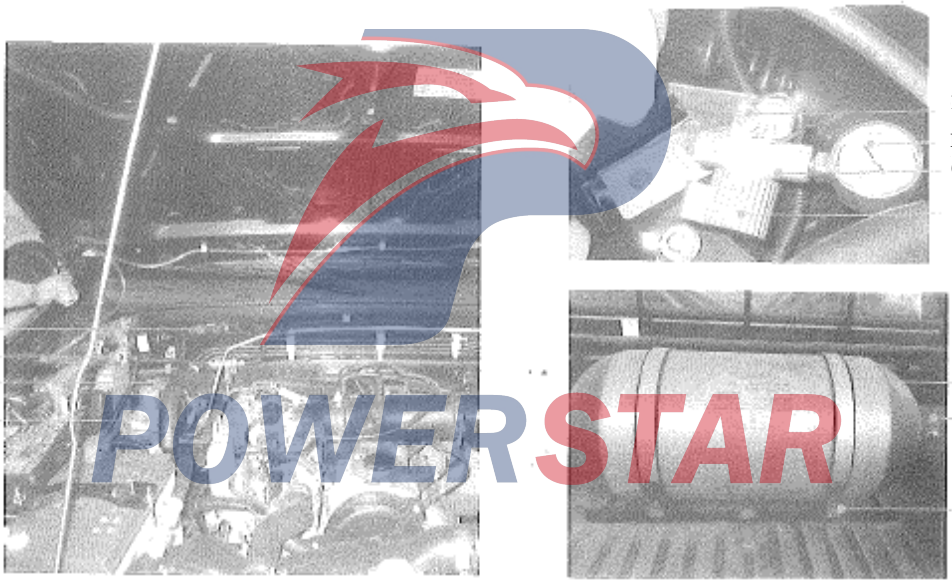
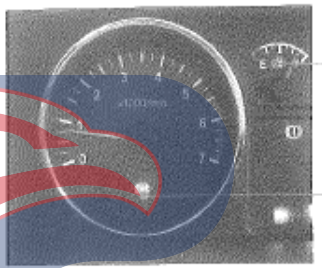
Vehicle gas system structure diagram



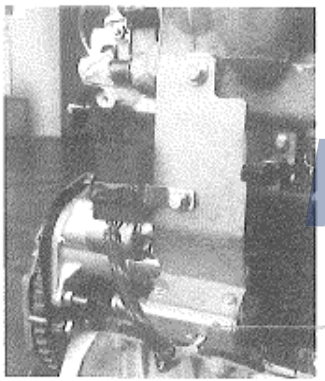
Oil - gas shift switch

Fuel mode indicator



Fuel volume display

Fuel status/fault indicator



Fuel nozzle and gas-rail assembly

Intake manifold

Gas rail to intake manifold rubber hose

Precautions

Caution

■ The running-in mileage of the new vehicle is 3,000km. During the running-in period, the gasoline must be used. Once the running-in period is ended, the leakage test of the pipeline should be performed.

■ A leakage test should be performed once every two weeks after the first use of gas.

■ Please go to QingLing Motors special service station for leakage test.

Routine inspection before driving

Before each driving, in addition to the routine inspections, must check the pipeline and joints of the gas supply system for leakage or other abnormities? If there is a alarm of natural gas leakage, pipeline damage and abnormality in the supply system, it shall be immediately stopped, the cylinder shutoff valve shall be closed, and it shall be promptly repaired and eliminated by contacting the QingLing Motors Special Service Station.

Note: The leakage alarm can be only used to indicate the local leakage and cannot be used as a final decision. The actual leak inspection should be checking the pipe joints by foaming.

Fuel start and switching

In any state, the engine can only start with gasoline.

■ Press the oil-gas switch (the button indicator will be turned on). When the vehicle is started, it will be automatically driven in gasoline mode. After the set switching conditions are met, it will be switched to the gas mode. The so-called set switching conditions refer to the engine coolant temperature, engine speed and shortest switching time set on the computer. When the vehicle is started in winter, it takes a long time to increase the coolant temperature to the switching temperature, so the corresponding gas switching time should be extended accordingly.

