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Connector 1, engine compartment harness and engine harness (CVT condition) (UE1/EU1b)

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140

Connector 1, instrument harness and engine harness (CVT condition) (IE1/EI1b)

140

10 Abbreviation

141

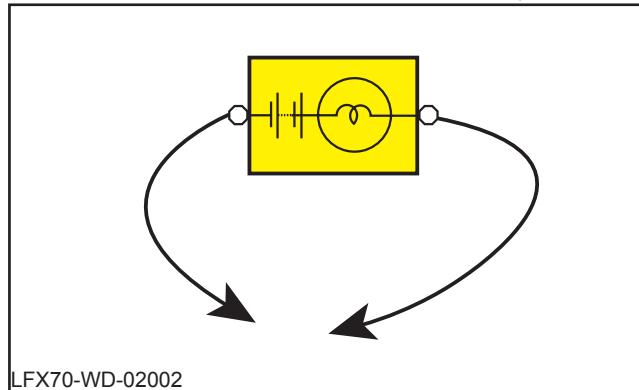


Warning:

When checking the voltage of ECM, do not use the test lamp to check the modular circuit, or the internal circuit of module may be damaged. Instead, use 10M Ω or above digital voltmeter to perform inspection.

The voltmeter is used in the same way as the test lamp. The only difference between them is that the voltmeter can display the current voltage. Use high impedance voltmeter to check voltage. In case of virtual wire connection, the voltmeter displays normal voltage, but the load cannot work normally with such voltage.

2.2 Test Lamp and Ohmmeter with Power Supply



LFX70-WD-02002

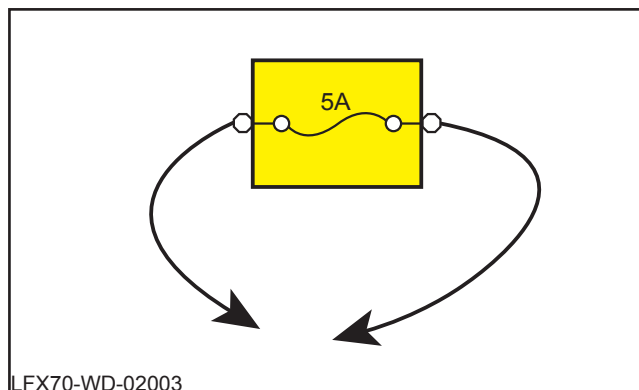


Warning:

When checking the modular circuit, do not use the test lamp with power supply, or the internal circuit of the module may be damaged. Instead, use 10M Ω or above digital ohmmeter to perform inspection. Refer to the operation instruction of multimeter for how to use the ohmmeter. The ohmmeter can display current resistance. The lower the resistance, the better the conduction.

Use a test lamp or ohmmeter with 12V supply to check circuit conduction. The test lamp with power supply consists of bulb, battery and two wires. When the two wires are connected, the lamp will light up. Before inspection, disconnect the battery negative wire and remove the circuit fuse. Connect the two wires to the test lamp with 12 V supply respectively. With a wire grounded, check the two conduction measuring points. If the test lamp lights up normally, it suggests normal conduction of the circuit.

2.3 Jumper Wire with Fuse



LFX70-WD-02003

When checking an open circuit, use jumper wire to determine the circuit open point. The jumper wire is used to connect with the test wire.



Warning:

To protect the test circuit, it is forbidden to use a fuse of rated capacity greater than that of the circuit to check relevant circuit. It is forbidden to replace input or output signal with jumper wire with module connected in the circuit. Otherwise, the internal circuit of module may be damaged.

2.4 Fault Classification

1. Most electrical faults fall under the following 5 categories: ·Loss of battery power (loose connection/corrosion) Refer to voltage inspection.

Control unit (switch/electrical device) failure Refer to power-on test

High resistance (dirty, loose or corroded connector) Refer to voltage drop test.

Open circuit Refer to voltage inspection.

Ground or short circuit Refer to short circuit test.

2. Test the circuit at the following positions:

Connector which is easy to come off;

Test point which is easily accessible.

3. Circuit fault causes

Open circuit: It refers to open circuit path. When open circuit occurs in a series circuit, it stops working. When open circuit occurs in a shunt circuit, the failed circuit stops working while other circuits work normally.

Short to ground: It is generally caused by breakage of insulating layer. Wire contacting ground will blow the fuse or fusible link. In absence of fuse, the circuit harness or electrical device may burn out or electrical fire may occur in the vehicle. If short circuit occurs after loading, the circuit will be out of control and work under abnormal condition.

Short to voltage: It refers to circuit wire contacting the supply voltage of another circuit, which is generally caused by breakage of insulating layer. In this case, the circuit (or circuits) will not work normally. This may result in strange phenomenon and the fault is hard to find.

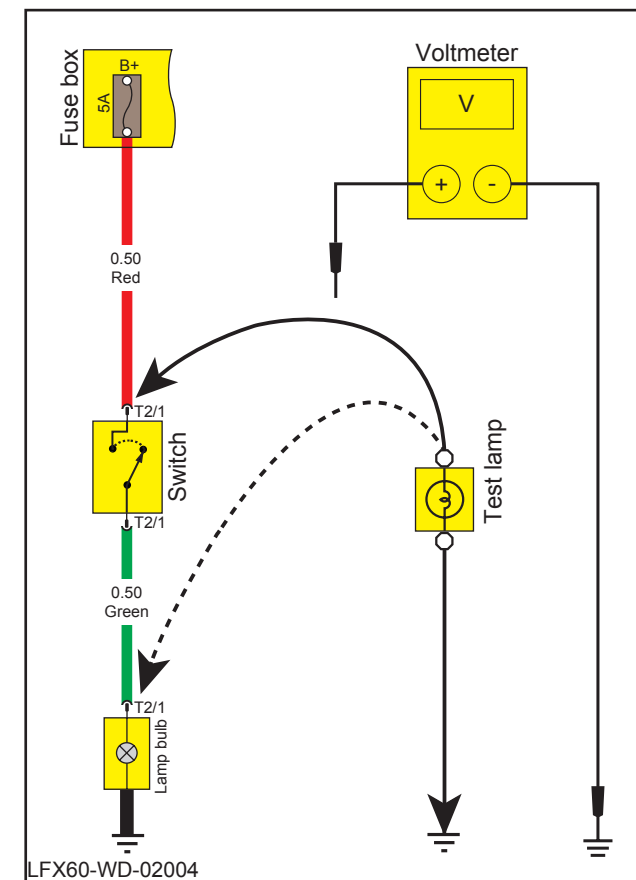
High resistance: The fault is hard to find. High resistance is generally caused by loose, dirty or corroded connector. When such fault occurs, current will decrease, resulting in abnormal working of circuit or component failure.

