

USER'S MANUAL



KLQ6109GEV1

USER'S MANUAL

3902_0120_E

V1.0

17DLX0001-02

HIGER EV Bus for Korea

Content

I. At a Glance	Ş
Overall dimension	
Performance parameters	
Coach identification	
Driver's area	
Body interior	14
Battery compartment	
II. Safety items for attention	
Profile	
General provisions of safety	
Safety device	
Operation instructions for high-voltage switch	
III. Instrument and controls	18
Instruments	
Indicators on instrument cluster	
Indicators on TFT screen	
Rocker Switches and indicators	28
Combination switch	35
IV. Driving	
Preparation Work Before Driving	
Start	
Parking brake	
Gearshift	

ABS	42
ECAS	
V. Body equipment	49
A/C introduction	
LED destination board	53
Digital clock	
KR-1B centralized lubrication system	60
Vehicle integrated display	65
Vehicle MP3 player	69
Monitor	74
VI. Body accessories	
Passenger door	
VII. Maintenance	
Periodical maintenance regulation	
Charge by Charger	82
	-

Routine maintenance......83



I. At a Glance





Overall dimension

1.L*W*H	10510X2480X3230 mm
2.Wheelbase	5300 mm
3.Front/rear overhang	2630/2580 mm
4.Axle loading of kerb mass(kg)	12400
5.Maximum total mass(kg)	15900
6.Maximum vehicle speed	≤74
7.Circle diameter of turning(m)	≤20
8.Driving type	RR
9.Tire size and pressure	275/70R22.5. 0.9Mp(Hankook)
10.Tires No.	6



Performance parameters

Steering	Туре	Hydraulic power
	Model	ZF8098
	Brand	Microvast
	Battery Cell	lithium Titanate
	Rated Voltage/Rated Capacity	607V/180Ah
	Total Energy	109.56KWH
Power Single Rated Voltage Voltage Working Range Battery Working TEMI Battery SOC Working Range Insulation Performance	Single Rated Capacity	10Ah
	Single Rated Voltage	2.3V
	Voltage Working Range	422~726V(1.6~2.75V)
	Battery Working TEMP	Charging-5℃~55℃,Discharging-20℃~55℃
	Battery SOC Working Range	20%~100%
	Insulation Performance	>10MΩ (25℃, 40%RH)
	Battery Module Amount /Specifications	66 Standard Module (8S9P)
Suspension	Туре	Air suspension



	Number of air bags	2×4
	Туре	Pneumatic brake
	Brake type	Disc brake front and Drum brake rear (Supplied by DongFeng)
Braking system	Braking force regulator	Automatic
	Parking brake Type	Energy storage spring parking brake at rear wheel
	Pump	NAILI
Motor	Туре	Prestolite MD130B
A/C and heater	Roof window	Yes, two with ventilator function
A/C and neater	A/C	NTC D510
Motor controller	Туре	Prestolite C130B
	Defroster	Electric heating defroster
	Windscreen wiper	Two way type
Others	Escape hammer	Yes
	Wheelchair step	Yes, electronic
	Fire extinguisher	Yes



Coach identification

Nameplate

Nameplate as indicated by the arrow is riveted on the seal panel behind the front passenger door.





The vehicle nameplate covers the following data:

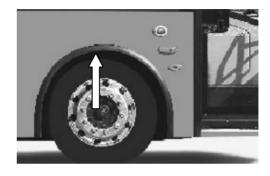
- Vehicle Identification Number (VIN)
- Motor type
- · Rated capacity of battery
- Rated passenger
- Maximum total mass
- Vehicle type
- Continuous Power of motor
- Peak power of motor
- Total energy of battery
- Rated voltage of battery
- Vehicle No.





Vehicle identification number (VIN)

Chassis VIN as indicated by the arrow is on the chassis frame near the right front wheel.





Driver's area





List:

1. Driver's seat	10. Reverse monitor
2. Parking brake handle	11. Passenger door switches
3. Outer rear view mirror adjustment knob	12. Integrated alarm display
4. Emergency valve of passenger door	13. Smoke detector
5. Combination switches	14. Transmission shift selector
6. Rocker switches and indication lamps	15. Media player
7. Instrument panel	16. Centralized Lubrication System Controller
8. Steering wheel	17. OBD interface
9. Steering wheel adjustment knob	



Body interior





List:

1. Ventilator	7. Ventilator
2. Emergency valve of passenger door	8. Handrail
3. Middle passenger door	9. Safety hammer
4. Get off bell button	10. Side window
5. Emergency exit	11. Passenger's seat
6. Camera	



Battery compartment





List:

1. Heater Expansion Tank	6. Inspect light
2. MCU	7. BMS
3. Triad controller	8. Compressor Filter
4. Automatic fire extinguisher	9. Travel switch
5. High Voltage Box	



II. Safety items for attention

Used when improper operation may be caused.

Profile

You are kindly advised to read this User's Manual carefully, which you can learn a lot of suggestions on safety. All the explanations are important for safe operations and service life of your vehicle. You must pay special attention to symbols below when you read this book.



Warning

Used when personal safety may be affected.



Caution

Used when losses may be caused to the automobile or other property.

Note



General provisions of safety

⚠ Warning:

- 1. Never drive after drinking.
- When the ignition key is on, never leave your automobile, or leave children in the automobile alone.
- 3. Check the level height of the coolant every week to avoid being caught unprepared when driving.
- Only the qualified staff issued with electrician certificate and get special trainings is permitted to carry out the operation on the vehicle.
- The staff to operate the high-voltage system must wear quality insulate shoes and gloves and use the tools with insulated handles. There must be no metal jewelry on the fingers or arms.

- 6. The operation on the high-voltage system must be carried out by at least two persons, one for the operation.
- Before the operation on the high-voltage system, low-voltage and high-voltage system must be powered off. Carry out the operation only after the actual voltage is above 36V.
- 8. Keep your fingers and any metal away from all orange cables in vehicle.
- 9. Never wash any high voltage components with water.



Safety device

Safety belt

Function of safety belt

Protecting the driver and passengers from injury in accidents. Please always fasten the seat belts before movement.

Operation:

Insert the belt lace into the red buckle at the cushion until hearing a sound of click.

Press the red button as the right picture indicates to have the pin rebounded so that the belts are unfastened.

Caution:

- One seat is not allowed to be shared by more than one person.
- The seat belt should not be twisted.
- Damaged seat belt cannot be repaired but be replaced.
- Over inclination will prevent the seat belt from normal extension or retraction.





Emergency valve switch of passenger door

In case of emergency, turn the red emergency valve switch clockwise to deflate the air from the pump, and then push the door by hand.

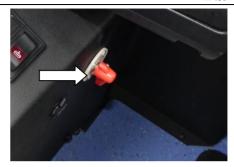
Rotate the switch counterclockwise to its initial position before normal control of the door.

In emergency condition outside the bus, open the cover and turn the red handle clockwise. The high pressure air will be released, and the door will be opened easily manually.

Before using the door again, turn the emergency handle counterclockwise to the original position.



Do not turn the emergency valve switch at will in order to avoid injury or property loss.







Safety hammer Function

Safety hammer is used to break the side window for passengers to escape in case of emergency. This model of safety hammer is equipped with waning indicator on the dashboard.

The heels of female shoes can also be used for the same purpose, if there is a lack of hammers. The thinner the heel, the more effective it will be in breaking the glass.



