Preface

Welcome you to becoming a member of the extensive user group of “Hudson”, one China’s renowned trademark, series light-duty commercial vehicle.

Achieving the best benefits for your newly purchased Hudson vehicle is the commonly pursuing goal of you and us. Therefore, we sincerely hope that you can carefully read this manual and master all operation procedures described before operating this vehicle.

The manual is prepared for HAT "e-BOLD" and its variants.

This manual is attached in the vehicle and is not for sale. Please verify this manual with your purchased vehicle. In event of any mistake or omission, please request from or replace with a dealership and take cautions to the preservation. The graphics and descriptions contained in this manual are correct at the time of publication. However, due to continuous improvement and perfection of our product structure, the descriptions contained in this manual may differ from the actual structure of the vehicle. In such case, please consult with a dealership. At the transfer of your vehicle, please hand over this manual to new owner as well.

 Due to our improvements on all vehicle models, the relevant equipment and technologies are subject to changes without further notice.

For information about product distribution, quality warranty and purchase of spare parts, please contact with overseas service station of HAT.

Carefully read this operation manual before use and properly preserve it after reading.

This manual adopts legal units of measurement.

Hudson Automotive Technology (Chongqing) Co., Ltd.

January 2024

Manufacturer/distributor

Hudson Automotive Technology (Chongqing) Co., Ltd.

Before Reading

This manual is one part of the vehicle and shall be preserved and used along with the vehicle.

Operational instruction

Contents

The Contents lists in consequence the main titles of all contents in this manual.

Orientation Description

The orientation description (front, rear, left, and right) used in this manual is based on the forward driving direction of the vehicle, unless otherwise specified.

Figure

The figures used in this manual are only intended to ease the understanding of the contents and operation methods of this manual and may differ from the actual articles. In event of discrepancy, the actual articles shall prevail.

Warning Description

Note

The failure to abide by the descriptions specified in the Caution will lead to personal injuries or damage of assemblies and vehicle. For instance:

Caution: After the closing of doors, please check once again to ensure that the doors are closed tightly. Driving with doors half-closed is really dangerous.

Danger

The failure to abide by the descriptions warned will lead to serious personal injuries and significant property losses. For instance:

Danger: Do not adjust the driver seat longitudinally during the driving of the vehicle.

Statement

In one of the following actions, HAT bears no responsibility for the product reliability, safety and adaptability:

1. Vehicle nameplate is tampered or in discrepancy with the complete vehicle/chassis certificate issued by our company.
2. Failure to follow this manual to operate the product.
3. Failure to follow this manual to maintain the product (including the running-in maintenance and the mileage maintenance).
4. When the vehicle travels to 5000 km or within 45 days, it must be maintained, otherwise it will be regarded as the user's automatic waiver of the right to claim
5. Self-repair of vehicle malfunctions within the quality warranty period, instead of handling by a technical service station authorized by Hudson Automotive Technology (Chongqing) Co., Ltd.
6. Malfunctions arising from the change of original structural status or the modification, addition, or parts change without the permission of our company, such as expanded capacity of cargo compartment, reinforcement of frame, thickened and increased spring plates for leaf springs, enlarged sizes and increased plies for tires, change of sensor position, and addition of shim to sensor.
7. In repair, failure to install HAT-approved genuine parts gives rise to vehicle failure.
8. The failures or the potential ones fail to be solved, but continuously to get severe, even damaging to the associated parts.
9. Self-handling of vehicle without the liability determination by relevant departments, including traffic management department and insurance company, in event of a traffic accident.
10. The vehicle is overloaded.
11. External factors result in the non-quality defect such as impact, burn, scratch or peeling off.
12. Damage of vehicle arising from the force majeure (such as flood, lightning, storm, and hail) under the influence of natural environment.
13. Normal noise, vibration, abrasion, aging and so on.

Statement

14. Our service station staff is hampered from performing the normal inspection, analysis and evaluation, resulting in delay loss.
15. The quality warranty period is expired.
16. Repairs due to causes other than material, design, and manufacturing causes. It's prohibited to change or refit the vehicle design without approval.
17. Modification of vehicle electric circuits without permission.

Contents

Contents

Contents

Vehicle Identification

Location of VIN plate

VIN plate is located on the left side of dashboard.

Location of product nameplate

A. The product nameplate is located on the right of the cab.

Daily inspection of vehicle

Careful inspection of vehicle by the driver is crucial to driving safety. The driver shall inspect the vehicle carefully and personally every day before driving in order to prevent accidents, ensure safe driving and understand vehicle failures.

Before inspection

Park the vehicle on the flat ground, with the key at “OFF”; besides, the parking brake works reliably and the transmission handle is at the neutral gear.

First inspection

Inspect the failures found the day before.

The abnormal part, if repaired at previous day, should be checked again to be free of any trouble.

Checking within cab

Inspect driver’s seat.

The seat shall be adjusted to a proper position to enable the driver to feel comfortable for safe driving. Refer to for structure explanation and operation for adjustment of driver’s seat.

Danger: Do not adjust the seat during driving.

Check the seatbelt

Fasten the safety belt before inspection;

Pull the belt when it is fastened to check if the lock elements are reliably engaged.

Inspect if the fabric, latch and retractor are in good conditions.

Note: The belt is designed for one accident only and in case of any accident or damage to the belt, please come to overseas service station of HAT.

Danger: Never drive the vehicle with failed belt for safety concern.

Inspection of mirrors

The mirror around the cab (including rear-view mirror) shall be clean to ensure clear view of sight.

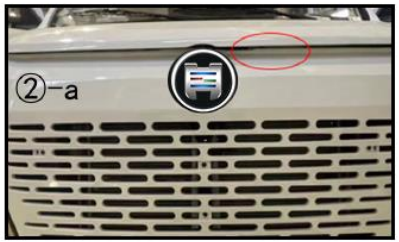
Danger: Never adjust the rear-view mirrors during the driving.

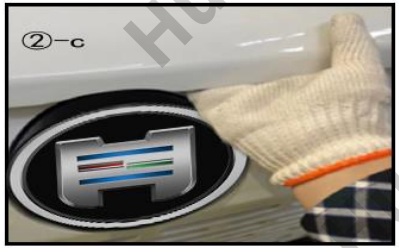
Inspection of door locking

Inspect lock condition of door at the driver’s side and inspect the door at the co-driver’s side. Inspect working conditions of glass elevators at both sides.

Open the front hatch cover

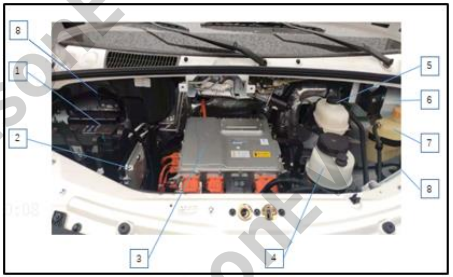
To open the front hatch cover, pull the handle outward to unlock.





Insert your palm into the front hatch cover gap on the right side of the emblem (Left side in vehicle head direction) and lift up the hood lock safety hook and meanwhile lift up the front hatch cover.

Prop up the front hatch cover for inspection.



1. Storage battery
2. Vehicle control unit
3. High pressure power controller
4. Power steering oil tank
5. Brake oil can
6. Washing fluid tank of windscreen
7. Expansion tank
8. Cabin Fuse Box

Check the fluid level of windscreen

Inspect the fluid level of windscreen and fully fill the tank with fluid

Check coolant level

Inspect sealing of filler cap and working conditions

Inspect sealing of filler cap and working conditions

Note: Use recommended anti-freezing solution for the coolant, instead of tap water, well water or river water. Without anti-freezing solution, limescale will be produced in cooling system and causes hot electric motor.

Before add coolant, inspect the electric motor and radiator for leakage. If so, repair the leak. Fill the expansion tank via the filler with coolant to the position between the upper and lower scale marks.

Inspect steering system

Inspect tightening conditions of bolts and nuts of steering system.

Inspect power steering system for leakage. If so, repair the leak.

Check power steering fluid level and add the fluid in case it is low. (Refer to Vehicle Maintenance for details)

is started, stop the engine to inspect or repair.

- Check the coolant temperature shown on LED;
- Check if the speedometer is working properly;
- Check if the tachometer is working properly;
- If battery charging indicator is off.

Inspect the horn

Press horn button and check if it sounds good.

Inspect the lighting

Turn and shift the light switch up/down and forward/backward to check if the lights and indicators work properly.

Inspection of windscreen wiper and washer

Before inspection, ensure the windscreen is clean. Inject washing liquid to windscreen and check the wiper works properly on each speed gear.

Inspection of free clearance of steering wheel and tightening condition

Turn the steering wheel to right and left sides gently while the vehicle is moving straightly to check the free clearance.

Rock the steering wheel axially and radially to check if it is loosened.

Inspection of test run

Inspection of brake

Depress the brake pedal to check response time and efficiency of brake.

Inspection of steering system

During the test run, inspect the steering wheel for any abnormality (shaking, retardation and deviation).

Inspection after test run

Run the vehicle, stop and walk around the vehicle to inspect for leak of oil, water or gas.

Others

Above are all inspection items before driving. In case of any abnormality during inspection, please come to overseas service station of HAT for adjustment or repairing.

Daily inspection items by the driver

Location	No.	Checking item
Exterior of vehicle	1	Inspect tire pressure and if the tire is hurt
	2	Check wheel nuts for looseness.
	3	Inspect the lights
	4	Inspect for leak of oil, coolant and brake fluid
	5	Inspect the leaf spring for any damage

Location	No.	Checking item
Checking of cab interior	1	Check free clearance of steering wheel
	2	Inspect horn, wiper and turn signal
	3	Inspect indicators on the instruments
	4	Check rear-view mirror position
	5	Inspect parking brake
Front hatch	1	Check the tightness of the assembly fastening screws in each electrical component.
	2	Inspect engine coolant level and if the expansion tank cover is loose
	3	Check the insulation layer of the wiring harness for wear.
After high voltage power-on	4	Check the battery eye
	5	Inspect brake fluid
	1	Inspect the instrument and indicators on it(no malfunction signal)
	2	Inspect service brake
	3	Inspect driving system for abnormal noise

Daily Instrument: Verify that the speedometer and tachometer are working properly

Note: When a yellow warning message appears on the instrument, it is necessary to analyze the warning message or notify the maintenance personnel to deal with it. At this time, the vehicle can still drive slowly to move to the appropriate maintenance location. When the instrument appears the "STOP" red forbidden operation message, it is strictly prohibited to forcibly start the vehicle, during the operation of this message, you must also slow down and stop as soon as possible, notify the maintenance personnel to take immediate measures.

Note: Do not drive when the battery charge (SOC) is low, otherwise the battery life will be greatly shortened; Note: When the cooling fan is running, avoid being hurt by rotating parts.

Other anomalies: Listen for abnormal noises.

If everything goes well, relax and enjoy driving.

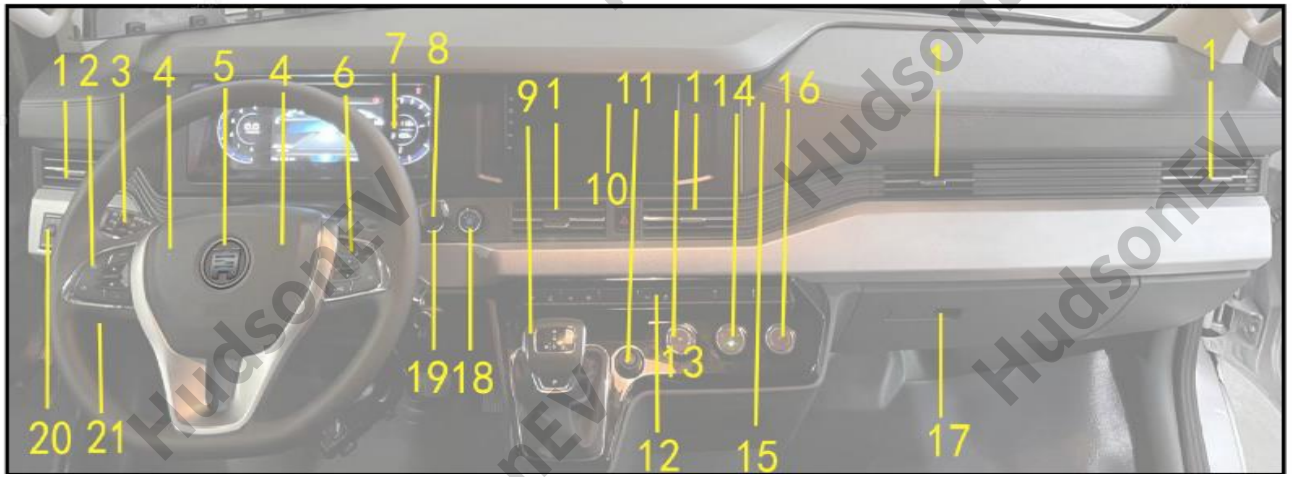
Inspection after each pickup

General inspection of the vehicle to ensure that there is no damage to the battery box, cables, etc.; If the plug-in is not loose, check the voltage difference of each battery through the vehicle battery management system. If the battery voltage is abnormal, notify the maintenance personnel for handling.

Clean the battery box, drive motor and electrical control box once a week, and clean the dust with compressed air. Prolong the service life of electrical components.

Structure Descriptions and Operations

Arrangement of driver zone



1. Air outlet
2. Cruise control button
3. Combination switch - lamplight part
4. Horn button
5. Steering wheel
6. Audio control switch
7. Combination instrument
8. Combination switch- wiper part
9. Gearshift lever
10. Intelligent onboard media
11. Cigar lighter
12. Buttons in the middle of dashboard
13. Fan speed adjustment switch
14. Air vent mode switch
15. Ashtray
16. A/C/heating control
17. Front passenger glovebox
18. Rear A/C switch
19. Rear heater switch
20. Switch on left side dashboard
21. Fuse case cap

Due to technical modifications, your purchased vehicle shall prevail for the specific layout of driver zone.

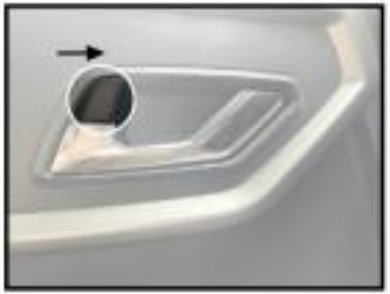
Door

Open and close the door

Outside of vehicle

Insert the key to the lock hole, turn the key towards vehicle head ① and pull the door handle ③ outward to open the door or turn the key towards vehicle tail ② to lock the door.

Inside the vehicle



Push the central control button at the driver door window sill to unlock or pull the toggle switch on the door handle and then pull outward the door inner handle to open the door.

Danger: After the closing of doors, please check once again to ensure that the doors are closed tightly. Driving with doors half-closed is really dangerous.

Sliding door

Lift the lock button, pull the door handle inside outward and push the sliding door to right side to open.

Rear door

Insert the key into the hole as shown in the picture and turn ① anticlockwise, pull the door handle ③ outward to open the door or

turn ② clockwise to lock the door.

Note: The component bears HUDSON on the left tail gate is guard board of license plate, instead of door handle. Never pull the guard board to open the left tail gate.

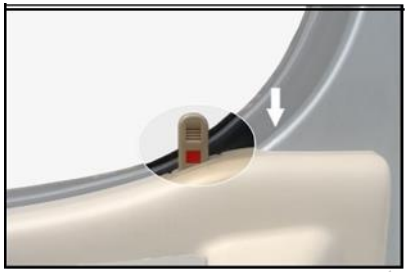
Pull the switch on tail gate as indicated by the arrow to open the right tail gate.

