Technical parameters

Complete-vehicle mass parameters

Model	SH6591/SH6601/SH6605 pure electric buses	SH6631 pure electric buses	SH5040/SH5041 Pure electric van	SH5040 Pure electric van
Gross mass, kg	4100,4180	4180	4100	4290
Curb mass, kg	2930,3060,3010	3040	3650,2810	2680
Front / Rear axle load (fully loaded), kg	1870/2230 1940/2240	1940/2240	1870/2230	2050/2240
Number of seats	10 ～ 15	10 ～ 14	1 ～ 2	2 ～ 3

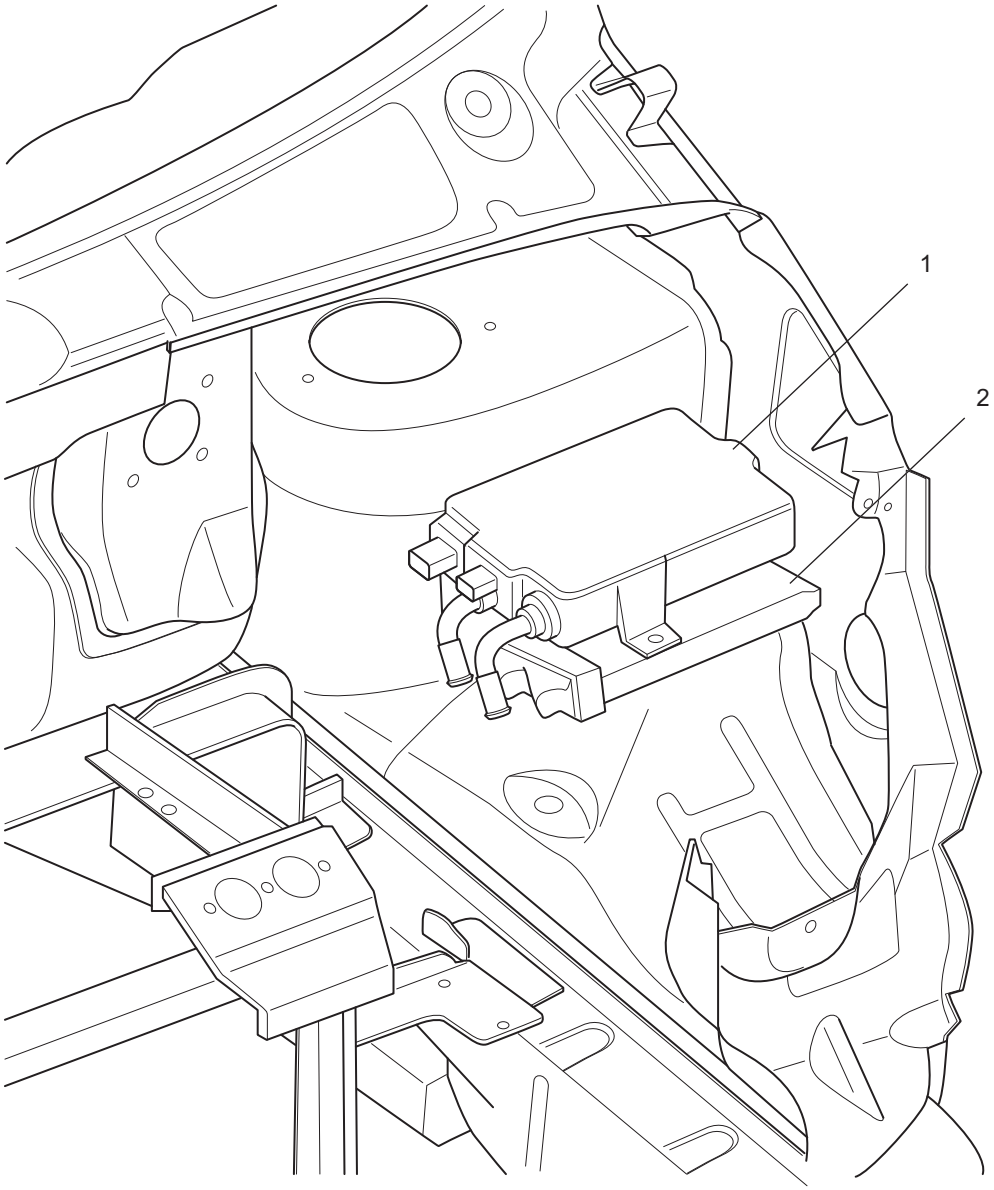
Motive power parameters

Item		Value
Maximum vehicle speed, km/h	Maximum vehicle speed	80,100
Maximum reverse speed, km/h		20
Gradability, %	Maximum gradability	20
Acceleration capability, second	Time taken for acceleration from 0 to 50 km/h	9
Range (the vehicle is fully loaded, with air conditioning turned on)		⩾ 100

Main Parameters of Drive Motor

Model	IP-M131101
Type	AC machine
Rated speed, rpm	3600
Peak speed, rpm	12000
Rated power, kw	60
Peak power, kw	100
Rated torque, N.m	159
Maximum torque, N.m	320

Layout

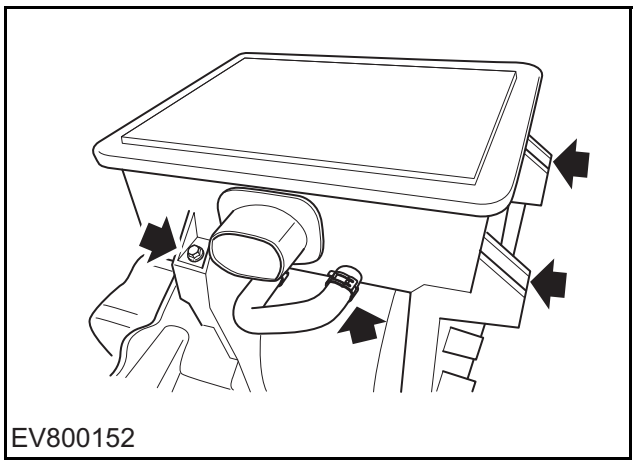


EV800150

1 DC/DC converter

2 Vehicle Management System (VMS)

12 Remove the 4 bolts used for fixing the motor controller to the motor.



EV800152

13 Remove the motor controller (PCU). When doing so, take care not to break the motor coding line. Draw carefully the line out of the hole below the PCU.

Installation

