Vehicle Management Device 20
CS20

User Manual
For Nissan Leaf
(2010/2013MY Left Handle)

TECHTOM Ltd.

Technical Development Division

2014/04/22

Rev.1.02

Issued by _____

Checked by _____

Approved by _____

History:

Release No.	Date	Notes
Rev0.91	Feb. 12, 2014	Draft second version.
Rev0.92	Feb. 18, 2014	Draft third version
Rev1.00	Feb. 21, 2014	Release version
Rev1.01	Mar. 25, 2014	Modified “3. PART COMPONENT”. Added “5. INSTALLATION PREPARATION”. Added “10-1 Activation”. Modifed 11-3, 4, 5, and 6 to US Specification.
Rev1.02	Apr. 22, 2014	Page3 PH-04SS->PH-04ASS

Contents

1. CAUTION

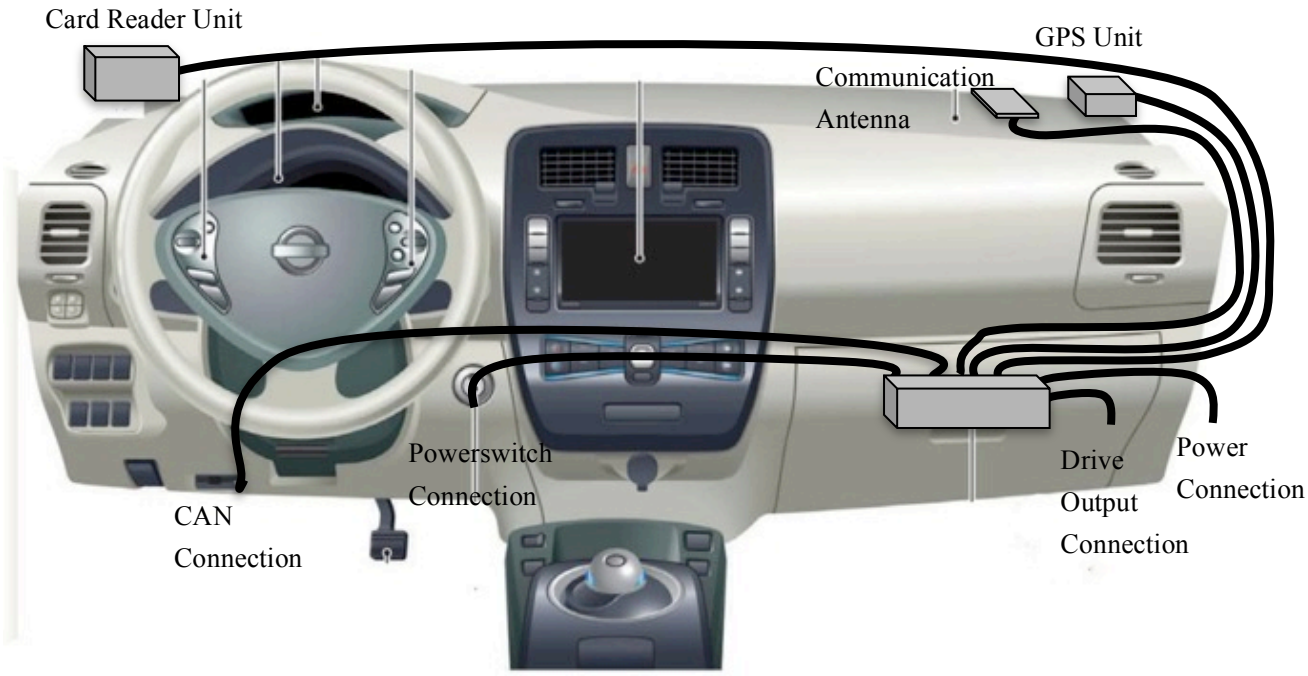
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with radio frequency exposure limits set forth by the FCC for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the device and the user or bystanders. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

・For installation of in-vehicle device, follow the caution of this installation manual.
・Fix the main body, connection cables, and connectors firmly at the place so as not to interfere with drivers.
・Do not use safety related parts concerning safety such as brake and steering and installation parts for installation and wiring.
・Do not disassembe, repair, and modify.
・Avoid to operate with wet hands and to place areas with water droplets such as rain and snow.
・Do not pull and bend strongly the connector with holding connection code.
・When putting this device closer to medical equipments, it may have effect on these equipments; thus, do not use with them.
・This product is operated only for applicable vehicles. This does not operate with non-applicable vehicles.
・Do not use the other than supplied parts for the main body connector, GPS, card reader, antenna, vehicle connection code.
・If there is another GPS antenna which is embedded with dashboard such as navigation system, be careful not to install GPS of this product directly on that.
・Do not remove the labels attached on this product.

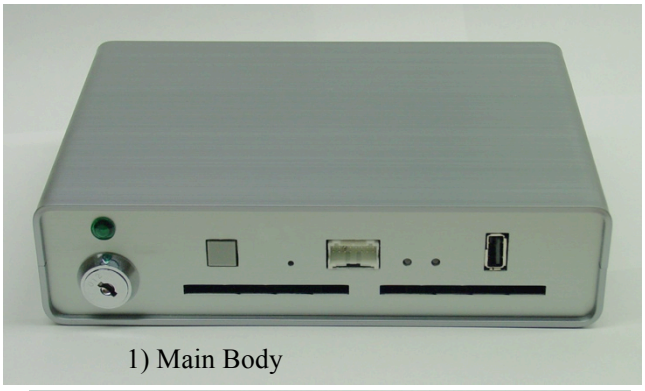
2. OUTLINE

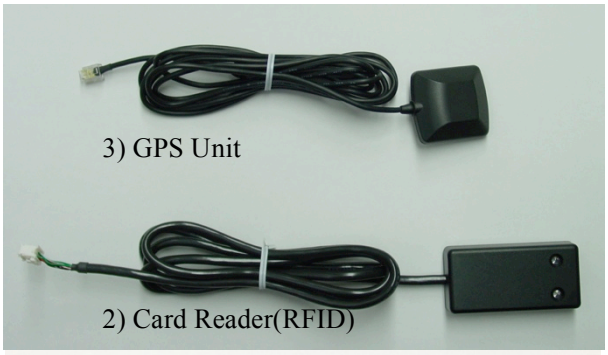


3. PART COMPONENT

Please check that following parts are prepared.

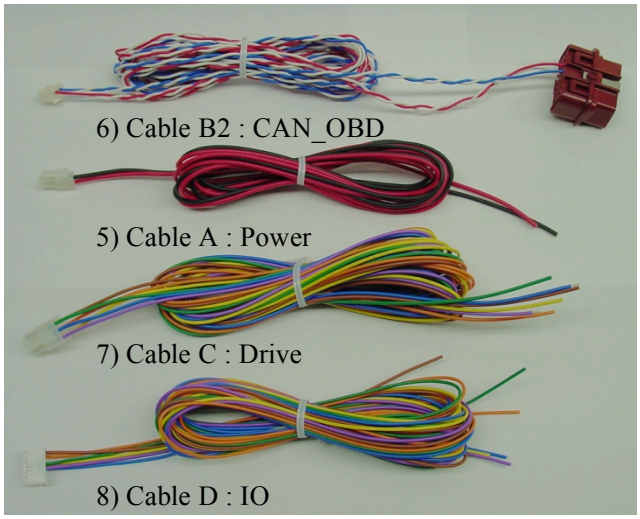
	Component	Model Number (Qty)	Use	Connection ( ) indicates panel connector of body
Unit				
1	Main Body	CS2x-MAIN1	Various Controls	
2	Card Reader	CS2x-CR1	Card Reading	(RFID)
3	GPS Unit	CS2x-GPS4	Location Information Acquisition	(GPS)
4	Antenna	PH-04ASS	Communication Antenna	(Ant)
Cable				
5	A : Power(2Pin)	555702R_ASSY0	Power Supply	
6	B2 : CAN_OBD(10Pin)	PADP10V−1962_ASSY0	CAN Data Communication	OBDconnector(Car2)
7	C : Drive(6Pin)	555706R_ASSY0	Drive of Switch	Each Switch (Car3)
8	D : IO(16Pin)	PADP16V_ASSY0	Switch Information Acquisition	Each Switch (Car1)
Accessories				
9	Velcro tape	(2set)	Fixation of Body	
10	Electro tap	(Red 4pcs,Blue 2pcs)	Wiring Connection	
11	Bullet terminal	(3set)	Wiring Connection	
12	Double-faced tape	(1 set for Card Reader, 1set for GPS)	Card Reader, GPS Fixation	