A Caution:

Check to ensure all the hammers are at the right positions before driving every day.



Emergency exit

Overview

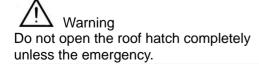
The emergency exit on the roof can be operated manually.

Operational steps

When emergency occurs, quickly open the opening handle cover board on the roof window, and rotate the red handle at 90° leftwards or rightwards, then the exit device will spring open and push the roof window outside to form a safety exit.



- 1. Push up firmly.
- 2. Remove 'EXIT' cover by pulling firmly.
- 3. Rotate the handle.
- 4. Push up to open.













Portable fire extinguisher

Position: ① By the driver's seat. ② Near the middle passenger door

Usage method:

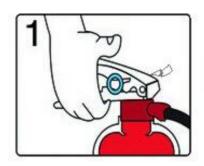
Stand upwind direction when using fire extinguishers. Hold the middle of the fire extinguisher with left hand and pull the insurance ring at the root of the pressure handle with right hand so that the lead sealing gets off. Point the nozzle to the most severe burning part (fire source points but not flame parts) and press pressure handle, fire extinguishing agent will be emitted. Target the root of the flame and move forward fast until all the flames are extinguished.



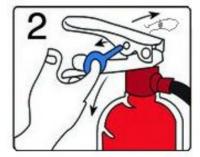


Four steps:

1. Lift the fire extinguisher.

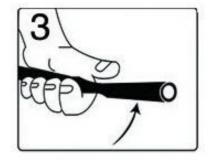


2. Rip off lead sealing and pull insurance ring.

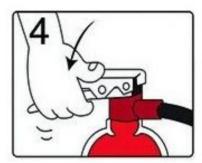




3. Press pressure handle so the fire extinguishing agent will be emitted.



4. Press pressure handle so the fire extinguishing agent will be emitted. Target the root of the flame and move forward fast until all the flames are extinguished.





\triangle Caution:

- Pay attention to the effective period of the fire extinguisher;
- The skin of the operator cannot be close to the nozzle, or it will get frozen injury.
- Make sure the extinguisher is installed in the right place before driving the vehicle.
- Keep fire extinguishers upright, and spray the powder to the roots of flame. In outdoor use, stand upwind while spraying, and as the range shortened, move closer to combustion zone in order to improve the efficiency of fire fighting.

Check the effectiveness of the fire extinguisher:

Disadvantage of dry powder fire extinguisher is the easy agglomeration, so half a year later we should often check whether the dry powder agglomerates or carbon dioxide gas in the tank is leaking. The method is:

- 1. The fire extinguisher should be replaced when it is out of guarantee period.
- 2. The inner pressure displayer is divided into three zones, namely, the green, yellow and red. If the pointer refers to the green, the fire extinguisher can be used normally;
- 3. If the pointer refers to the yellow, the fire extinguisher is nearly out of the usage period.
- 4. If the pointer refers to the red, then the inner pressure is not enough and the fire extinguisher should be replaced with a new one.



Automatic fire extinguisher switch

It is fixed in the Ultra-capacitor compartment. Once there is fire and ambient temperature goes up to a certain degree, the automatic or manual fire-fighting equipment immediately starts spraying ultra-fine powder extinguishing agent to put out a fire.

Automatic fire-extinguishing device adopts thermal chemical automatic starting mode. The forced ignition button is installed in the vehicle instruments panel. Open the lid son and press the red button to start the automatic fire extinguishing equipment.



Ensure the red light on the button can work. Do not press the button in a normal condition.







Manual power switch

The high voltage switch, used to control high-voltage equipment, is located in the back electric compartment. The low voltage switch, used to control the battery power, is located in the battery compartment. When the vehicle is not used for a long time, turn off the high voltage switch and low voltage switch to avoid short circuit without watch. Note that do not turn off the switches during the vehicle running, otherwise will result in burnout of the electric equipment. In addition, do not turn off the low voltage switch before the air conditioning working indicator lights goes off.



High Voltage Switch



Low Voltage Switch



Operation instructions for high-voltage switch

High voltage switch operation

1. Pull out the safety piece and pull the half-round handle

2. Press hard the button and up pull the half-round handle.







3. Up pull the half-round handle to the vertical position.



4. Pull out the high voltage switch.





Usage of fuse

As over-current protection devices, fuses are important for the reliable and safe operation of the electrical system. Any small mistake will cause incalculable damage. In addition to man-made factors, the quality and reliability of the fuse and qualification of manufacturers are equally important.





When the fuse and relay are damaged, you must change them with the same capacity and the same kind. Do not increase the line or load by yourselves, otherwise you are responsible for the consequences.



III. Instrument and controls

Instruments



1. Vehicle Speedometer 2.Indicators on LED 3. TFT Screen 4. Motor tachometer 5. Air Pressure Gauge I 6. Adjusting Buttons 7. Air Pressure Gauge II.



Functions

Mileage reset, video picture contrast and brightness adjustment, LCD picture switch and other functions are available through software settings.



In a normally displayed picture, press and hold this button for 3 seconds to reset the odometer.

In case of picture diagnosis, press and hold this button for 3 seconds to reset the number of the electrical equipment failure record times.



In a video picture, press this button to enable the contrast adjustment function and use the buttons "+" and "-" to adjust the contrast.

Brightness button

In a video picture, press this button to enable the brightness adjustment function and use the keys "+" and "-" to adjust the brightness.

Adjustment button "+"

Use this button to increase the backlight brightness of the meters, the video contrast or brightness, or to turn over the LCD picture.

Menu function button

Press and hold this button for 3 seconds to switch between the normal picture and the diagnosis picture.

Adjustment button "-"

Use this button to decrease the backlight brightness of the meters, the video contrast or brightness, or to turn over the LCD picture.

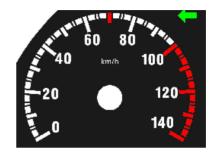


Components of instrument:

Speedometer

The speedometer indicates the running speed of the vehicle in kilometer per hour (km/h). Min speed: 0 km/h, Max speed: 140 km/h.

When the ignition key is at ACC position, the pointer indicates "0".



Tachometer

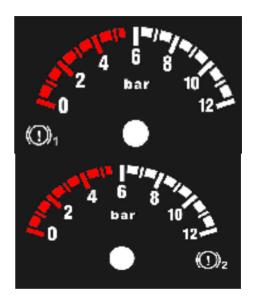
The tachometer indicates the revolution per minute of the motor. Min speed: 0 rpm, Max speed: 12000 rpm.





