

# **iVolt Dash Cam External Battery Installation Guide**

**Models: BAB-50 & BAB-100 (overseas models)**

**Apr 3, 2018**

**CS Department**

**Customer Quality Management Department**

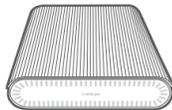
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# 1. Parts

- BAB-50 (iVolt Mini)**



Main Unit



Cigar Jack Charging Cable \*1



Fuse box Charging Cable (Hardwiring) \*2



Output Cable

- BAB-100 (iVolt)**



Main Unit



Charging Cable



Output Cable

- Common**



Fuse Holder \*2



3 Fuse Types \*2



Velcro Tape



Simple Manual

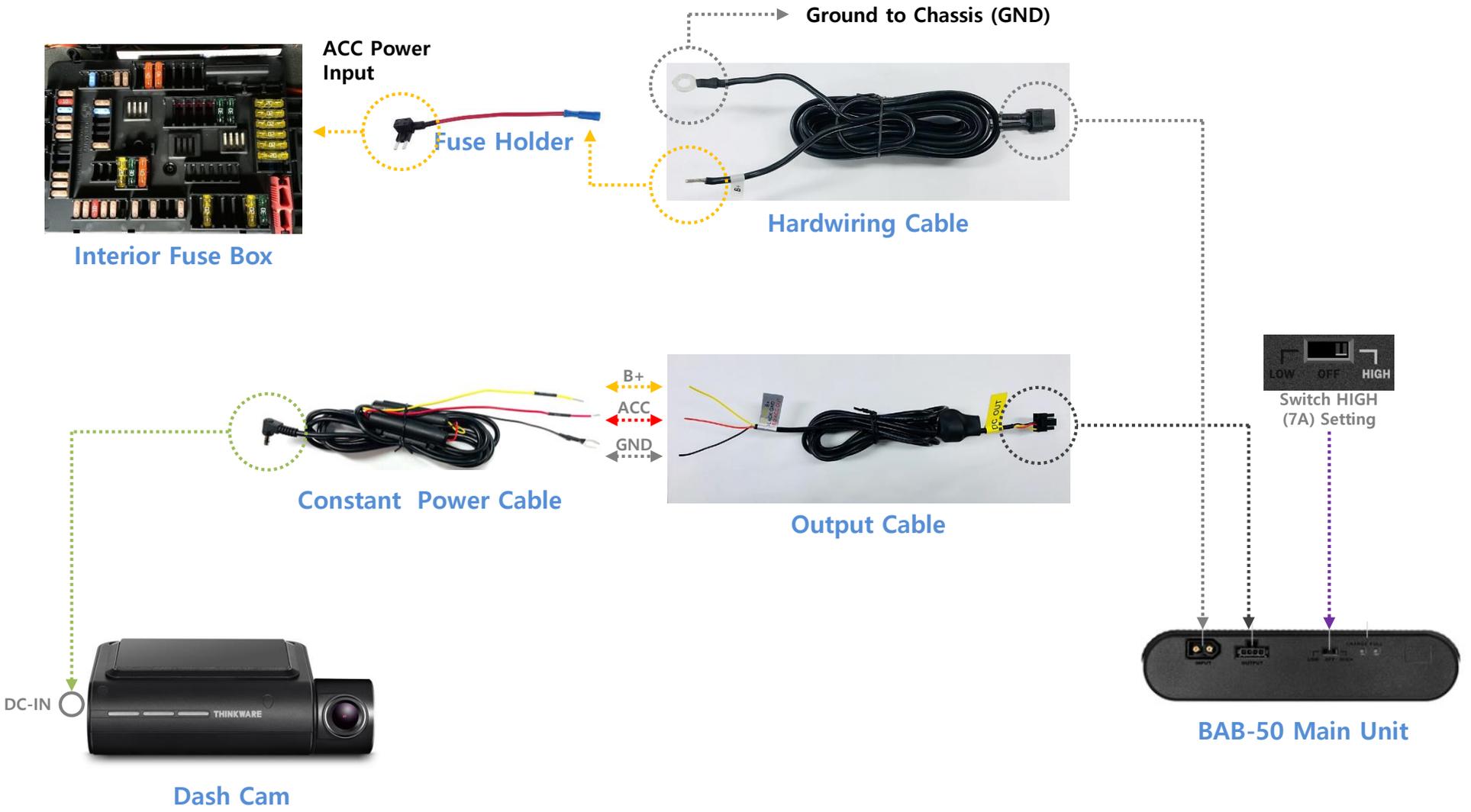
\*1. The cigar jack charging cable is included only if you have purchased a cigar jack option product.

\*2. The fuse box charging cable is included only if you have purchased a hardwire cable option product.