Gasoline stock requirements of fuel tank

During normal driving, there must be more than 10L of 93# or higher unleaded gasoline in the tank. To maintain the normal status of the gasoline system and the oil line open, it is recommended to continuously drive the vehicle for more than 50km in gasoline mode after every 3,000 km of driving in gas mode (there is a relatively long time for gasoline-gas conversion in the winter in the north, so the continuous driving in gasoline mode is not required deliberately).

Handle method in case of an accident

■ If there is a slight gas leakage during use, must immediately shut down the engine and close the shut-off valve on the gas cylinder. After confirming that there is no gas leakage, must drive the vehicle in gasoline mode to QingLing Motors special service station for inspection and maintenance; if there is a large gas leakage, must immediately turn off the power supply, quickly close the shut-off valve on the gas cylinder, and strictly control the site conditions, to avoid any person approaching and an open fire. Then check the gas pipeline. If there is any case that cannot be confirmed, please consult t QingLing Motors service station.

In case of a collision, must shutdown the engine and turn off the shut-off valve on the cylinder immediately. In case of a fire, must extinguish the fire with the dry powder fire extinguisher in addition to the above operations, and cool the cylinder with some measures.

Park the vehicle

■ The garage or any other place where the vehicle is parked must be well ventilated.

■ If the vehicle is parked for a long time, must close the shutoff valve on the cylinder. Night parking advice also closes the cylinder shutoff valve.

Regular inspection for gas cylinder

According to the requirements of the “Safety Supervision Regulations for gas cylinder” issued by the State Bureau of Quality and Technical Supervision, gas cylinders need to undergo mandatory safety inspections on a regular basis, and inspections must be conducted by inspection units or pressure vessels that have been approved by the relevant state authorities for inspection. The compressed gas cylinders for non-operational vehicles should be checked once in the first 3 years and once every 2 years thereafter. CNG cylinder for commercial vehicles should be inspected first at the end of the first 2 years, and then once every 1 year (or in accordance with local regulations).After the cylinder is qualified, it can be used continuously. In addition, in case of a traffic accident, must go to a QingLing Motors authorized service station for performance test on a compressed gas cylinder, inflation valve, pressure relief valve and other accessories on the vehicle before use; any unqualified item must be replaced immediately.

The product certificate of CNG cylinders on the vehicle should be kept properly. The use of cylinders should meet the requirements of “Precautions for Safe Use of Gas Cylinders”. QingLing Motors will not be liable for any problem due to failure to comply with the precautions.

Daily use and maintenance

■ Use the compressed gas that meet the requirements of national standards.

■ Check whether the gas cylinder frequently and pipeline are fastened and connected and whether there is any loosening, interference or leakage during daily use and routine maintenance.

■ Keep the gas filler clean to prevent oil and dust from entering the pipeline.

■ Every 10,000km, must go to a QingLing Motors special service station to check whether the gas cylinder is firm and reliable, whether the high-pressure pipeline, fittings, and gas inlets of the gas system are leaked, and whether the gas filter is operated normally.

■ The gas system must be repaired by professional technicians from QingLing Motors service station.

■ Every 15,000km, must clean the air filter, check the spark plug or replace it if necessary.

■ If the gas pressure in the cylinder is too low or the filter is too dirty, the pressure in the gas injection rail will be increased excessively, the fuel status indicator will flash rapidly for alarm, and the engine will automatically be switched into the gasoline mode. When pressing manually the switching button, the alarm will stop. If the indicator cannot be turned off after switched into the gas mode, must go to a QingLing Motors special service station, to replace the filter cartridge and implement the related checks.

■ Every 10,000km, must check the high pressure filter cartridge of the pressure reducer in the gas system and replace it if necessary.

■ Every 50,000km, must check the gas filter in the gas system and replace it if necessary.