Air pressure gauge

The two air pressure gauges are shown on the LCD when the ignition switch is turned to the ON position. Air pressure gauge 1 shows the air pressure inside the air reservoir of braking system on front axle, and the air pressure gauge 2 shows the air pressure inside the air reservoir of braking system on rear





Indicators on instrument cluster

Name	Function	lcon
Front fog lamp indicator	When the front fog lamp is light, this indicator will illuminate.	ŧD
Rear fog lamp indicator	When the rear fog lamp is light, this indicator will illuminate.	O#
Rear compartment door open indicator	When the rear compartment door is open, this indicator will illuminate.	1
Not charging indicator	The indicator illuminates when the battery voltage <23V and last 5 sec.	-+
Get off request indicator	The indicator illuminates when passengers press the getting off button. It goes out when Door 1 close & door 2 open→ close; Door 2 close & door 1 open→ close; Door 1 open → close & door 2 open→ close.	
High beam indicator	It lights up when the high beam is on.	≣O



Low beam indicator	It lights up when the low beam is on.	≣ D
Brake lamp working indicator	The indicator keeps illuminating when LF brake shoe alarm; RF brake shoe alarm; LR brake shoe alarm; RR brake shoe alarm.	
Stop warning indicator	It lights up when Ready lamp on & air pressure is low, or Motor/controller/ Battery system high temperature, or Motor/ Power battery/ Insulation fault.	
Service warning indicator	It lights up when Sensor fault /Fractional load fault/CAN communication fault /1939 communication fault.	
Air pressure warning indicator	It lights up when the air pressure is low.	(1)
Parking brake indicator	It lights up when parking brake is applied.	
Turn left indicator	It lights up when left turn lamp is on.	û
Turn right indicator	It lights up when right turn lamp is on.	4
Air Pressure 1 warning indicator	ON — Air Pressure 1<550Kpa Flash(1s: ON, 1s: OFF) — Air Pressure 1 sensor	(<u>1</u>)1



	voltage <0.3V & last 3 sec	
Air Pressure 2 warning indicator	ON — Air Pressure 2<550Kpa Flash(1s: ON, 1s: OFF) — Air Pressure 2 sensor voltage <0.3V & last 3 sec	(!) ₂

Indicators on TFT screen

Name	Function	lcon
AC warning indicator	ON – Air conditioner fault	AC
Wheelchair guide works indicator	ON – Wheelchair guide is open.	
Fire warning indicator	ON – Fire alarm indicator ON	
Main switch close indicator	ON – Power battery main switch is closed.	
Main switch open indicator	ON – Power battery main switch is open.	



Door 1 open	ON – Door 1 is open	
Door 2 open	ON – Door 2 is open	2,
Insulation fault indicator	Insulation first-level fault	+
Charging gun connected indicator	ON –1 gun slow charging ON –2 guns fast charging	
ECAS fault indicator	ON - ECAS General faults.	ECAS
ECAS warning indicator	ON – The vehicle is not at normal height. OFF- The vehicle is at normal height.	ECAS
Kneeling indicator	ON – The vehicle is kneeling. OFF- The vehicle is not kneeling.	恒
Charging indicator	In charging	
Motor/MCU high temperature indicator	ON – Motor temperature high ON – MCU temperature high	4



Brake lamp indicator	ON – Brake signal is ON ON – Electric brake pedal is effective.)
Vehicle is READY	ON – Vehicle is READY.	Read	y
Motor 1 first-level fault	ON –Motor has first-level fault		D
Motor 1 second-level or third-level fault	ON - Motor has second-level or third-level fault	<u>_</u>]
Safety belt warning indicator	ON – Safety belt WL ON & Ready lamp ON & vehicle speed <5KM/H Flash(1s: ON, 1s: OFF) – Safety belt WL ON & Ready lamp ON & vehicle speed ≥5KM/H (buzzer rings)	4	
Door 1 emergency valve WL	ON – Door 1emergency valve alarm.	Q.	,
Door 2 emergency valve WL	ON – Door 1emergency valve alarm.	C.	
Neutral gear indicator	ON - The 'N' button on shifter switch is pressed down.	(Z))



Reverse gear indicator	ON – The 'R' button on shifter switch is pressed down.	R
Forward gear indicator	ON - The 'D' button on shifter switch is pressed down.	(0)
Battery system high temperature indicator	ON – Single battery temperature high ON – Terminal temperature high	- +



Rocker Switches and indicators

Electric rear view mirror adjusting switch	The switch is used to adjust the field of vision of rear view mirror. Turn the knob to "L" position and press the knob forwards, backwards and sideways to adjust the left rear view mirror to proper position, and the operation is similar when adjusting the right one.	
Fire extinguisher manual switch	If the automatic extinguishers in the capacitor compartment cannot work normally in case of emergency, open the cover on this switch and press the red button manually to activate the automatic extinguisher.	東大島的提響用关 OUTFIRE OUTFIRE ENG
ATS Working Switch	When the ATS stop working, press this switch to make ATS working.	ATS 应急开关 Emergency Switch



Power Emergency Shut Off Switch	When this switch is pressed down, the power will be cut off immediately .Don't use it unless in emergency.	0	
Passenger Door Switch	Press the upside of the rocker switch to open the passengers' door; press the other side to close it.	F.	
Middle Passenger Door Switch	Press the upside of the rocker switch to open the middle passengers' door; press the other side to close it.	NO PA	
Light master switch	The switch controls the main power supply of illumination lights and has two positions on its marking ends. Turn to the first position to switch on the marker lights and instrument panel lights, and turn to the second position to switch on the headlights.	-¤-	



Ceiling light switch	Press the marked side of the rocker switch to turn on the ceiling lights; press the other side of the switch turn off the ceiling lights; the ceiling light switch has two levels, at first level part of the ceiling lights is illuminated, at the second level all of the ceiling lights is illuminated.	八
Front fog lamp switch	Press the marked side of the rocker switch to turn on the front fog light; press the other side to turn off the light.	丰0
Rear fog lamp switch	Press the marked side of the rocker switch to turn on the rear fog light; press the other side to turn off the light.	0≠
Driver Lighting Lamp Switch	On the top of the middle of the middle of the vehicle, install the red warning light same as school bus. Press the rocker switch to turn on the lights.	R



Windshield defroster switch	Press the marked side of the rocker switch to start the defroster; press the other side of the switch to stop the defroster; the defroster switch has two levels, the second level is more efficient.	**
Hazard warning lights	When this switch is on, all turn lights on both side of the vehicle shall flash simultaneously. Only in emergency can the hazard signal switch be turn on after the vehicle stops, in order to attract other drivers' attention.	
DRL Switch	Press the rocker switch to turn on the daytime running lamps. The biggest effect of daytime running lamps is to provide a vehicle is to be seen.	: #□
LED destination plate switch	Press the marked side of the switch to activate the destination plate, press the other side to close it.	評



Ventilator switch	The ventilator switch controls two ventilators in the coach. Press the marked side of the switch the front ventilator intakes air and the rear ventilator exhausts air. Press the other side of the switch and the front one exhausts air and the rear one intakes air. When the switch is in the middle position, the two ventilators stop working.	SS	
ABS diagnosis switch	If the ABS warning indicator keeps lighting up, press this switch down to read the fault codes by the flashing frequency of the indicator. For more information ,please refer to the part ABS.	ABS DIAG	
Wheelchair Guide Power switch	The switch control connection and disconnection of the wheelchair lift's power. The wheelchair lift can be operated until pressing this switch.		
Wheelchair Guide In/Out Switch	Press the upper side, the wheelchair guide in. Press the bottom side, the wheelchair guide out.	OUT	



ECAS kneeling switch	Press this button to knee the bus.	
ECAS raising/lowering switch	When the ECAS air pressure is normal, this switch can be used to raise or lower the vehicle body.	
ECAS height I/height II switch	Press this button to change the bus body height.	
ABS working indicator	The indicator comes on when ABS id working.	(ABS)



ABS fault indicator	The indication lamp comes on when the ABS is actuated. About 3 seconds later, it will go out. If not, there are faults in the ABS and the driver should inspect the system.	(ABS)
Wheelchair guide request indicator	This indicator will on when the passenger press the Wheelchair Guide Button beside the rear door.	Ç

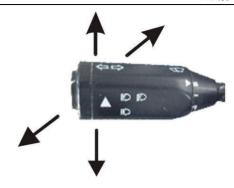


Combination switch

Light control hand lever

The light control hand lever is at the left side under the steering wheel.