3 Fault Inspection

3.1 Voltage Inspection

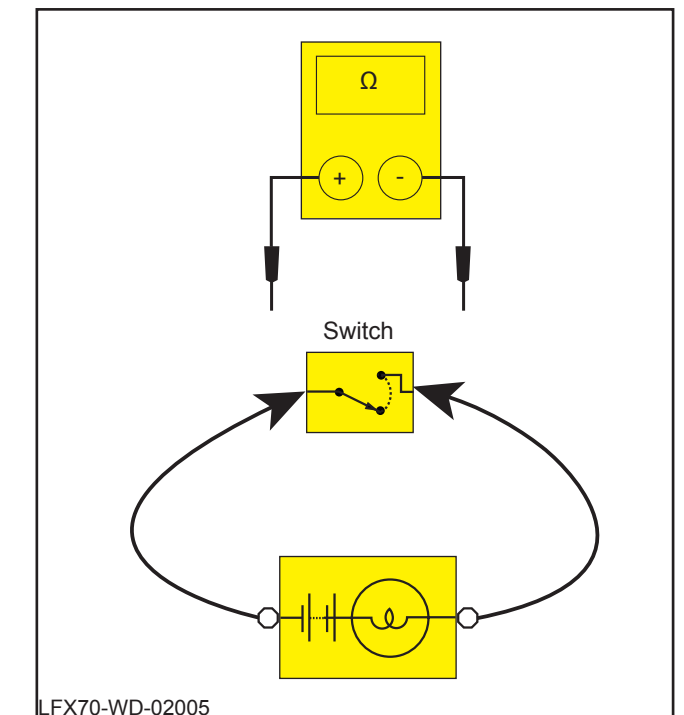
The purpose of voltage inspection is to check whether there is voltage at a point. When checking a terminal of a wire connector, the connector may not be disassembled. Instead, use the positive pole connecting wire probe, a circuit test tool, to insert in from the back of the wire connector for test.

1. Before inspecting voltage with the test lamp or voltmeter, connect the negative pole of test tool with that of battery.
2. Connect the other wire of the test lamp or voltmeter to the test position.
3. If the test tool is voltmeter and its displayed value is 1 V or above less than the specified value, it suggests that the circuit has fault. If the test tool is test lamp, lighting failure suggests circuit fault.