1) Main Body


3) GPS Unit

2) Card Reader(RFID)

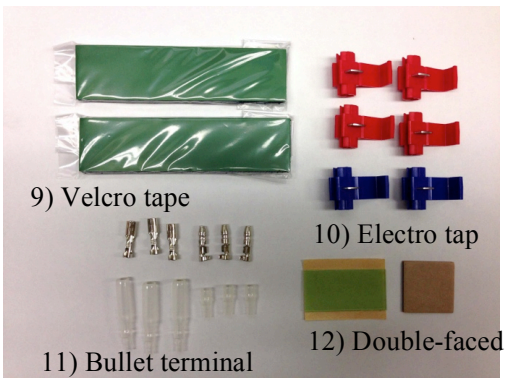

4) Antenna(GSM/WCDMA)


6) Cable B2 : CAN_OBD

5) Cable A : Power

7) Cable C : Drive

8) Cable D : IO


9) Velcro tape

10) Electro tap

11) Bullet terminal

12) Double-faced tape

Rating

Function	Description
Power	DC11 to 28V(nominal voltages : DC 12V & 24V)
Consumption current	MAX 8A or lower (during door lock), 300mA (during transmittion)/ 20mA or lower during sleep condition (12V)
Operation temperature	There shall be no condensation at －20 to 70 degree C.

4. TOOLS

Pliers,Swaging tool, Phillips-head screwdriver, Wire stripper

A set of remover tool (removal of resin clip, resin nail, and metal clip)

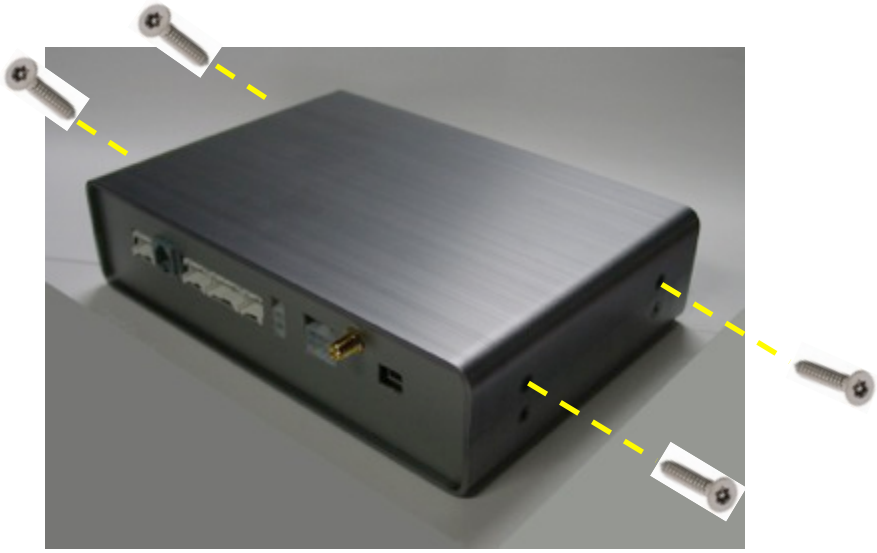
Driver for TORX®

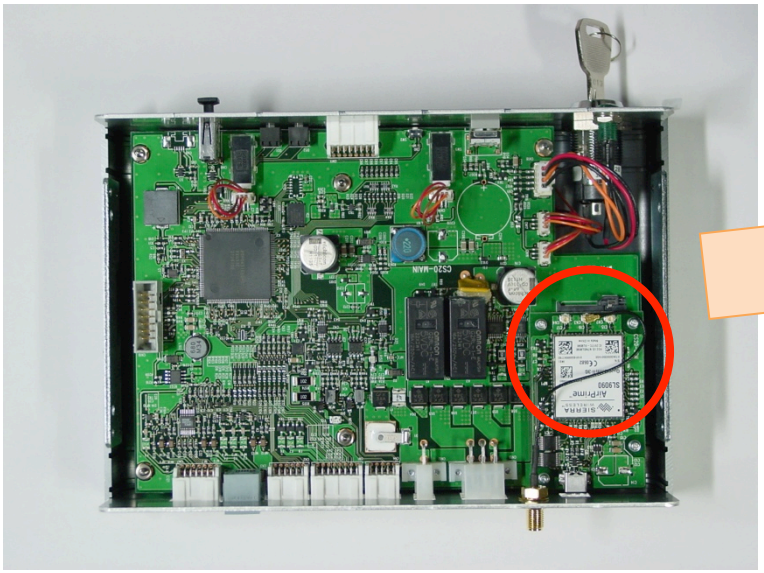
5. INSTALLATION PREPARATION

5 – 1 SIM Card Installation

※ Only for use in Europe. This is unnecessary when use in U.S.

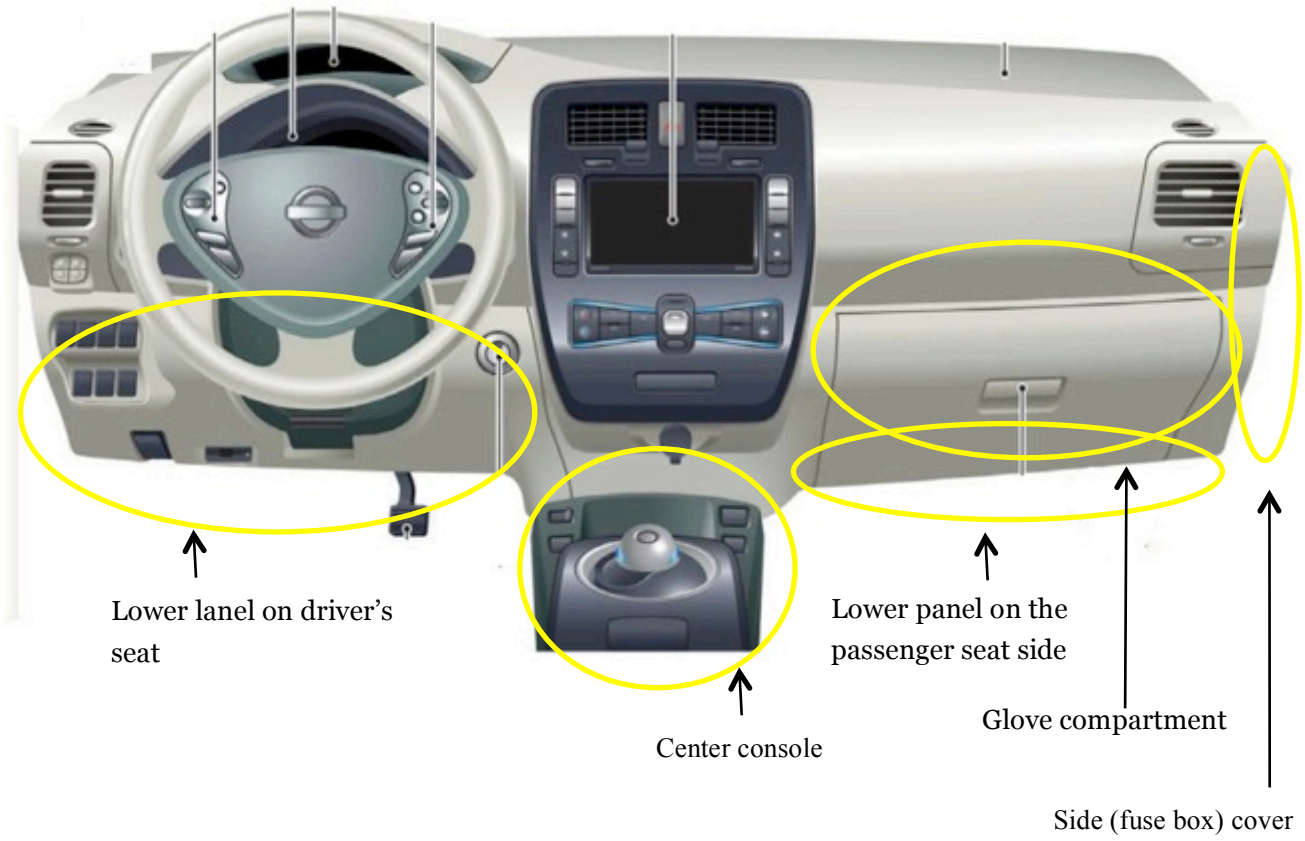
Remove 4 screws on the side of body.