## 2. Product Specifications

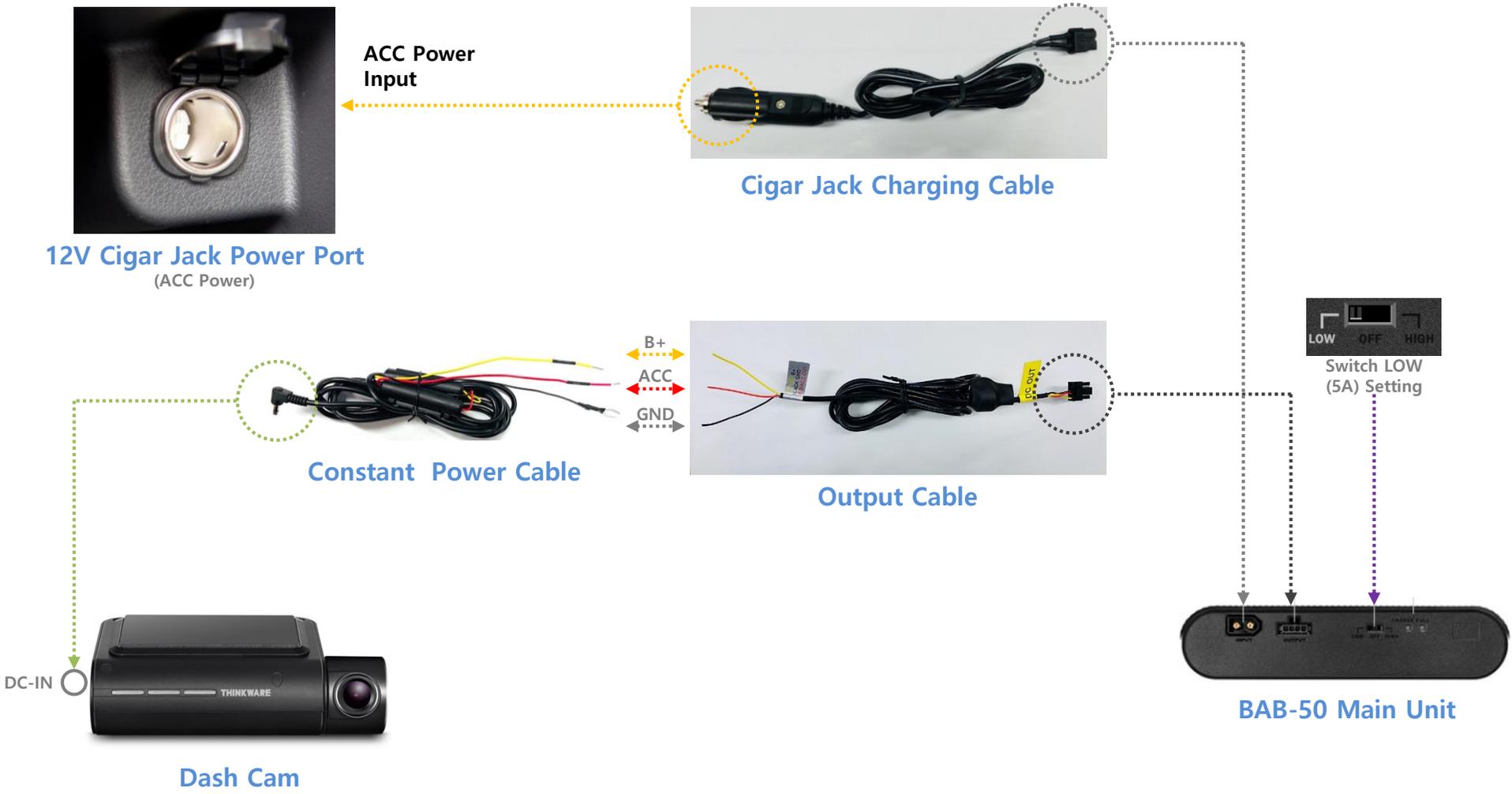
Category	Specifications	
Model	BAB-50 (iVolt Mini)	BAB-100 (iVolt)
Input Power	12.0 - 15.5V / 9A Max.	12.0 - 15.5V / 12.5 A Max.
Output Voltage / Current	11.5 - 14.4V / 2A Max.	11.5 - 14.4V / 2A Max.
Charge Voltage / Current	<ul style="list-style-type: none"> <li>• LOW (Normal charging mode): 14.4V / 5A</li> <li>• HIGH (Fast charging mode): 14.4V / 7A</li> </ul>	14.4V / 9.4A (Fast charging)
Charge Time	<ul style="list-style-type: none"> <li>• LOW (Normal charging mode): Around 1 hour (5A)</li> <li>• HIGH (Fast charging mode): Around 45 minutes (7A)</li> </ul>	Around 1 hour (9.4A)
Run Time	Around 16 hours (Based on 3.5 W power consumption)	Around 32 hours (Based on 4 W power consumption)
Battery Type	LiFePo4 (Lithium iron phosphate)	LiFePo4 (Lithium iron phosphate)
Battery Capacity	12.8V / 4,500 mAh / 57.6 Wh	12.8V / 9,900 mAh / 126.7 Wh
Input Power Type	ACC power	B+ power
Change to Charge Mode	When there is input power	When there is ACC power
Remarks	2 different charging cables are available (Cigar jack type or Hardwiring type)	-

# 3. Wiring Diagram for Installation – BAB-50 (Connecting to the Fuse Box)



\* The BAB-50 model uses an ACC power fuse of 20A or higher when the fuse box charging cable is connected.