Warning

If you do not use natural gas (CNG) for a long time, the cylinder chamber must be closed. When using it again, check whether there is pressure in the cylinder. If no pressure is found, do not fill in the natural gas. Please exchange nitrogen gas at QingLing Motors Service Station.

■ Must maintain the normal operation of the ignition system on the vehicle, especially for the operation performances of the spark plugs and the high-voltage line. Every 15,000 km, must check the spark plugs and high-voltage line and replace it if necessary at QingLing Motors service station.

■ Do not implement any repair in the gas filling station area. In case of a fault, must move the vehicle from the station area and repair it in a safe area.

Warning

Before shutting down the gasoline system of the vehicle for maintenance, the natural gas cylinder shut-off valve should be closed.

■ If the gas supply line must be dismantled due to the engine maintenance, must prevent any foreign matter from entering the system pipeline and damaging the pressure relief valve. Installation shall be carried out by QingLing Motors professionals, and leak detection shall be carried out strictly.

Refill CNG

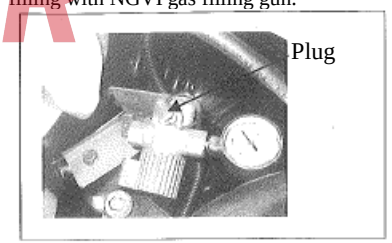
Fill in compressed natural gas (CNG)

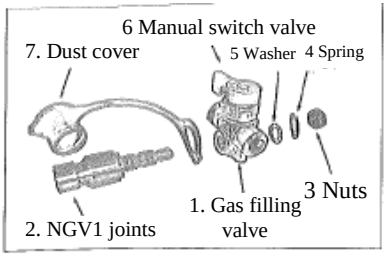
■ When refilling the gas, must park the vehicle steadily, shutdown the engine, apply the handbrake, and follow the commands from the gas station staff.

■ Please note the filler valve type in the engine compartment of your vehicle. Please fill the gas at the filling station equipped with the filling valve that is matched with your vehicle. The inflatable function on QingLing vehicle can meet the requirements of two tire sizes. As shown below:

1. On standard vehicle arrangement, remove the plug and fill the gas directly with the gas filling gun;

2. The vehicle is equipped with an NGV1 connector and a dust cover (Nos. 2 and 7). Insert NGV1 connector i into the gas filling valve 1 and combine them together to for gas filling with NGVI gas filling gun.





■ After the gas is filled, must turn off the manual control valve 6 of the gas filling valve, remove the gas filling gun and insert the plug (If NGV1 connector is used for gas filling, remove the gas filling gun and install the dust cap on the gas filling valve).

■ After filling, confirm that the gas filling gun is completely disconnected from the gas filling valve before starting the engine.

■ When refilling, must follow strictly the gas filling safety regulations. After the gas cylinder is filled fully, the pressure must not exceed 20 MPa.

■ When refilling, the gas-driving vehicle should be maintained at the distance of no less than 10m from any open fire.

■ Generally, the filling gas volume may be changed slightly at different ambient temperatures.

■ Because the gas is quickly compressed into the gas cylinder during filling process, the gas cylinder will be heated. When it is cooled down naturally, the pressure in the gas cylinder will be decreased slightly, so there will be a pressure drop of about 2 MPa after filling and cooling down, which is a normal phenomenon.

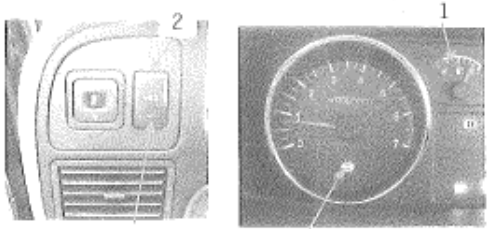
Caution

The use of compressed natural gas that does not comply with national standards will cause early damage to the gas system and the exhaust system (including catalytic converters), which will result in the inability of the compressed natural gas system to operate and shorten the service life of the system.

After the first inflation, the cylinder stop valve shall be closed, and natural gas shall not be used temporarily, but the vehicle shall be driven to 4s store in gasoline mode, and natural gas shall not be used until high and low pressure pipelines are checked for air leakage.