1 Installation is performed in the reverse order as removal. Note that:

-Bolt for fixing motor controller to motor tightened to:40 ± 5Nm.

Note：After replacing the PCU, have the data uploading and matching performed by the supplier of PCU.

Replacement of the motor

Removal

1 Turn the key to the position OFF. Wait for 3 to 5 minutes.

2 Remove the service switch.

3 Open the engine hood.

4 Disconnect cable from the negative terminal of battery.

5 Remove the electric power train (see “Replacement of Electric Power Train”).

6 Remove the 4 bolts used for fixing the motor controller to the motor. Disconnect the harness from the motor controller and the motor. Remove the motor controller.

7 Remove the 6 bolts used for fixing the reduction gear to the motor. Remove the motor.

Installation

1 Installation is performed in the reverse order as removal. Note that:

-Nut for fixing torsional bar of rear suspension to vehicle sub-frame tightened to:180 ± 10Nm.

-Bolt for fixing reduction gear mounting to vehicle body tightened to:60 ± 5Nm.

-Nut for fixing drive motor mounting bracket to drive motor mounting tightened to:100 ± 5Nm.

-Bolt for fixing drive motor mounting bracket to motor tightened to:60 ± 5Nm.

-Bolt for fixing motor controller to motor tightened to:40 ± 5Nm.

-Tighten the bolts used for fixing the reduction gear to the motor to the torque of 70 ± 5Nm.