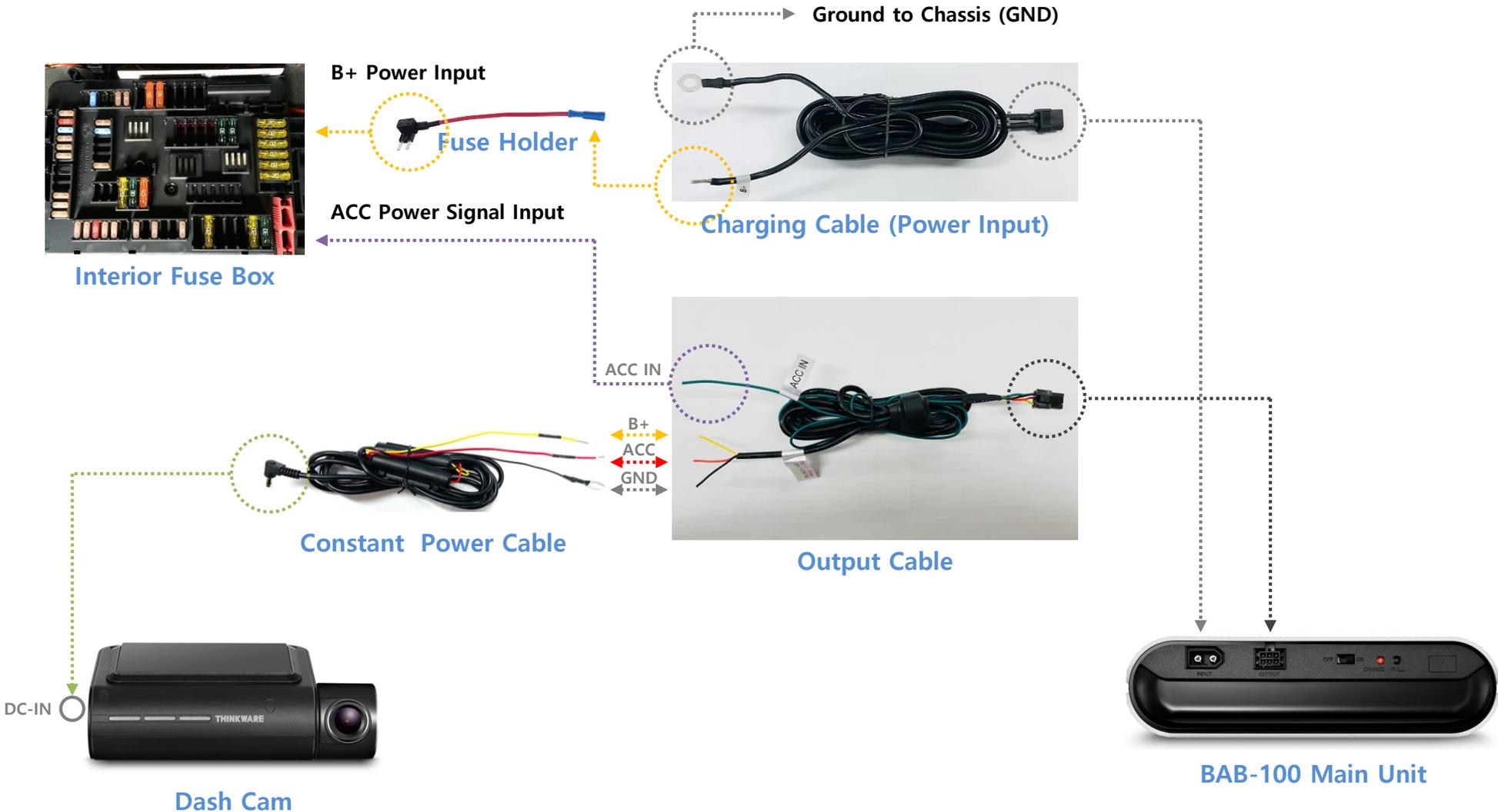
# 4. Wiring Diagram for Installation – BAB-50 (Connecting to the Cigar Jack)



\* Do not connect the 12V cigar jack power port which uses battery power (B+) to the port.