Fuel selection and switching

Fuel status and display



Switch status light (lights up when pressed)

1. Gas volume indicator (showing the gas volume in gas mode or the gasoline volume in the gasoline mode)
2.Oil - gas shift switch
3. Fuel status/fault indicator
4. Gas leakage detection sensor in the engine compartment

Fuel volume display

In the gas (CNG) mode, the gas volume can be displayed. When the pointer is moved into the red zone, the residual pressure in the gas cylinder may be insufficient and need for gas refilling. When the gas is exhausted, the system will be automatically switched back to the gasoline mode and the fuel status indicator will flash rapidly.

In the gasoline mode, the fuel level is displayed.

Oil - gas shift switch

The oil-gas switching switch is a button switch (there are gasoline and CNG positions), and is equipped with a switch status indicator. Press the toggle switch (switch status light is on) to indicate that the switch is in the CNG gear and press the toggle switch (switch status light is off) to indicate that the switch is in the gasoline gear.

A. If you want to use gasoline, the switch must be switched to the gasoline gear.

B. If CNG is used, must first confirm that the switch is placed in CNG position. When the switching conditions (coolant temperature, engine running time, and etc.) are met, the system will be automatically switched to CNG operation mode.

Fuel status/fault indicator

When using gasoline, the fuel status / fault indicator is off; when using natural gas, fuel status / fault indicator lights up; The fuel status / fault indicator flashes slowly when switching to gas stand-by; When the gas runs out or the system fails, the gas system will automatically switch to gasoline operation, the indicator light on the oil and gas changeover switch will go out, and the fuel status / failure indicator will flash rapidly. If you want to cancel the fast flashing status indicator, you can place the changeover switch in the gasoline gear. At this time, the fuel status/fault indicator light and the oil/air changeover switch will go out. After refilling with sufficient CNG, you need to press the fuel-gas switching button or the ignition switch to re-power on, and the system will perform fuel-gas switching again.

Engine compartment gas leakage detection sensor

Within 30s after the key is turned to “ON” position, the system will enter the monitoring mode. When any leakage is detected with the sensor, the fuel status/fault indicator will flash rapidly and the buzzer will ring, to remind the driver. In this case, it should be handled with the procedure of “Troubleshooting” in Page 4.

Automatically switched to the fuel mode in case of a fault

When the vehicle is running normally with natural gas, if the system automatically switches to gasoline operation, there are usually 2 reasons as the following:

■ The gas in the cylinder is excessive.
Low;

■ The gas leakage detection sensor has an open circuit fault;
Under normal conditions, if there is enough gas in the gas cylinder, there should be a gas supply system failure. The fuel-gas switching button should be pressed and the vehicle should be sent to a QingLing Motors special service station for repair as soon as possible.

When the system is automatically switched to the gasoline mode Precautions

When the pressure in the cylinder is too low or the gas system fails, the gas system will automatically switch to use gasoline to run, and the fuel status/fault indicator will flash quickly, reminding the user to go to the QingLing Motors Service Station for repair as soon as possible.

Note: If the CNG system failure is not ruled out, the engine is running with gasoline. At this time, press the fuel and gas switching switch, the engine will not switch to CNG, and the fuel status/fault indicator will flash continuously. When the fault of CNG system is repaired after the ignition switch is powered off, it should be powered on again before switching back to CNG mode.

Gas Part Maintenance Manual

First maintenance of new vehicle

After completing the 3,000km of gasoline run-in, you should immediately go to the nearest QingLing Motors special service station for the first inspection and maintenance of the fuel system.