Insert SIM card to inside of body (red sphere area) as shown in the photo. Displace the lock when inserting the card and check that the card is completely inserted and it is locked.

6. REMOVAL OF PANEL



Remove each above panel.

See the Reference Materials at the end of this manual for the photos when removing panels.

7. INSTALLTION OF EACH EQUIPMENT

7 – 1 Main Body

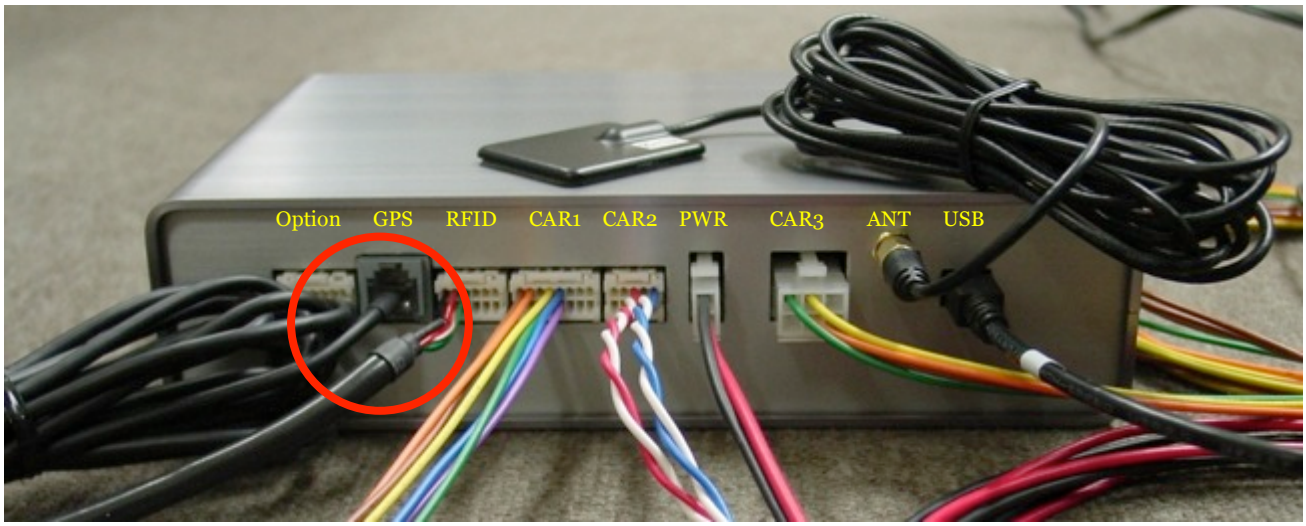
Fix the main body to the glove compartment using the supplied Velcro tape.

7 – 2 GPS Unit

Fix the GPS unit to the area close to the window of dashboard using the supplied double-faced tape

Connect the connector of cable to the GPS connector of main body.

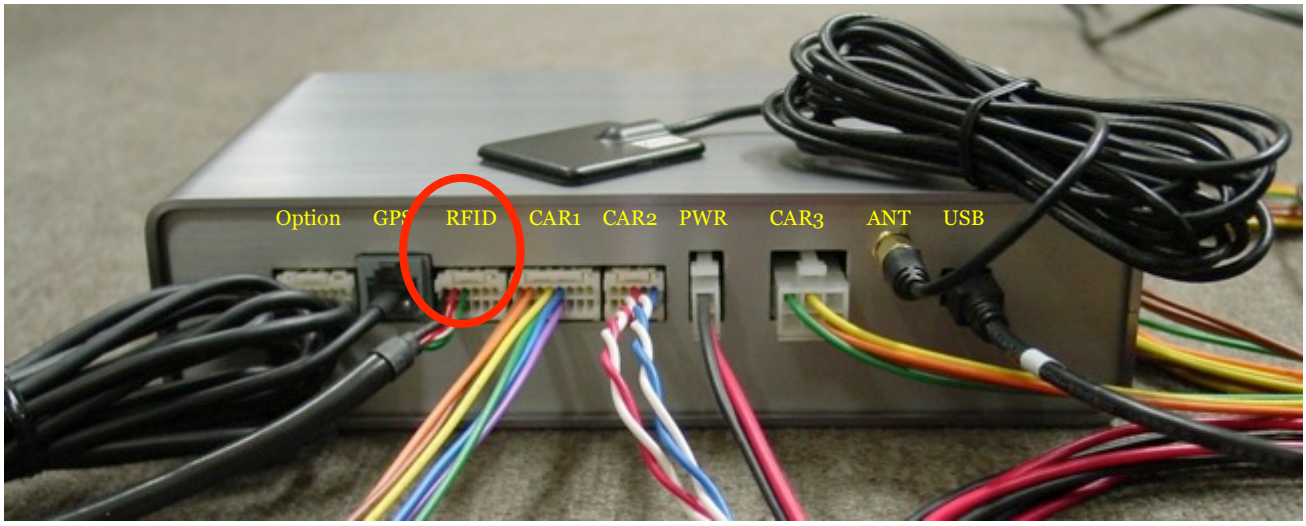
Caution)
Connect the power connector (PWR) of body at the end after all connections are completed.