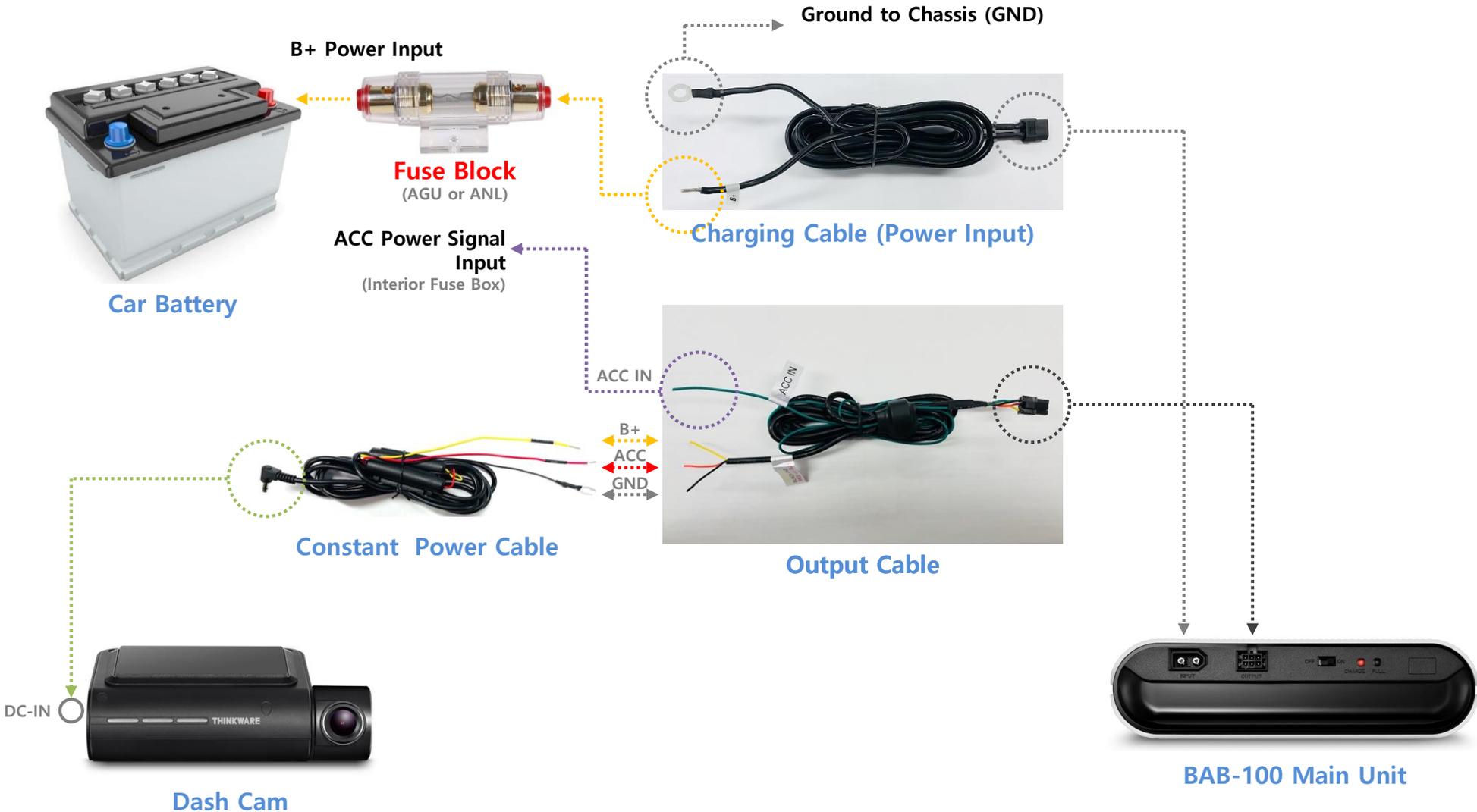
\*\* You cannot connect the BAB-100 model directly to the 12V cigar jack power port of the vehicle.

# 5. Wiring Diagram for Installation – BAB-100 (Connecting to the Fuse Box)



\* BAB-100 model uses B+ power fuse of 20A or higher when the charging cable is connected.

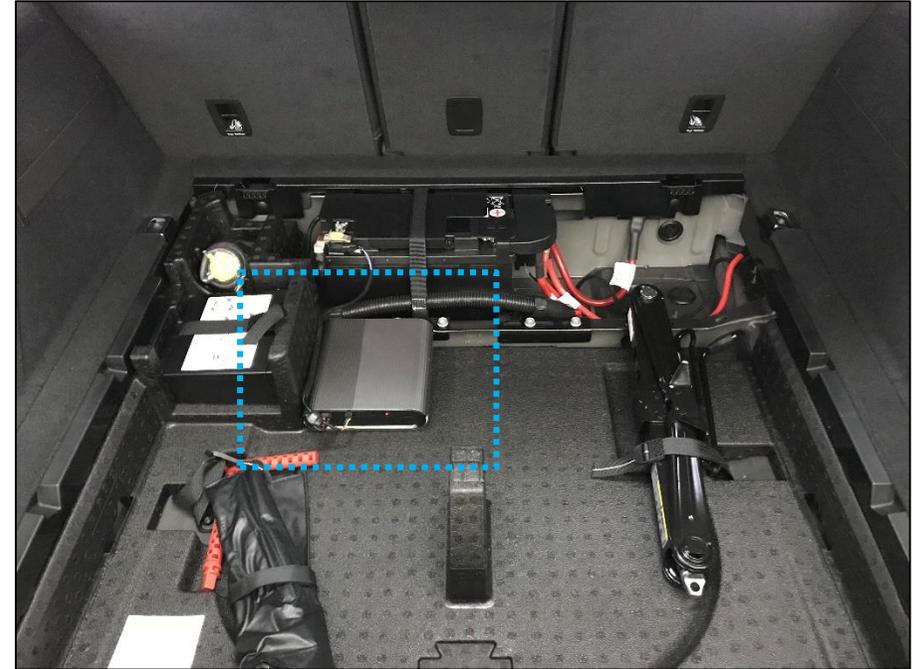
# 6. Installation Wiring Diagram – BAB-100 (Connecting to the Car Battery)



\* A separate purchase AGU or ANL fuse block (20A or higher) is required when connecting directly to the car battery.