SN	Check content
1	Pressure Relief Valves: Check for looseness and leaks in the fixtures and connections, including connections to brackets, high and low pressure air lines, water pipes, and vacuum tubes.
2	CNG inflation valve and pressure gauge assembly: Check for loose connections and gas leaks, including connections to high pressure tube.
3	Gas cylinder: Check whether the cylinder and the bracket are secured firmly and reliably; check the cylinder valve and pipe connections for loosening and leakage.
4	Gas nozzles and gas rail assembly: Check all connections for loosening and leakage, including connections to the bracket and low pressure tube.
5	Nozzle fitting on the intake manifold: Check for loose connections and gas leakage.
6	Visually inspect each air tube (high pressure, low pressure air tube), coolant tubes, vacuum tubes, and harnesses for interference friction.
7	Gas system fixing bracket: visually check whether each bracket is fastened firmly.
8	Gas computer test: Check whether the gas parameters are normal with the gas system detection software.
9	Check the gas system supply pressure and adjust it if necessary.

Regular maintenance

Please perform the regular maintenance based on the travel mileage in QingLing Motors special service station. The operated vehicles should be maintained once every 50000km, and non-operated vehicles should be maintained once every 10,000km or once a year (whichever comes first).

SN	Check content
1	Pressure Relief Valves: Check for looseness and leaks in the fixtures and connections, including connections to brackets, high and low pressure air lines, water pipes, and vacuum tubes.
2	CNG inflation valve and pressure gauge assembly: Check for loose connections and gas leaks, including connections to high pressure tube.
3	Gas cylinder: Check whether the cylinder and the bracket are secured firmly and reliably; check the cylinder valve and pipe connections for loosening and leakage.
4	Gas nozzles and gas rail assembly: Check all connections for loosening and leakage, including connections to the bracket and low pressure tube.
5	Nozzle fitting on the intake manifold: Check for loose connections and gas leakage.
6	Check the interference between each air pipe (high pressure, low pressure air pipe), coolant pipe, vacuum pipe, and harness for interference friction and aging of material.
7	Gas system fixing bracket: Check whether each bracket is fastened firmly.
8	Check whether the gas system wiring harness and connectors are fastened firmly. Including air nozzle assembly, pressure reducer, filter, pressure gauge and gas ECU.
9	Check the filter cartridge of the pressure relief device and replace it if necessary (depending on the gas quality).
10	Gas check: Check whether the gas operating parameters are normal with gas system test software.
11	Check the gas system supply pressure and adjust it if necessary.
12	Trial drive: Check the switching operation of the switch and the vehicle performances in the gas mode.
13	Check the filter and replace it if necessary (depending on the quality of the gas used).
14	Leak alarm detection, if necessary, cleaning or replacement of leak alarm sensor.
15	Check the 0-ring for inflatable valve fitting and replace if damaged.

Replacement cycle and safety considerations

Replacement cycle

SN	Name of consumables	Replacement cycle
1	Gas filter	Recommended for every 50,000 kilometers
2	Cylinder sleeve	When the gas cylinder is disassembled (if the gas cylinder sleeve sealing performance can be guaranteed, it cannot be replaced)
3	High pressure tube sleeve	When disassembling and checking the high-pressure pipe (if the high-pressure pipe sleeve sealing performance can be guaranteed, it cannot be replaced)
4	Pressure reducer high pressure filter cartridge	Recommended for every 50,000 kilometers
5	Pressure gauge gasket	When the pressure gauge is removed and installed
6	Inflatable valve connector O-ring	Every 40,000 km
7	High pressure sensor gasket	When the high pressure sensor is removed and installed

Safety precautions

Warning

The gas system components have been calibrated and tested at the factory, and cannot be adjusted during use. Any part cannot be dismantled and should be replaced by the staff from QingLing Motors special service station if necessary; otherwise there may be a safety risk.

Due to the inconsistent quality of gas from place to place, please handle it flexibly according to the specific conditions of use. For filter-type parts, check and replace them frequently.