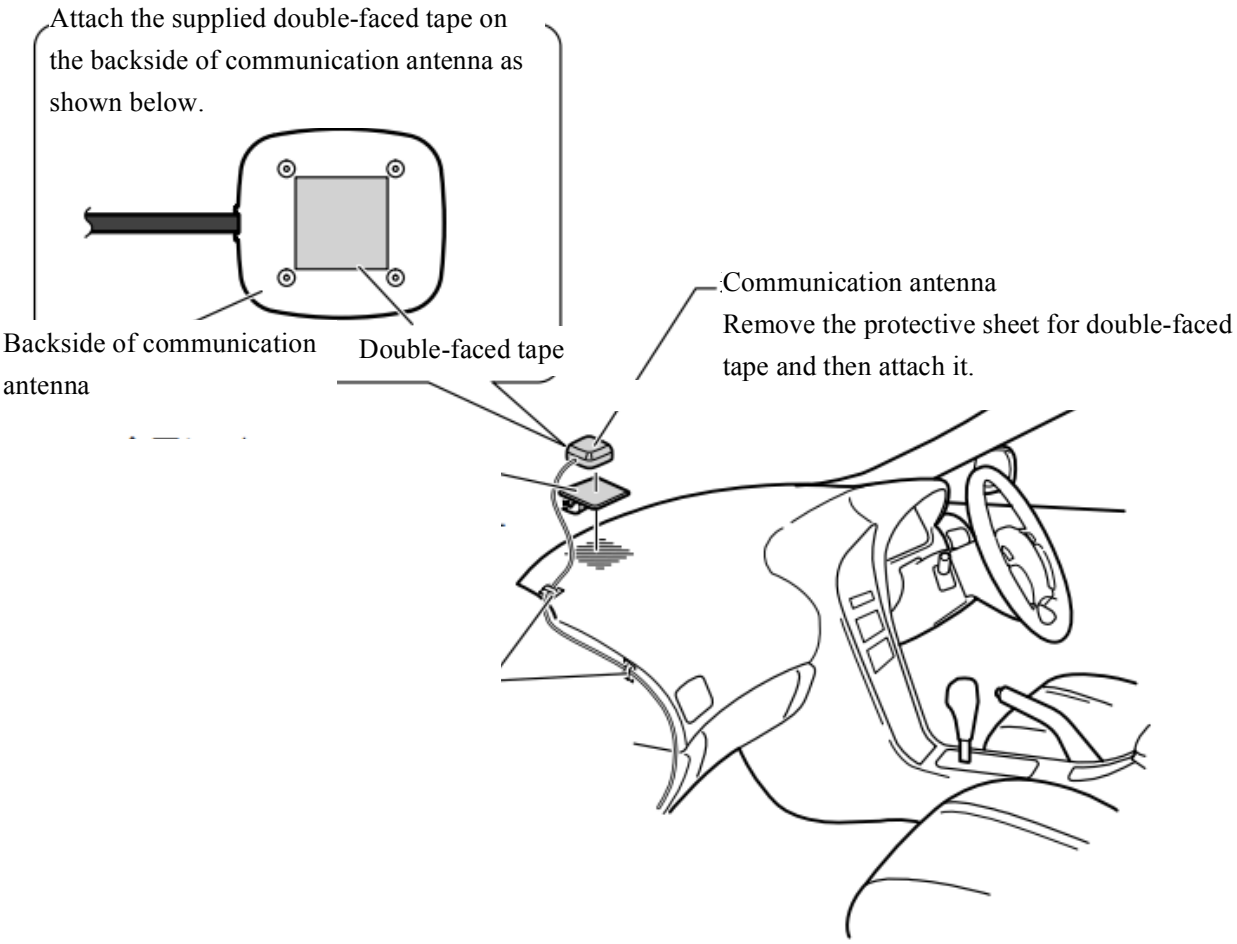
7 – 3 Card Reader Unit

Fix the card reader unit to windshield using the supplied double-faced tape.
Install so that the LED side is attached on the glass.

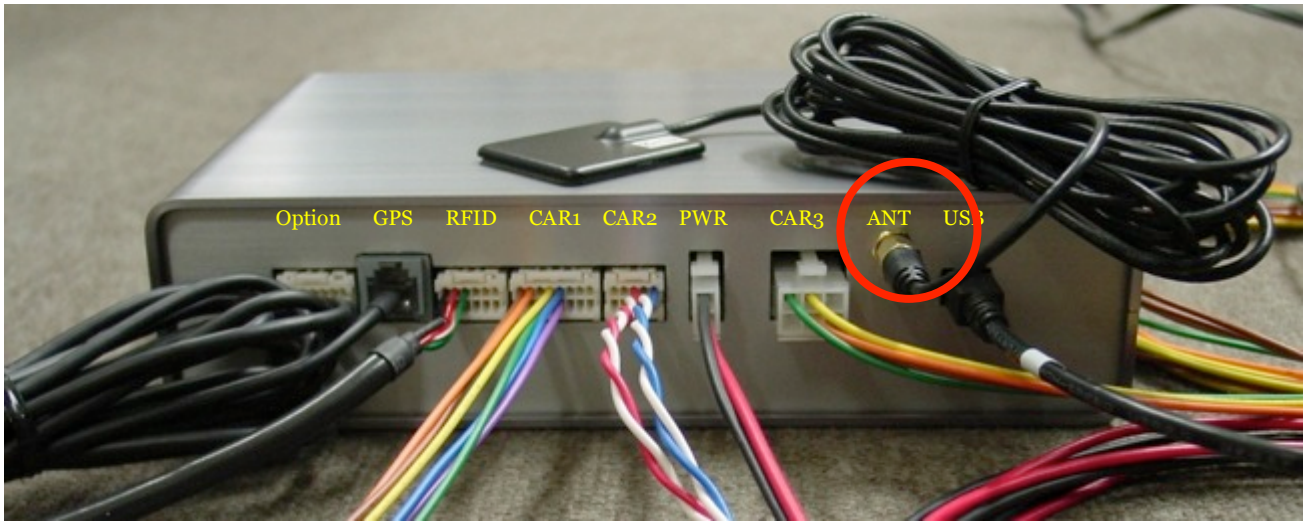
Connect the connector of cable to RFID connector of main body.



7 – 4 Antenna

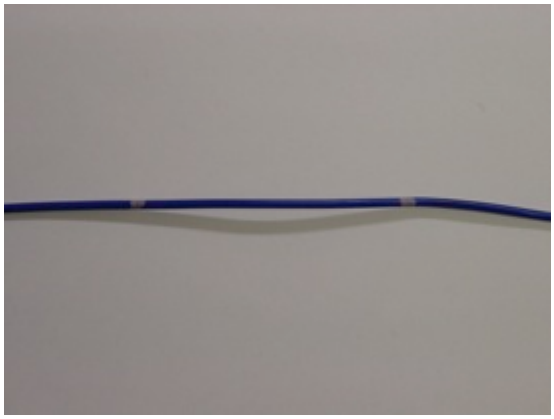


Connect the connector of cable to ANT connector of main body.

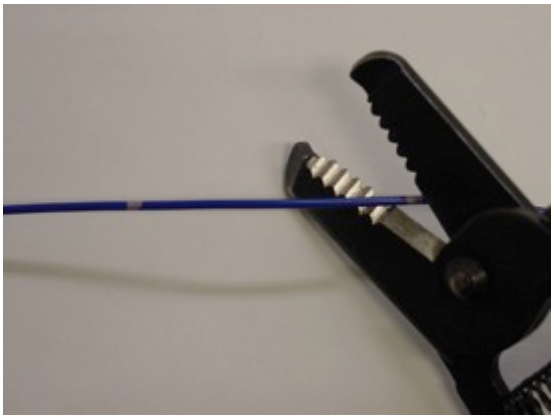


8. CABLE CONNECTION METHOD TO VEHICLE

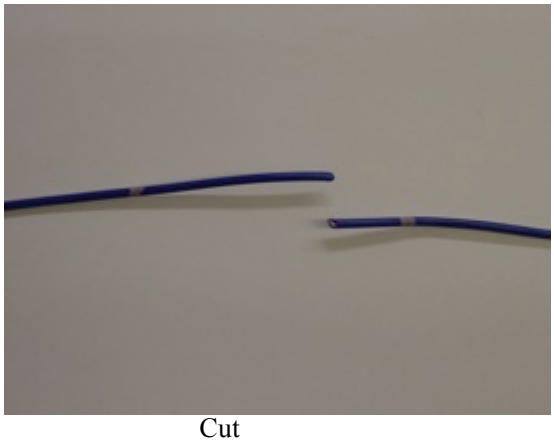
8 – 1 Method to Cut the Vehicle Cable and Connect the Cable for In-vehicle Device