\*\* You cannot connect the BAB-50 model directly to the car battery.

## 7. Installation



- **Location of the external battery**

- ① Below the driver's seat

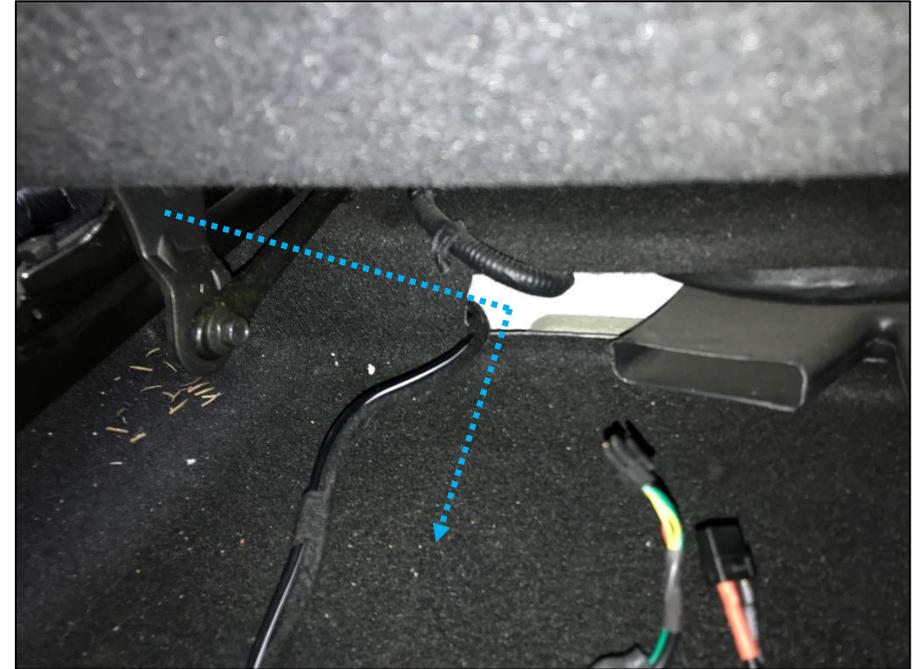
- ➔ It must not interfere with adjusting the seat

- ② Inside the trunk

- ➔ If it interferes with seat adjustment when located below the driver's seat

- ➔ If a car battery or fuse box is located inside the trunk

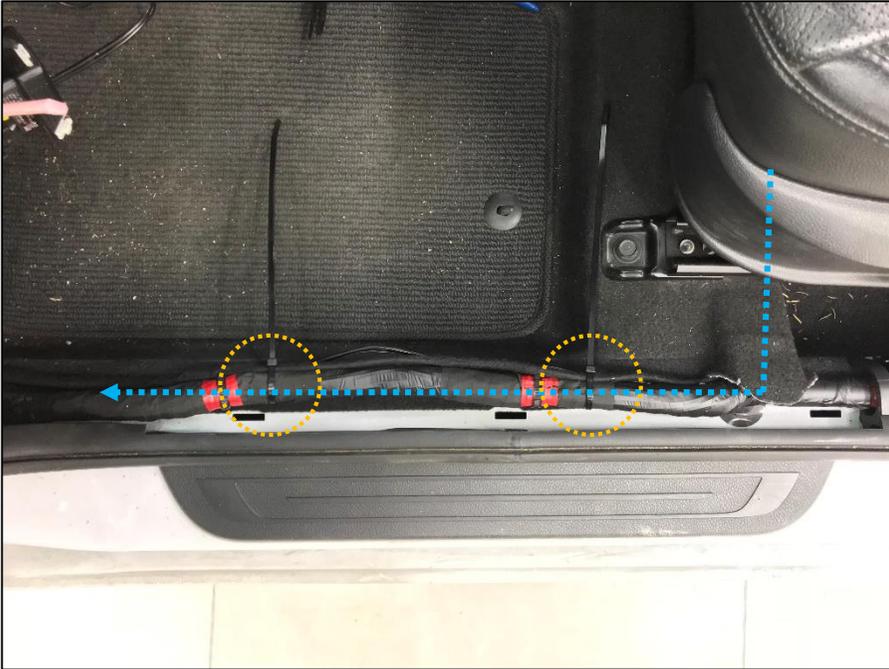
## 7. Installation



### • Installation of the charging cable & output cable

- ① Remove the door step cover on the driver's seat
- ② Organize the external battery's two connectors below the carpet, just like the genuine wiring
- ③ Follow the genuine wiring of the vehicle and take the wire out of the other end of the carpet
- ③ Adjust the cable by considering the distance to the main unit and allowing for slack