Main data and specifications

Vehicle model		QL1030ACGDC	QL1030CCGDC
Drive type		4×2	4×4
Number of passengers		5 persons (including driver)	
General size	(mm)		
Total length		4975±50	
Total width		1690±15	
Total height		2WD: 1640±15	4×4 drive: 1680±15
Internal dimensions of container		1486×1470×447	
Wheelbase		3025±30	
Wheel base	Front wheel	2WD: 1460±15	4×4 drive: 1425±15
	Rear wheel	1435±15	
Minimum ground clearance		≥190 (fitted with 215/75 75R15 tires); ≥205 (fitted with 235/75R15 tires)	
Mass	(kg)		
Kerb mass		1590±40	1735±40
Gross vehicle mass		2515±70	2660±70
Loading mass		600+5 persons (950)	

Main data and specifications

Vehicle model	QL1030ACGDC	QL1030CCGDC
Engine		
Model and Type	4ZE4-CNG, 4-stroke, single-overhead-camshaft, water-cooled, multi-point EFI	
Rated power (kw/rev/min)	Gasoline: 89/4600	CNG : 76/4600
Maximum torque (N·m/r/min)	Gasoline: 203/2600	CNG : 173/2600
Compression ratio	9.2	
Displacement (ml)	9.2	
Firing order	1-3-4-2	
Fan belt tension/force (mm)	8-12	
Idle (r/min)	800±50	
Engine oil capacity (liter)	5.5	
Coolant capacity (liter)	10	
Fuel tank capacity (liter)	Gasoline (53)/CNG (100)	
Fuel type	Gasoline (93# or above)/CNG dual fuel	
Tightening torque of oil sump screw plug (N·m)	83.3	

Main data and specifications

Vehicle model		QL1030ACGDC	QL1030CCGDC
Clutch			
Type			Diaphragm spring
Pedal free play	(mm)		5.0-15.0
Transmission			
Model and Type			MUA-5C 5-speed fully synchronized meshing transmission
Ignition distributor		-	High and low speed manual switching
Lubricant capacity	(liter)	2.95	4.4 (Including transfer case)
Front axle			
Type		-	Forged iron housing and axle sleeve, full-float with CVJ and DOJ
Oil capacity	(liter)	-	1.4
Filler plug tightening torque	(N·m)	-	68.6
Tightening torque of drain plug	(N·m)	-	25.48

Vehicle model		QL1030ACGDC	QL1030CCGDC
Rear axle			
Type		Small spiral bevel gear and quasi-hyperbolic gear semi-floating type	
Oil capacity	(liter)	1.8	
Filler plug and drain plug tightening torque	(N·m)	78.4	
Number of rear leaf springs	(Piece)	6	
Steering system			
Type		Circulation ball-type power steering	
Steering wheel free stroke	(mm)	10-30	
Oil capacity	(liter)	1	
Service brake			
Type		The front wheel is a hydraulic disc type, and the rear wheel is an automatic adjusting drum type brake with a vacuum servo mechanism	
Pedal free play	(mm)	6-10	
Parking brake			
Type		Mechanical inner expansion, acting on the rear wheel	
Brake lever travel	(Teeth)	9 to 11 (pulled with 294 Newtons)	

Main data and specifications

Vehicle model		QL1030ACGDC	QL1030CCGDC
Suspensions			
Type	Front	Double-arm independent suspension, torsion bar spring, hydraulic two-way shock absorber	
	Rear	Semi-ellipse alloy leaf spring, hydraulic bidirectional shock absorber	
Electrical devices			
Type		12V system with negative terminal grounded	
Battery	(V/Ah)	12/60	
Starter	(V/kW)	12/1.2	
AC generator	(V/Ah)	12/60	
Wheel			

Drive type	Tire size		Tire pressure (MPa)		Aluminum alloy wheels
	Front wheel	Rear wheel	Front wheel	Rear wheel	
4×2	P215/75R15	P215/75R15	0.2	0.2	6.0J×15-12 V 6.5JJ×15-12
	V LT215/75R15	LT215/75R15	0.25	0.25	
	V LT235/75R15	LT235/75R15	0.25	0.25	
4×4	LT235/75R15	LT235/75R15	0.25	0.25	
	V P215/75R15	V P215/75R15	0.2	0.2	
	V LT215/75R15	LT215/75R15	0.25	0.25	