- Push or pull the lever horizontally to control the turn signal lamps. Push the lever forward the right turn signal lamps will be turn on, pull the lever backward the left turn signal lamps will be turn on.
- Press the light master switch to the second position to control the headlamps.
- Loose the lever to shift the low beam to the high beam, and the high beam indicator lamps should be on.
- The front head lamps should change low beam to high beam temporarily through lifting and loosen the hand lever, and the high beam indicator lamps should be on when the high beam is illuminated.





Warning:

For the vehicles meeting at night, please change light in advance to ward off dazzling the coming driver.



The level will turn back to its original position and indicator goes out after turning and returning of the steering wheel.



Windshield wiper

Turn the switch in the direction of the arrow and bring the switch stalk knob successively to three positions, intermittent wipe, slow wipe and fast wipe.

- Clockwise turn the switch to the first position for intermittent wiper operation;
- Clockwise turn the switch to the second position for low-speed wiper operation;
- Clockwise turn the switch to the third position for high-speed wiper operation.
- Press down the windshield washer button to spray cleaner and operate the windshield washer. A signal is generated to start the timer, operating the wiper for 4–5s. The washer tank is located inside the electrical compartment under the driver's seat, which can be refilled in case that the washer is insufficient.



A Caution:

Do not use the wiper when the windshield is dry. Press the washer button and then start the wiper if necessary. Always clean the windshield from the exterior of the vehicle only when the wipers are turned off



IV. Driving

Preparation Work Before Driving

In order to ensure the safety of vehicles and normal driving, the driver must carry out daily inspection before driving. The daily maintenance of electric system is mainly:

Check the rear power compartment.

Check whether the water or ash inside the compartments.

Check the oil level of the power steering oil, and add the oil if it is insufficient.

Check all electrical compartments, the electrical wiring harnesses, connectors, the pile heads.

Check the level of the coolant, and add the coolant if it is insufficient.

Note:

- ① All the orange electric wire harnesses which are high voltage are prohibited by hand touch, all non professionals should not remove the high-voltage components.
- ② The high-voltage compartments should avoid collision and extrusion, please repair the compartment timely if it happens.
- ③ Prohibit flushing the high-voltage components with water.
- 4 Check the compartments' locks, the tire pressure, the rearview mirror, lamps and other routine items.



Start

Ignition switch

Turn on the ON switch, the vehicle system start to check, 'Power battery main switch'

indicator is o

Inspections before driving

- Turn on the ON switch, the vehicle system start to check, 'Power battery
 - main switch' indicator is on
- 2. **Check** instrument, indicator, voltage, air pressure and that is no any other faults indication.
- Ensure that the shifter is N gear, rear compartment door is closed and the parking brake valve is applied.
- Then turn on the START switch,

when the 'Ready' indicators on, the car was started normally.





Parking brake

Parking brake control valve

The control hand lever of manual braking control valve is on the auxiliary instrument at the right side of the Driver's seat. After the vehicle stops in stillness, pull the hand lever of the manual braking control valve upwards, energy storage spring brake should release the air under the control of modulating-balance typed manual braking control valve. In order to release the parking brake fully, the reservoir pressure must be at least 0.45MPa. If the reservoir pressure in the parking brake circuit is lower than this value, the warning lamp flashes and an alarm buzzer sounds.





Apply parking brake:

Driving position → **brake position**

Pull the lever and press it backwards till it clips into place. The check lamp lights up.



Brake position → driving position

Pull the lever and push it forwards. The lever moves automatically to its released position. The check lamp goes out.



Always make sure the parking brake is applied and engaged fully in position before starting the vehicle, otherwise could results in personal injury or property damage.







Gearshift

- Select forward gear D or reverse gear R as needed. Depress the accelerating pedal and the vehicle can go.
- Depress the brake pedal to stop the vehicle. After parking the vehicle, press down the 'N' button and apply parking brake.
- Reverse gear should be applied only when the vehicle is static. When shifting the gear from 'D' to 'R' or 'R' to 'D', 'N' button should be pressed down firstly.

When driver is going to leave after parking the vehicle, ensure the N button is pressed down.

Caution:

- Do not apply quick accelerations and emergency brake too often while driving.
- If abnormal sound and other abnormal faults occur while driving, stop the vehicle immediately.
 Run the vehicle unless failures are eliminated.



L=hill climbing gear, R=reverse gear N=neutral gear, D=drive gear (forward drive)

Towing:

- Before towing, the 'N' (Neutral) gear should be pressed down. When towing, the vehicle should be under running state and ensure compressor and motors work normally.
- Ensure to dismantle the propeller shaft or half shaft.



ABS



Generally, through observing ABS indicator light and emergency braking at the speed over 40km/h, the driver can check whether ABS works normally.



ABS diagnosis

When the ABS fails to work, relevant warning indicator will come on to warn the driver to inspect the system. ABS warning indicator comes on under below situations:

- Turn the ignition switch to "ON" position.
- ABS warning indicator blinks instantly and about 3 seconds later, the light goes out. This means ABS system is in normal state.
- ABS warning indicator keeps on, but goes out when the vehicle speed is over 7km/h.
 This means ABS system is in normal state as well.
- ABS warning indicator cannot go out even when the vehicle speed is over 7km/h, this means faults in the ABS system.
- ABS working indicator in the instrument panel lights up, this means ABS system is working.





The ABS switch is a reset switch. The driver can press it and read flash codes from the ASR warning indicator. For more diagnostic information, please refer to service manual of ABS.

Emergency braking

On a broad and smooth road at a speed over 40km/h, press down the clutch pedal, and press the brake pedal totally to conduct an emergency braking, and then observe the tire braking tracks. Without dragging tracks indicates that ABS functions well, on the contrary, tracks caused by one wheel or all wheels signify that ABS system is out of operation. In such case, vehicle's ABS system or ABS function of a certain wheel shall be under diagnosis and repair.

Ensure ABS is working

Turn on the ignition switch in the position "on" and wait for ABS warning indicator off, listen to sound recycle of ABS solenoid valve

$$1-2-3-4-1 \& 2 -3 \& 4$$
 total 6 sounds

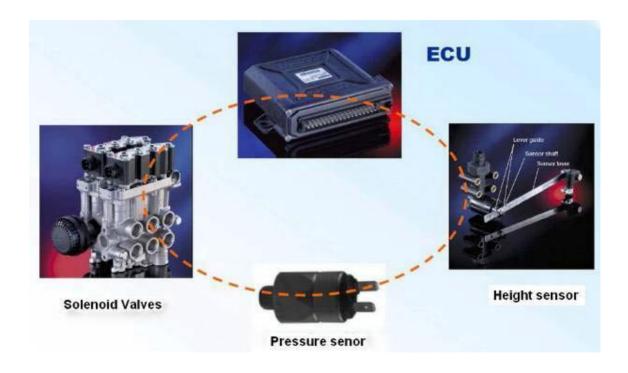
1 – right front wheel 2 – left rear wheel

3 - left front wheel 4 - right rear wheel

When ABS warning indicator comes on abnormally, please inspect and maintain the system in time.



ECAS





ECAS function

The name ECAS stands for Electronically Controlled Air Suspension. ECAS is an electronically controlled air suspension system with a large number of functions.