LFX60-WD-02004

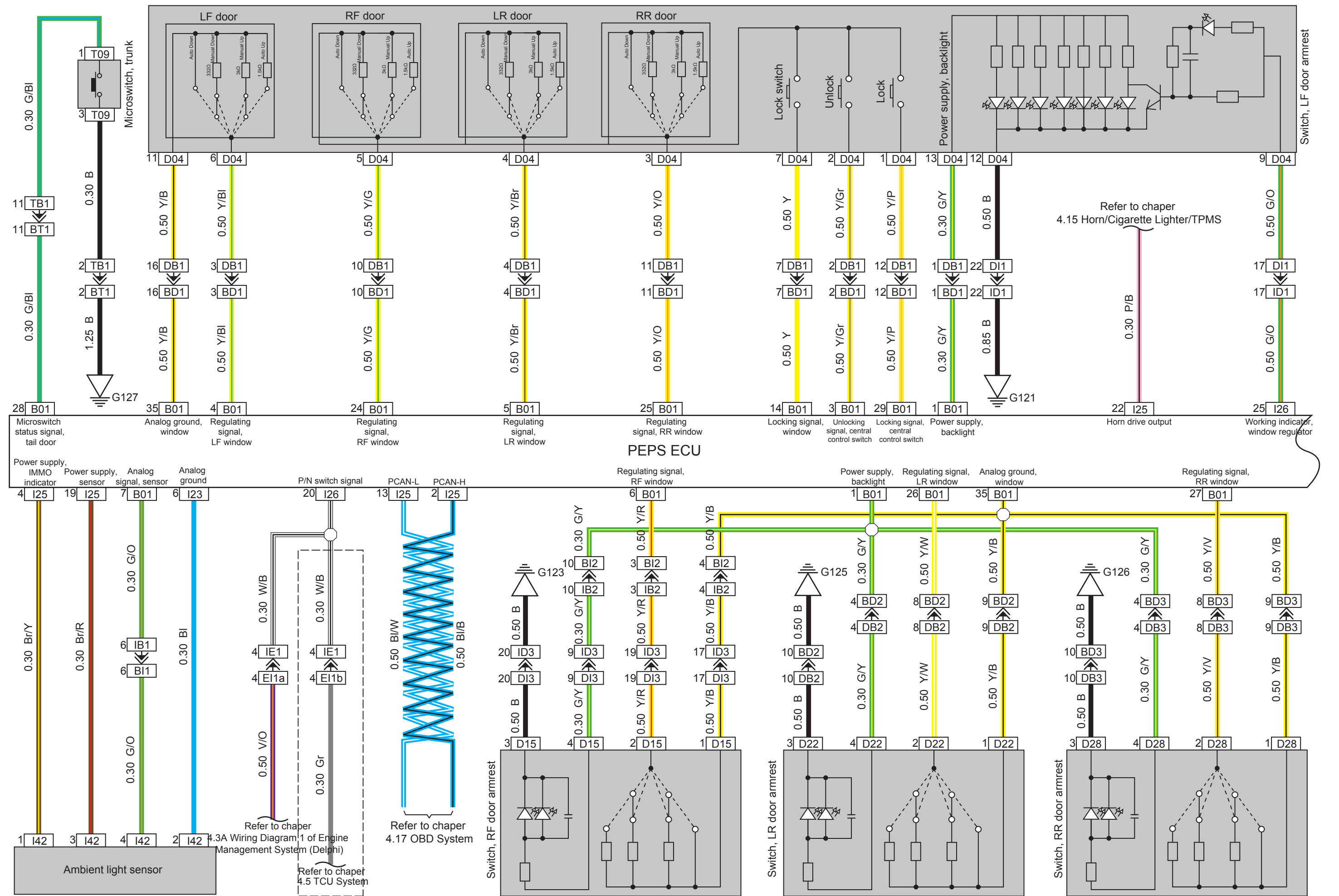
3.2 Power-on Test



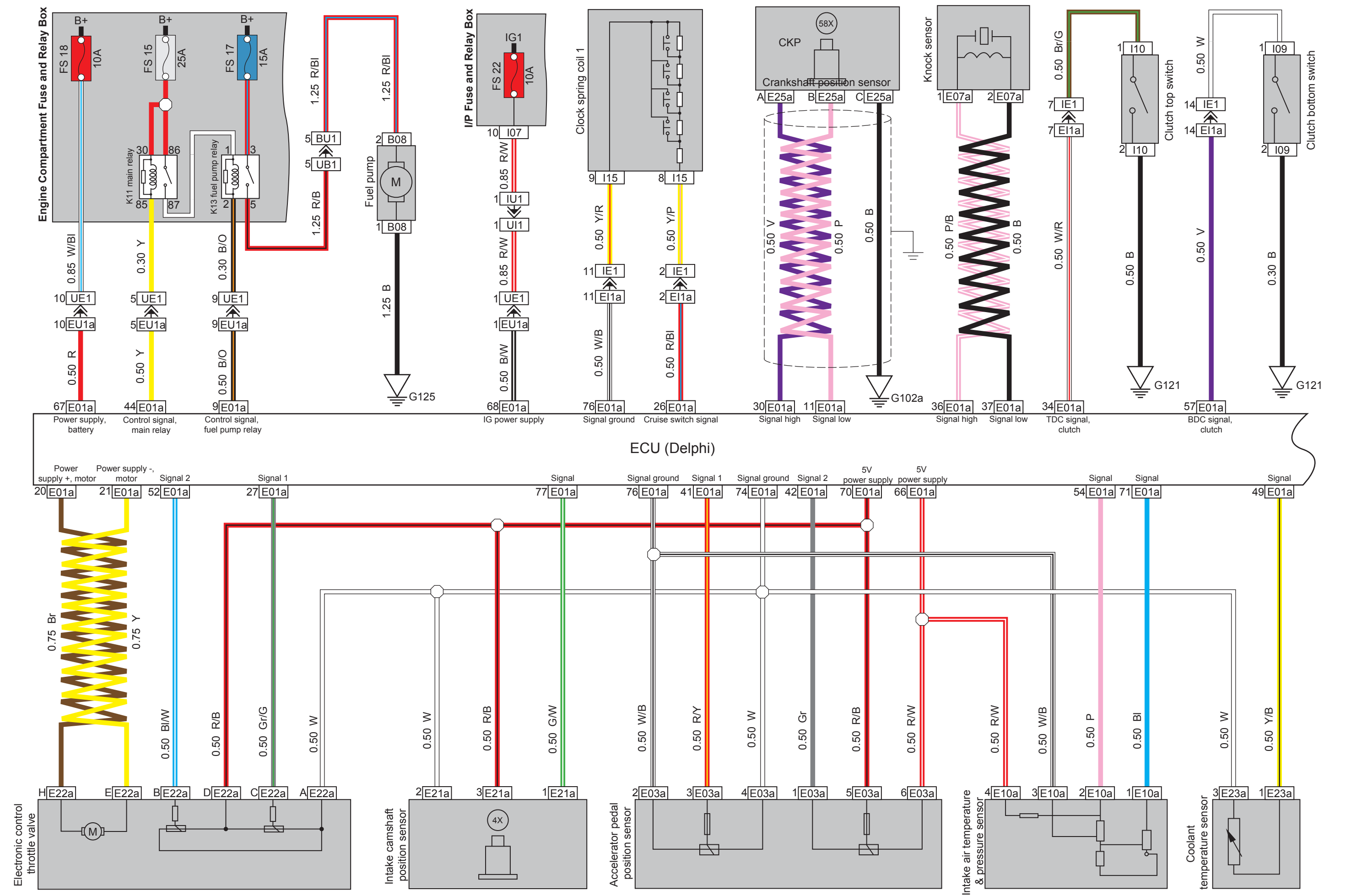
LFX70-WD-02005

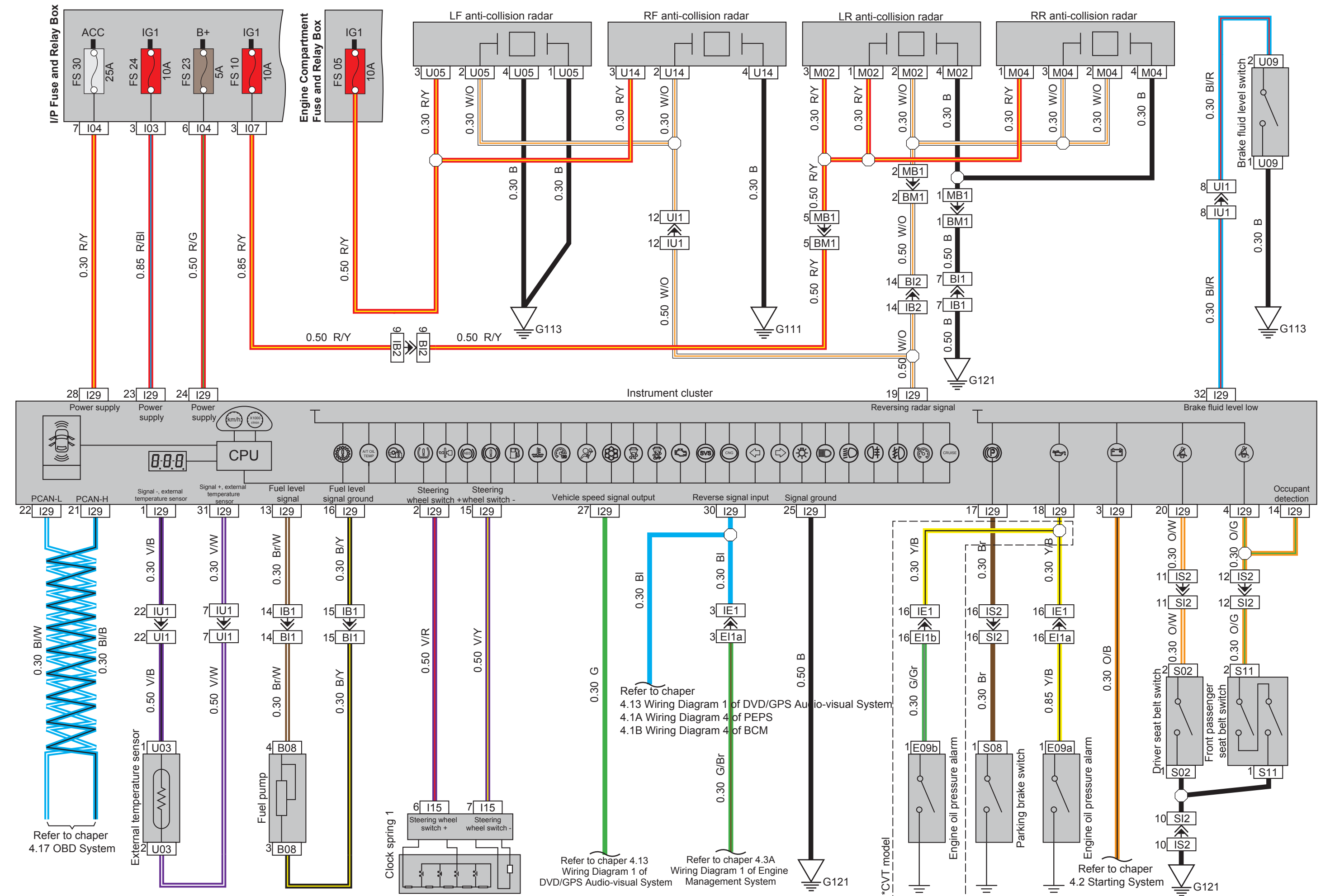
1. Disconnect the battery negative cable.
2. Connect a wire of the test lamp with power supply or ohmmeter to the test part. When using the ohmmeter, first short out the two wires of ohmmeter and reset it with zero adjuster.
3. Connect the other wire of the tester to the other terminal of the test load.
4. If the test lamp lights up, it suggests conduction. When ohmmeter is used, a resistance that is low or near 0 Ω suggests good conduction of the part.