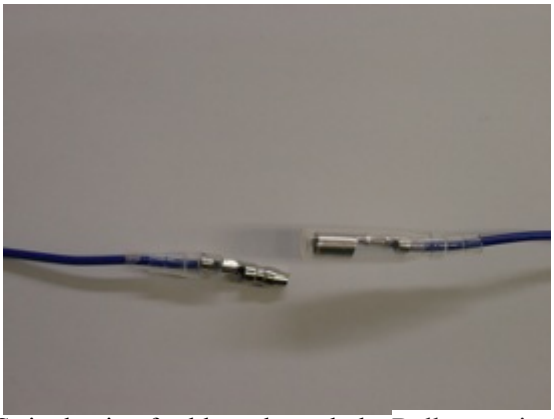
Vehicle cable to be connected



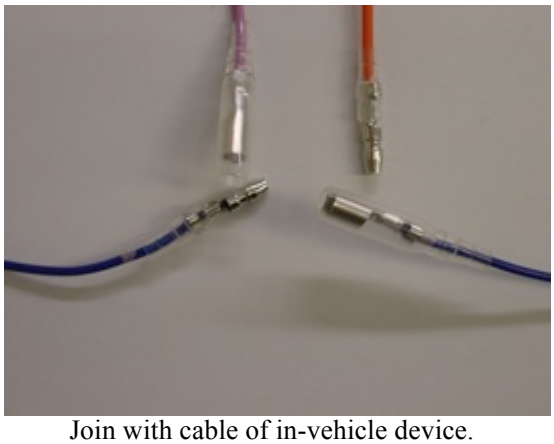
Cut this cable.



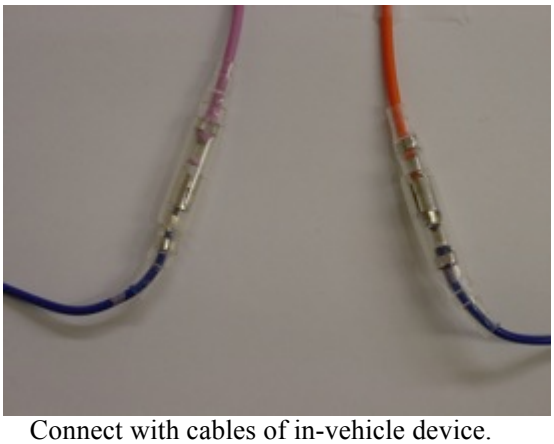
Cut



Strip the tip of cable and attach the Bullet terminal.

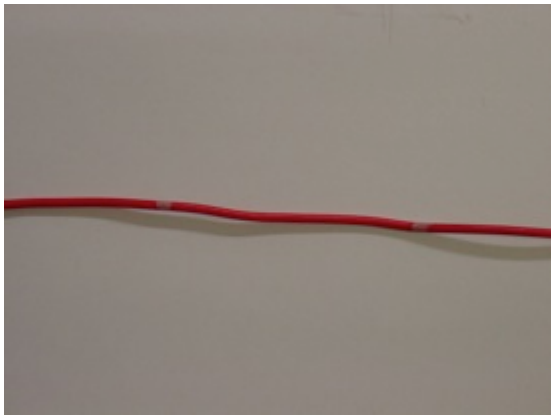


Join with cable of in-vehicle device.

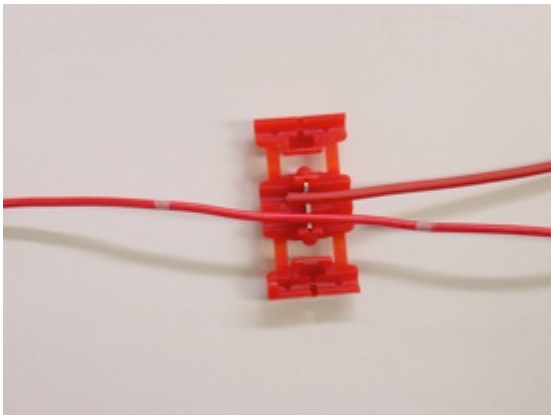


Connect with cables of in-vehicle device.

8 – 2 Method to Connect (Branch) to Vehicle Cable

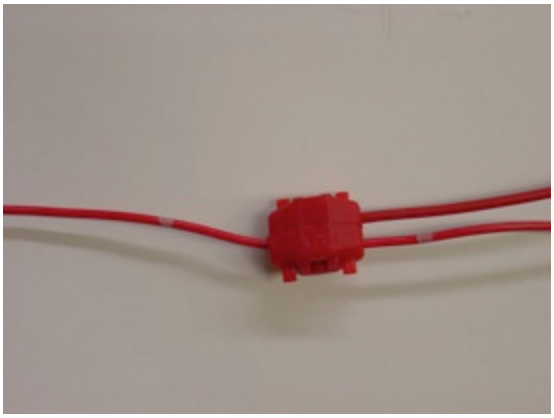


Vehicle cable to be connected (branched)



Install the in-vehicle cable with electro tap.

Swage the electro tap.



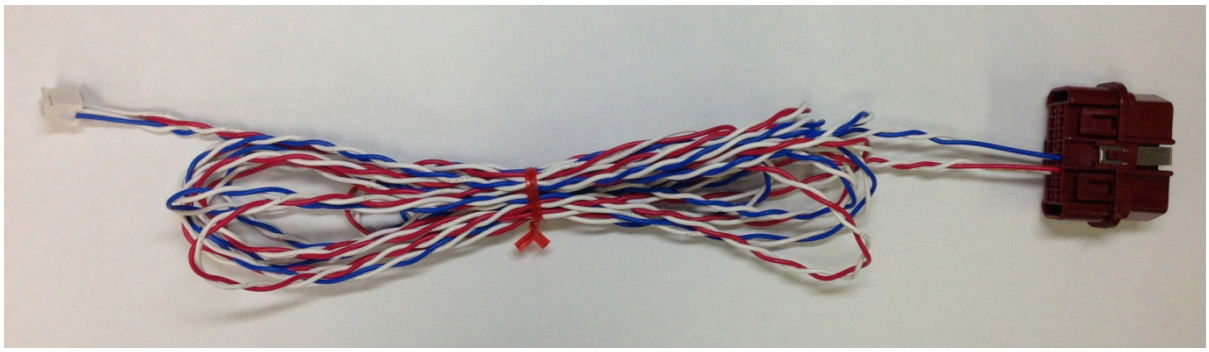
7 – 3 Length When Connecting to the Vehicle Cable

Length of all cables including vehicle cable to be connected shall be 3m or shorter.

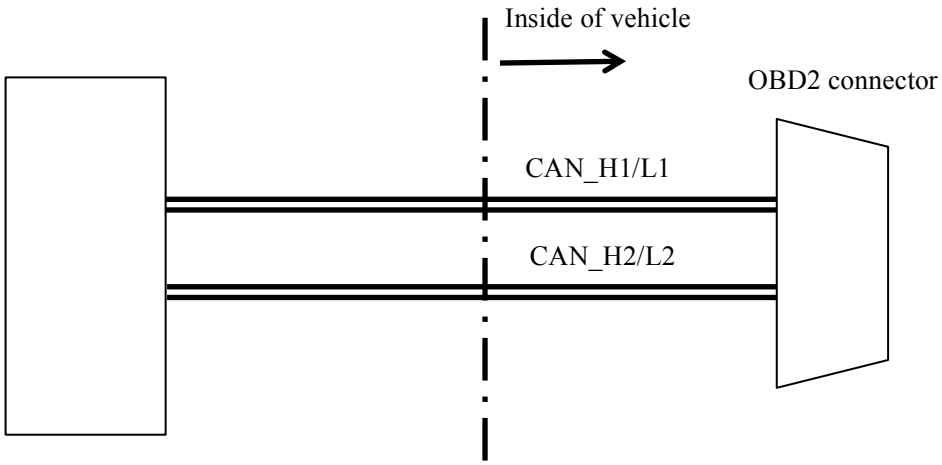
9. CONNECTION OF EACH WIRE

See the rerefence material for the connection area and connection photos.
Turn all the keys OFF (power OFF) when processing wires.