ECAS operation Height I / II selector switch

Height I is the normal height set by auto maker before leaving factory. It determines suitability, safety and meets the local vehicle regulations. Height II is a special height that takes specified driving conditions into account. It is determined by setting parameters in the ECU. Hight II is unrestricted by speed, so the vehicle cannot be running at height II for so long or the suspension and air bags will be damaged and suitability of the vehicle will be impaired.

The selector switch is at Hight I by default. Press the lower side of the switch to Hight $\rm II\,$ if necessary.





Raising and lowering switch

Use the switch to raise or lower the vehicle when the pressure of ECAS is normal. Under certain speed set by the ECU, the vehicle body can be raised or lowered. Both switches are reset switches. When lowering the vehicle body, be sure the air supply pressure to the air bag is above 6-bar, otherwise the lowering switch should not work.



When ECAS is in operation, this switch can be used to recover it to normal height and incline the vehicle to make it more convenient to get in/off. By vehicle speed control, the normal height should be recovered if the set speed is surpassed. Once reach the lowest or highest position, the electronic controller should automatically end height adjustment.

'Kneeling' means to lower the bus to make it convenient to get on/off. To set the parameters, the whole vehicle body can be lowered, or one side can be lowered or the axle with height detector can be lowered. Kneeling can only be activated when the speed is below 5 km/h, and the vehicle body is not above normal height, otherwise, the vehicle should drop to normal height first and then begin kneeling.







ECAS failure indicator

The indicator comes on when the ECAS has malfunctions. If it flashes, it warns that ECAS has serious malfunctions and users must inspect the system in time.



Caution:

Vehicle user and service people are not allowed to adjust the length of height sensor lever by themselves or there will be ECAS parameter errors.



V. Body equipment

A/C introduction

Digital control panel

This panel is controlling the air conditioning in passengers' area.





List

1.Temperature setting button	6. Fresh air button
2.Power button	7. PTC heating key
3.Auto mode key	8. Blowing air setting key
4.Manual refrigerant key	9. Display
5.Manual heating key	



Button function

1) Power key

Press the button switch on the A/C, and press again to switch off it.

2) Auto mode

Press the button switch on the A/C, system swifts to auto refrigerant mode, "A" is light, screen follows to show system working condition.

3) Manual refrigerant

Press the button, system swifts to manual refrigerant mode, "A" is light ,indicating air conditioner is in manual refrigerant mode.

4) Heating mode

Press the button, system swifts to heating mode. "A" is light, indicating air conditioner is in heating mode.

5) Fresh air mode

Press the button, system swifts to fresh air mode, "A" is light indicating system is in ventilation mode. Press this key again, icon outside circulation disappears, fresh air set turns off, system swifts to internal circulation and screen displays internal circulation.

6) Defrost mode

If "A" is light, and "B" refrigerant light turns to yellow, system is on defrosting mode. After defrosting, defrosting icon turns off, and refrigerant light turns into white, system turns to normal status.



7) Blowing rate display

Blowing air (seven-level) setting.

Press key to set blowing air maximum to minimum. System can adjust the blowing air by comparing the temperature in carriage with set temperature. It is unnecessary for user to set the blowing air.

"A" light indicates blowing rate in any mode.

8) Temperature setting display

"A" shows the temperature user sets and the scope is 15° ~32°C.

Press key, temperature would be increase/decrease by 1°C.

If press this key for a while, temperature

value would swift to max or min value.

9) PTC mode

When the system is in normal starting

condition, press button to apply PTC function if the temperature meets the apply requirement. Blowing rate could be adjust manually. "A" is light indicating system is in PTC mode.

10) Fault display

When "A" is light, indicating system with fault, but some function of air condition still can run, temperature setting show fault code. When "A" and" B" are light, indicating system with serious fault, temperature setting show fault code.



LED destination board

Overview

Function selector button (1)

Used to select and confirm the menu function(always) corresponding to the order at the left lower corner of the control screen)

Return cancel button 2

Used to drop the current operation, and go back to the previous(always corresponding to the order at the right lower corner of the control screen)

Menu upturning button ③

Used to switch the current operating object or menu upturning.

Menu downturning button 4

Used to switch the current operating object or menu downturning, besides, this button is provided with unlocking function.

Uptrain/downtrain switch button ⑤

Used to switch the direction of the bus.





Operations

- 1. The center controller is provided with self-motion lock function, so before operating, you should unlock first. First, press the function selector button ①,then press the downturning button ④(unlocking keystoke), the keyboard is unlocked now, you can operate to the center controller.
- 2. After unlocking, there are 4 rows in the screen of the controller. At the left of the first row (the top left corner of the screen) are the bus line numbers which are being showed on the LED destination board, at the right of the first row (the top right corner of the screen) are an arrow. which is expressing the direction of the up train and down train: The letters 'or: 'is seen in the second row, ('Or: 'means starting station), after the colon is the name of the starting station; The letters 'Di:'is seen in the third row('Di: '- means terminal station), after the colon is the name of the terminal station; at the left (the left lower corner of the control screen) 'menu' is seen, it is corresponding to function selector button (1); at the right, 'list' is seen.
- 3. After unlocking, if you want to adjust the brightness of the LED destination board and the thickness of the font, or want to upgrade the bus line list, please press the function selector button ①,enter the interface of the function list. Then, the two menus of 'Set Display' and 'Update list' appear,('Set Display' means 'the display install', 'Update list' means 'upgrade the bus line list), you can switch the current operating object by menu upturning button ③ or menu downturning button ④.
 - a. If the 'Set Display' is selected, the interface of 'display the install' will appear. It has two smaller menus 'Set Max Lumin' and 'Set Min Lumin'.
 - b. 'Set Max Lumin' is used to set the highest brightness of the LED board.
 - c. 'Set Min Lumin' is used to set the lowest brightness of the LED board.
 - d. If you select 'Update list', and press the function selector button ①, the center controller begins to connect with the display transcriber, and download the latest bus line list from the display transcriber automatically; If failing to download, the presentation 'connect fail, check connect' will appear, it means that 'fail to connect,



please check the connection with the display transcriber.'

Our product has the function of 4 levels of the brightness.

In order to get the best effect, the brightness in the daytime should be more brighter(because of the sunlight, the content displayed is not easy to read); and the brightness in the nighttime does not need to be so bright(without the sunlight, the content displayed is more easier to read in the night even though it is not so bright). So we should set the highest and the lowest levels of the brightness correctly. Here is the rule to set the brightness in the center controller. In 'Set Display',10 progressions can be selected, the larger the more brighter. First the

highest brightness should be set in the menu 'Set Max Lumin' (means display install at daytime); the lowest brightness should be set in the menu 'Set Min Lumin' (means display install at nighttime.). To get more obvious change of the display brightness, the most important rule is that the level of highest brightness — the level of the lowest brightness ≥ 4. For example, you set the highest brightness as 8 level in the menu

'Set Max Lumin', and you should set the lowest brightness as 4 level or 3 level or smaller in the menu 'Set Min Lumin'. Generally speaking, the lowest brightness should be ≦5 level, the effect of brightness changing will be more obvious. Another reason should be pay attention to: the brightness changing function will not carried out when the changing time of the environment brightness lasts less than 2 seconds because the changing time of the environment brightness is not enough for our product to give any response!