Lock the door

Outside of vehicle

Insert the key to the lock hole, turn the key towards vehicle head ① and pull the door handle ③ outward to open the door or turn the key towards vehicle tail ② to lock the door.

Inside the vehicle



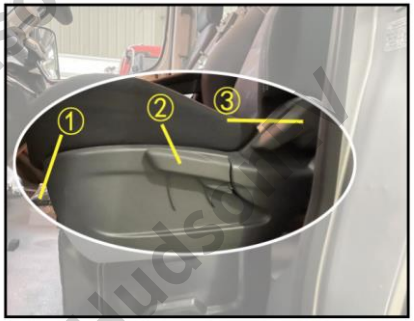
Push the central control button on the driver door window sill to lock or push the toggle switch on the door handle. In such case, the door can't be opened, no matter the door handle is pulled inside or outside of the vehicle. Lift up the button up to release the lock.

Adjustment of seat

Mounting position of seats refers to forward and backward position of seats before delivery:

The driver's seat backrest angle is 20 °±2 ° ; other seats angle is 17 °±2 °.

Normal use of the seat: the driver seat back angle is 20 °±2 °; other seats: 13 °±2 °.



1. Forward-backward adjust rod
2. Seat height adjustment handle
3. Backrest angle adjust lever

Height adjustment of driver's seat

Pull up or push down the seat height adjustment handle ② to adjust the seat height to appropriate position and release the handle to lock the seat at required height.

Tilting adjustment of driver's seat

Lift the lever ① and slide the seat forward or backward where you can easily depress the pedal to the end. Release the lever to lock the seat at the position.

Backrest adjustment of driver's seat

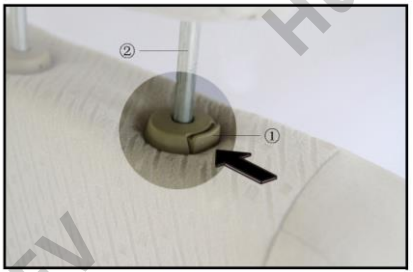
Lift the lever ③ to adjust the backrest to an optimal angle and release the lever to lock the seat at the angle.

Danger: Never adjust the driver's seat during driving.

Backrest adjustment of passenger's seat

Lift the lever ① at the left side of seat or right lower side of seat to change the backrest angle.

Head restraint



Adjust the height of end of headrest to be even with your ears. To

rise the headrest, pull it up. To lower the headrest, push button ① as indicated by the arrow and lower the headrest at the same time. Make sure the headrest is locked after the adjustment.

Seat belt

Safety belts have been provided for driver's seat and passengers' seats.

1. Fasten the safety belt

In case of three-point safety belt, pull the belt out of the retractor slowly and wind the belt around shoulder, root of neck and cheat, insert the tongue at the end into the bucket of other side to engage the belt. Adjust the belt till you feel comfortable.

In case of two-point safety belt, the belt shall go over the waist and the tongue at the end shall be insert into the bucket of other side to engage the belt. Adjust the belt till you feel comfortable.

2. Release of seat belt

To unfasten, press the button on the bucket and the belt retracts.

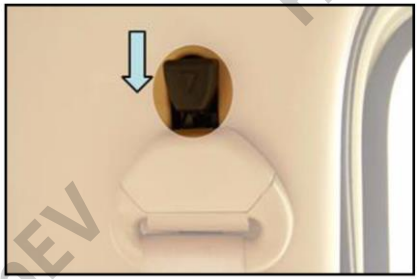
Note: The belt shall not be intertwined, shall not rub with sharp edge or shall not be polluted by chemical articles and battery acid.

Note: One person, one belt

Note: The entire belt shall be changed in case it is impacted seriously or in case of failure or damage of any component.

Note: Change the belt in case of an awkward retractor.

Height adjustment of seat belt (if equipped)



Press the button as indicated by the arrow and adjust the belt height.

Airbag (if equipped)

Driver's airbag is inside the steering wheel and co-driver's airbag is optional.

Note: Occupant shall wear seat belt.

Airbag is a part of restrain system of front row passengers and it does not work unless the occupant has fastened himself/herself by the belt. It fails to protect the occupant independently. The airbag effects when it is suffering great impact. If the occupant is seated in improper gesture, the protection effect of airbag system will be reduced.

Danger: Never leave a child in front row, or it may lead to serious injury or death.

It is extremely danger to leave a child of 12 years

old or even younger, because the child may be shocked by the extending airbag, which leads to serious injury or even death. Such child shall be seated on rear row as possible and be restricted by a restraint system designed for her age and height.

Danger: Never use a rearward-facing child restraint system on front row seat, because the child restraint system may be hit by the extending airbag and moves backward seriously, which may hurt the child seriously and even cause death.

Danger: Never place any object, especially a child, between airbags of front row

Danger: Never adhere any sign or label to steering wheel and airbag of front row.

When the airbag is exploding, the sign and label may hinder the airbag from extending and be thrown to the occupant and cause injury.

Note: Any component of the airbag is specially designed for your vehicle only. It shall not removed and installed on other vehicle models; otherwise it may cause failure of airbag and lead to personal injury.

Danger: when the airbag system is working, never touch the middle of airbag bracket or inside of airbag.

When the airbag system is working, the air generator explodes and produces huge heat and the components touching with the air generator become extremely hot. The hot air generator is dangerous. When the airbag is extending, the steering wheel and dashboard become hot and you may got burnt. When the airbag has extended, do not touch the components inside the extended airbag and

chemical substance may be left inside the airbag. Therefore, when the system has worked, do not touch the components and area nearby and wash your naked skin with mild soap.

Activation of airbag

The front airbag expands in case of medium collision and above in following conditions:

1. Head-on collision to a hard wall at a speed above 22Km/h.
2. Head-on collision to a hard obstacle within the degree of 30;
3. Collision to curbstone, sidewalk steps or hard object;
4. Hard landing or the vehicle drops from a high platform;
5. Drive into a large cave or collide with the far edge of the cave.

The airbag may not be activated

Depending on impact strength, the airbag may fail to expand:

1. Head-on collision on hard wall at speed below 22Km/h;
2. Serious damage to front cover due to collision on tree or pole is not enough to cause the airbag to explode.
3. Rear-end collision or collision to the lower part of a truck may not be enough to cause the airbag to extend.
4. Resistance caused by collision deviated from the front may not be enough to cause the airbag to extend.

The front airbag will not be activated

The front airbag will not be activated in following conditions:

1. Collide on a hard wall frontally at a speed less than 14Km/h.
2. Rollover of vehicle usually does not cause the front airbag to explode.
3. Generally, side impact will not cause the front airbag to explode.

Danger: Never repair the airbag without permission.

Danger: Never drive a vehicle with a damaged airbag sensor.

Danger: Never disassemble the airbag and the sensor without permission.

Danger: airbag on an improperly disposed vehicle or an extending airbag is extremely dangerous. Please consult with overseas

service station of HAT for how to dispose the airbag safely or how to discard the vehicle with airbag.

Sun visor

The sun visor can be flipped down to block the sunlight ahead. In addition, take out one end at the shown arrow position and flip it to the side face for the use.

Combination instrument

1. Tachometer
2. Single voltage temperature
3. Subtotal mileage
4. Speed
5. Gear indicator
6. Total mileage
7. Total current and voltage
8. SOC
9. Indicators
10. Auxiliary battery voltage

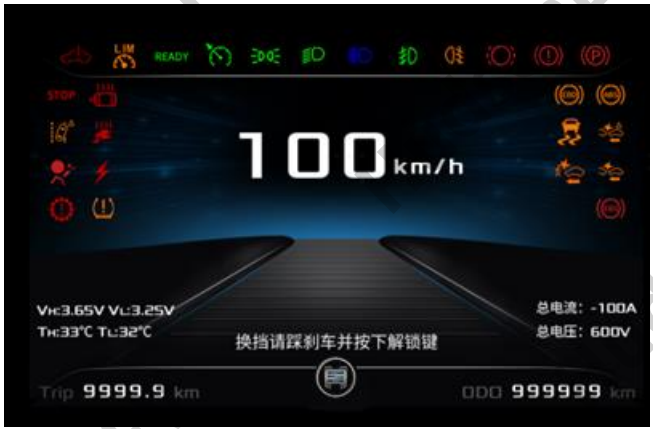
Motor tachometer

The digital display value of the motor tachometer is the instant speed, unit is 1000r/min. Speed range is 0-12000r/min. Motor speed is limited before delivery.

LCD display area

The middle LCD displays real-time speed, total mileage and subtotal mileage. Part of indicator patterns. The normal screen displays the single battery voltage, the maximum and minimum temperature of single battery voltage, the total voltage of the high voltage system, and the total voltage.

When there is a fault warning code, the single voltage/temperature switches to the fault code. To query sub-menu (multi-function steering wheel function key please check cruise control commentary) pages can be turned up and down and key pairs can be selected through the multi-functional steering wheel.

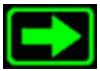


SOC low voltage voltmeter

Separately indicates 1.12V battery voltage, the normal ON gear voltage is greater than 13.5V. If the voltage is lower than 13V, the DC is not working. In this case, the high voltage

cannot be applied. 2. S0C
power

The definition of LED

序号	名称	图标	颜色
1	Turn left		Green
2	Turn right		Green
3	Braking system faults		Red
4	High beams		Blue
5	Front fog light		Green
6	Defronsting heating		Yellow
7	Parking brake		Red
8	Rear fog light		Yellow
9	Safty belt indicator		Red
10	Airbag indicator		Red
11	High voltage charge		Red
12	Power limit indicator		Yellow
13	Doors open		Red

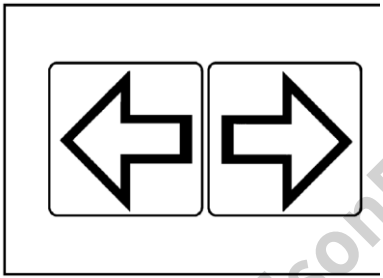
14	Brake distribution indication		Red
15	ABS system alarm light		Yellow
16	Low voltage alarm		Red
17	Motor overheating		Red
18	Operator allowing （ready）		Green
19	Insulation detection alarm		Red
20	Low remaining power alarm		Red
21	Parking warning lights		Red

29	Speed limit indication		Yellow
30	Brake shoe wear alarm		Red
31	Forward gear indication		LCD display
32	Reverse gear indication		LCD display
33	Neutral indication		LCD display
34	Driving mode indication		LCD display

22	Low beam lamp		Green
23	Low speed prompt shutdown indi		Yellow
24	Battery failure		Red
25	Power battery disconnect		Yellow
26	Motor system failure		Red
27	Motor overspeed		Red
28	Cruising instruction		Green

Indicator and alarm lamp

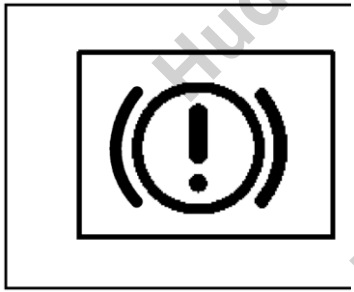
Turn signal/warning lamp



This indicator lamp flashes when the turn signal lamp switch or hazard warning switch is turned on.

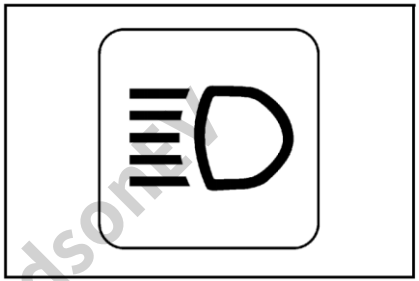
Brake system malfunction indicator lamp

The light is illustrated in case of low brake fluid or serious worn linin



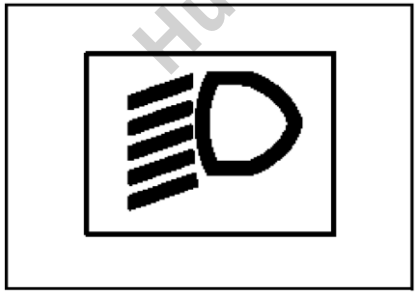
g of front brake shoe to remind the driver of adding brake fluid or change friction lining.

High beam indicator lamp



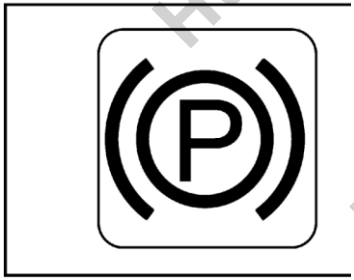
This lamp will be on when the vehicle headlamp is in high beam; when the overtaking lamp is operated, this lamp will also be on.

Low beam indicator lamp



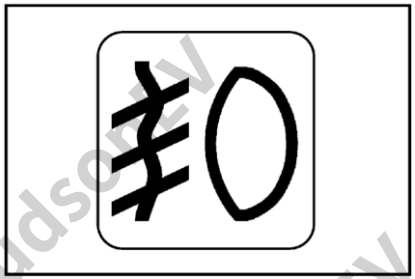
This lamp will be on when the vehicle headlamp is in low beam; this lamp will also be on.

Parking brake indicator lamp



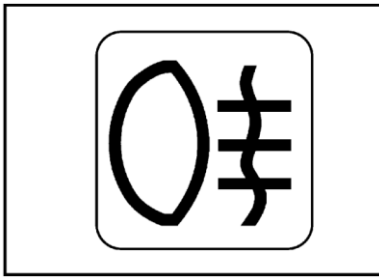
When the parking brake handle is pulled up, this indicator lamp turns on to alert the driver that the parking brake of the vehicle is applied. This indicator lamp turns off when the parking brake handle is released. Ensure that this indicator lamp is off before starting up the vehicle.

Front fog lamp indicator lamp



This lamp turns on when the ignition lock is rotated to "ON" and the driving lamp switch and the front fog lamp switch are turned on.

Rear fog lamp indicator lamp



This lamp turns on when the ignition lock is rotated to “ON” and the driving lamp switch and the rear fog lamp switch are turned on. If the front fog lamp is installed, the rear fog lamp can be turned on only after the front fog lamp is turned on.

Seat belt indicator lamp

When the ignition switch is turned to ON, the indicator is illustrated to remind the driver and passenger of wearing the seat belt. The indicator goes off when the driver is worn the belt.

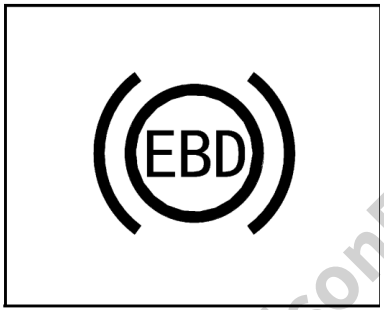
If the driver fails to wear the belt and the vehicle speed is above 15km/h, the buzzer beeps to remind the driver of wearing the belt.

Airbag indicator lamp

The light is illustrated and flashes for 6s when starting the vehicle (once per second) and then goes off. If the light fails to be illustrated or flashes for 6s or is illustrated permanently or flashes during driving, please come to service station for inspection and repairing. If it flashes for 6s and goes off for 1s and then be illustrated again, it indicates the failure of airbag has not been removed. Please come to special service station for inspection and repairing.

Note: Never wash the can with water, especially the position below driver’s seat, where an airbag controller is installed and water may cause airbag indicator to warn.