## 7. Installation

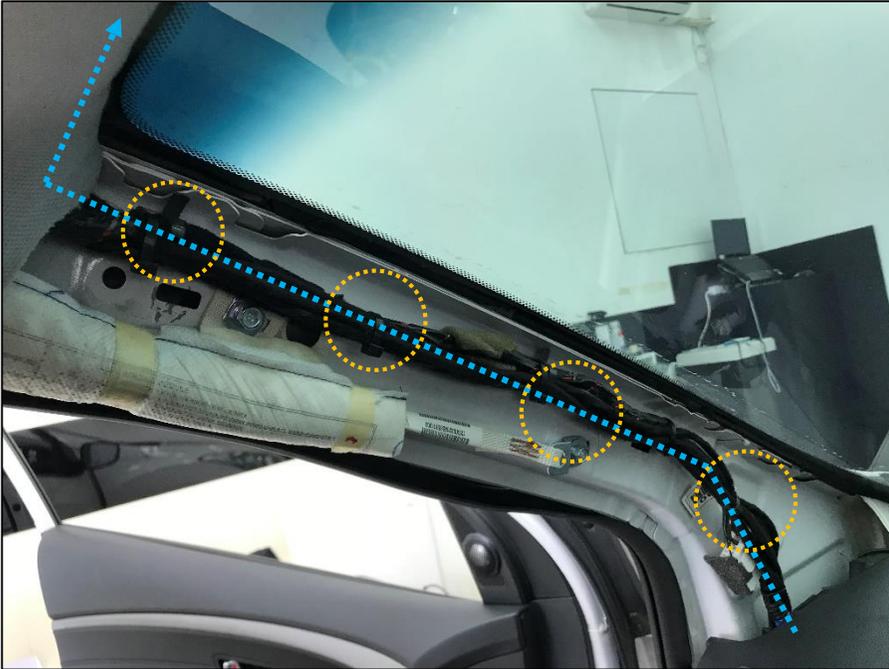


- **Installation of the charging cable & output cable**

- ① Organize the wires on the opposite side to the front of the vehicle, following the genuine wiring of the vehicle
- ② Fix together with the genuine wiring using cable ties

- ③ Remove the kick panel cover on the driver's seat
- ④ Organize the wires following the genuine wiring of the vehicle up to the kick panel location of the driver's seat

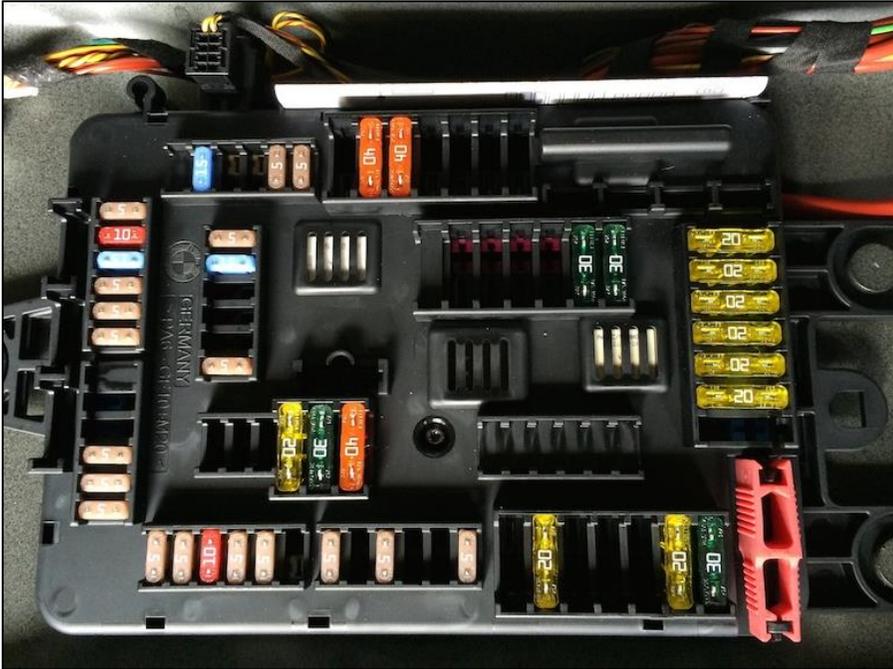
## 7. Installation



### • Installation of the constant power cable

- ① Remove the A-pillar cover on the driver's seat
- ② Organize the constant power cable from the kick panel to the A-pillar
- ③ Organize the wires following the genuine wiring of the vehicle to the dash cam
- ③ Fix together with the genuine wiring using cable ties
- ⑤ Connect the constant power cable connector to the 『DC-IN』 slot of the dash cam

# 7. Installation



- **Recommended Fuses**

- ① 1<sup>st</sup> recommendation Empty fuse slot, spare fuse, spare power, etc.
- ② 2<sup>nd</sup> recommendation Sun roof, amp, electric seat, power outlet, cigar jack, etc.
  - ➔ B+ power: Electric seat, amp, sun roof, etc.
  - ➔ ACC Power: Power outlet, cigar jack, etc.