- 4. After unlocking, if you want to transfer and display other line information from the center controller, please press the return cancel button ②, the button is corresponding to the menu 'list' (means 'bus line') at the lower right corner. Select the filiale which the bus line belongs to, then find the bus line in the list, then press function selector button ①, the bus line you select is set to the current display line on the LED destination board.
- Up train/down train switch button ⑤ is used to switch the direction of the bus. the up train direction means that the bus drives from starting station to terminal station; thedown train



direction means that the bus return to the starting station from terminal station. When up train, the arrow at the top right corner in the controller screen is rightward, at the same time, the red light is on; when the bus is down train, press the up train/down train switch button 5, the arrow is leftward, then the green light is on.



Digital clock





Summary

The digital clock displays time, date, temperature and humidity. The digital clock displays the time for 20 seconds, the date for 10 seconds and the temperature and humidity for 10 seconds successively.

Buttons description

The buttons are located on the right of digital clock.

 Press and hold the button "S" to choose the function that need to be adjusted. When

> : :

the indicator c flickers, hour and month

can be adjusted. When the indicator % flickers, minute and day can be adjusted. As is shown in Figure a, hour "12" is adjustable, and in Figure b, day "15" is adjustable.

 Press and hold the button"+" and the numbers begin to increase and will not stop



Figure a



Figure b

D



until release it;

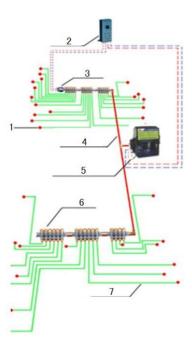
- Press button "-" to decrease the numbers.
 The use method is same to button "+":
- Press S to reset system and shift.
- Press "+" and "-" at the same time to display "12-" or "24-" hour system and release the buttons to choose one.

A Caution:

- The second dots between the numbers stop blinking when the time is being adjusted. After stop adjusting one second, the second dots re-blink:
- Press "S" to shift between the date, time and month and date.
- When the voltage of power supply increases to 32V±0.5V, the displayer stop working and the current is protected.
- Keep the camera from water or wetness, or the humidity sensor will not work.



KR-1B centralized lubrication system





List

1. Greasing point	5. centralized lubricating pump
2. Microcomputer controller	6. Ration distributor
3. Pressure sensor	7. Grease pipe
4. Main grease pipe	



Under normal circumstances:

- 1. Turn on the ignition switch (key) and the power light (green) will light to start the time.
- 2. When the timer reach the interval time (10 hours), work lights (green)will light to make the pump work.
- 3. When the system pressure reaches the set value within 60 seconds, the pressure sensor will send a switching signal to the controller and then the controller normal light (yellow) will light.
- 4. After 100 seconds, the pump will stop to work. The controller's work lights (green) and normal light (yellow) is off. It will be another cycle.





Fault

If the system pressure does not reach the set value within 60 seconds which means the pressure sensor does not send a switching signal to the controller, the fault light(red) will light and send alarm signals (Buzzer works).

Fault diagnosis

Step One: Click the 'failure elimination' key, the controller's fault light is off and the buzzer does not sound.

Step Two: Press the 'Manual lubrication' button for 3 seconds or more and let it into another cycle of work. If the controller's normal light lights within 60 seconds, it indicates that the last failure is caused by interference occasionally. If the controller's fault light remains lighting and the buzzer keeps ringing, it indicates that the failure is caused by the fault system itself.

If you want to give additional oil to the chassis, press the 'manual lubrication' button







for 3 seconds to complete a cycle of oiling process.



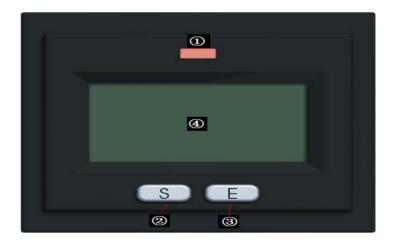
If the failure is caused by the system itself, it must immediately be checked and repaired.

Do not use manual keys for manual lubrication within a short time.



Vehicle integrated display

Vehicle integrated display switch



① - LED power / Warning indicator ② - Select button ③ -Confirm button ④ - Display



POST status

Vehicle information display when the device is powered, it will be self-test, state as follows:

- LED red, green flashing in sequence, each color light 1s
- Three times the buzzer in 1s then turn off the beep
- The screen displays "power" words Then, enter the normal working status.

Normal status

When the device is powered vehicle information display after POST, enter the normal working state, state as follows:

- Two-color LED is solid green, indicating that power is normal
- Buzzer does not sound
- The screen displays the word "brightest normal"
- In the 10s does not detect any alarm, LCD screen backlight is off, the screen still shows "All the brightest normal"

Warning status

When all alarm signal for each route, it will trigger an alarm, this status is as follows:

- Two-color indicator light turns red
- · Buzzer long ring
- The screen displays an alarm route corresponding to the name of detecting amount, and the

"Warning" word



LCD display for each path alarm

Path	Signal name	When alarm the display of the first line	When alarm the display of the second line
1	Left front brake shoe wear	Left front brake	Wear warning
2	Right front brake shoe wear	Right front brake	Wear warning
3	Left rear brake shoe wear	Left rear brake	Wear warning
4	Right rear brake shoe wear	Right rear brake	Wear warning
5	Left engine compartment high temperature	Left cabin	High temperature alarm
6	Right engine compartment High temperature	Right cabin	High temperature alarm
7	Backdoor emergency valve open	Backdoor emergency valve	Open the alarm
8	Retarder high temperature	Retarder	High temperature alarm
9	Rear fog light switch is not closed	Rear fog	Not off the alarm
10	Front door emergency valve open	Front door emergency valve	Open the alarm



Alarm Count

Vehicle information display device has function of the alarm number's recording, displaying and clearing:

- Record the number of alarms separately for each channel
- Each time an alarm is detected, the corresponding channel will be recorded in the built-in alarm value plus 1
- When the times of a channel's alarm has not been cleared, as the same time the police, not the cumulative count
- When a channel alarm trigger condition is cleared and maintained more than 5s, regarded as the alarm condition is removed If the channel's alarm again, it will be treated as a new alarm, the corresponding count plus 1
- By clear alarm count's operation, can clear every channel's number of built-in alarm

Buttons and work mode switch

Vehicle information display device can be switched four modes: normal mode, self-test mode, display the number mode and detection channel configuration mode.

Where the normal mode, self-test mode, display the number mode is the normal operating mode, By press S button to switch; detection channel configuration mode is a special mode, Long press the S key (5s) to enter.

In normal mode, after pressing the S button, enter the appropriate action selection interface, if you do not operate the E key within a certain time, it will automatically return to normal operation interface. Self-test mode In normal operating mode, long press the S button, the screen displays "self-test "the words, press the E button to enter the self-test mode. After entering the self-test mode, the vehicle information display device will self-test.

When the self-test, state as follows:

- LED red, green flashing in sequence, each color light 1s
- Turn off the buzzer after beep three times in 1s
- The screen displays the word "self-test"
- After the self-test is completed, automatically jump to the normal mode



Vehicle MP3 player

Panel Operation





1. MODE PWR

Short press => Mode change/on Continuous press => off

2. P./MUTE

Radio Mode: Short press => Mute MIC Mode: Short press => Mute MP3 Mode: Short press => Pause

Continuous press => Mute

3. CLK BAND

Radio Mode: Short press => Band change

Continuous press => Display time

Clock Mode: Short press => Select hour or

minute set when time adjusting

Continuous press => Return to previous mode Mp3 Mode: Short press => Select playing of

SD card or Udisk

Continuous press => Display time

MIC Mode: Continuous press =>Display time

4. 1/SCN

Radio Mode: Short press =>Select station 1

(Saved)

Continuous press =>save current frequency

channel to station 1

MP3 Mode: Short press => Select preview

play mode

5. 2PRT

Radio mode: Short Press => Select station 2, which has been stored

Continuous Press => save current frequency channel to station 2

MP3 mode: Short Press => Select repeat

play mode 6. 3 RDM

Radio mode: Short Press => Select station 3, which has been stored

station 3

MP3 Mode: Short Press => Select Random

play mode 7. 4EQ

Radio mode: Short press => Select station 4,

which has been stored.