Technical parameters

Battery parameters

Battery type	Lithium iron phosphate battery				
Voltage range （V）	280~380V				
Total energy （KWh ）23 ± 2 ℃ ,1/3C	75KWh/ 60KWh	74KWh	58KWh/ 50KWh	65KWh	56KWh
Battery pack capacity （Ah）23 ± 2 ℃ ,1/ 3C	225Ah	430Ah	250Ah	380Ah	168Ah
Single electric core	22.5Ah	43Ah	25Ah	38Ah	24Ah
Combination mode	10 parallel connection 104 series connection				7 parallel connection 104 series connection
Environment temperature range （℃）	-20 ℃ ~60 ℃ （Discharge） -5 ℃ ~60 ℃ （Charge）				-20 ℃ ~60 ℃ （Discharge） -5 ℃ ~55 ℃ （Charge）
Environmental relative humidity	10~85%				＜ 95% RH
Storage temperature	-10 ℃ ~+30 ℃ （The best）				-10 ℃ ~+30 ℃ （The best）
The cycle life of the battery pack(DOD100%)	＞ 2000				2000C
Continuous charge current	59KW/180A （SOC ＜ 70%）				26.6KW/80A （SOC ＜ 70%）
Maximum charge current	75KW/225A （SOC ＜ 80%）				59.9KW/180A （SOC ＜ 80%）
Maximum discharge current	133KW/400A （SOC ＞ 30%）				133KW/400A （SOC ＞ 30%）
Continuous discharge current	75KW/225A （SOC ＞ 30%）				59.9KW/180A （SOC ＞ 30%）
The retention of charge （28 days under normal temperature，25 ℃，SOC ≥ 85%）	97.9%				≥ 80%
The value of insulation resistance test （Ω）	＞ 200M Ω				550M Ω
Weight （kg）	903				670

Torque

Application	Torque (N.m)
Bolt – Fixing battery to vehicle body	110 ± 5
Bolt – Fixing high-voltage distribution box to mounting bracket	58 ± 5
Bolt – Fixing blower bracket to blower	15 ± 2

Technical data

Parameter

Compressor model	SHS33
Compressor voltage	Low voltage 12V High voltage 288V
Compressor motor output power	4.5KW
A/C refrigerating fluid	PAG
Refrigeration oil added after condenser replacement	30ml
Refrigeration oil added after dryer replacement	15ml
Refrigeration oil added after evaporator replacement	50ml
Refrigeration oil added after single pipe replacement	10ml
Refrigeration oil added after air conditioning compressor replacement	If residual oil drained from the used compressor is less than 30ml, add oil of 50ml into the new compressor. If residual oil drained from the used compressor is more than 30ml, add oil of the drained volume into the new compressor
Refrigerant	R134a/R1234yf
Refrigerant added volume	LWB bus：1750 ± 30 LWB VAN：600 ± 30 Minibus:front AC ： 700 ± 30 rear AC ： 1200 ± 30 Without rear AC(CHINA)：850 ± 30 Without rear AC(UK;FRANCE)：750 ± 30 （R1234yf）

Torque

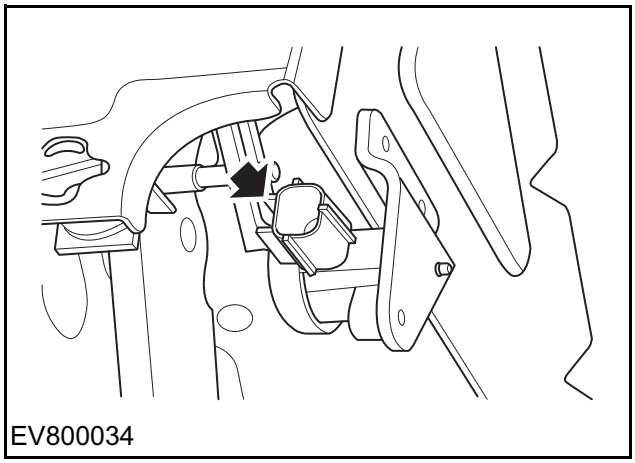
Application	Torque (N.m)
Bolt – Fixing exhaust pipe of compressor to rear air conditioning compressor	23 ± 2
Bolt – Fixing intake pipe of compressor to front air conditioning compressor	23 ± 2
Bolt – Fixing exhaust pipe of front air conditioning compressor to front air conditioning compressor	23 ± 2
Bolt – Fixing intake pipe of compressor to rear air conditioning compressor	23 ± 2
Bolt – Fixing front air conditioning compressor to compressor bracket	22 ± 2
Nut – Fixing front air conditioning to front wall	10 ± 1.5