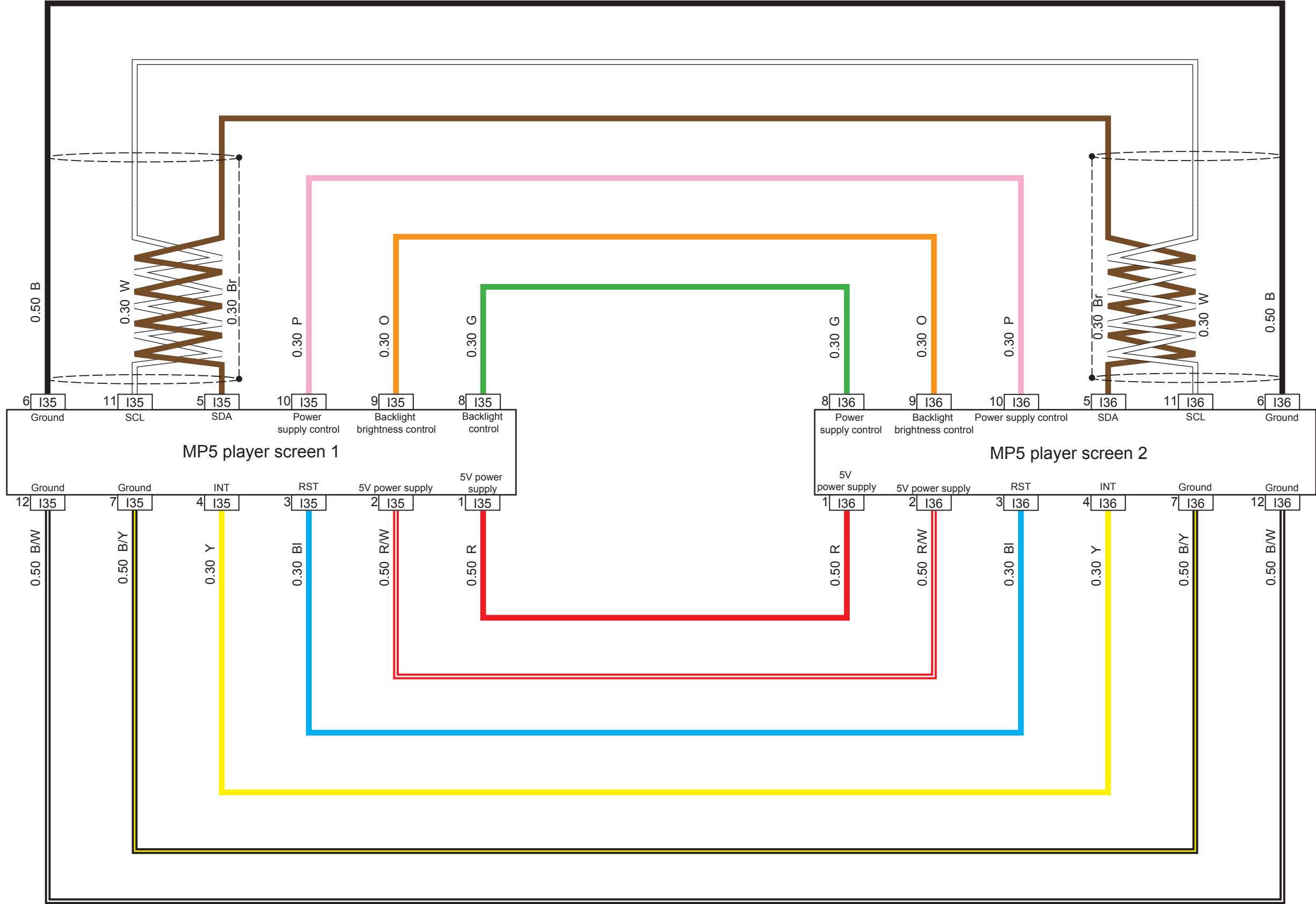
4.1A Wiring Diagram 2 of PEPS

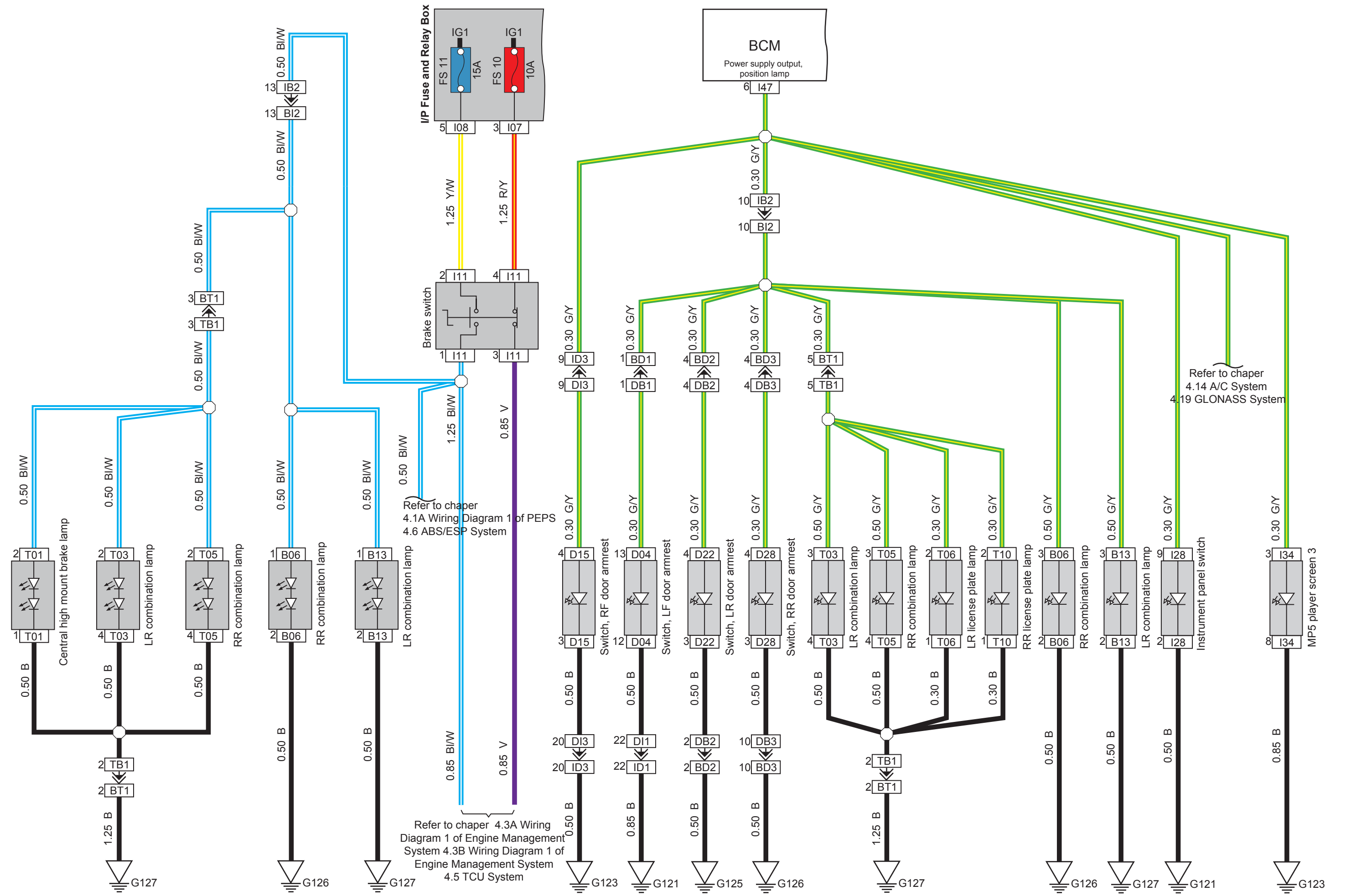