Continuous Press => save current frequency

channel to station 4

MP3 Mode: Short Press => EQ Adjust



8. FOL Radio

mode: Short press => Select station 5, which has been stored

Continuous Press => save current frequency channel to station 5

MP3 Mode: Short Press => Play previous folder

9.6 FOL+

Radio mode: Short press => Select station 6, which has been stored.

Continuous Press => save current frequency channel to station 6

MP3 Mode: Short Press => Play next folder 10.AS/ PS

Radio mode: Short press => Saved channel pre-view.

Continuous Press => Auto scans and saved. MP3 Mode Short press => in turn display the file name, track number catalog number, track name.

11. <<

Radio mode: Short press => Reduce radio frequency

Continuous Press => Auto tuning down, stop when search a station.

MP3 Mode Short press => Play previous title

CLK Mode: Short press => Decrease 1 while time adjust

12.>>

Radio mode: Short press => Increase radio frequency

Continuous Press => Auto tuning down, stop when search a station.

MP3 Mode: Short press => Play next title.
CLK Mode: Short press => Increase 1 while time adjust
13 I OUD

Radio Mode: Short press => LOUD on/off MP3 Mode Short press => LOUD on/off CLK Mode Short press => Confirm button for time adjust

14.Button

Press for options of audio adjust, turn the knob for value regulate.

MP3 Mode: When press AS/PS button to display the file name track number、catalog number, turn the knob to select the file, track catalog, short press the knob to confirm.



15.Remote IR eye

Set aside, the machine does not have this function.

16.LCD screen

17.SD Card slot

18.U-dist

19.Pre-set button

Return to factory default settings

Basic Operation

Power on /off:

At the status of power line connected, press MODE PWR to turn on, press and hold to turn off.

System reset:

If button inactivate or there is LCD display problem, use screw driver to press the reset button on left of faceplate, it will return to default setting.

Mode switch:

Press button repeatedly, it will switch recycle between the following modes:

Mode label with "*" will be enter only at the status of module is connected, otherwise it will skip.

Mute:

- 1. Press P/MUTE button the unit, will be mute or mute cancel, when it is at mute status, MUTE will be display on right of screen
- 2. In the mode of MP3 Press P/MUTE for pause function

Continuous press of P/MUTE button is for mute function.

Volume/Bass/Treble/Left or right/Front and rear adjust:

Press value adjusted knob repeatedly, it will switch between the following mode For every press, the order will be as follows

```
Normal (VOL) — BAS — TRE — BAL — FAD (Volume) (Bass) (Treble) (Balance) (F/R balance)
```



Select to the desire mode, turn VOL knob to adjust each values.

The range of each parameters are as follows(Default in the middle)

VOL: 00 - 18 - 40

BAS: -07 - 00 - 07

TRE: -07 - 00 - 07

BAL: L9 — 00 —R9

FAD: R9 - 00 - F9

Sound Effect mode (EQ) and loudness

(LOUD) adjust:

In MP3 mode, press 4/EQ button, the sound effect mode can be changed as:

Press LOUD button, the loudness switch can be turned on/off

LOUD will be display on screen for button on.

Time display and setting:

- 1. Press CLK BAND continuously, you can switch between playing mode and clock display.
- 2. Short press CLK BAND button to enter to minute setting status, at the meantime, minute display character flickers.
- 3. Press >>or << button to adjust value (0-59).
- 4. Then short press CLK BAND button to enter to hour setting status, at the meantime, hour display character flickers.
- 5. Press >> or<
button to adjust value (24 hours).
- 6. After adjusting, press LOUD to save and exit.



Monitor

Function of buttons

Pow: Turn on or off the LCD panel

AV: Switch between rear view and video.

MENU: Switch among BRIGHTNESS,

CONTRAST, COLOR and RESET.

'-': Adjustment down

'+': Adjustment up



Problem solution

Problem	Solution
No display	Check the power line connection, is it polarity correct?
No display	Check the battery, does it work correctly?
	Check the connection of CCD camera line
No picture	Check connection of video line, is the program player in a good working station?
Brightness is abnormal	Adjust the brightness, contrast and color.



VI. Body accessories

Passenger door

There are three different ways to open the passenger door; the first is electrical key, the second is using rocker switch, the last one is using the emergency switch.

1. By electrical key on the front body

The key hole is located out of the outer plate arc on the front and right side of the vehicle.





2. By switch

- The switch is available when the ignition switch has been turned on;
- The driver can control the door with the switch on the instrument panel;
- Press the switch to turn on the relative door and press the lower part to turn off it.



- Do not open the passenger door when the vehicle is running to avoid injure or loss;
- Make sure that there is no obstacle before operating the passenger door;
- If any person or thing is clipped by passenger door, it will open automatically.





3. By emergency valve switch

The upper figure's switch id located left of the driver's area, it control all passenger door.

The bottom figure's switch is installed upside of the passenger door.

When in emergency, open the cover and rotate the red emergency knob clockwise, and deflate air pressure, then push the door by hand. Reset the red emergency knob to its initial position counterclockwise before opening or closing the door normally.



The rocker switch controlling the door is unavailable when the emergency switch has been turned on.







VII. Maintenance

Periodical maintenance regulation

Purpose

- To standardize the maintenance regulations and raise the awareness of customers to maintain vehicle regularly.
- To help customers to keep the vehicle in good technical conditions.
- To reduce vehicle malfunctions and ensure safety.
- To prolong vehicle life.

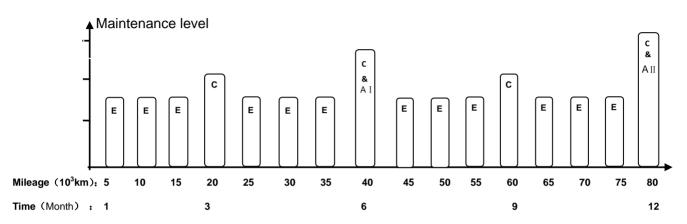


Maintenance Classification and Period

Classification	Classification		Period (Remark: Whichever comes first)	
Classification			Annual transportation mileage <50000km	Annual transportation mileage≥50000km
New car	PDI maintenance		After a certain mileage of transport or a long time parking; Do not meet the requirements of running-in maintenance conditions; Before using the new vehicle.	
maintenance	Running-in maintenance		The vehicle has already run for 3,000km for the first time or 6 months after the date of delivery (date on the nameplate), whichever comes first.	
	Routine maintenance		Before, during and after driving each time.	
	Elementary maintenance		Every 3,000km/1 Month	Every 5,000km/1 Month
D 1	Complete maintenance		Every 12,000km/3 Months	Every 20,000km/3 Months
Regular maintenance	Additional maintenance	Additional I	Every 24,000km/6 Months	Every 40,000km/6 Months
		Additional II	Every 48,000km/12 Months	Every 80,000km/12 Months
	Seasonal maintenance		For vehicles in areas where seasonal variation is evident.	
Non periodical maintenance	Stock maintenance		For vehicles in long-term stock.	