7 Remove the brake pedal assembly.

Installation

1 Using the socket wrench, tighten the nut used for fixing the brake pedal to the brake booster and brake booster reinforcement plate to the torque of 18.5 ± 1.5Nm.

2 Engage the fork of brake pedal travel sensor with the pin roll of brake pedal. Insert the sensor locating pin in the hole of brake pedal bracket. Fix the sensor using the bolt.



EV800034

3 Using the pin roll, plain washer and spring pin, fix the push rod of vacuum booster to the brake pedal.

4 With the brake pedal released, check that the brake lamp responds to the brake pedal operation.

5 Connect the connector for the harness of brake lamp switch.

6 Connect the connector for the harness of brake pedal travel sensor.

7 Connect the cable to the positive terminal of battery.

Note：After installation, the brake pedal shall be 160 to 165mm above the floor, and the free travel of brake pedal shall be less than 10mm. With the brake pedal depressed, the brake lamp shall come on.

Replacement of electronic vacuum pump

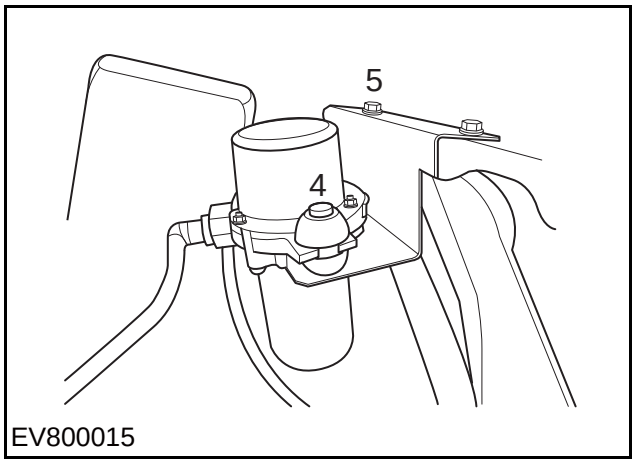
Removal

1 Disconnect the cable from the negative terminal of battery.

2 Disconnect the connector for vacuum pump harness.

3 Disconnect the quick joint of vacuum tube assembly from the vacuum pump.

4 Loosen the bolt used for fixing the electronic vacuum pump to the EVP bracket. Remove the electronic vacuum pump.



EV800015

5 Loosen the bolt used for fixing the EVP bracket. Take out the EVP bracket.

Installation

1 Using the socket wrench, tighten the bolt used for fixing the EVP bracket to the bracket in vehicle body to the torque of 23 ± 2Nm.