Brake force distribution indicator



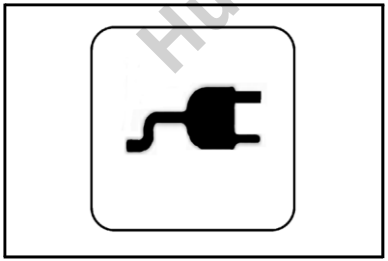
Electric braking force distribution adjusts proportion between front axle and rear axle to improve braking efficiency (and even cut short braking distance) and improve braking stability together with ABS. If the indicator is illustrated, it indicates system failure.

Note: If the EBD warning indicator fails to go off or is illustrated again, it indicates the brake system failure may lead to serious imbalanced braking. Stop the vehicle at once and turn to service agent for help. Never drive the vehicle any further.

High voltage charging connection indicator

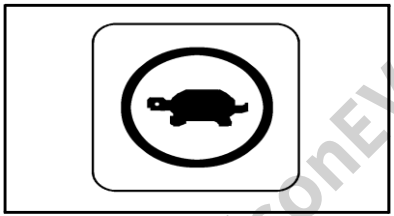
When the fast charge or slow charge gun is inserted into the corresponding charging port and normally charged, the indicator lamp is lit.

If the indicator lamp is not on during charging, check whether the charging gun is properly inserted.

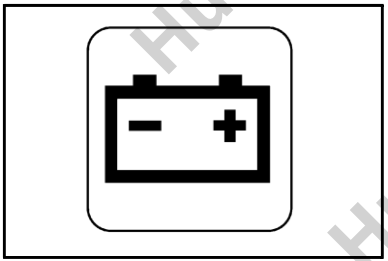


Power limit indicator

When the light is on during driving, the motor speed may be too high or the electric control system of the motor is too hot, please slow down properly.

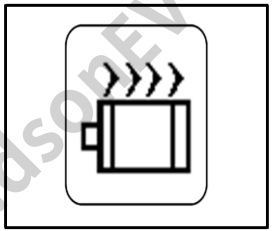


Low voltage alarm lamp



When the battery voltage is less than 13V, the LCD voltage indicator blinks.
The vehicle cannot run normally due to battery voltage loss
For high voltage, please use 12V regular lapping power to power on the battery, and start the high voltage on the vehicle to charge the battery

Motor overheating alarm lamp

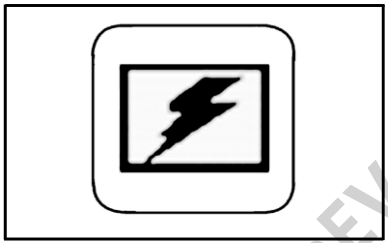


When the motor temperature is too high, the indicator lamp will light. If the indicator lamp is on during driving, please reduce the speed and drive the vehicle to a safe area, open the cabin cover after parking, and check whether the coolant needs to be replenished.

Operating permit indicator lamp

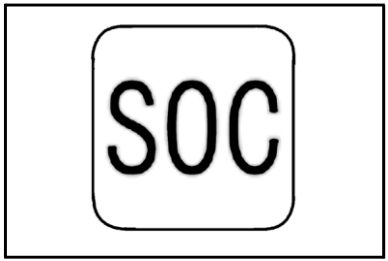
After the key is at ON, press the brake and twist the key into STRA, and the indicator will light up. It indicates that the vehicle is intact to drive.

Insulation detection alarm lamp



When the resistance value of the high voltage circuit drops to a threshold value, the indicator lamp will be lit mostly after the vehicle wades. After the indicator lamp light, please drive the vehicle to the safety area as soon as possible, contact the service station for inspection.

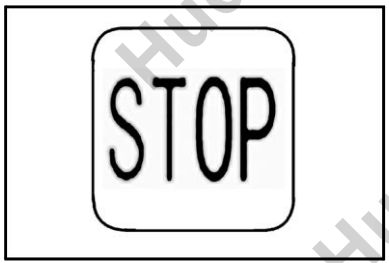
Low remaining power alarm lamp



The remaining battery power is too low and the indicator is blinking. That is a severe warning.

Note: When the indicator flashes, please charge the vehicle as soon as possible to avoid affecting the battery life.

Stop warning alarm lamp



When the vehicle is faulty, the indicator lights up to warn the driver that it must stop.

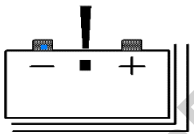
Low light indicator lamp

When the vehicle headlight uses low light, the lamp is lit at the same time.

Turn-off low speed indicator lamp

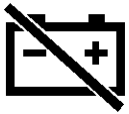
When the corresponding sign of close control button switches reminds to switch, the lamp in the instrument will light up. It indicates the warning tone releases.

Battery fault



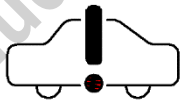
It indicates the battery system fault, such as overvoltage, undervoltage, overcurrent, low SOC , overtemperature and so on.

Power battery connection status indicatio



It indicates that the power battery is disconnected

System fault indication



It indicates the high pressure system failure, should query specific fault content according to the corresponding fault code.

Motor over speed indicator

It indicates that the drive motor is over speed

Cruise indicator

When the speed is more than 40KM/H, press the cruise button in the steering wheel, and enter the cruise mode at this time, and the indicator lamp is lit.

Limit speed indicator

When the maximum speed limit is reached, the indicator lamp lights up.

Gear indicator

D R

N S

D stands for forward gear, R stands for reverse gear, N stands for neutral, and S stands for driving mode change indication. D is the driving economy gear, and when switch from D to S gear, the vehicle will put out full power.

3.Car key

Some cars in this series have two mechanical keys, and some models have a folding remote key to control the vehicle ignition switch, and to open and lock the door, control the ignition lock, and open the charging port.

Central control lock function

Unlocking:

Remote control (if equipped) or KNOB signal control

Lock twice

The remote key unlock the car and after 30 s failed to open the door, automatic closure (if equipped)

Automatically unlock

Collect the airbag signal, the collision signal is effective regardless of the current state, the unlock is still performed, and the danger alarm lamp is working.

Automatically lock

Speed greater than 15km/h, automatic locking. When the key in the ignition switch to ON, or the door is not close, the remote

control doesn't work (if equipped).

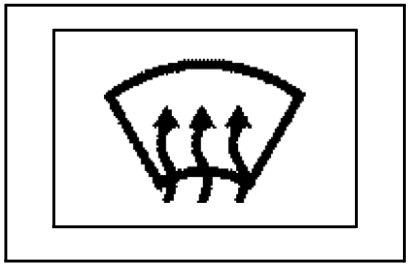
Manual function:

Turn on or off the driver door locking device to lock or unlock. All other doors are locked or unlocked synchronously along with the driver door. (turn signal lamp flashes once) or unlock (turn signal lamp flashes three times).

If you search for the vehicle (if equipped), the turn signal lamp quickly blinks for 5s. Press the unlock button when it blinks then the searching is canceled.

Door not closed and locked:

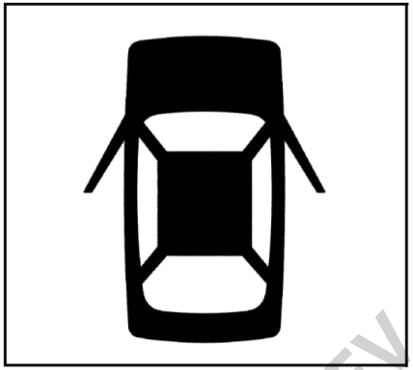
If any door is not closed and locked, all turn signal lamp blink for 30s.



Rear windscreen defrost/demist indicator

The indicator is illuminated when the rear windscreen defrost/demist is switched on.

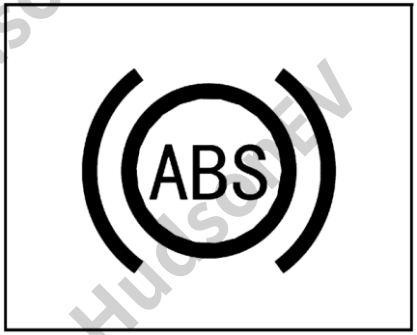
Door open warning lamp



The warning light is illuminated if the door is open or not reliably closed.

Note: It is danger to drive with an unreliably closed door.

ABS warning light



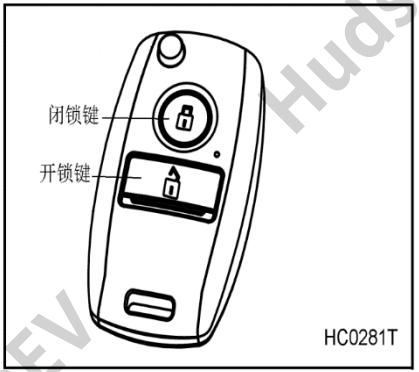
When the ignition switch is rotated to position ON, the ABS warning lamp turns on and then off, which indicates that the ABS functions normally.

If the ABS warning lamp turns on during the running of engine or during driving of vehicle, it indicates the abnormal functioning of the ABS system. Please contact an authorized service station for checking.

In case of ABS failure, ABS fails; however, the brake system still works.

Note: The brake system works well even the ABS fails.

Remote controller (if equipped)



Key switch

LOCK: This position is the position to insert and withdraw the key.

4. Combination switch (lamplight part)

This switch is the combination switch for front position lamp, rear position lamp, headlamp, front and rear fog lamps, backlight, license plate lamp, overtaking lamp and dimmer, and turn signal indicator lamps.

Lamplight switch

In such case, except the immobilizer system and the internal marker lamps, all electric circuits are completely powered off and the steering wheel is locked.

ACC: if it is necessary to use the ACC (radio, player, cigar lighter, etc) while the motor is not working, turn the key to ACC.

ON (connected): after the engine is started, the key will return to ON from START and the motor will operate normally. When the motor is in operation, never turn the key to other positions.

START: Turn the key to START to run the starter and start the motor. Release the key at START and the key returns to ON.

Note: Never turn the key to START when the motor is working; otherwise the starter may be damaged. Never start the motor unless it has stopped

When the end knob of the combination switch joystick is turned forward, according to its position, the lights listed below will be lit

○Illustrated ×Flamed out

Knob	Front illuminating lamp	Front Position lamp Rear position lamp	License plate lamp	Instrument lamp	Side marker lamp
Cut off	×	×	×	×	×
	×	○	○	○	○
	○	○	○	○	○

Turn signal lamp

Push upward or downward the handle to flash the right or left turn signal lamps. Meanwhile, the right or left turn indicator lamp on the combination instrument flashes.

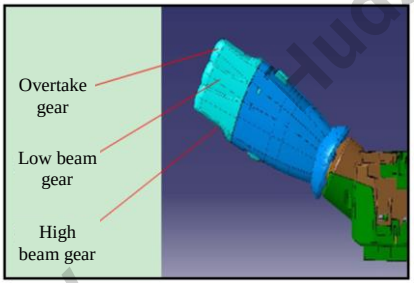
Push upward the handle to flash the right turn signal lamps.

Push downward the handle to flash the left turn signal lamps.

Dimmer switch

Push the combination switch handle forward and backward to realize the dimming function, namely changing from high beam to low beam or from low beam to high beam.

Overtaking lamp switch



Lift the joystick from low beam position to shift to override gear and the high beam is illustrated. Release the joystick and it returns to low beam position. During driving, when the joystick is shifted to

override gear, the override light is illustrated.

Note: the override light is not controlled by ignition switch.

Combination switch (wiper and washer part)

Operation of wiper

Push the switch joystick forward and the wiper starts to work. The wiper can work at 4 speed gears, namely, inching, intermittent, slow and quick. To shift to inch gear, push the joystick forward from OFF, the wiper moves once and the joystick returns. When working at intermittent gear, turn the knob in the middle of joystick to change the interval.

Wash the front windscreen

- Lift the joystick of washer to enable the washer to work and inject washing liquid on glass.
- Release the joystick and the washer stops working.
- When pushing back the switch control lever to its limit, the wiper will be turned off.

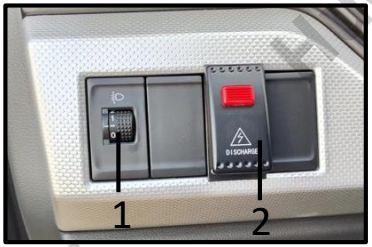
Note: Independent operation of wiper in sunny days may hurt the glass and cause damage to wiper motor. The wiper shall always work with the washer.

Note: The washer motor may be damaged in case of injecting the washing liquid for more than 10s. Use the washer with at least 3s interval.

Note: User shall choose working gear of wiper according to rainfall. In case the wiper works at quick speed gear when the rainfall is small, the wiper motor may be damaged.

Note: The freezing point of washing fluid of windscreen shall be 3~5℃ below the minimum temperature of the area.

6. Switch on left side dashboard



1. Headlamp switch
2. External discharge switch

Headlamp switch

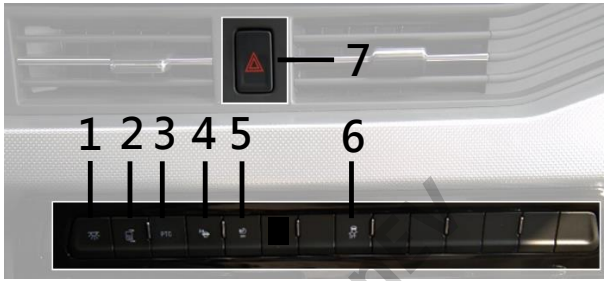
Under different loads, the driver cab will change horizontally to result in the change of irradiation position of headlamp light. Therefore, the low beam of headlamp needs to be adjusted to ensure the correct irradiation position.

Position 0: adjust up the headlamp light beam.

- Position1: normal position, unnecessary to be adjusted

Position 2, 3, 4 and 5: adjust down the headlamp light beam.

7. Buttons in the middle of dashboard



1. Compartment lamp switch
2. Heater switch, rearview mirro（optional））
3. PTC switch
4. Low speed pause switch

5. Forced power outage switch (unplug charging gun)

6. ESC switch

7. Alarm light switch.

Other blank buttons for equipment selection

Compartment lamp switch

Press the button to illustrate ceiling light in the carriage;

Heater switch, rearview mirror (optional)

After the start of engine, press this switch to turn on the rearview mirror heating function.

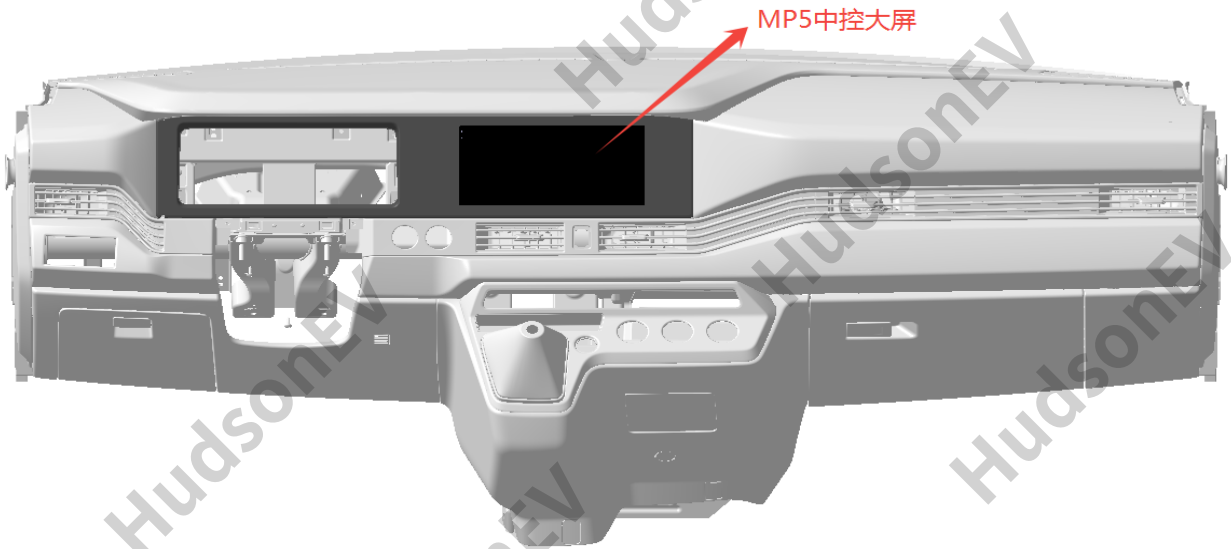
PTC switch

When the blower is working and the high pressure is ready, press this switch to turn on the warm air or defrost heating in the car (strong heat gear).