※ Make sure to check the power type of the fuse with a tester and select a fuse of 20A or higher for external battery installation.

- **Fuse selection**

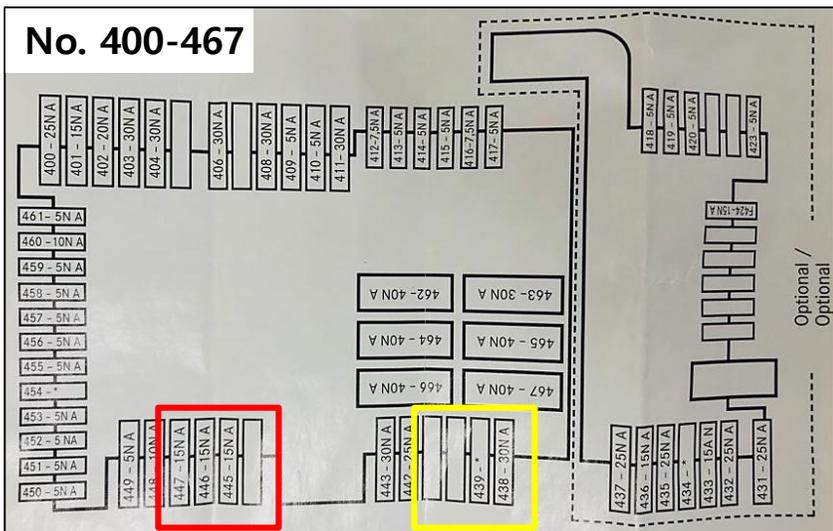
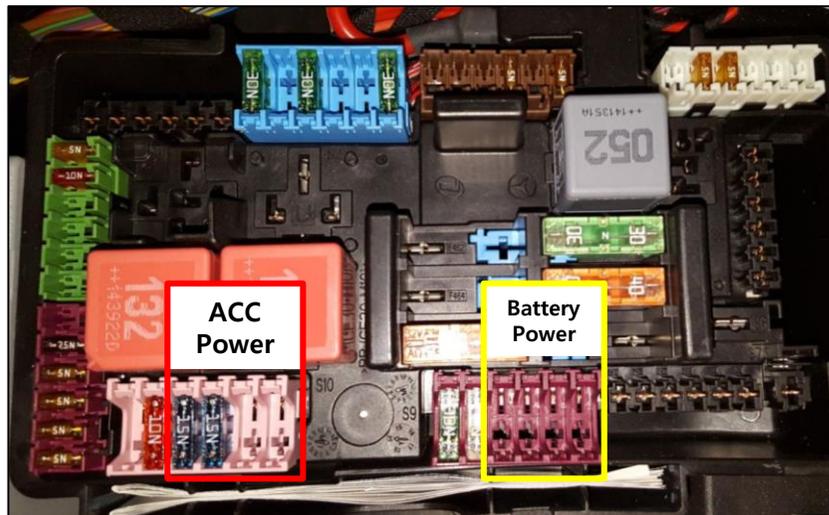
※ Make sure to select a fuse that is not related to the electronic control devices which control the driving or safety measures of the vehicle. It must not affect the electronic control devices of the vehicle even when the installed product suffers power problems.

# 7. Installation

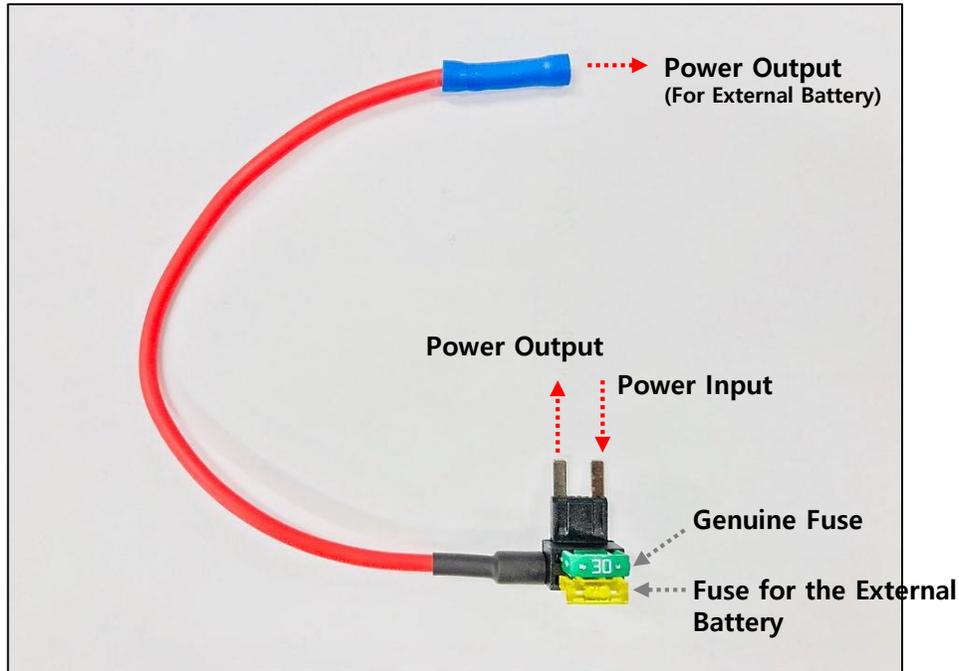
e.g.) Mercedes-Benz C-Class 2017 (W205)