2 Tighten the bolt used for fixing the vacuum pump to the EVP bracket.

3 Connect the quick joint of vacuum tube to the vacuum pump.

Replacement of GSM antenna

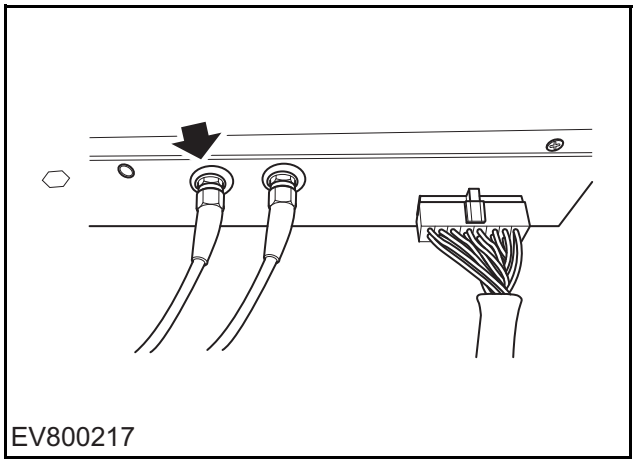
Removal

1 Turn the key to the position OFF. Wait for 3 to 5 minutes.

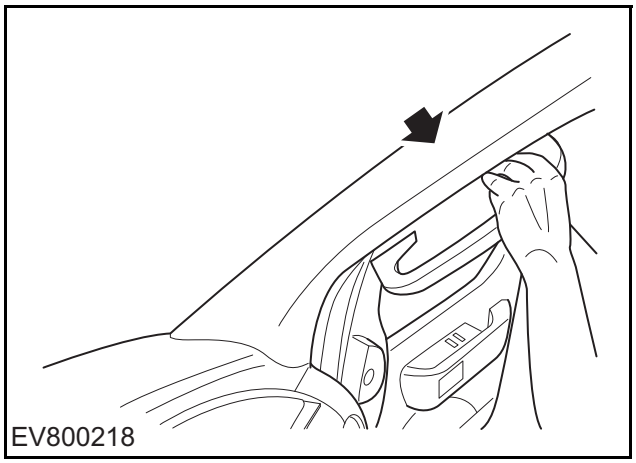
2 Remove the service switch.

3 Remove the instrument panel.

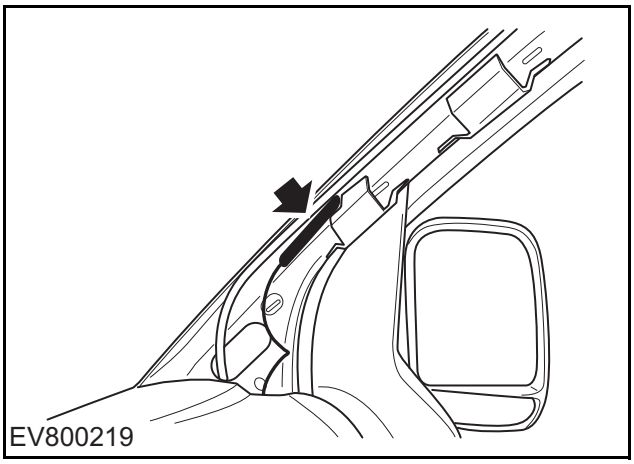
4 Disconnect the antenna from the travelling data recorder.


EV800217

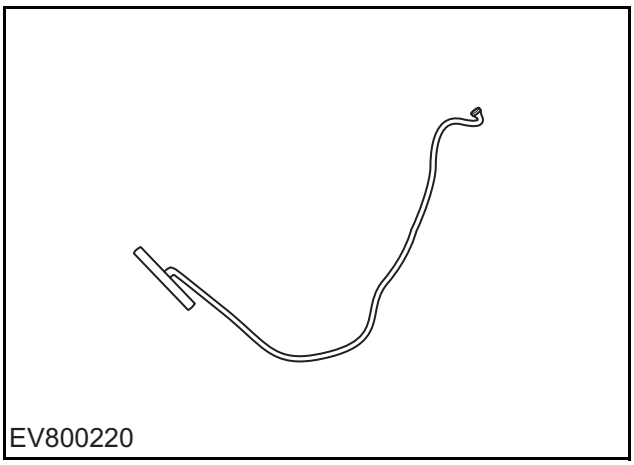
5 Remove the interior trim board from the right pillar A.