4.3A Wiring Diagram 2 of Engine Management System

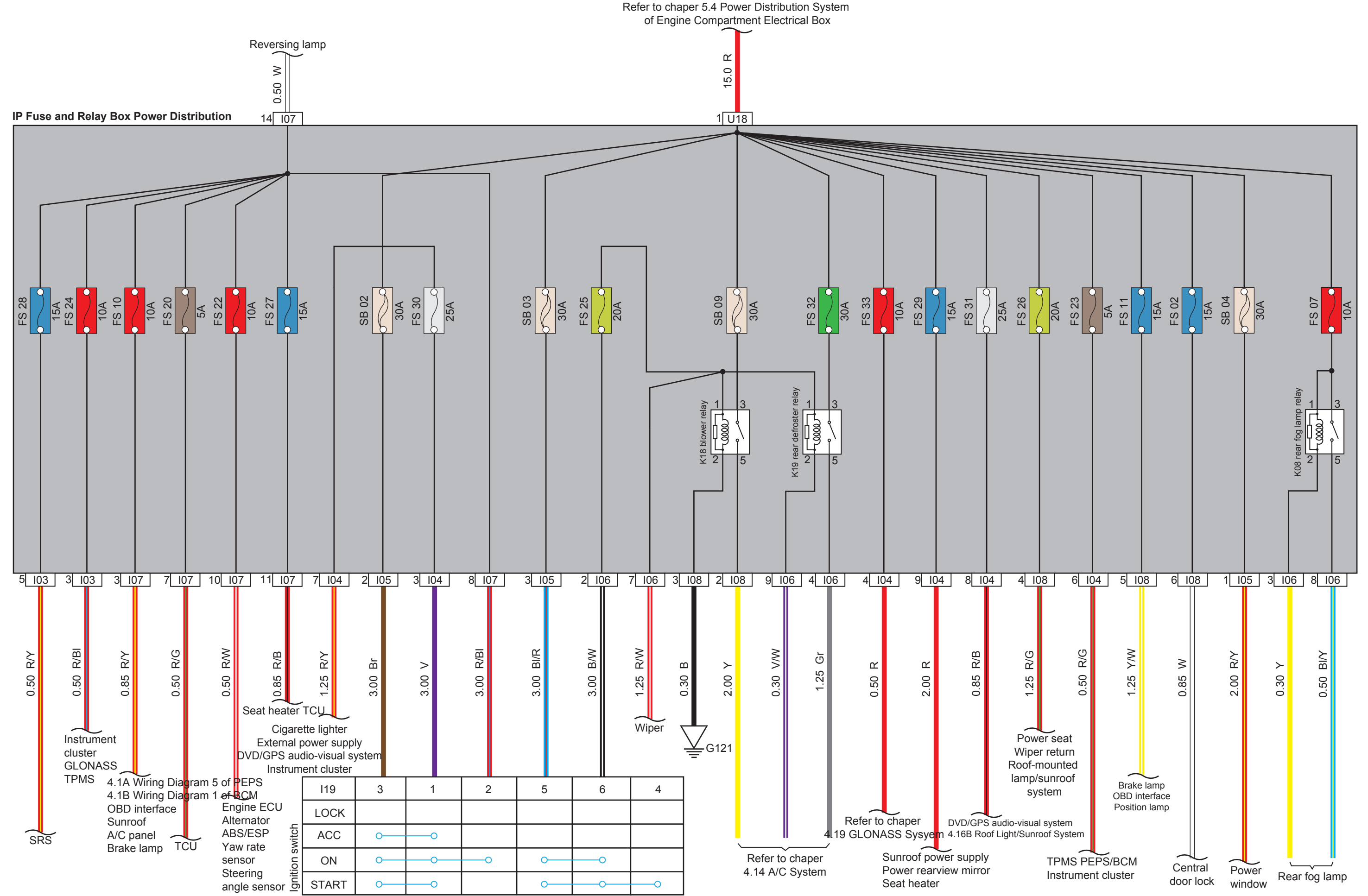






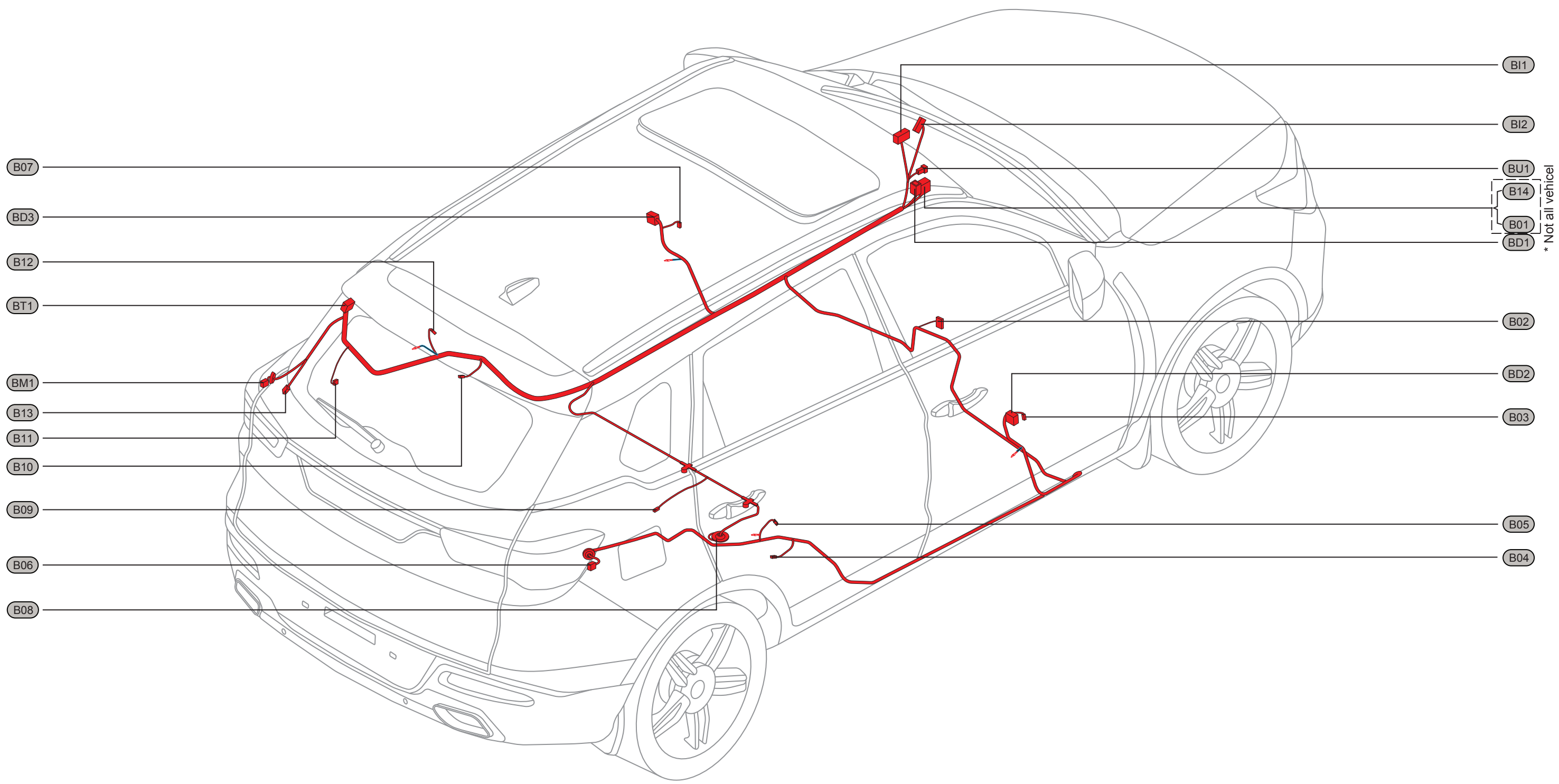