Low speed pause switch

When the speed is below 20km/h, the vehicle will have a beep (or voice) warning to warn pedestrians to pay attention to safety. According to the driving environment, press this switch to stop the warning tone, and press this switch again to resume the warning tone. When the speed is higher than 20km/h, the vehicle automatically cancels the warning tone.

MP5 player



Location: The MP5 is located on the center panel

Product description:

(1) Reset the system

In case of abnormal situation such as crash caused by improper operation, please press the RESET on the panel with the pen tip to normalize the machine. (Note: Since the reset key on the panel is small, please use a pen tip or similar pointed object to press it)

(2) Start/stop the host

When ACC is on, shortly press the POWER button on the host panel to mute the system. Press the POWER button on the host panel again to restore the sound. Long press the POWER button on the host panel to make the machine display the analog clock interface; Press the POWER key on the touch panel again to return to the previous interface.

(3) Volume adjustment

Adjust the volume of the unit by rotating the volume knob on the panel of the host (the volume control button on the panel of some models is VOL+/VOL-),

(4) POWER button

Press the POWER key on the panel to mute the system, press it again or adjust the volume to restore the sound

(5) Reverse camera

After the vehicle is in reverse gear, the machine is in the ACC on state, and the screen will immediately switch to the reverse camera screen

(6) Operation in the main interface

(7) Voice assistant

(8) Avoid wake instruction

Voice assistants can help you by simply saying the following phrases:

Open the map ->open the navigation application of the Setting, the default system is Amap

Close the map ->close the open navigation app

Open the music ->open the music app

Turn off the music -> close the music app

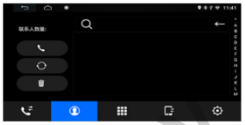
Turn videos on/off, radio on/off, open Kuwo Music on/off, turn Bluetooth on/off, etc. If you need to adjust the volume by voice, you can set the volume by turning up the volume and turning down the volume.

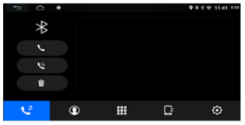
（9） Bluetooth main interface and settings

As shown below:

Settings:

Mainly for Bluetooth device function selection, including Bluetooth switch, automatic connection, automatic response, Bluetooth name modification and Bluetooth PIN code modification.





（10） Bluetooth - Dial/dial out interface

After succeed to connect the Bluetooth, the user can dial directly by entering the phone number on the touch screen and then touch the green icon to make a call. If an incorrect number is entered during dialing, touch the red icon to delete it onr by one and long press the red icon to delete all numbers.

（11） Phone books and phone records

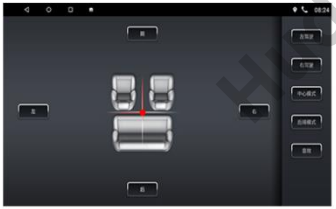
After the Bluetooth is connected, enter the phone book and phone records

Dial the number in the phonebook/records

Records of missed numbers

（12） Vehicle setup

Sound setting: The setting of the sound type, the user can choose classical, jazz, pop and other music types, the effect can be adjusted according to users' preferences.



Sound field setting: Sound field balance mode setting

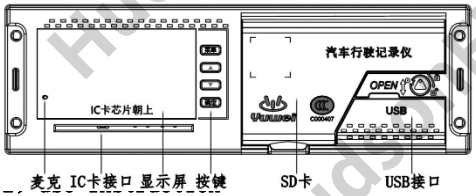
（14） Basic settings

The basic settings include brake, headlight detection, key prompt tone, reverse image, reverse mute, voice icon, etc.

The above are the basic operation of MP5 central control large screen. For more information, please refer to the attached MP5 operation manual.

（15） Radio interface

(1) front panel function key



2.1 press button

There are four buttons on the main panel. They are Menu button, OK button, and

Menu: Switch between the display interface and the menu interface, and the subdirectory return to the root directory.

“▲”: Scroll up to select, complete the selection of functions or data column.

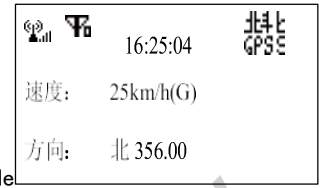
“▼”: Scroll down to choose, and complete the section of function or data column.

OK: Confirm the function or data column

2.2 Description of the standby page

After the host is powered on, the following page is displayed

The interface is also one of the interfaces displayed in standby mode



2.3 Icon description

The GSM signal, The longer the bar , the stronger the signal

No SIM card is inserted or the SIM card is abnormal

“b” represents the number of effective Beidou positioning satellites, and “8” represents GPS Number of effective location satellites

The GPRS signal. If there is a box point in the lower right corner, the center is connected. If there is no box point there, the center is not connected

the location antenna is disconnected.

SD card does not exist

SD card exists

The SD card data format is abnormal

Not recording

Video recording is saved.

Icons may be added or changed due to the upgradation of the device.

(3)Active reminder and alarm instructions

3.1 The driver is not logged in

When the driver is not logged in to drive the vehicle, the terminal will prompt "you are not logged in, please stop and insert the card", and the driver will be prompted to log in within 5 minutes, and the displayer will display the message of not logging in at the same time, the remind frequency is once a minute.

Avoid prompt method: Stop and insert driver's card.

3.2 Driver information recording

When the vehicle starts to drive, the terminal will prompt "Please look directly at the camera" and take a photo.

3.3 Starting self-test

The terminal performs a self-test each time it is fired, and "starting self-test" is displayed once. After the machine self-check is completed, if the self-check is normal, then it will prompt "self-test is normal" once. If an exception is detected, the source of the first self-check exception will be displayed. For example, the communication module is abnormal, it will continue to prompt "self-test exception" at the frequency of once a minute within 4 minutes.

3.4 Overspeed Alarm

The terminal determines the driving speed according to the set of early warning and alarm speed threshold. When the driving speed exceeds the early warning value, it will prompt once "You are about to be overspeed, please drive at a safe speed". When the driving speed exceeds the alarm value, it prompts "Please note that your car has exceeded the speed limit. Please slow down." at the frequency of 2 times a minute

The Timeout Alarm

Provide an early warning message "Approaching timeout, please take a 20-minute rest" respectively before 1 hour and 45 minutes of timeout driving. Within the last 30 minutes before reaching the timeout limit, a group of hints will be given every 5 minutes, with each group consisting of three times more frequent early warning messages displaying the continuous driving time. After exceeding the allowed driving time by four hours, a prompt message "Excessive driving detected, you have been driving for xx hours xx minutes" will be displayed once per minute along with the continuous driving time.

Avoid prompt method: Control continuous driving time.

3.6 USB Flash Drive SD Card Prompt

When you insert an SD card, the message "SD card is inserted" is displayed.

When the SD card is removed, the message "SD card is removed" is displayed.

When the USB flash drive is removed, the message "USB is removed" is displayed

If an exception occurs during data extraction, a prompt will be displayed"

Insufficient USB flash drive space or Data extraction terminal".

Method to avoid warning: None.

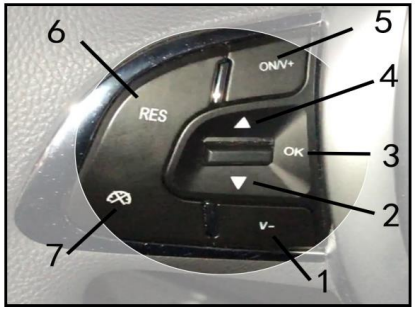
product, the functions are subject to the actual object.

3.7 Enter and exit area alarm

When the vehicle enters the area or leaves the area, the alarm is triggered, and according to the different areas, it prompts "you have entered the XX area", "You have left the XX area", "Please note that you have entered the XX area", "Please note that you have left the XX area".

Avoid prompt method: Do not set the area, or set the area and driving within the allowed range.

Note: Due to the requirements of the subsequent upgrade of the



1. Cruise control deceleration
2. Instrument menu down
3. Instrument option confirmation
4. Instrument menu up
5. Cruise On/acceleration
6. Cruise resetting
7. Cruise quitting

Cruise function

On the flat road, the motor electronic control unit could take the place of driver to control the traveling speed, and driver merely holds the vehicle direction.

Cruise activated

When the vehicle traveling speed is >58km/h under normal driving condition, press ON/V+ to activate the cruise control mode by using current vehicle speed as target vehicle speed and the cruise control indicator lamp on the instrument turns on.

Cruise target speed adjustment

After the cruise is on, if you need to adjust the current set speed, you can tap ON/V+ or V- to accelerate or decelerate respectively. The maximum cruising speed is the maximum vehicle speed.

Overtaking while cruising

For overtaking, driver should depress the accelerator pedal, making vehicle entering into overtaking mode. With the accelerator pedal depressed, vehicle keeps speeding up; the accelerator pedal released, vehicle quits the overtaking mode and travels at the speed before overtaking.

Cruise suspended

Depress the clutch pedal or the traveling brake pedal, suspending the cruise and its indicator not lighting up. Namely, there is no needing for cruise torque.

Cruise resumed

When the complete vehicle meets the conditions to resume the suspended cruise, slightly depress the combine switch RES, so that vehicle enters into the cruise at the speed remembered last time.

Quit cruise

Press cruise stop button.

When the speed is lower than 58km/h, the cruise automaticly quits.

Note: only on the relatively safe road can the cruising control the vehicle speed by itself, with vehicle's direction and gear-shifting still controlled by driver. Namely, driver should know that the cruising never be equal to the automatic driving.

Do not use the cruising in case of jammed traffic, poor road, rainy, icy, snowy and foggy weather.

Emergency brake warning system (if equipped)

When the vehicle speed reaches more than 50KM, once the emergency braking (need to reach a certain threshold), all the turn lights will automatically flash quickly, warning the rear vehicle to brake sharply. The rear vehicle senses that the front car is braking sharply and can brake in time.

When press the brake and release it or reaccelerate the car (need to reach a certain threshold), the danger warning lamp will be automatically off, informing the rear vehicle to release the brake. You can also manually press the danger alarm switch twice to turn off the danger warning lamp and cancel the emergency brake alarm.

Front reading lamp

O position

When the vehicle door is opened, the roof lamp will be lit. When the vehicle door is closed, this lamp will be off.

OFF position

The roof lamp is not lit whether the vehicle door is at any position.

ON position

The roof lamp maintains lit whether the vehicle door is at any position.

Compartment lamp

Its switch is at switch group at middle of instrument panel.

Parking sensor (if equipped)

Beside of the careful driving, parking sensor cannot undertake your responsibilities.

It is possible that the sensor cannot sense any item on rainy or when its reflectivity is damaged.

In addition, when the road could absorb the ultrasonic waves, the sensor cannot detect any item either.

Sensor may not detect the object nearby vehicle (approximate 30cm away from the tail of vehicle, or from the upper or lower part of sensor)

When you clean vehicle by using a high pressure gun, gently wash the sensor at 20cm away at least.

Notice: the parking sensor could give out the wrong warning when it detects the frequency of a signal same as that of sensor or when vehicle is full loaded.

Besides, the parking sensor could also sense the hook latterly installed. The parking distance control is merely to detect, not display, the distance from the bumper to the obstacle.

Note: the sensor should be free of any dust, ice, snow and others. Do not clean it with the sharp objects.

When the ignition key is turned on and the transmission is shifted to R, the parking distance control starts up by itself.

Within 100~150cm of distance from the obstacle to rear bumper, you will hear an intermittent warning sound. The shorter the distance is, the quicker this warning sound becomes. At 0~40cm, the warning sound becomes the continuous ringing sound.

Notice: For the vehicle installed with four sensors, the measuring range is 150cm for two central sensors and 60cm for two corner sensors.

Notice: For the vehicle installed with three sensors, the measuring range is 150cm for all sensors.

Notice: If all sensors are normal, the controller sounds once. If one or more sensors are malfunctioned, the controller sounds continuously in variable frequency for 5s. In event of any malfunction, the system turns off automatically. Check as soon as possible.

Note: on rainy days or foreign material attached on sensor, it is normal that the controller keeps beeping, and please timely clean the sensor.

Air conditioning system

Ventilation device

There are 5 vents on the instrument panel, with controller switch ① controlling them to swing upwards, downwards, leftwards and rightwards, so as to adjust the direction of air flow.

Knob ② could be rotated leftwards and rightwards, closing or opening the vent.

Air conditioner

1. Fan speed adjustment switch
2. Air vent mode switch
3. A/C/heating changeover switch (A/C switch)

1. Fan speed adjustment switch

The fan speed adjustment switch totally has 16 speed positions. When this switch is in OFF, the fan is stopped. Rotate clockwise the knob from the OFF to increase the fan speed gradually.

2. Air vent mode switch

Turn the switch to the desired mode as required.

— Blow to face

— Blow to feet

— Blow to face and feet

— Interior heating and door/window defrosting

— Door/window defrosting

3. A/C – heater changeover switch

Press A/C switch to turn on A/C, indicator lighting up and meaning the power is ON. A/C begins to work. At this time, the air temperature could be adjusted working this knob.

The red zone indicates heating mode and the blue zone indicates A/C mode.

Counterclockwise turning it – the air temperature at outlet gradually goes down.

Clockwise turning it – the air temperature at outlet gradually goes up.

Note: in order to have the air conditioned better, the windows and doors should be closed while A/C is running.

It is bound that the interior temperature goes up when the vehicle stays in sunshine for a long time, and therefore, open the doors / windows for a while to have the compartment ventilated and then close them.

Rear A/C warm air switch (if equipped)

The rear A/C heater switch is used to condition the air in the passenger zone. Namely, when the passenger needs cool or warm air, turn on the air regulator in driving zone and then the rear A/C switch.

Note: as heater makes use of engine coolant temperature to warm up the ambient air, the warm air temperature is dependent on the coolant temperature.

Note: with engine shutdown or idling, do not use the A/C for a long time, which otherwise may over-consume the battery and impair the normal traveling.

Note: before running at low speed for a long time or uphill running for a long term, shift the transmission to I-speed gear and increase engine rpm, so as to alleviate the engine load.

Note: it is needed to wait 2~3 min before restarting the A/C, which otherwise may shorten the life span of compressor.

Note: the A/C should be turned on to have it run for approximately 10 min. once every month even in winter, so as to keep the A/C service life unchanged.

Vent at top (if equipped)


Correct opening direction

There are air vents at both sides of ceiling.

Please open the vents according to the correct directions shown in above pictures.


Correct closing direction

Please close the vents also according to the correct directions shown in above pictures.