EV800218

6 Remove the antenna signal receiver that is attached to the upper interior trim board of pillar A using 3M adhesive.


EV800219

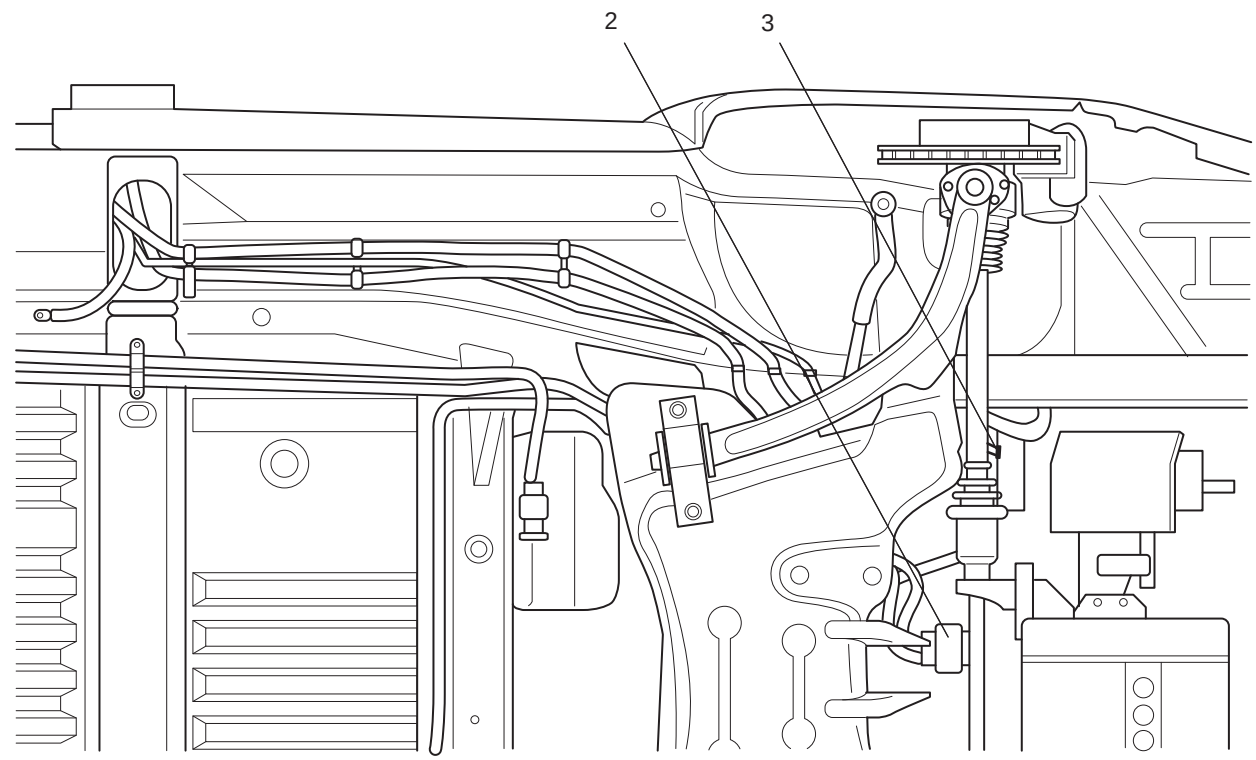
7 Remove the antenna harness assembly.


EV800220

Installation

1 The installation is performed in the reverse order as removal.

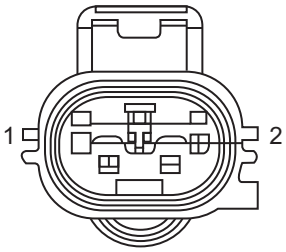
Quick Charge Harness



DS570010

2 PDB03: Connector to high voltage compartment 3 HB2FB: Connector to frontal harness

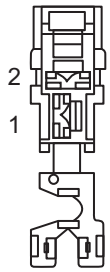
FB08-1



FB08-1

Connector description	Electronic vacuum pump	
Connector location	On electronic vacuum pump	
Connector color	Black	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	ORN	2561
2	BLK	190