Maintenance intervals:



Remarks:

E: elementary maintenance,

C: complete maintenance,

C & A I: complete maintenance and

 $additional \ I \ ,$

C & A II: complete maintenance and

additional II.



Classification	Summary of Operational Content	Operational Instructions		
PDI maintenance	Inspect and clean the body and every compartment, test the vehicle basic function, such as starting, gearshift, braking and so on. Besides, inspect the motor, the power battery and the motor controllers.	Higer Electric Bus Maintenance Manual		
Running-in maintenance	Overall inspection, essential adjustment and maintenance like cleaning, lubrication and tightening so that the vehicle can keep a good condition.	iviaintenance ivianual		
Routine maintenance	Clean the vehicle body. Check or fill the oil, grease, fuel, coolant, brake fluid, A/C refrigerant and air pressure of tires. Check the systems of safety such as brake, steering, suspension, lamps and signals.	Higer Electric Bus Users Manual		
Elementary maintenance	Clean, lubrication and tightening are key points. Check the safety parts such as braking and operation system; check the working situations and insulation of high voltage electrical parts.			
Complete maintenance	Check the working and insulation situations of high voltage electrical parts such as power battery and motor and so on. Replace the related oil and filter. Check and adjust the safety parts such as steering knuckles, steering rocker arms, brake shoes and suspension systems, which should be worn after a period of operation. Check and perform tires transposition.	Higer Electric Bus		
Additional maintenance	According to the main or important technical characteristics, add the additional maintenance on the basis of regular maintenance. Additional maintenance can be combined with conventional maintenance.	Maintenance Manual		
Seasonal maintenance	Mainly inspect the A/C system and select proper lubrication oil and antifreeze according to local climate. Perform inspection of safety parts before major festivals.			
Stock maintenance	Inspect the vehicles in long-term stock regularly, amend and replace specified parts as required.			



Charge by Charger

- Non-staff without authorization is not allowed to carry out operations on the charging device.
 Only the well-trained working staff of the charging station is allowed to carry out operations on the charging device
- It is not allowed to turn on the charging device if the connector and LCD is not function well before the charge.
- Before starting the charge, ensure there is no voltage with the charging post plug and vehicle socket and they match well. Then well connect the charging post plug and vehicle socket.
- Make sure the charger casing is well connected to the earth by wires and sudden power-off or wire disconnection should be prohibited.
- Charge in thunderstorm is prohibited. Stop the charge immediately once there is thunderstorm in case of charger damage.

- The charge must be stopped once there is any charger abnormal noise, battery voltage abnormal display or LCD abnormal display. The related symptoms should be recorded and reported to the professional for the use of repair. Only the professional is allowed to disassemble the charger.
- For the sake of personnel safety, the repair on the charger must be carried out 15 minutes later after it is turned off and there is static-proof action.
- Turn off the charging device to avoid its damage due to instant over drive if it will stay vacant for a long time.



Routine maintenance

Daily:

Air compressor

- Clean the intake filter; (Clean the periphery of the air compressor and ensure a well ventilated ambient environment)
- Clean the oil cooler and terminal cooler of compressed air.(Inspect if there is airborne dust on the oil cooler pieces and ensure good cooling effect.)

Tire pressure and tightness of the wheel nuts

Check tire condition and its inflation and see whether there are mechanical damages. Cracks found along the lateral line should be promptly mended. If the crack has extended to the cord layer, the tire should be replaced. Meanwhile, check tightness of the wheel nuts.

Headlamps and turn signal

Check their operation and make sure they operate properly.

Rear view mirror

Check the rear view mirror and make adjustment if necessary.

Steering wheel play

Free play of the steering wheel should be maintained between - $10 \sim + 10$ degree. If larger, go to the service station to check and repair.



Weekly:

Air compressor

- Remove the condensate of power steering fluid reservoir. Remove the condensate of air tank (water).
- Clean the intake filter and filter cover of air compressor.

Wiper washing liquid

The washing liquid reservoir is in the compartment below driver's seat, or under the decoration cover. If it gets low, please replenish it.

\triangle Caution:

- Stationary steering is forbidden before starting.
- If the vehicle has not been used for a long time, the air in the oil system may need to be drained before starting.



Air conditioner

△ Caution:

Maintenance and repair of the air conditioner must be performed with power off!

- When parking in hot summer, avoid insolating the vehicle in the sun.
- Inspect the cleanliness of the filter screens of return air grille and evaporator core. Clean them on time.

Cleaning method: Dismantle the return air grill of A/C, and then take the filter screens out from the return air grill and evaporator respectively. Clean the filter screens by compressed air or warm water with neutral detergent, and then clean them by clear water. Install them again.

• Inspect the cleanliness of the filter screens of condenser core and evaporator core. Clean them on time.

Cleaning method: Open the roof cover and wash it by water gun with neutral detergent or clean it along the slice by a soft brush, at last clean it by clear water.

- Inspect the refrigerant level (please refer to the nameplate for filling capacity)
- Inspect conditions of the pipeline, bracket,

bolt set

Inspect the condition of harness and connectors



Wheel

Tighten the wheel nuts

Screw locknut tightly crosswise along the diagonal. Re-fasten it every 5000 km. Check regularly and re-fasten it if necessary. Tighten torques of wheel nuts.

\triangle Caution:

 Running on stone step would harm inner tube and the invisible harm could result in tire explosion. Therefore running on stone step should be avoided and when come across stone step, slow down as possible and drive over it at right angle.

Tire Application Instruction:

 The rim specification must comply with technical requirements in wheel assembly without distortion or serious unbalance. The greasy dirt and rust should be removed. Talcum powder should be scattered between inner tube and cover tire before assembly so as to protect rubber.

- Tires of different specification or with different figure on the cover tire are not allowed to be applied in the same vehicle axle and mixed assembly should also be avoided in complete vehicle.
- Tire should not be applied with overload. Macadam between the two rear wheels or in the tire figures should be removed immediately. Check tire pressure frequently and tire with insufficient pressure should not be used.
- To prevent tire from quick abrasion, sudden braking and fierce starting should be avoided as possible.
- If the vehicle would not be used for a long period, set up the wheel and reduce solarization.



Electrical control assembly

The electrical control assembly applied in the vehicle is the special type for our bus. It is installed in the examination and repair bin in the right bottom of instrument panel. Fuse and relay for all electric apparatus are integrated in power distribution box and their functions are illustrated in electric drawing.



△ Caution:

After fuse burning out and relay damaged, do replace fuse and relay of the same capacity and specification.



Body

- The body should always be kept clean. Remove dirt in time every day. It is not allowed to shovel and scratch with tool after becoming dried to prevent from doing harm to paint and thus result in rust in cover frame.
- The seal glue strip on door and window should be complete and replaced in time if damage has been found out.
- Hot water, salty water, kerosene and other oil

- which would do harm to paint are not allowed to be used to wash the paint on vehicle body.
- Frequently examine the linking between vehicle body and bus frame. Repair in time if abnormal problems are found out.
- Frequently examine the fastening pieces of inner parts and fasten in time.
- Frequently examine the state of passenger door and adjust in time if it is loose.
- Frequently examine the illumination state of bus and replace in time if damage occurs.