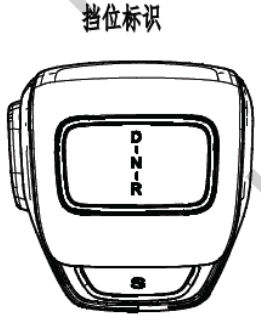
Note: opening / closing of vents in a wrong direction may have the vanes over-stressed and then drop off. However, the fallen vanes merely need to be re-snapped on.

Tilting points

For inspection and maintenance of vehicle chassis, there are four tilting points beneath the vehicle body: two points are at the metal plate beneath the vehicle body and at rear side of front wheel; the other two at the metal plate under the middle part of vehicle body. For details, see the position when the sliding door is fully opened and its symmetry.

Lever, steering wheel and accessories

Transmission control knob



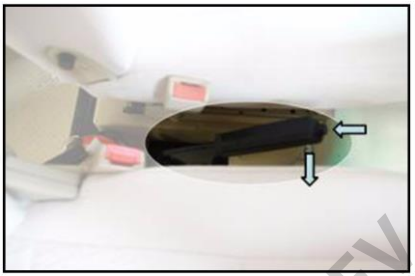
N: neutral

D: Forward gear

R: Reverse gear

Note: When changing from forward gear to reverse gear, or from reverse gear to forward gear, be sure to compeletly stop the car before operating.

Parking brake handle



Parking

Uplift the parking brake to the end.

Loosening of parking brake

Slightly uplift the handle, then press down the button at the end of handle, and at last push it to the end.

Caution: Please try to park your vehicle at flat place.

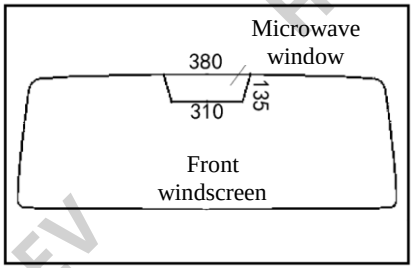
Ashtray

To use the ashtray, push it inward to automatically pop up the ashtray. To close it, push it inward as per same method.

The inner bucket and the outer cover of the ashtray are in split structure. To clean the ashtray, directly pull out the inner bucket of ashtray for cleaning.

Note: before leaving vehicle, close the ashtray for safety.

Micro-wave window



Up to now, the micro-wave window of cab is at middle-upper part of

front windshield, with the dimensions shown above.

Cup holder at door

There are cup holders at front-left and front-right interior door, for driver and passenger.

Map bag and cup holder at door

The front door inner guard plates are provided with cup holder and map bag for the driver and passenger.

Outside rearview mirror – with wide-angle lens and side turn lamp.

The rearview mirror and the lower wide-angle mirror should rotate to any direction, to reach the best rearview effect.

While the side turn lamp is in use, the one on outside rearview mirror is also flashing.

Note: do not over-estimate the distance to the item seen on rearview mirror, because the item in rearview mirror looks smaller than the actual one and farther than the actual distance.

Switch of power outside - rearview mirror (if equipped)

1. When the knob indicator is in O position, the exterior rearview mirror faces can't be adjusted.
2. When the knob indicator is in L position, the left exterior rearview mirror face can be adjusted. Push the knob leftward and rightward to flip the mirror face leftward and rightward and push upward and downward to flip the mirror face upward and

downward.

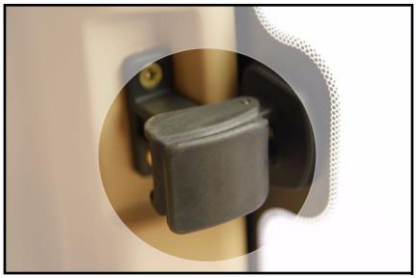
3. When the knob indicator is in R position, the right exterior rearview mirror face can be adjusted. Push the knob leftward and rightward to flip the mirror face leftward and rightward and push upward and downward to flip the mirror face upward and downward.

Note: do not change the rearview mirror' angle while vehicle is running, which otherwise is prone to cause traffic accident.

Internal rearview mirror (if equipped)

Some models of vehicles are equipped with anti-glare interior rearview mirror which should be properly adjusted to prevent against glare in night.

Rear window (if equipped)



To open the side window for ventilation, pull its locker open and then push the window outwards.

Safety hammer (if equipped)

Located at left-front direction of interior compartment wall, the hammer could be taken down to break the glass in case of emergency.

Fire extinguisher

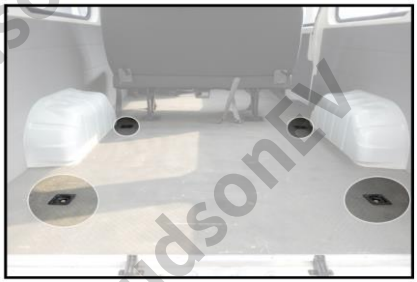
The fire extinguisher is fixed at right-rear direction of driver' seat or near a seat and could be taken off for use. The positions of fire extinguishers on some vehicles may differ from the pictures and thus are dependent on the vehicle model you purchased.

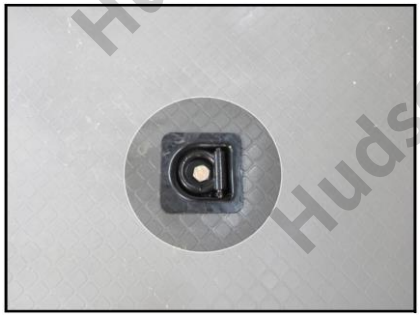
Tool box (if equipped)

There is a tool box under driver's seat. To use it, move the driver's seat to the forefront, exposing the tool box shown in the picture.

The on-board tools for some models are put in the tool box and then stored in the glove box at right of instrument panel in cab.

Rings for fixing of goods (if equipped)





Quantity of fixing rings is dependent on the vehicle model.

Note: all the loosened goods in compartment should be properly secured up. Furthermore, all the luggage and other loads should be as low as possible and put in the front part of compartment as possible as you can.

Note: with the back door opened, do not drive away, otherwise, the exhaust gas may enter inside of compartment.

Note: do not overload the front and rear axles.

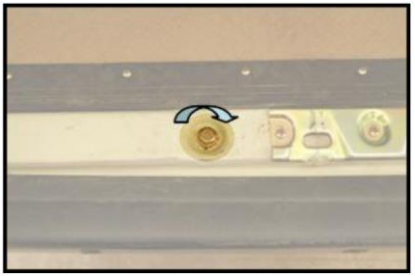
Charging

The fast and slow charging ports are located below and above the driver's side door respectively. Open the charging port cover as shown in the figure, insert the car key and turn clockwise to charge.

Removal and installation of fuse box in cab

The fuse case cover plate is fixed by several clamps beneath the instrument panel body and on the left lower corner of steering wheel. To repair the fuse case, directly pull out the cover plate and check and repair the fuse case. If required, while disassembling the fuse case, loosen two upper fastening screws of fuse case by screwdriver and directly pull out the fuse case.

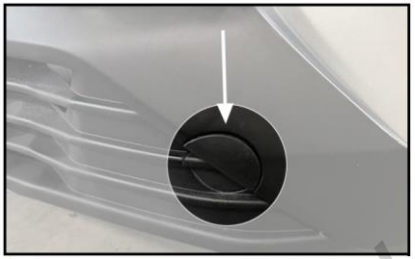
Spare tires

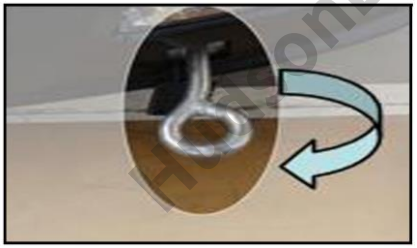


Located beneath the tail, the spare tire should be replaced in the way shown below: firstly open the back door, loosen the bolts at the sill of back door until the hook securing spare tire is loosened, then the spare tire could slip down by dead weight.

Vehicle towing

Front towing hook





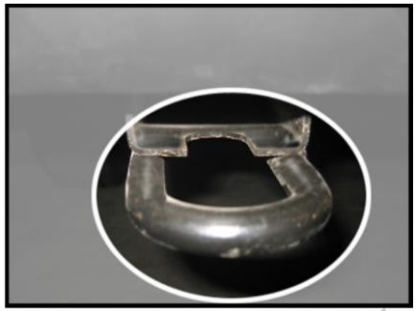
The long hook for towing of vehicle should be put in the tool box and could be taken out if needed.

Installation of hook

1. Open the plug beneath the left-front lamp with a screwdriver.

2. Insert a hook and tighten it, ready to be available.

Rear hook



Rear hook is at the left of vehicle tail, and is available directly.

Note: when the paid load exceeds 2000kg, vehicle speed cannot exceed 90km/h.

Driving of vehicle

Motor startup

Brief description of electrical system

The electric system of this car is divided into two sets, high voltage and low voltage electric system. The high voltage system controls the driving of the vehicle and the auxiliary driving power equipment. The power supply of the low-voltage power system consists of a DC voltage converter (DC/DC) and a 12V lead-acid battery (the auxiliary battery). The DC voltage converter (DC/DC) and the auxiliary battery are connected in parallel through a fuse. The DC/DC input is from the high-voltage power supply (the DC/DC starts to work after the high-voltage and low-voltage power-on (ignition) key is hit ON or when it is charging), and the high-voltage power supply charges the auxiliary battery of the low-voltage power supply through the DC/DC. Provide vehicle instrumentation, lighting, wiper, audio, air conditioning control and fan, water pump, vacuum booster pump and other equipment power supply. The low voltage power supply also provides the control power for the high voltage electrical equipment.

Before startup

1. Before entering the car, check the surrounding situation of the vehicle to confirm that there is no other object around the car.

2. If it is the first time in a day to start the vehicle, please check the maintenance: lubricating oil, coolant level and remaining power

(SOC). Do not drive when the battery charge (SOC) is low, otherwise the battery life will be greatly shortened.

3. Check all windows and lights.4. Visually check the appearance and condition of the tire, and also check the tire pressure.

5. Adjust the seat position, seat backrest angle, the height of head protection device (headrest) and steering wheel angle.

6. Adjust the vehicle's internal and external rear mirrors;

7. Close all the car doors.

8. Fasten the safety buckle and require all passengers to do so.

Normal high and low voltage system start and stop method starting procedures

Turn on the main switch of the low-voltage power supply (if equipped)

Switch the ignition key from "OFF" to "ACC" to "ON". At this time, the low-voltage system (12VDC) is powered on, the meter and battery management system start to work, and the DC/DC also starts to work (you can see that the auxiliary battery voltage also starts to rise). The instrument shows the low-voltage voltage (normal value is 11.5V~13.5V, beyond this range indicates that the low-voltage battery may fail or there are other serious faults), the high-voltage power supply voltage and other relevant parameters, the system starts the self-test of the low-voltage part, and the hydraulic booster pump starts to work. Observe that the displayed parameters are normal.

3. When the foot is off the accelerator pedal, switch the ignition key from "ON" to "START" and hold for more than 2 seconds before releasing. At this time, the high voltage is powered on, and the sound of the water pump can be heard. The instrument system starts to receive and display the data of the battery management system and motor controller in real time. At the same time, the instrument also displays brake, ABS and other sensor information. At this time, the system also starts the high-voltage self-test. If the self-test is abnormal, the instrument will display a yellow warning message or a red STOP message.

Danger: When a yellow warning message appears on the instrument, it is necessary to analyze the warning message or notify the maintenance personnel to deal with it. At this time, slowly drive the vehicle to the appropriate maintenance place. When the instrument appears the "STOP" red forbidden operation message, it is strictly prohibited to forcibly start the vehicle. The message appears during driving, you must also slow down and stop as soon as possible, notify the maintenance personnel to take immediate measures.

After the self-test is passed, the instrument displays "READY" indicating that the vehicle can be driven after press the electronical peddle as long as it is on the forward or reverse gear.

Note: If you quickly switch the key from "OFF" to "START", only the low-voltage system will be switched. And the high-voltage system will not be switched on for the purpose of preventing misoperation. At this time, release the key switch, and naturally return to the "ON" position, and then switch to "START", the high-voltage switch will be connected.

4. After high-voltage power-on, check whether the home page and other pages of the battery management system and instrument display are normal.

5. After everything is normal, select the gear (forward/backward), release the handbrake, and step on the electronic accelerator to drive.

6. When the temperature is low, the heating of turbine need to warm for 5-10 minutes to start after the first startup.

Normal outage procedure

1. Release the electronic accelerator, press the brake pedal, and wait for the vehicle to stop.

2. Switch the ignition key to "OFF", disconnect the high voltage power supply, and remove the ignition key.

3. Turn off the low-voltage main power switch (if equipped).

Note: After the high voltage power goes off or the high voltage is not powered on, if the ignition key in the "ON" or "ACC" position for a long time, it will cause power consumption of the power battery.

Danger: If a high voltage short circuit or battery smoke occurs, perform the following operations immediately.

1. Turn off the high and low voltage power-on (ignition) switch.

2. Turn off the low-voltage main power switch.

3. Evacuate people.

4. Open the front hatch cover and disconnect the quick connector between the main positive of the battery enclosure and the high voltage distribution box.

5. Use dry powder fire extinguishing agent to extinguish and cool the smoke point.

6. Notify relevant departments immediately.

High and low voltage cannot be connected

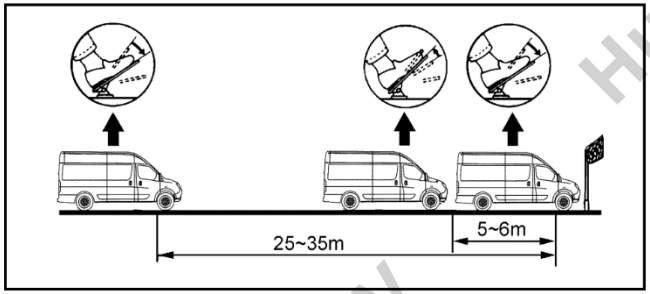
Note: If the duration of the ignition key switch from "ON" to "START" is less than 2 seconds, the high voltage cannot be powered on.

Note: When the auxiliary battery has no power, the high and low voltage circuit cannot be connected.

Note: If the drive motor overtemperature, should focus on checking the cooling water system.

Note: Do not start the car by pushing or pulling, because you cannot start the electric car with this method.

Braking



To smoothly stop the vehicle, refer to the following procedure for operation of the brake pedal:

1. At 25~35m away from parking destination, depress the brake pedal by 1/3~1/2.
2. At 5~6m distancing from the parking destination, slowly release the pedal.
3. Near the parking destination, slightly depress the brake pedal to completely halt the vehic.

If the brake pedal is kept depressed down, the vehicle will sharply stop within the short time.

Washing or wading of vehicle may have water get into the brake drum, reducing the brake efficiency. In such case, depress the brake pedal a few times while traveling at low speed, so as to evaporate water and making sure the brake could work normally.

Dangerous: since the sudden braking is highly likely to overturn vehicle, do not do the sharp braking unless needed, especially on slippery road.

Anti-Lock Brake System (ABS)

Anti-lock brake system (ABS) could prevent the wheel from being locked, thus helping driver to control the steering and without special driving skill.

At normal braking (when the road friction force is high enough to prevent the wheels from being locked), ABS will not be activated.

Electronic brake force distribution system (EBD) is

an auxiliary function of brake system. As long as one sensor is failed, ABS will not work any more. In such case, EBD will be activated to provide the reasonable distribution of brake force and thus to prevent vehicle from drifting.

Important rules of ABS under sharp braking

1. Depress down the clutch pedal and step down brake pedal to the end.
2. To steer vehicle around the obstacle, control the steering wheel, regardless of how hard it is to brake vehicle.