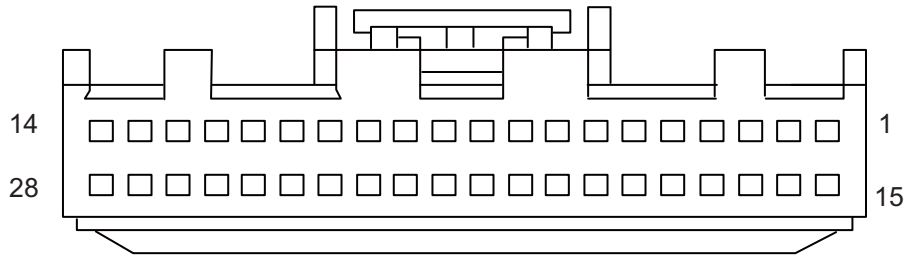
FB09



FB09

Connector description	Battery blower	
Connector location	On battery blower	
Connector color	Black	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	BLK	84A
2	RED/YEL	60

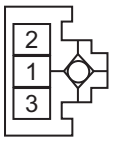
IP06



CS839005

Connector description	Body control module-J2	
Connector location	Right front wall panel	
Connector color	White	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	Not used	
2	BLK/WHT	1969A
3	YEL/BLK	10
4	Not used	
5	GRN DK/WHT	1317A
6	Not used	
7	Not used	
8	Not used	
9	Not used	
10	Not used	
11	Not used	
12	BLU DK/WHT	195
13	Not used	
14	GRN DK/WHT	306
15	GRN DK/WHT	1317ARH
16	BLK	28C
17	WHT	1080
18	BLK	860
19	BRN	96
20	Not used	

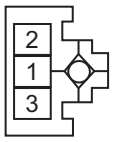
IP102



IP103

Connector description	Thermostat K1	
Connector location	Behind thermostat	
Connector color	White	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	PPL/WHT	20
2	RED	43
3	BRN	543F

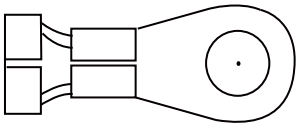
IP103



IP103

Connector description	Thermostat K2	
Connector location	Behind thermostat	
Connector color	White	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	YEL/WHT	33
2	RED	90
3	BRN	542G

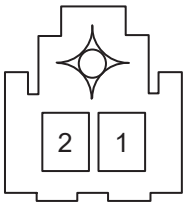
G301



CS869023

Connector description	Left roof harness earthing	
Connector location	Left pillar D	
Connector color	Silver	
Connector type	Ring connector	
Pin	**Conductor color**	**Conductor code**
1	BLK	3050F,3050

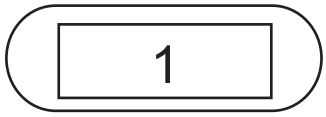
XR01



CS449000

Connector description	Interior reading lamp (right front) on rear roof	
Connector location	Behind rear reading lamp	
Connector color	White	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	BLU DK	523C
2	BLK	850C

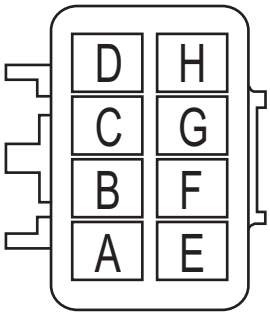
LT06



CS863113

Connector description	Connected to left rear window heater	
Connector location	Below left rear window	
Connector color	Black	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
1	PPL	293G