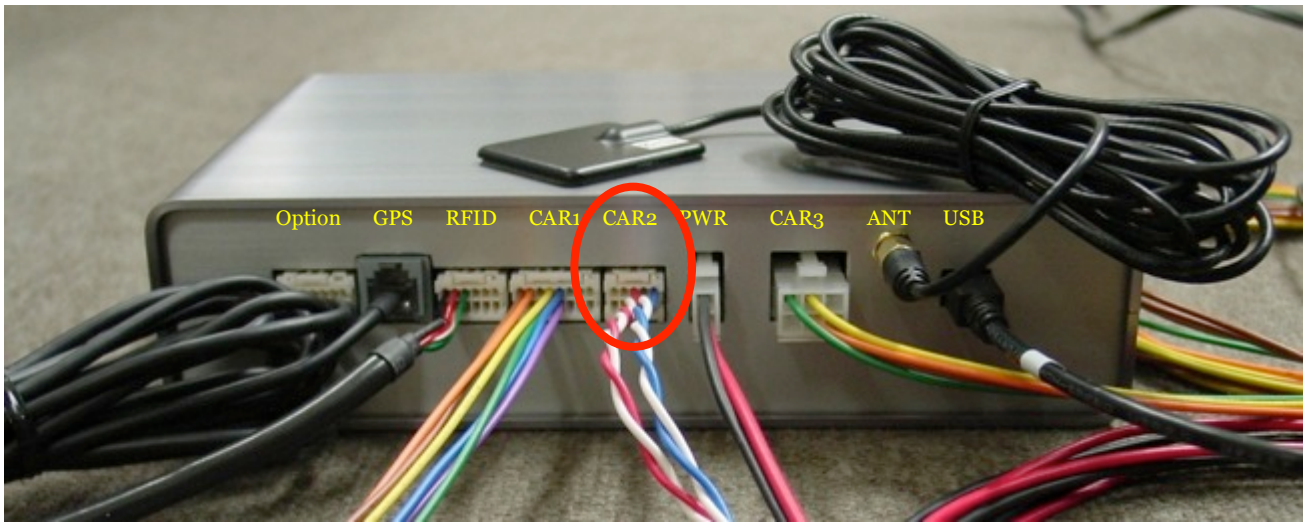
9 – 1 CAN Connection



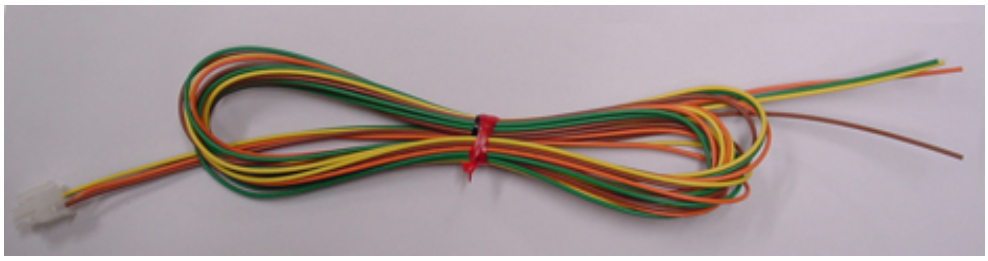
Connect the CAN cable to OBD2 connector.



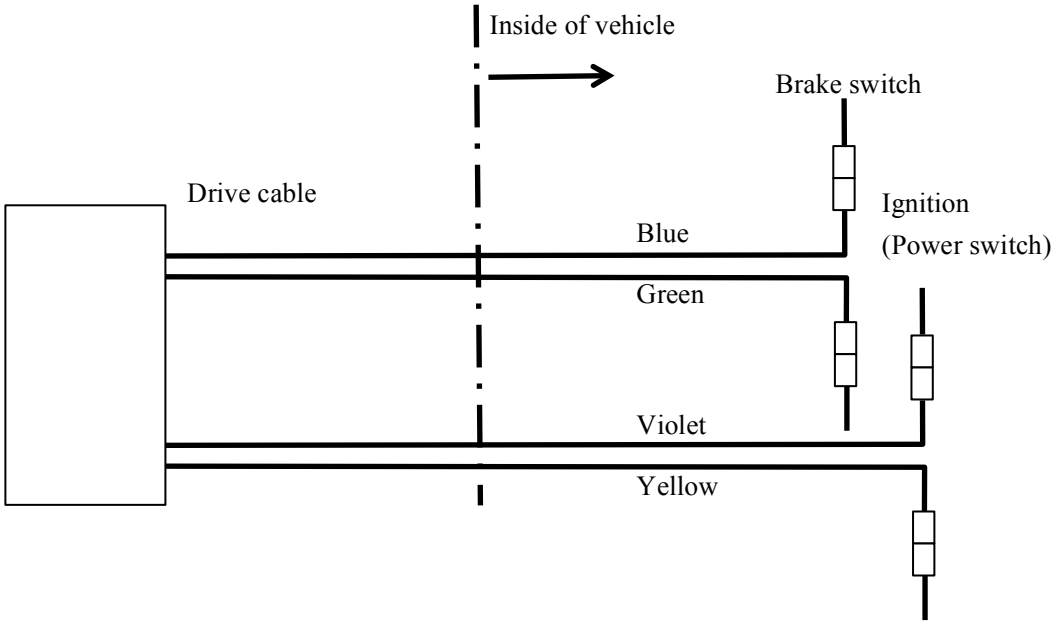
Connect the connector of cable to the CAR2 connecor of main body.