Important details of ABS under emergency braking

When you encounter an obstacle and need to turn, no matter how difficult to brake, control the steering wheel.

ABS functions

ABS will be activated, when the brake force so exceeds the adhesive force between tire and road that one or more tires are locked out. Meanwhile, driver will hear the high-speed pulse or feel the feedback through the brake pedal.

At emergent braking, do depress down the clutch pedal and step down the brake pedal to the floor, even though road is slippery. As soon as ABS is activated, speed of each wheel is kept monitored. Brake force of each wheel could be changed according to the road adhesive force.

That could prevent the wheels from being locked while ensuring the steel wheel is under control.

Note: at normal braking, apply the steady force to the brake pedal, do not forcefully step it down.

Note: steering wheel should be kept under control while vehicle is braking.

Note: ABS cannot eliminate the risk existing when vehicle is very close to the front one, road is slippery or when the steering is too fast.

Notice: The anti-lock brake system (ABS) is not functioned to shorten the braking distance.

Note: it is normal and thus don’t be nervous when you hear or feel

the pulse from brake pedal, which means that ABS is working.

Parking

Precautions for parking

- Do tension up the parking brake every time vehicle is stopped, to avoid vehicle moving away accidentally.
- Shift to other gears than the neutral gear, I-gear suggested to be preferred.
- To park on a slope, it is suggested to wedge the wheels, to prevent vehicle from moving away.

Caution: before driving away, make sure the parking brake is completely released; otherwise the brake will be overheated, dropping its performance and prematurely wearing the central brake lining.

Slope driving

During the downhill traveling, effectively use the service brake or the low-speed gear, so as to keep the vehicle speed in safe and controllable range. Especially, before the long downhill, shift to low-speed gear and meanwhile control the vehicle speed through the engine and the brake system.

During the downhill traveling, effectively use the service brake, so as to keep the vehicle speed in safe and controllable range.

Before the steep slope or long one with slight grade, check if the brake works normally.

Before the long slope or the high-speed gear being shifted to low-speed gear, it is needed to check the vehicle speed by observing the speedometer.

Danger: It is strictly prohibited to turn off the motor or glide in neutral when going downhill.

Use of triangle warning marker

In case of any failure, firstly turn on the hazard warning lamps,

take out the triangle warning marker and put it at 50~100m behind vehicle (150m on the highway), with the red reflection surface facing backward.

Vehicle Maintenance and Mileage

New vehicle running-in and maintenance

Correct running-in of new vehicle could make

the vehicle work more longer and more reliable.

Running-in mileage for new vehicle is stipulated at 5000km. Only after 5000km of running-in mileage, can the vehicle power reach the max.; otherwise motor parts will wear early due to lack of power or premature overloading.

Before running-in

- Clean the vehicle, and carefully check each component for tight connection;
- Check if the coolant level in radiator is proper and if the cooling system leaks.
- • Check the oil level respectively in engine, clutch control system, transmission, rear axle and power steering system, and add it if needed, and check if each part has oil leakage.
- Check if the steering mechanism is loosened up or stuck.
- Check if the brake works normally, and if each joint is free of any leakage.
- Check the electrical appliance, the lamps and the instrument for normal work, and the battery for the electrolyte level.
- Check if the tire pressure is satisfied;
- Check if each gear of transmission could be correctly engaged.

Running-in period

Please travel on the good and flat road.

Smoothly engage the clutch, timely shift the gear, and it is prohibited to make the gear-shifting delayed and dash forward. In addition, avoid the sudden acceleration and braking.

In running-in, the paid load cannot exceed the 70% of rated load.

Frequently pay attention to the temperatures of brake drum or brake disc, and find out the root causes if it is overheated and do the regulation or repair if needed

Furthermore, pay special attention to temperatures of engine oil pressure and engine coolant.

After running-in

After running-in, please go to the HAT authorized service station for running-in maintenance that should be carried out by following “Periodic Maintenance Schedule”.

How to drive safely and economically

In order for the car to have a long life and be driven economically, it is necessary to regularly visit services station approved by HAT to maintain the car according to the maintenance standards.

The correct driving method can not only extend the life of the vehicle, improve economic benefits, but also have a great impact on safe driving.

The economy of driving (ton-kilometer power consumption) varies greatly according to the driver's driving habits and specific operating conditions (air temperature, road conditions, etc.). Saving electricity helps to extend the service life of the vehicle (reducing wear on brakes, tires and drive motors, etc.). Here are some tips to save electricity and repair costs and safe driving methods.

• Start-stop: Slow and steady acceleration and deceleration. Avoid rapid acceleration, rapid deceleration, sudden braking will accelerate the tire and brake friction wear.

• City driving: Frequent low starts and stops increase average power consumption。 Avoid driving in areas with heavy traffic or traffic jams whenever possible. Drive on smooth traffic roads whenever possible.

• Speed: Maintain an appropriate speed on fast roads. The higher the speed, the more power consumption, to avoid full speed. Even a slight release of the accelerator pedal can effectively reduce power consumption.

• Tire inflation pressure: Check the tire inflation pressure regularly. Low tire inflation pressure increases road resistance, which increases power consumption. In addition, the tire inflation pressure is too low, which has an adverse effect on tire wear and driving stability. Load: Do not load the vehicle with unwanted heavy objects. Especially when driving in the city, to start and stop frequently, and the additional weight of the car will greatly increase the power consumption. It is absolutely not allowed to overload the vehicle, which will shorten the service life of the vehicle;

• Avoid excessive battery discharge in cold weather. Start driving slowly in cold weather to avoid high current output when the battery is not activated. Note that the battery takes longer to warm up in cold weather.

• Avoid long waits. If the traffic is not busy in the area and to wait for a long time, it is best to turn off the high and low pressure power, and then start again.

• Avoid overspeed of the drive motor. The appropriate speed should be selected according to the road conditions.

• Avoid continuous acceleration and deceleration. Stop and continue driving wastes energy.

• Avoid unnecessary stopping or braking. Maintain a steady speed. Driving with the signal of the traffic light can minimize the number of stops, or use thoroughfares without traffic lights. Keep a proper distance from the car in front to avoid sudden braking. This will also reduce the wear of brake and tires.

• Keep your foot away from the brake pedal. This can cause premature wear, overheating and a large consumption of electrical energy.

• The front wheel should be properly positioned. Avoid hitting rocks and driving slowly on rough roads.

• Excessive tire wear will also increase the load of the driving motor, in other words, it is a waste of electrical energy.

• The chassis should be kept clean and free of mud and other materials. This not only reduces the weight of the body, but also prevents corrosion.

• Adjust the vehicle and keep it in optimal working condition. Oil and lubricating oil is not clean, brake is not adjusted, etc., will affect the working efficiency of the vehicle should consume more electric energy. In order to maintain a long service life of each part and reduce operating costs, regular maintenance should be carried out. If you often drive in harsh conditions, you should carry out more frequent maintenance of the vehicle.

Note: Because the vehicle is equipped with power steering mechanism, try to avoid in-situ steering when the vehicle is heavy, otherwise it may cause faults such as bending of the steering straight tie rod.

Transaxle lubricant

Check the transaxle lubricant height

1. Oil drain bolt 2. Oil filler bolt

1. Stop the car on a relatively flat road, check the oil level after the vehicle heat engine stops for 10 minutes, and directly observe the oil level after removing the refueling bolt.

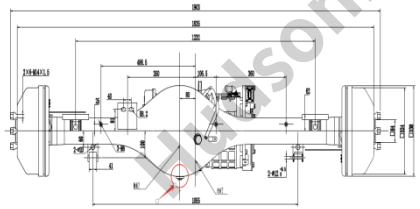
2. The normal oil level must be about 20mm below the filling port, and part of the oil should be discharged when it is higher than the upper engraving line, and oil should be added when it is lower than the lower engraving line, and the oil level should be close to the upper engraving line as far as possible. Fill up about 4.5L.

Note: Check the oil level must be carried out in the cold machine state.

Replacement cycle

First on-off maintenance: 5000km Regular replacement: 100,000 km /1 year, whichever comes first.

Replacement method



1. Loosen the screw plug of the sealing oil drain port at the bottom of the bridge bottom shell, and drain the lubricating oil in the oil pan during the heat motor.

2. Wipe the drain plug clean and reinstall it.

3. Add new lubricating oil as required.

Start the vehicle, drive at a low speed for one minute, and observe whether the oil plug is leaking.

4. Stop the machine and wait for 5 to 10 minutes to verify the lubricant level of the motor until the lubricant reaches the normal range.

Maintenances of HVAC filter element

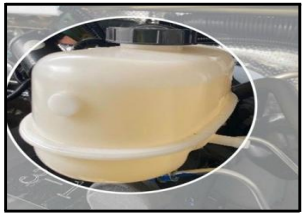
Replace the HVAC filter element once every half year.

Disassembling and assembling instructions:

1. Loosen the screws off HVAC filter element to take down this cover so as to pull out filter element.

2. Install the new element in the order reversing to the dismantling steps, and then reset all parts.

Inspection and adding of brake and clutch fluid levels



The clutch fluid reservoir is inside of engine compartment, and has one filler and two separated chambers inside, with independently upper and lower scales outside of chambers. Normally, the fluid level should be between upper and lower scales and added if below the lower scale.

Before adding of clutch fluid, check if the pipeline leaks and repair it if needed.

Note: do not use the brake fluid with different quality, brand or model. In addition, never use the mineral oil as brake fluid.

Note: keep the brake fluid clean.

Note: do not have the brake fluid in touch with any painting, so as not to impact the painting film.

Note: for brake fluid is ready to absorb moisture from air, care must be taken to seal up the brake fluid.

Note: do not have any dirt or dust get in clutch fluid reservoir. Therefore, before adding or replacement of clutch fluid, make sure its surroundings are clean.

Inspection, adding and replacement of power steering oil

Before inspection of power steering oil level, park vehicle on good and flat ground, shut down engine, open the engine hood, and clean the oil reservoir to observe the oil level. Add the hydraulic oil with same model to be as close to upper scale of dipstick as possible if needed. Before the adding, check if the pipeline leaks.

Check the steering gear lubricant level every 5000km and add it if needed.

At every 20,000km, it is required to replace the power steering fluid transmission oil.

Replacement method

1. Wedge the front and rear wheels, shift the transmission to neutral gear, and jack up the front suspension to have the front wheels free from ground.
2. Separate the steel pipe securing on engine from the rubber hose between engine and sub-frame, so as to drain the oil out of pipeline, and meanwhile start up engine to repeatedly rotate the steering wheel, completely draining oil out.
3. After ensuring the system fluid is thoroughly drained out, reconnect the rubber hose with the steel pipe, screw off the reservoir cap to add the stipulated power steering fluid to between upper and lower scales. Then put the cap back on, start up engine and idle it, and meanwhile repeatedly turn the steering wheel. After shutdown, observe if the fluid is between the upper and lower scales, and replenish it if needed. With the reservoir cap on, re-start engine to repeat the above steps 2~3 times, and it is over when fluid level is kept unchanged.

Note: while steering the vehicle standing still, the steering wheel at extreme cannot last 15s, so as not to cause the oil pump overloading.

Maintenance of wheel hub bearing

Firstly check if rear axle is of disc type or drum type; as for the disc rear axle, its wheel hub bearing is of maintenance – free; as for the drum rear axle, the rear wheel hub bearing should be maintained every 10000km.

Maintenance method is shown below:

1. Locate a clean and flat ground and pave it with a piece of clean plastic paper or paperboard.
2. Take down the wheels, the brake drum, the dust cover and the wheel hub assembly, during which care must be taken not to impact the brake drum, the ABS gear ring and the ABS sensor. Besides, do not contaminate the inside surface of brake drum.
3. Take down the wheel hub seals to get out the inner races of interior and exterior bearings and roller assemblies, clean them with cotton cloth and then gasoline.
4. With its roller surface damaged, the bearing needs to be replaced with a new one. If the bearing surface is normal, clean and coat it with grease until the grease fills up room between inner race and retainer's rollers. In addition, coat a thin layer of grease onto the working surface of outer race.
5. The wheel hub chamber should be clean of any old grease and then filled with 70-100g of new grease. While servicing the wheel hub bearing, keep away from dust or other foreign material.
6. To put on wheel hub, insert the washer firstly, then use a torque wrench to tighten the hex. flange slotted nut to 130 ±10N.m, and then back the nut by 1/6-1/3 cycle to the slot, aligning the knuckle pin hole.
7. Make sure the wheel hub (excluding the brake drum) has the starting torque at 1.5~3.5N.m. Then, manually rotate the rear wheel hub flange to ensure it rotates flexibly, with bearing free

of any stuck or axial play.

8. Use a cotter pin to reliably secure the hex. slotted nut and then put the dust cover on.

Note: at maintenance, the dust cover, the cotter pin and the oil seals should be replaced with the new one.

Brake pedal travel

- Slightly depress the brake pedal to check if the free travel is 12~18mm normally.
- Depress the brake pedal to the end, free of stuck phenomenon.

Operation and maintenance of flooded maintenance-free lead-acid battery

Precautions for installation of battery

- While assembling the battery power wires, apply a film of lubricating grease (Vaseline) to the post surfaces of battery to prevent the oxidization and corrosion of posts.
- Do not knock or bend the battery posts during the assembling and disassembling of battery cables. While assembling the bolts, tighten the bolts appropriately by a pneumatic wrench to prevent looseness of battery posts.
- While assembling the battery, fix the pull rods and pressure bars on the battery frame appropriately, otherwise the loose fixing will lead to insecure fixing of battery and the excessive fixing will lead to mechanical damages including deformation of battery casing, cracking of sealant, and leakage of electrolyte.
- While disassembling the battery, disassemble the negative post of battery cable before the positive post. The installation procedure is in reverse sequence.

Storage and transport of vehicle

1. During the storage and transport of the vehicle, check and ensure that the doors are closed, turn off the electric devices (such as lamps), and cut off the power master switch.
2. For long-term parking of vehicle (for more than half month), it's better to disconnect the negative post of the battery, in order to prevent the depletion of battery due to long-term running of electric devices on the vehicle. It's better to periodically start and run the engine for 10~15min each month to charge the battery.
3. Upon detection of corroded wiring posts due to oil dirt or dust, clean the post surfaces by cotton cloth, in order to prevent the ablation of wiring posts and poor start due to high contact resistance.

Operation Method

1. Before using the battery, measure the terminal voltage of battery. If the measurement is above 12.6V, the battery can be used directly. If the voltage is low, charge the battery before use.
2. As for the fluid-enclosed battery with electricity indicator

(commonly known as “electricity eye”), please refer to the indicator illustration on battery for the status of indicator. Please timely charge the battery if needed before use.

3. Connect securely the terminals “+" and “-“ of battery to the positive and negative cables of the vehicle respectively and never connect reversely, otherwise the electric devices on the vehicle will be damaged. In addition, to prevent damaging the engine, do not run the engine before the connection of the battery charging circuit.

4. Do not tilt or overturn a sealed filled battery for transport or use.

Maintenances

1. Recharge a sealed filled maintenance battery whenever it’s stored for more than 3 months.

2. Frequently check the ventilation holes on two sides of the battery cover and prevent them against blockage by dusts and icy water, in order to prevent deformation and burst of housing.

3. Keep the battery away from heat sources and open fire. Keep ventilated during charging and operation. Guard against the personal injuries caused by burst.

4. When the battery or the vehicle is to be unused for a long time, fully charge the battery before storage, otherwise the service life of the battery will be impaired.

Charging: The constant voltage charging is preferred.