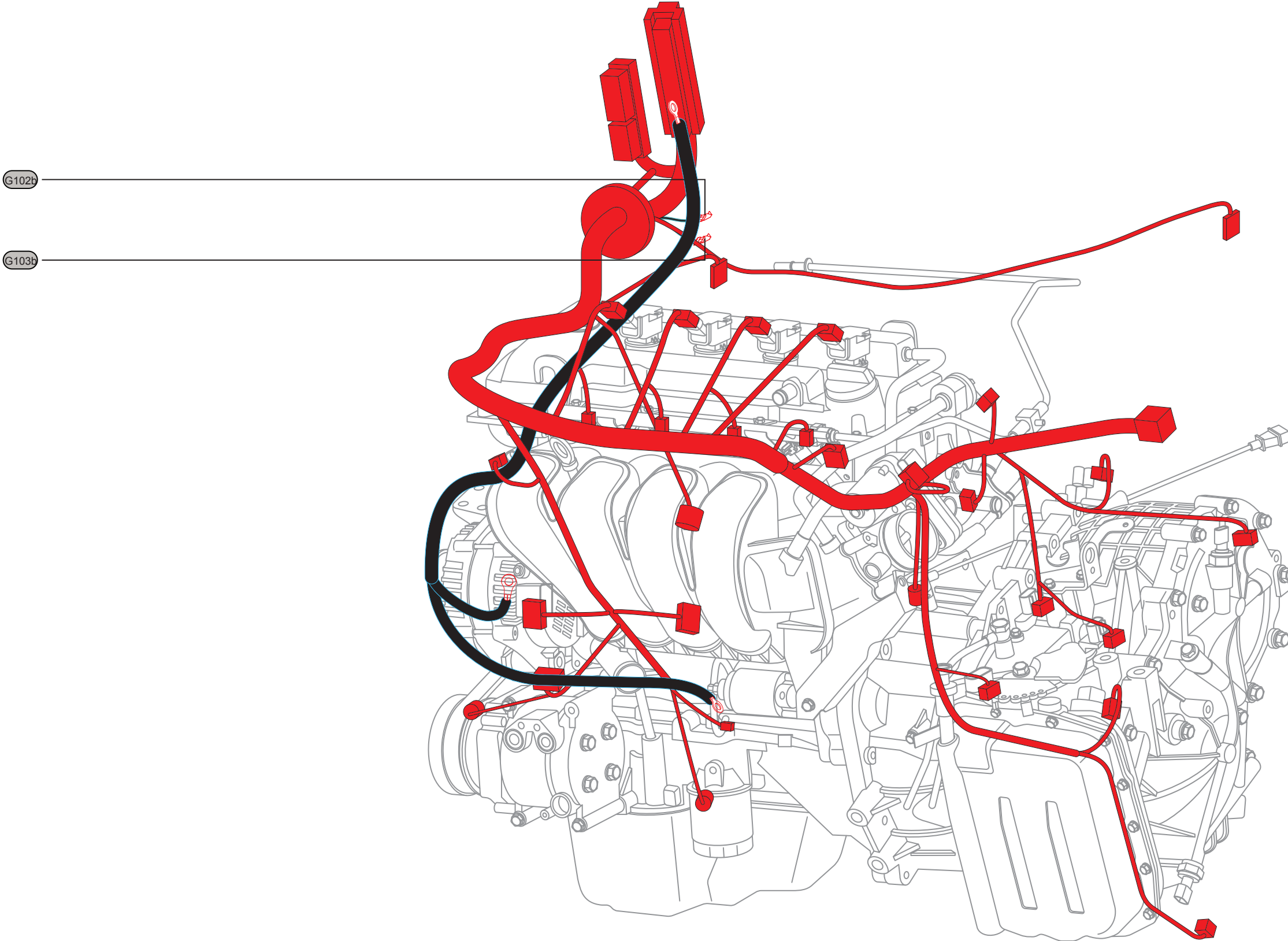
5.5A Power Distribution Diagram of Instrument Panel Electrical Box