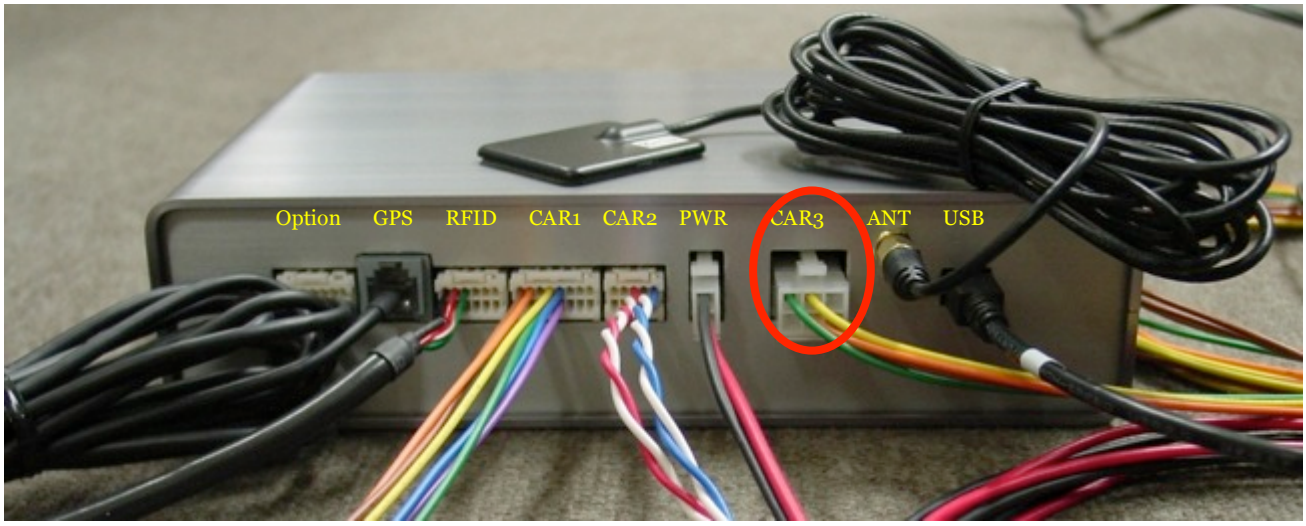
9 – 2 Drive Connection



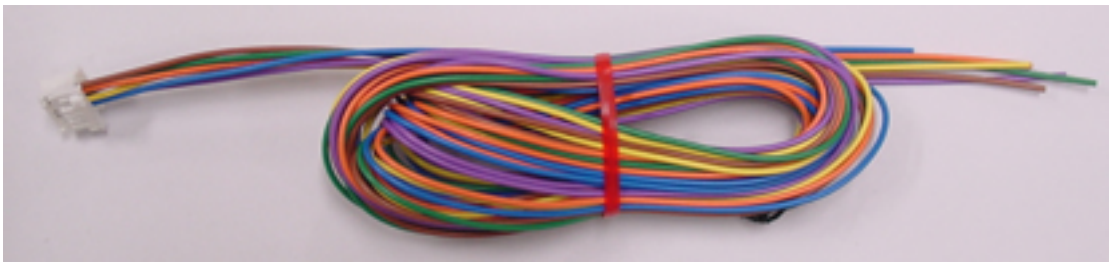
Connect the drive cable to the brake switch and power switch in accordance with the connection method described in 8-1.



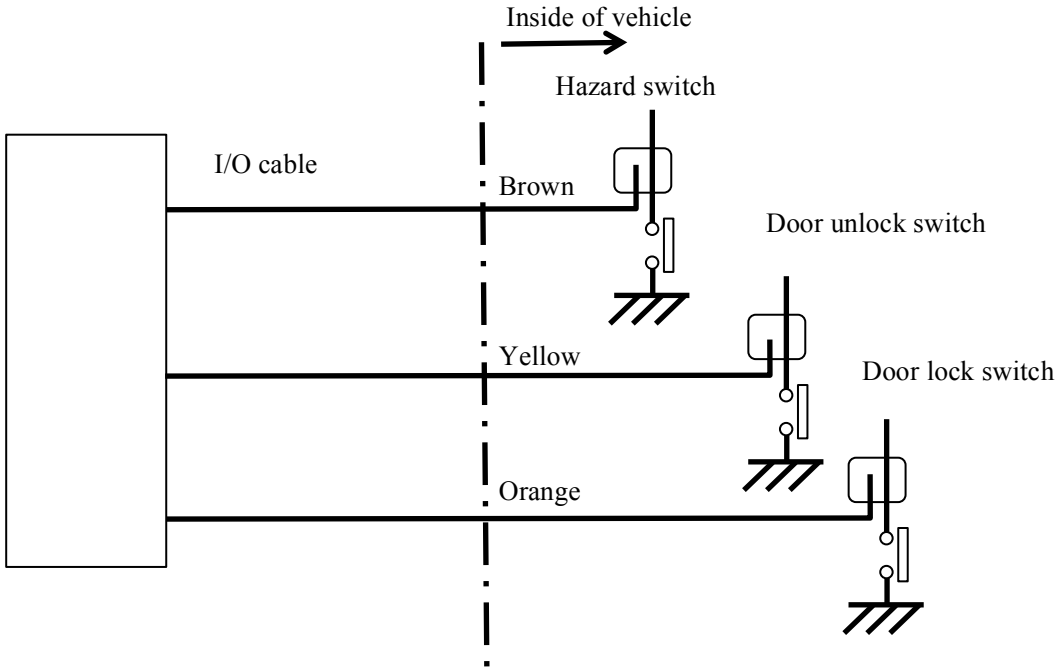
Conenct the connector of cable to CAR3 connector of main body.



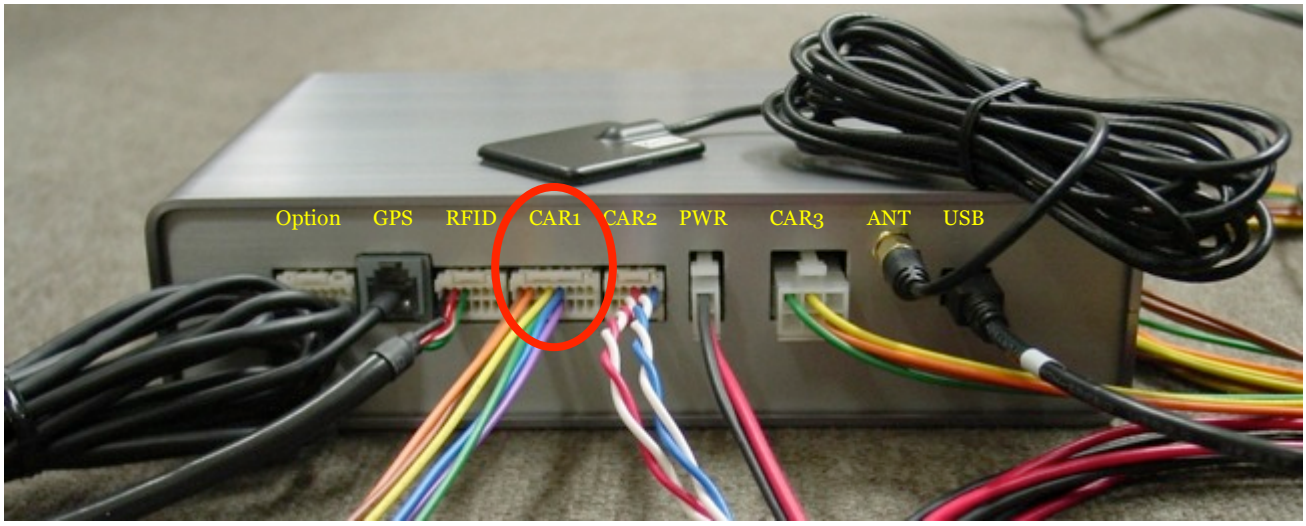
9 – 3 I/O Connection



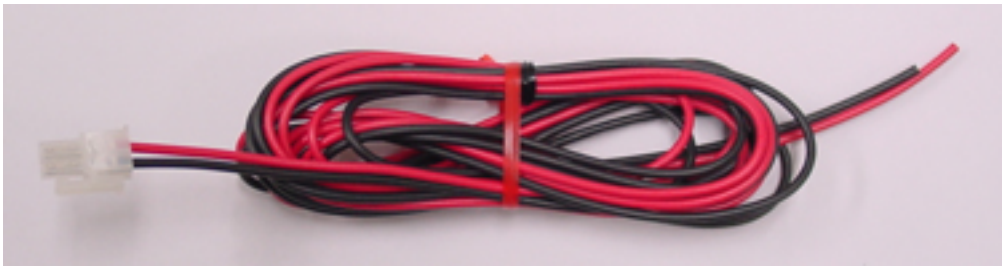
Conenct the I/O cable to hazard switch, door lock/ unlock switch in accordance with the connection method described in 8-2.

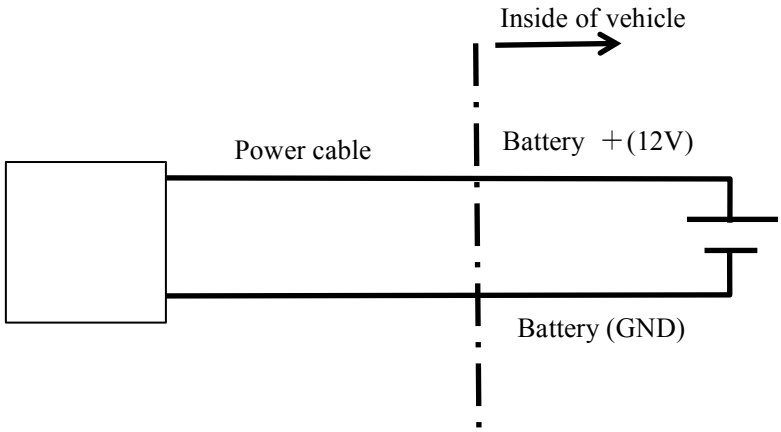


Conenct the connector of cable to CAR1 connector of main body.