1. Constant voltage charging: Charge the sealed filled maintenance-free battery by constant voltage charging method, with charging voltage at 14.4±0.2V and the maximum permissible current at 0.5C20 (C20 is the 20-hour rate capacity of battery), till the charging current closes to zero for 2~3 hours.

2. Constant current charging: Charge the battery by 0.1C20A current. When the battery voltage variation is ≤0.05V/h at the end of the charging, it’s considered that the battery is fully charged.

Notice: For any product malfunction within the Three-Guarantee period, please contact the overseas service stations of Hudson Automotive Co., Ltd.

Fuse wire

Cab fuse box specifications

When replacing the fuse in the cab or motor compartment, it is necessary to confirm the current specification of the fuse used. If the newly replaced fuse is easily burned, it is necessary to find out the cause and repair it. If the fault cannot be rectified, please contact the company's special service station nearby.

Insurance number	Colour	Load name	Fixed amperage (A)
F1	Orange	BCM constant electric	5
F2	Blue	Danger warning	15
F3	Orange	reserved power switch (only for K14 series)	0 5
F4	Orange	Central control lock	20
F5	Yellow	radio tape player constant power	15
F7	Red	Electric horn	10
F8	Red	Compressor	10
F9	Red	Diagnostic interface	10
F10	Red	Braking lamp	10
F11	Red	Rear fog lamp	10
F12	Yellow	condenser	20
F13	Pink	afterevaporator	30
F14	Pink	Rear heator	30
F15	Green	Electric window	30
F16	Orange	Front reading lamp	5
F17	Orange	Constant current of instrument	5
F18	Orange	ECU (ON)	5
F19	Orange	ABS (ON)	5
F20	Red	airbag	10
F21	Red	Reverse lights/instruments	10
F23	Orange	Redio tape player ACC	5
F24	Orange	Rearview mirror electric adjustment	5
F25	Blue	Wiper motor	15
F26	Blue	Cigarette lighter	15
F27	Orange	Box light	5
F28	Pink	Warm air machine	30
F29	Blue	Position light	15
F30	Red	Warm air machine	10
F31	Red	standby	10
F32	Red	Air conditioning controller	10

Relay

Relay	Switch circut
K9	Position relay
K10	Rear fog relay
K11	Electric window relay
K12	Rear evaporator relay
K16	Rear warm air blower relay
K17	reserved
K18	Warm air relay
K19	reserved
K101	reserved
K102	Horn relay
K103	Backing light relay
K104	Right front fog lamp relay
K105	Right front fog lamp relay
K106	Low beam relay
K107	High beam relay

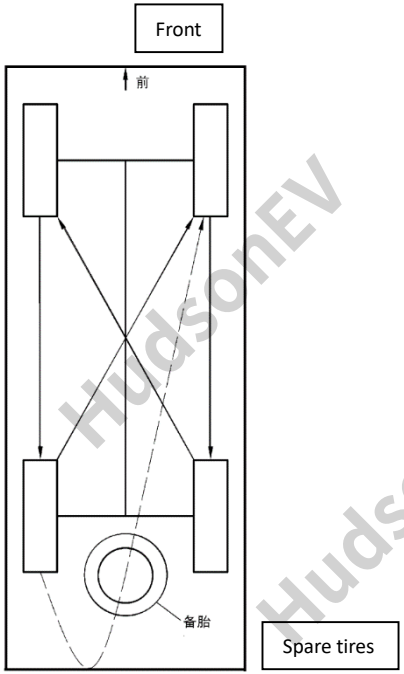
Note: never use a common wire or other fuses with different specifications to replace it.

Note: the above table is merely suitable for basic e-Bold series, for other variant may delete some electrical functions, depending on your vehicle model.

Dangerous: inside of fuse box, it is prohibited to add any wire for power without permission. The fuse should be replaced with the one with same rated capacity, which otherwise may cause fire.

Tire

Wheel rotation



Tire rotation should be done every 10000km according to the schematic.

Principle of tire rotation:

- The front wheels should be of same model, balance and less wear;
- After displacing, the rotating direction shall be reverse to that before displacement.
- The new tires should be used in pair.
- One shaft should be equipped with tires with same specifications, patterns and air pressure, which otherwise will cause wheels to offset, swing or lose of control.
- Check if the contact surface (sphere) of wheel rim and the mounting hole are deformed or damaged, replace it if needed.
- Check if wheel rim is cracked and replace it if needed.

Change the tires

Installation of wheels

1. Use a pry bar to have the bolt hole of wheel rim align with the mounting hole of wheel rim.
2. Put the wheel rim bolt into its central hole, and then tighten the tire bolts.
3. Slowly lower the jack until the tire touches ground.
4. Tighten the tire bolts to the set torque in three times.
5. Wheel bolts should be evenly, crossly and diagonally tightened up to 180~220Nm, with tightening angle at 90 °±10 °each time.

Note: the new tires should be mounted in pair. Besides, the tires marked with red hollow circle should be mounted to the front axle and the ones marked with red solid circle should be mounted to the rear axle.

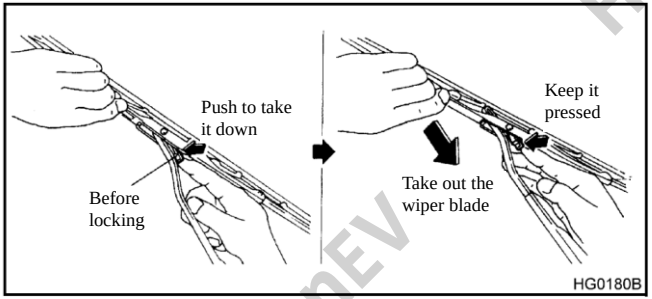
Caution: For wheel rotation, only tires are exchanged and wheel rims are not.

Caution: In removing a tire, do not damage its pressure sensor (installed in the wheel rim); otherwise, a warning of tire pressure abnormal may occur.

Inspection of the tire pressure and tire pattern

- Check if each tire pressure meets the requirements with a barometer, and inflate the tire if needed.
- Check if there is foreign material attached on the tire tread and remove it if needed.
- Check if the depth of tire tread goes beyond the wear marker that is regarded as a standard, and if so, replace the tire.

Cleaning and replacement of wiper blades



Cleaning of wiper blade

After wiped, the glass is not yet clean, which is caused possibly by unclean wiper blade. Therefore, clean the wiper blade in the way shown below:

1. Use the detergent or special cleaning fluid to clean the windshield.
2. Clean the wiper blade with cotton cloth dipped in detergent or special cleaning fluid.
3. Rinse the detergent or the special cleaning fluid away with clean water.

Replacement of wiper blade

After cleaned, the wiper blade cannot yet wipe glass clean, meaning it is needed to change the wiper blade, with the steps shown below:

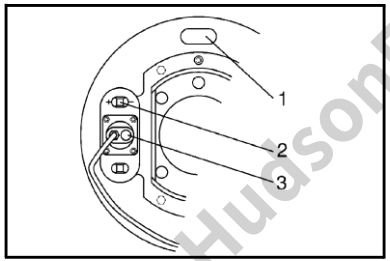
1. Pull the wiper arm out.
2. Pull out the locker pin to take off the wiper blade
3. Insert the new blade into the wiper arm until you hear “Click”.

Drive motor adjustment precautions

• For unauthorized or unauthorized removal of the lead seal of the drive motor, Hudson Automotive Technology (Chongqing) Co., Ltd. will be regarded as automatically waiving the warranty.

• The drive motor has been adjusted before leaving the factory, and the user cannot change or adjust it without authorization. Adjustment of the drive motor can only be made in the special service station of Hudson Automotive Technology (Chongqing) Co., LTD. For unauthorized or unauthorized changes and adjustments in the service station, Hudson Automotive Technology (Chongqing) Co., LTD., will be regarded as automatically waiving the warranty.

Hydraulic brake system exhaust



1. The hole is blocked. 2. Adjust the rubber plug of the hole

3. Dust cap

When there is gas in the hydraulic components and pipes, the brake pedal will feel a little more force, the pedal stroke will increase a little, and there is no feeling of stepping to the end, in other words, the pedal is not hard, then the hydraulic brake system needs to exhaust. Exhaust method:

Fill the brake and clutch tanks first

DOT4 synthetic brake fluid;

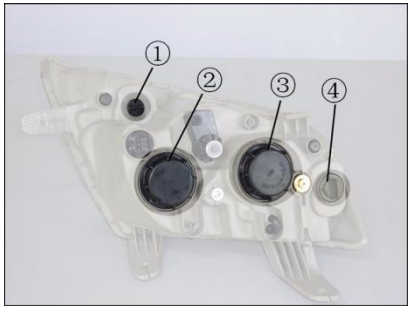
Remove the dust-proof cap of the exhaust bolt of the brake branch pump, loosen the exhaust bolt, put one end of a plastic pipe with the same caliber as the exhaust nozzle of the exhaust bolt on the exhaust bolt, and insert the end in the bottle with brake fluid, step the brake pedal back and forth, that is, air bubbles are discharged from the bottle until no air bubbles are discharged. After the pedal force increases, tighten the exhaust bolt and remove the plastic pipe.

Thoroughly row the four wheels according to the above method

Note: When tightening the air release bolt, the force should not be too large. It is appropriate to feel the hand hard. Excessive torque will damage the sealing belt of the exhaust bolt, resulting in air leakage; When using a plastic pipe to remove air, the nozzle of the pipe inserted into the end containing the brake fluid bottle must not be exposed to the liquid level.

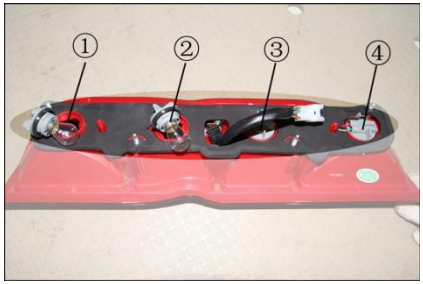
Luminaire adjustment

Headlight bulb replacement



The headlamp is composed of four small lights, and the small lamp bulb can be replaced after the headlamp is removed as a whole.

Combined lamp bulb replacement



The rear combination lamp includes four small lights. After the whole combination lamp is removed, the small lamp bulb can be unscrewed respectively for replacement.

Note: The high brake light is an LED light, and a single LED cannot be replaced. If damaged, only the high brake light can be replaced.

Bulb specification

Bulb	Specification
Front combination light low beam	H7
Front combination light high beam	H1
Turn lamp	12VP21W
Front fog lamp	H3
Rear fog lamp	12VP21W
Reverse light	12VP21W

Bulb	Specification
Braking lamp/rear position lamp	12VP21W
Rear dome light	12VC10W
Front reading light	12VC10W
Plate light	12VW5W
Side turn signal	12VWY5W 12VWY16W (Only used for turn signals integrated into the exterior rearview mirror)
Courtesy lamp	12VW5W
Side marker lamps	12VW5W

Periodic maintenance schedule

The periodical maintenances for the vehicle are one necessary means to prolong the service life of vehicle and improve the power performance and economy of the vehicle. Fulfilling the maintenances strictly as per the maintenance regulations of this chapter can achieve the best economic and social benefits for your vehicle.

The user shall maintain the vehicle at the overseas service stations of Hudson as per the maintenance items and intervals specified in this chapter. The run-in period is 5,000km or 45 days. The basic maintenance items and technical requirements for Hudson e-Bold vehicle are as below and the corresponding items shall be added in event of malfunction checking and part replacement.

Note: the maintenance interval should be properly shortened at the severe working conditions, so as to make sure your vehicle is reasonably serviced and improved in reliability. Never prolong the maintenance interval.

Table I: Initial maintenance specifications during running-in

Location	No.	Maintenance items	Technical requirements
	1	Inspect lighting, signal, instruments and horn	Intact and effective
	2	Inspect the glass and rearview mirror	No damage or scratch for glasses and mirror faces
	3	Wiper, washer and fluid level	Normal functioning of wiper at all positions and intact spray and washing motions
	4	Check door hinge, seatbelt, motor hook locker and each door locker for tightness.	Hinge should rotate flexibly; seatbelt retracts in or extends out normally; door lockers are secured well.

Location	No.	Maintenance items	Technical requirements
Drive motor and systems	1	Check the radiator and the coolant reservoir cap for airtightness and performance.	No water leakage and the opening valve works well
	2	Check the mechine oil level and the leakage.	Within upper and lower markings of mechine oil dipstick.
	3	Check the oil pipeline, the coolant pump and pipeline and the exhaust / intake manifold for leakage.	No leakage, screwing down
	4	Replacement of mechine oil filter element	Use the genuine spare parts.
	5	Check the bolts and nuts of motor mountings for tightness.	No looseness, screwing down
Chassis- Drive, brake, steering, and traveling systems	1	Check brake and clutch's fluid levels and leakage respectively in their reservoirs.	The fluid oil should be not below the min. scale, and added if needed; there should be no leakage.
	2	Check transmission oil level and add as necessary.	Use the genuine fluid suitable for local region and season.
	3	Check parking brake performance	Clear graduations, without looseness or wear
	4	Check the free travel of brake pedal	Flexible and effective braking
	5	Check brake pipeline for leakage	The pipeline should be free of oil leakage.
	6	Check if the steering gear fluid level is proper and if pipeline leaks.	No oil leakage. Add if insufficient.
	7	Check the steering wheel for free clearance and working status.	Flexible rotation without looseness.
	8	Check tightening status of steering gear.	Reliably tightened, without looseness
	9	Inspect the tightening condition of rods and ball	Reliable tightened, without looseness or damage of dust

Location	No.	Maintenance items	Technical requirements
		heads of steering and transmission systems	cover
	10	Check shock absorber for intactness and fastening status.	No oil leakage, looseness, or damage
	11	Tighten rear leaf spring U-bolts under full load	Tighten to specified torque.
	12	Check for the tire pressure	Ensure normal tire pressure.
	13	Check tightening status of wheel bolts.	Tighten in diagonal manner to specified torque.
Chassis- Drive, brake, steering, and traveling systems	14	Check wear status of the tires.	No surface cracking or pierced nail.
Other	1	Check if the battery wires are loosened.	There is no looseness
	2	Check appearance and charge indicator of battery.	Normal indication.