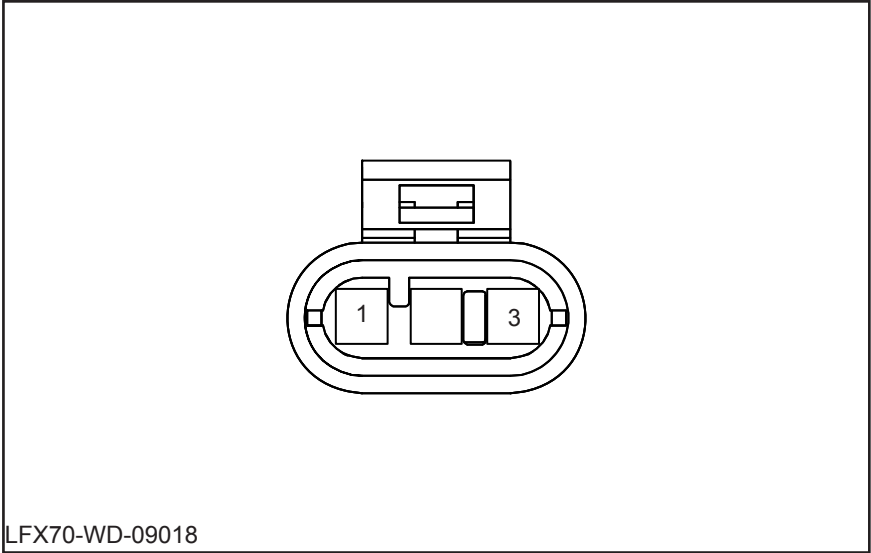
LFX70-WD-06005







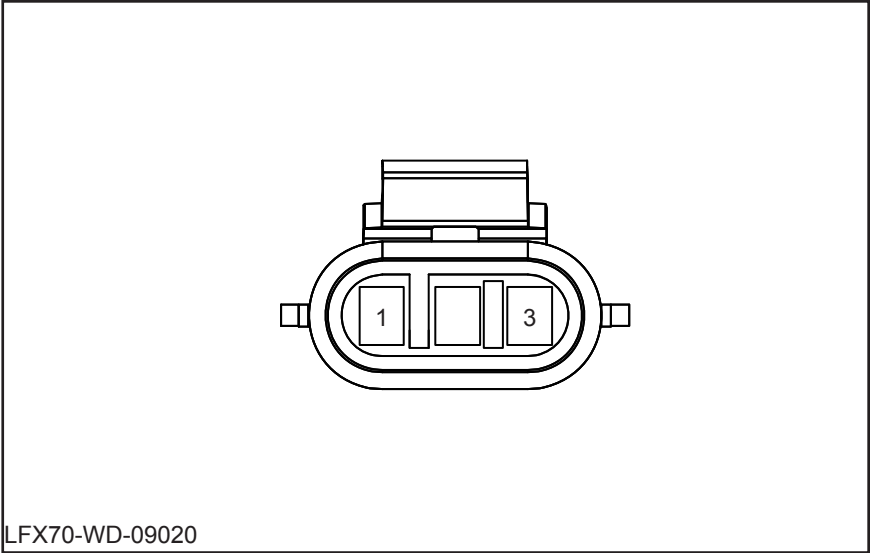
Ignition coil C (E19a)



E19a Terminal Definition

Pin No.	Wire diameter/color	Function
1	0.85 BI/R	Power supply
2	0.85 B	Ground
3	0.75 V/B	Ignition signal

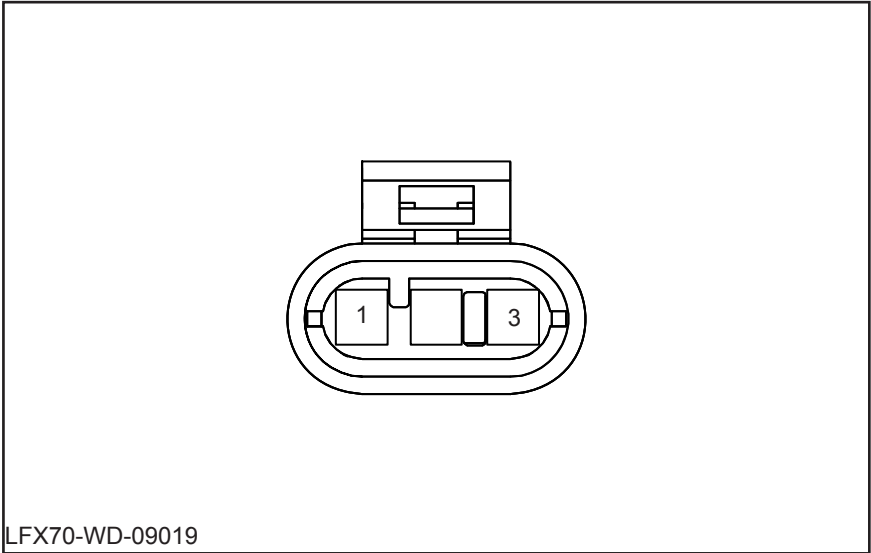
Intake camshaft sensor (E21a)



E21a Terminal Definition

Pin No.	Wire diameter/color	Function
1	0.50 G/W	Signal
2	0.50 W	Signal ground
3	0.50 R/B	5V power supply

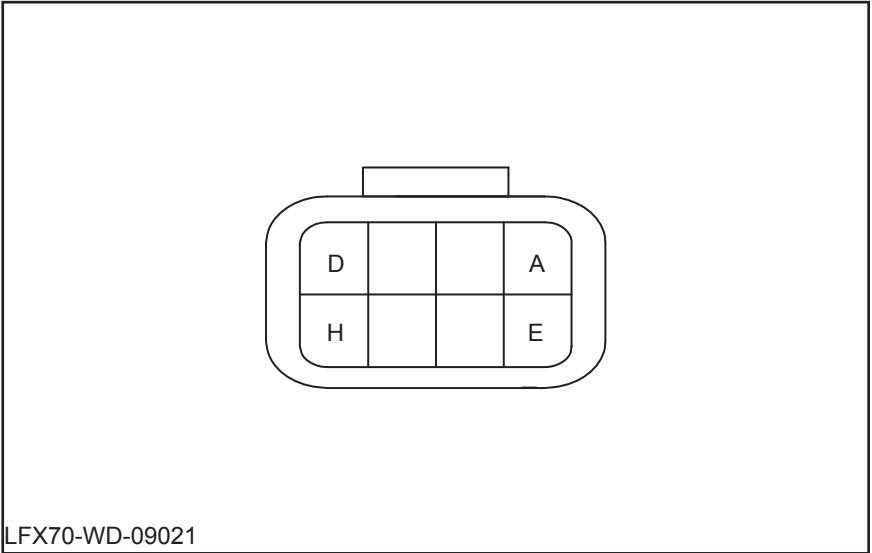
Ignition coil D (E20a)



E20a Terminal Definition

Pin No.	Wire diameter/color	Function
1	0.85 BI/R	Power supply
2	0.85 B	Ground
3	0.75 P/W	Ignition signal

Electric throttle valve (E22a)

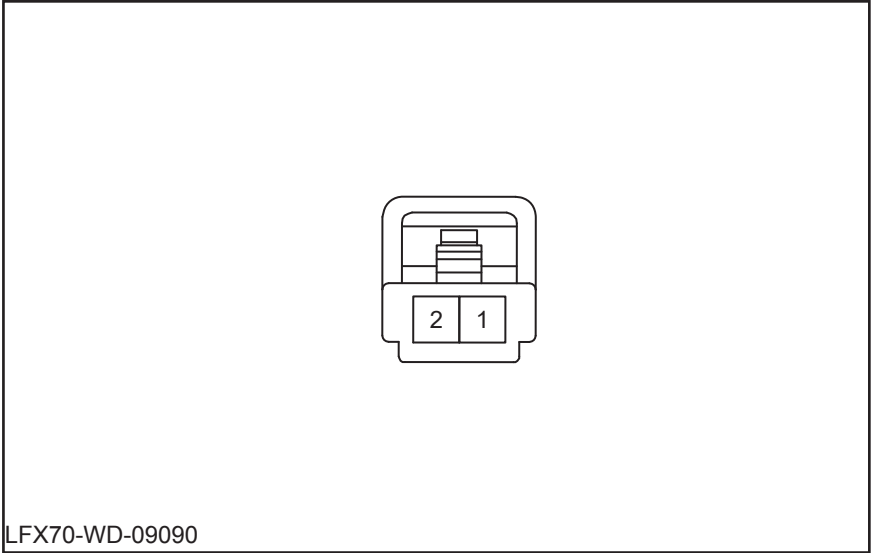


E22a Terminal Definition

Pin No.	Wire diameter/color	Function
A	0.50 W	Signal ground
B	0.50 BI/W	Signal 2
C	0.50 Gr/G	Signal 1
D	0.50 R/B	5V power supply
E	0.75 Y	Power supply -, motor
F	-	
G	-	
H	0.75 Br	Power supply +, motor