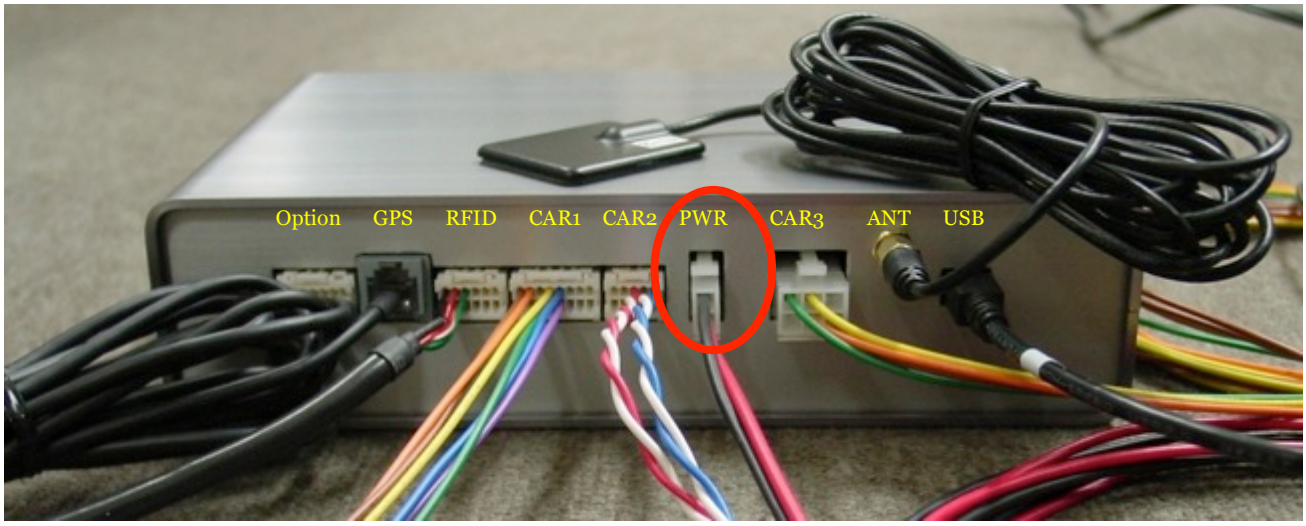
9 – 4 Power Connection





Connect the connector of cable to the PWR connector of main body.

Caution)
Connect the power connector (PWR) of body at the end after all connections are completed.



10. OPERATION CHECK

10 – 1 Activation

TBD

10 – 2 Operation Check

After installation, the normal operarion is checked using card reader and LED of main body.

Self Test OK		
Card Reader LED	Turning OFF	Turning OFF
Main Body LED	Lightening of Orange	
Self Test NG		
Card Reader LED	Turning OFF	Turning OFF
Main Body LED	Flashing of Red (fast)	

Check that it is normally operated using the above condition.
Please refer ○○○○(TBD) if it is not normally operated.

11. Reference Materials

11 – 1 Photos for Panel Removal

Removal of Side Panel

Removal of Lower Panel on Passenger Seat Side

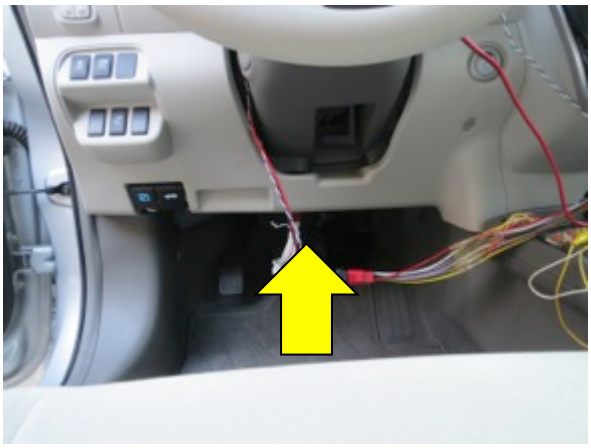
Removal of Glove Compartment

Removal of Center Console

Removal of Lower Panel on Driver Side

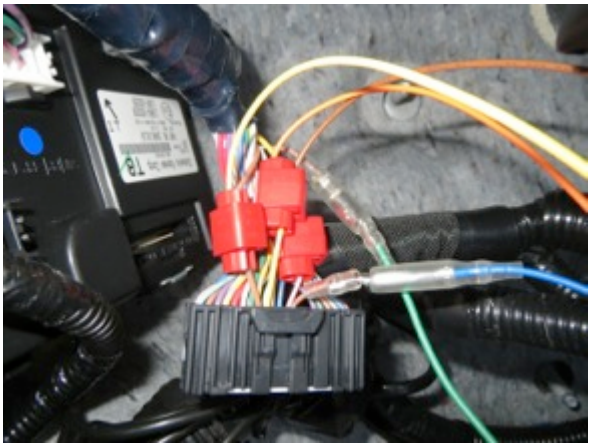
11 – 2 Photos for Connection of Connectors and Wires

Connection of Connector of OBD2 (M4)

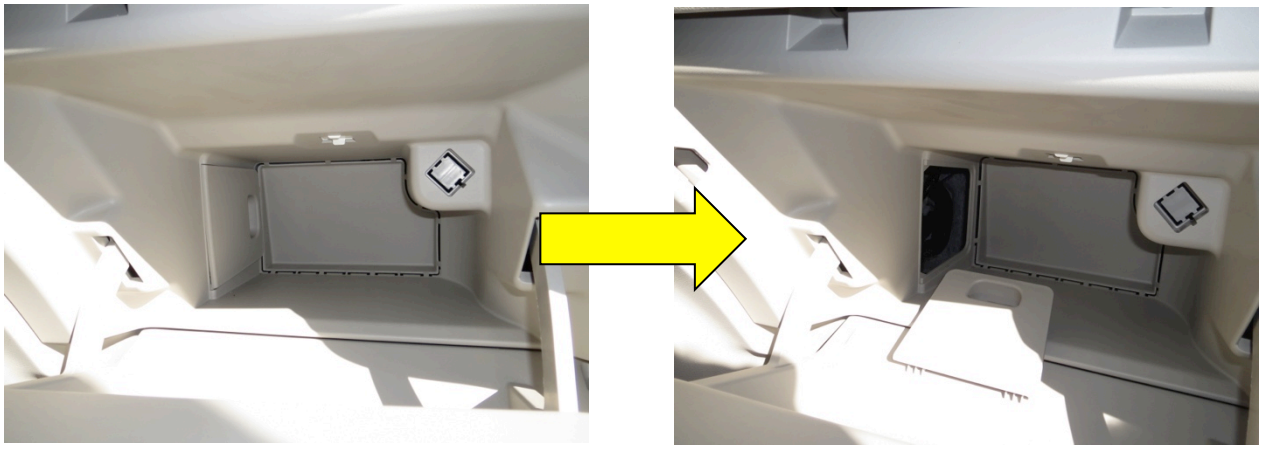


Connection of Connector of Power Switch (M111)

Connection of Connector of BCM (M68)
Brake (Stop Lamp) Switch, Door Lock/ Unlock Switch



Remove the lid of the right wall of glove compartment and move the wires on the back of panel.



11 – 3Vehicle Wiring Diagram (Cble Connection Wiring Diagram)

<2010ModelYear> Left Handle