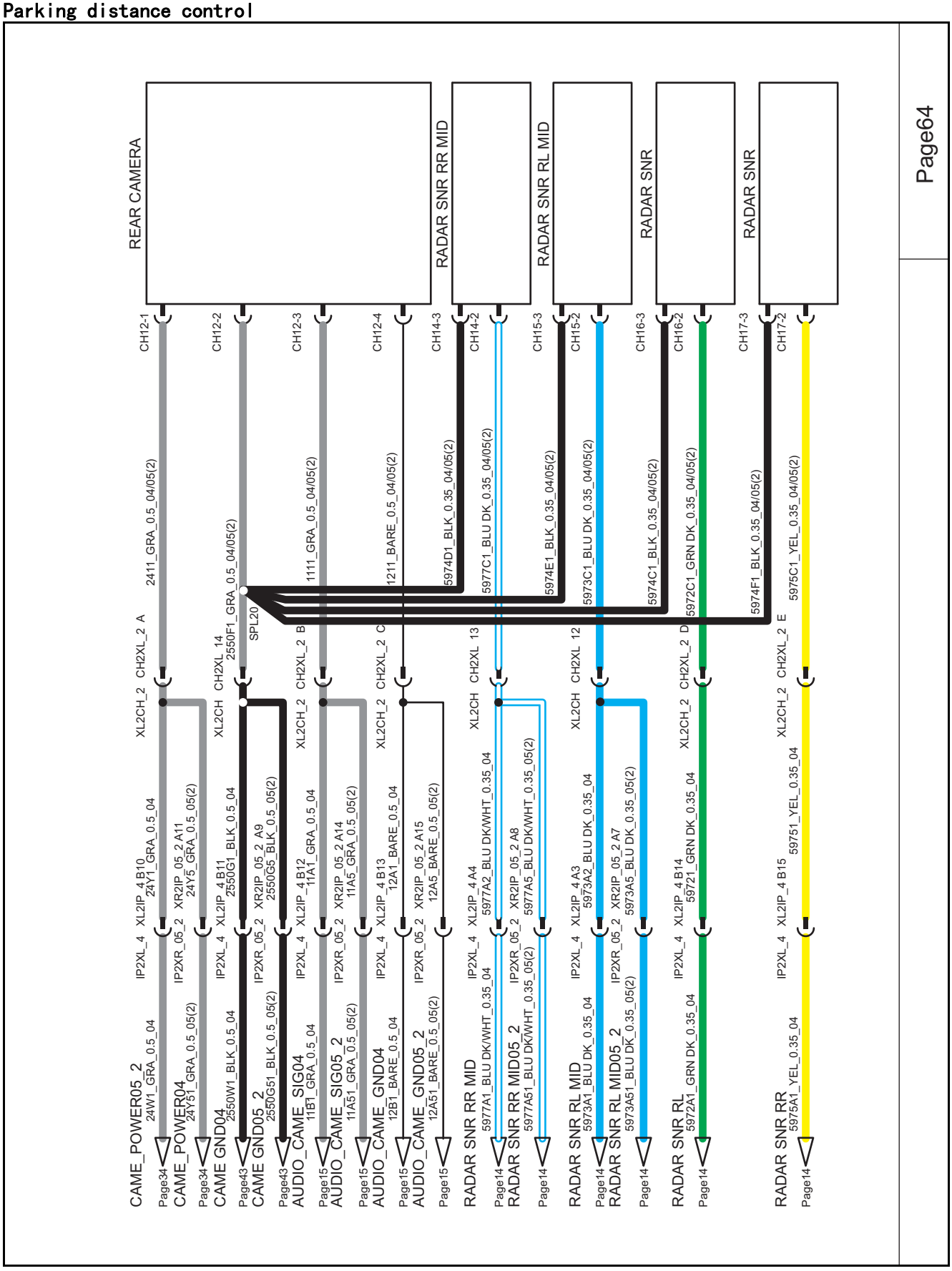
LT2XL



CS863114

Connector description	Connected to left roof harness	
Connector location	Below left pillar D	
Connector color	Black	
Connector type	Female	
Pin	**Conductor color**	**Conductor code**
A	PPL	293G
B	YEL	1961L
C	ORN	1431K
D	BLK	3050J
E	RED	241
F	BLK	3050GA
G	GRA	11
H	BARE	12

Parking distance control



Electronic handbarake