9.3 Instrument harness

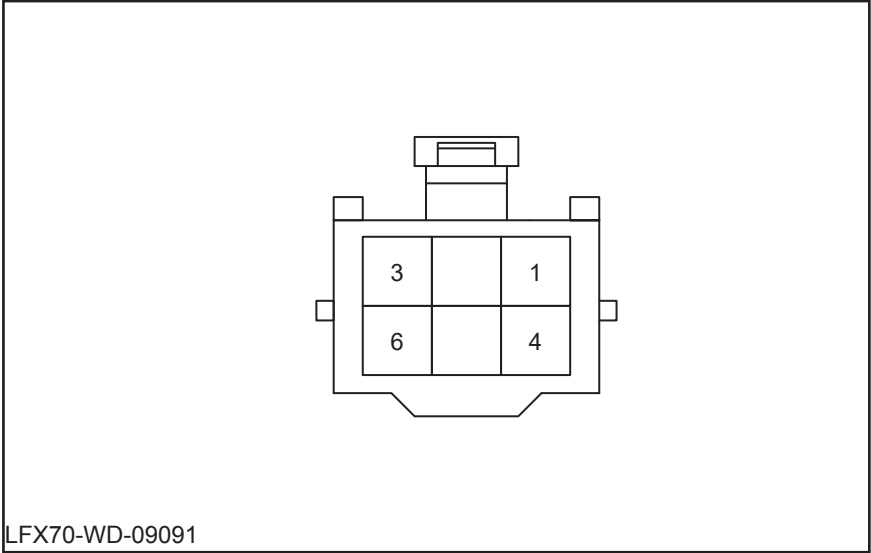
Left Tweeter (I01)



I01 Terminal Definition

Pin No.	Wire diameter/color	Function
1	0.50 V/P	Signal -
2	0.50 V/O	Signal +

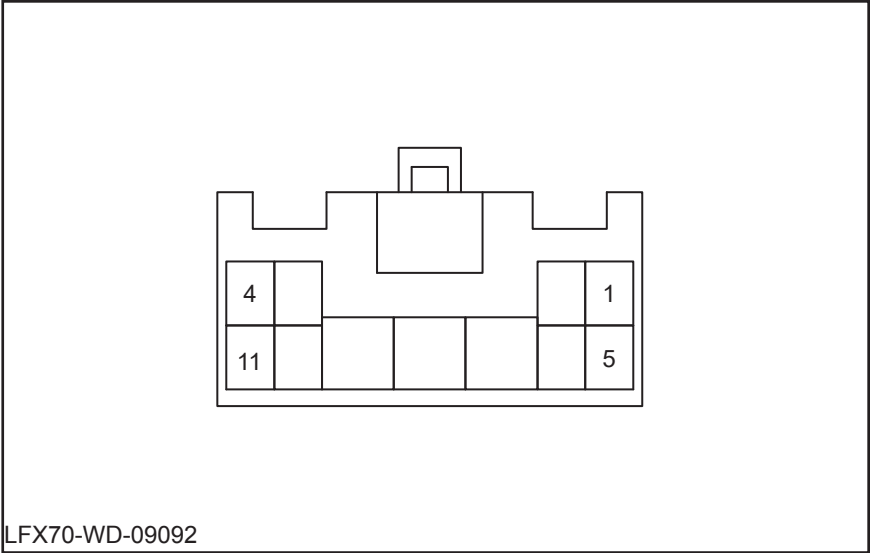
Fuse box 1 (I03)



I03 Terminal Definition

Pin No.	Wire diameter/color	Function
1	0.30 B	Ground
2	0.50 R/BI	Power supply, instrument cluster
3	0.50 R/BI	Power supply, instrument cluster
4	0.30 BI/R	IG power driving
5	0.50 R/Y	Airbag power supply
6	0.50 R/Y	Airbag power supply

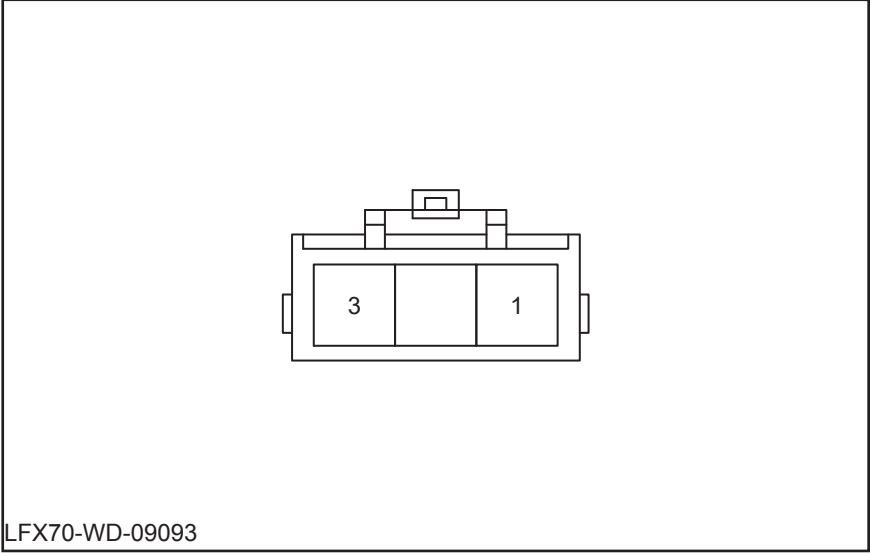
Fuse box 2# (I04)



I04 Terminal Definition

Pin No.	Wire diameter/color	Function
1	0.85 R/W	Power supply, ESCL
2	0.50 R/G	PEPS/BCM power supply
3	0.30 V/W	Signal feedback, ACC
4	0.30 R	GLONASS power supply
5	0.85 R/W	Power supply, ESCL
6	0.50 R/G	PEPS/BCM power supply
7	1.25 R/Y	Power supply, cigarette lighter
8	0.85 R/B	MP5/CD power supply
9	2.00 R	Sunroof power supply
10	-	
11	0.30 R	GLONASS power supply

Fuse box 3 (I05)



I05 Terminal Definition

Pin No.	Wire diameter/color	Function
1	2.00 R/Y	Power supply, window regulator
2	3.00 Br	AM1 power supply
3	3.00 BI/R	AM2 power supply