Table II: Maintenance Specification at Interval of 5000km

Location	No.	Maintenance items	Technical requirements
Cab	1	Inspect lighting, signal, instruments and horn	Intact and effective
	2	Inspect the glass and rearview mirror	No damage or scratch for glasses and mirror faces
	3	Wiper, washer and fluid level	Normal functioning of wiper at all positions and intact spray and washing motions
	4	Check door hinge, seatbelt, motor hook locker and each door locker for tightness.	Hinge should rotate flexibly; seatbelt retracts in or extends out normally; door lockers are secured well.
	5	Check the door locker screws.	Check and tighten.
Drive motor and systems	1	Check the radiator and the coolant reservoir cap for airtightness and performance.	No water leakage and the opening valve works well
	2	Check the mechine oil level and the leakage.	Within upper and lower markings of mechine oil dipstick.
	3	Check the oil pipeline, the coolant pump and the coolant pipe for leakage	No leakage
	4	Check the bolts and nuts of engine mountings for tightness.	No looseness, screwing down
Chassis—— Drive, brake steering,	1	Check free travel of clutch pedal	Normal engagement and disengagement, without jitter.
	2	Check brake and clutch's fluid levels and leakage respectively	Oil level should not be below min. scale marker;

Location	No.	Maintenance items	Technical requirements
and traveling systems		in their reservoirs.	there is no oil leakage.
	3	Check parking brake performance	Clear graduations, without looseness or wear
	4	Check the free travel of brake pedal	Flexible and effective braking
	5	Check brake pipeline for leakage	The pipeline should be free of oil leakage.
	6	Check if the steering gear fluid level is proper and if pipeline leaks.	No oil leakage. Add if insufficient.
	7	Check the steering wheel for free clearance and working status.	Flexible rotation without looseness.
	8	Check tightening status of steering gear.	Reliably tightened, without looseness
	9	Inspect the tightening condition of rods and ball heads of steering and transmission systems	Reliable tightened, without looseness or damage of dust cover
	10	Check shock absorber for intactness and fastening status.	No oil leakage, looseness, or damage
	11	Check the U bolts of rear leaf spring for tightness.	There is no looseness
	12	Check for the tire pressure	Ensure normal tire pressure.
	13	Check tightening status of wheel bolts.	Tighten in diagonal manner to specified torque.
	14	Check wear status of the tires.	The surface should be free of crack, nail or abnormal wear.
	15	Inspect tightening condition of connection bolts of oil inlet and outlet pipe of power steering gear	Reliably tightened, without looseness

Location	No.	Maintenance items	Technical requirements
Other	1	Check appearance and charge indicator of battery.	Normal indication.
	2	Check if the battery wires are loosened.	There is no looseness
	3	The steering knuckle kingpin and drag link/tie rod ball pin should be filled up with the grease.	It shall be regarded as full until old oil is pressed out
	4	Fill the drive shaft with grease.	It shall be regarded as full until old oil is pressed out

Table III: maintenance tasks per 10,000km

Location	No.	Maintenance items	Technical requirements
Cab	1	Inspect lighting, signal, instruments and horn	Intact and effective
	2	Inspect the glass and rearview mirror	No damage or scratch for glasses and mirror faces
	3	Wiper and washer	Normal functioning of wiper at all positions and intact spray and washing motions
	4	Check door hinge, seatbelt, motor hook locker and each door locker for tightness.	Hinge should rotate flexibly; seatbelt retracts in or extends out normally; door lockers are secured well.
Drive motor and systems	1	Check the radiator and the coolant reservoir cap for airtightness and performance.	No water leakage and the opening valve works well
	2	Check the mechine oil level and the leakage.	Within upper and lower markings of mechine oil dipstick.
	3	Check for leakage of coolant.	No leakage
	4	Check the oil pipeline, the coolant pump and pipeline and the exhaust / intake manifold for leakage.	No leakage, screwing down
	5	Check the tightening of the installation bolts and nuts of the power battery	No looseness, screwing down
	6	Check the bolts and nuts of motor mountings for tightness.	No looseness, screwing down
Chassis-			

Location	No.	Maintenance items	Technical requirements
Drive, brake, steering, and traveling systems	1	Check brake and clutch's fluid levels and leakage respectively in their reservoirs.	Oil level should not be below min. scale marker; there is no oil leakage.
	2	Check parking brake performance	Clear graduations, without looseness or wear
	3	Check the free travel of brake pedal	Flexible and effective braking
	4	Check brake pipeline for leakage	The pipeline should be free of oil leakage.
	5	Check if the steering gear fluid level is proper and if pipeline leaks.	There should be no oil leakage; add the oil if needed and change the power steering oil every 20000km.
	6	Check the steering wheel for free clearance and working status.	Flexible rotation without looseness.
	7	Check tightening status of steering gear.	Reliably tightened, without looseness
	8	Inspect the tightening condition of rods and ball heads of steering and transmission systems	Reliable tightened, without looseness or damage of dust cover
	9	Check shock absorber for intactness and fastening status.	No oil leakage, looseness, or damage
	10	Tighten rear leaf spring U-bolts under full load	Tighten to specified torques. No damage or cracking.
	11	Inspect wear condition of pin sleeve of leaf spring	Replace as necessary
	12	Maintenance of rear wheel hub of drum-type rear axle	Clean away the rear wheel hub bearing grease and re-add the new grease; the torque to start to rotate the rear wheel hub (without brake drum) is 1.5-3.5N.m.

Location	No.	Maintenance items	Technical requirements
	13	Check wear status of brake shoes and brake drums (brake disc)	The shoe shall not be worn to the plane of countersink rivet; if the brake drum is out-of-round, remove the drum and bore it.
	14	Check tightening status of wheel bolts.	Tighten in diagonal manner to specified torque.
	15	Tire wear condition and wheel alignment if necessary	No cracking or material inclusion on surface and not beyond wear indicator.
	16	Inspect toe-in and turn angle	Check and adjust to meet specified requirements of specific vehicle.
	17	Inspect tightening condition of connection bolts on the two ends of transmission shaft	Reliably tightened, without looseness
	18	Inspect tightening condition of connection bolts of oil inlet and outlet pipe of power steering gear	Reliably tightened, without looseness
Other	1	Apply grease to specified location	See specified requirements of specific model manual.
	2	Check the battery for appearance and "electric eye"	Charge when insufficient

Main adjustment data

Adjustment items	Standard
Free rotation angle of steering wheel	No more than ±10°
Clearance between the front and rear brake shoes and the brake drum	0.25~0.30mm

Recommended fluids

Items	Trademarks	Filling capacities	Replacement period
Drive axle lubricating oil	SAE 75W/85	4.5L	
Steering oil	ATF-3	1.5L	20000km
Brake fluid (brake, clutch system)	DOT4	1.03L	3 years (added when insufficient)
Coolant (antifreeze)	L248	15L	2 years or 30000km
Refrigerant	HFO-1234yf	615±30g	No need for replacement, annual inspection and addition
Drum type rear axle hub bearing lubricating grease	2# lithium base grease	appropriate amount	Lubrication operation during maintenance every 10000 kilometers

Notice: The filling volume of refrigerant is 1,200g for the vehicle models with front and rear A/Cs and is 680g for the vehicle models with front A/C.

Transmission oil

SAE 75W/85 transmission gear oil is recommended, and users can choose different viscosity levels of API GL-4 or higher gear oil as substitutes based on the local atmospheric temperature.

Clutch assist fluid

It is recommended to use DOT4 synthetic brake fluid. Different models of brake fluid cannot be mixed, and brake fluid produced by different manufacturers cannot be mixed.

Antifreeze

It is recommended to use designated manufacturers of rust proof and antifreeze. When using, the freezing point of the antifreeze should be 8 ℃ lower than the local minimum environmental temperature. Different types of antifreeze should not be mixed.

Designated products

Product model: L248

Supplier: Elf Lubricants (Guangzhou) Co., Ltd

Attention: It is strictly prohibited to use tap water! Otherwise, it will cause serious damage to the motor.

Attention: In order to maintain better performance of your car, we suggest that you use specialized engine oil and accessories specified by Hudson for maintenance. If you choose other inferior products for maintenance, it will cause certain damage to your vehicle.

Tightening torque

Assembly torque for main components

Main assemblies	Serial Number	Connection positions	Fasteners	Torque (N.m)
Battery pack system assembly	1	Front and rear battery pack bracket assembly	Q1841225-T5	88-107
	2	Battery pack bracket A assembly	Q1841225-T5	88-107
	3	Battery pack bracket B assembly	Q1841225-T5	88-107
	4	Battery pack bracket C assembly	Q1841225-T5	88-107
	5	Battery pack bracket D assembly	Q1841225-T5	88-107
	6	Battery pack bracket E assembly	Q1841225-T5	88-107
	7	Battery pack bracket F assembly	Q1841225-T5	88-107
Battery frame bracket	1	Front and rear of battery frame bracket	Q1841225-T5	88-107
	2	Battery frame bracket A assembly	Q1841225-T5	88-107
	3	Battery frame bracket B assembly	Q1841225-T5	88-107
	4	Battery frame bracket C assembly	Q1841225-T5	88-107
	5	Battery frame bracket D assembly	Q1840820-T5	22-29
	6	Battery frame bracket E assembly	Q1841225-T5	88-107
	7	Battery frame bracket F assembly	Q1841225-T5	88-107

Main assemblies	Serial Number	Connection positions	Fasteners	Torque (N.m)
Drive motor	1	Waterproof joint for three-phase motor	Comes with (3-M27*2)	main body: 35-45
	2			Forced hat: 30-40
	3	Bolt torque of three-phase high-voltage wire harness pressure terminal	Comes with (3-M8)	17-24
	4	The grounding wire of the motor itself	Comes with (M8*16)	17-24
	5	Three phase line self fixing clamp	Comes with (2-M8*40)	17-24
	6	Motor flange surface	Q1841035-0H1-J1	60-75N.m
Vehicle controller assembly	1	Fixed bolt	Q1840616-T5	15-20
High voltage power controller assembly (including motor controller)	1	Fixed bolt	Q1841225-T5	60-72
	2	DC to negative ground	Q1840816-T5	20±0.5N
	3	Ground Wire Assembly - Electric Vehicle Controller	Q1840816-T5	20±0.5N
Brake	1	Install brake pedal with clutch pedal and clutch master cylinder assembly	Q32008	14-22

	2	Install the brake master cylinder with hydraulic booster assembly	Q32010	14-22
	3	Brake light switch standby	Comes with nuts	30-35
	4	ABS brake pipeline installation	Comes with nuts	15-18
Tire	1	Front wheel installation	3101010-K56451	178-218
	2	Rear wheel installation	3101010-K56451	178-218
Subframe	1	Subframe to body connection	2810005-K11001	200-240

Main assemblies	Serial Number	Connection positions	Fasteners	Torque (N.m)
Front and rear suspension	1	Front sliding column and body assembly	Q341C10	42-54
	2	Fixed rear axle limit block	Q1841020	42-54
	3	The upper part of the left and right shock absorbers is connected to the vehicle body	Q361B14	106-132
	4	Connection between lifting lug and steel plate spring	Q341B16	168-204
	5	Connection between rear steel plate spring and rear axle (U-bolt and nut connection)	29QA-02133	130-170
	6	Assembly of the front point of the rear steel plate spring with the vehicle body	Q18512125	72-85
	7	Lug to body connection	Q151B18125	204-240
	8	Lower part of left and right shock absorbers and rear axle	Q1851270-T3	72-85
	9	Installation of left and right lower swing arms	Q151B24115	380-440
	10		Q150B1640	168-204

	11	Installation of front stabilizer bar bracket	Q150B1030	42-54
	12	Front lateral stabilizer rod suspension rod installation (stabilizer rod lower pin fixing nut)	Q341C10	42-54
	13	Left and right steering knuckles with front brake assembly connected to the front sliding column	Q1811435-T3	106-132
	14		Q151B1455-T3	106-132
	15	Brake and swing arm connection nut (hexagonal slotted thin nut)	RQ38718-T3	80-96

Main assemblies	Serial Number	Connection positions	Fasteners	Torque (N.m)
Steering	1	Bracket with hexagonal welded nut assembly	Q1840816-T5	24-29
	2		Q1841016-T5	45-60
	3	Oil inlet steel pipe - oil pump to hydraulic booster	3405019-K11001	35-45

	4		3406029-EC0101	60-80
	5	Return oil pipe assembly - booster to steering gear	3405017-K11001	35-45
	6		34V66-06076	35-45
	7	Welding assembly of steering column and instrument panel crossbeam	Q32008-T3	19-24
	8		Q1800816-T3	
	9	Installation of power steering gear assembly	3401023-K11001	106-132
	10		3401025-K11001	
	11	The lower part of the steering column is connected to the steering gear	Q150B0832	24-29
	12	Installation of upper bolts on steering column	Q150B0832	24-29
	13	Connection between straight link and steering knuckle	Q33514	85-95
	14	Steering wheel installation	Q351B14-T3	29-39
	15	Four wheel alignment toe in adjustment	Comes with nuts	108-127

Main assemblies	Serial Number	Connection positions	Fasteners	Torque (N.m)
air-conditioning	1	Auxiliary evaporator low-pressure pipeline connection	Comes with nuts	37-45
	2	Secondary evaporator high-pressure pipeline connection	Comes with nuts	9-14
	3	Cabin piping assembly - low pressure connection	Comes with nuts	37-45
	4	Low pressure air conditioning pipeline connection	Comes with nuts	14-22
	5	High pressure air conditioning pipeline connection (C01)	Comes with nuts	37-45
	6	High pressure air conditioning pipeline connection (C03)	Comes with nuts	37-45
Wiper	1	Tightening torque of wiper nut	Q32208	16-18
Interior	1	Side sliding door middle support arm	Q1481020-Z5	45-60
	2	Side sliding door lower support arm	Q1841025-Z5	45-60
	3	Front door lock assembly	6105073-K13001	8-9
	4	Front door lock buckle assembly	Q2400825-8.8	13-20
	5	Assembly of sliding door lock body	6105073-K13001	8-9
	6	Side sliding door lock buckle assembly	Q2400825-8.8	13-20
	7	Assembly of rear door lock body	6105073-K13001	8-9
	8	Assembly of rear door lock buckle	Q2400825-8.8	13-20
	9	Driver's seat	Q1841045-T5	43-55

	10	Front passenger seat	Q1841075-T5	43-55
	11	Passenger seat	Q1841075-T5	43-55
	12	Seat belt height adjuster assembly	Q1840820	21-28
	13	safety belt	5811063-K13001	43-55
rearview mirror	1	External rearview mirror	Q32008-T3	19-24

suspension

Type	Vehicle characteristics	Extreme high ceiling
Rear wheel drive rear single tire	FRONT SUSPENSION	McPherson independent suspension
	REAR SUSPENSION	3+1 steel plate spring

Tire

Vehicle characteristics	Extreme high ceiling
Tire model	215/75 R16C
Wheel dynamic imbalance	12
Number of tires	4
Tire pressure (front/rear)	0.55/0.55MPa

Steering system

Gear and rack mechanical steering gear, cross shaft universal joint transmission shaft, four spoke steering wheel.

Steering gear transmission ratio: 52.308mm/rev

Steering wheel outer diameter: Φ 388mm

Tightening torque

Braking system
Free stroke of brake pedal: 10.8-12mm
Friction coefficient of disc brake: 0.38~0.42. Efficiency factor of drum brake: 2.67~2.9

Type	Vehicle model	Brake	Parking braking
Rear wheel drive rear single tire	Extreme High Top Series	Hydraulic assisted dual circuit braking system, ESC+ABS+EBD, front disc and rear drum, energy feedback assisted braking.	The central drum type wheel brake is integrated with the rear brake. Side pull soft shaft control mechanism.

Attention: There are two types of service brakes: four-wheel disc brakes and front disc and rear hub brakes. Variants of freight logistics vehicles are front disc and rear hub brakes. Please refer to the actual vehicle for specific configurations.

Electrical System

12V electrical system, negative grounding, combination instrument, equipped with complete lighting signal, audio, and electrical control system; Irregular two lamp front headlights; Combination rear tail lights, installed At the rear of the vehicle. Adopting a combination instrument panel with CAN bus function, body controller, and powertrain system.

Vehicle Body And Cab

Extreme High Top Series:

Load bearing metal body, high roof VAN roof, left and right front doors, and rear double doors. The driving area adopts a 1+2 seat layout; The front windshield adopts upper edge shading treatment, with softened interior decoration, and the dashboard is made of hard plastic parts; Remote control central control door lock, one key unlocking, equipped with seat belt, front independent air conditioning, MP3+player/10.3-inch MP5, front windshield washer, front electric window.

Note: The above configuration description is only applicable to the basic model, and some modified vehicle configurations may differ from the above description. Please refer to the specific configuration of the actual vehicle.

Wishing you a pleasant driving experience