Fuse box in trunk under load surface

Function	Fuse No.	Power
Socket 230V	438, 465	12V Battery (B+)
Empty	439, 440, 441	
Cigar lighter, front	446	
Socket 12V in trunk	445	12V Accessory (ACC)
Socket 12V, rear	447	
Empty	444	
Chassis	-	Ground (GND)

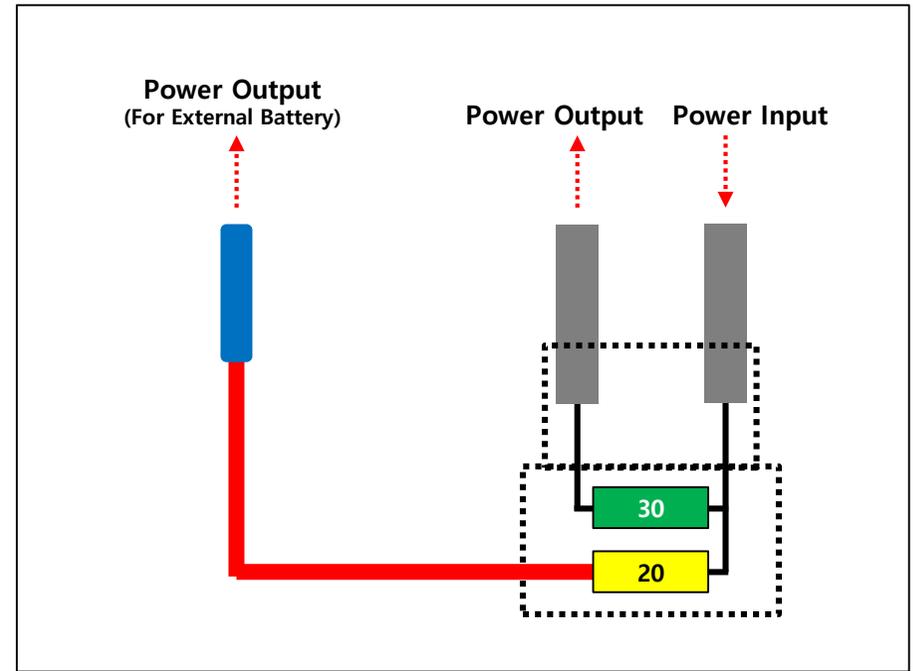


# 7. Installation



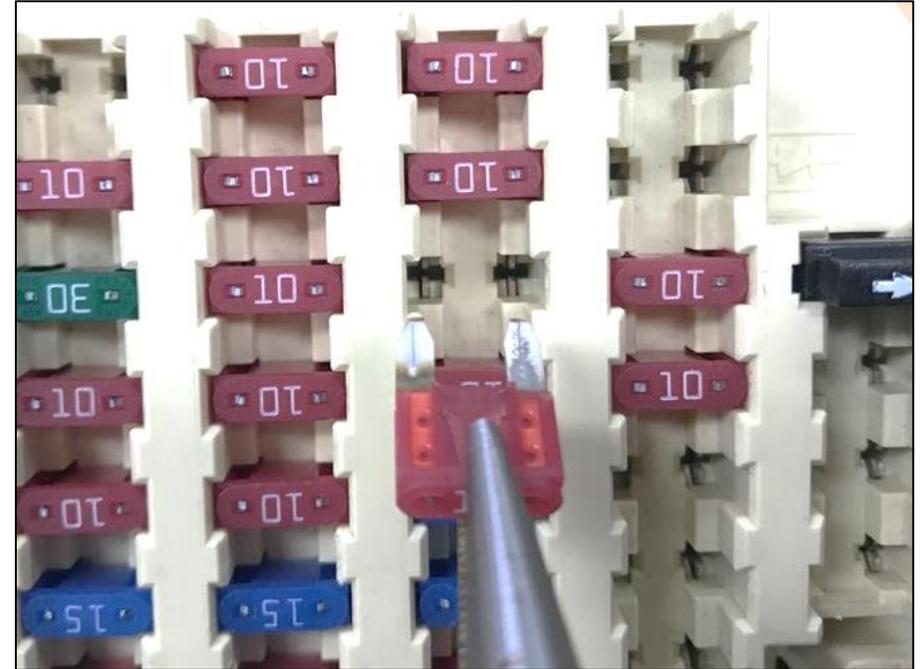
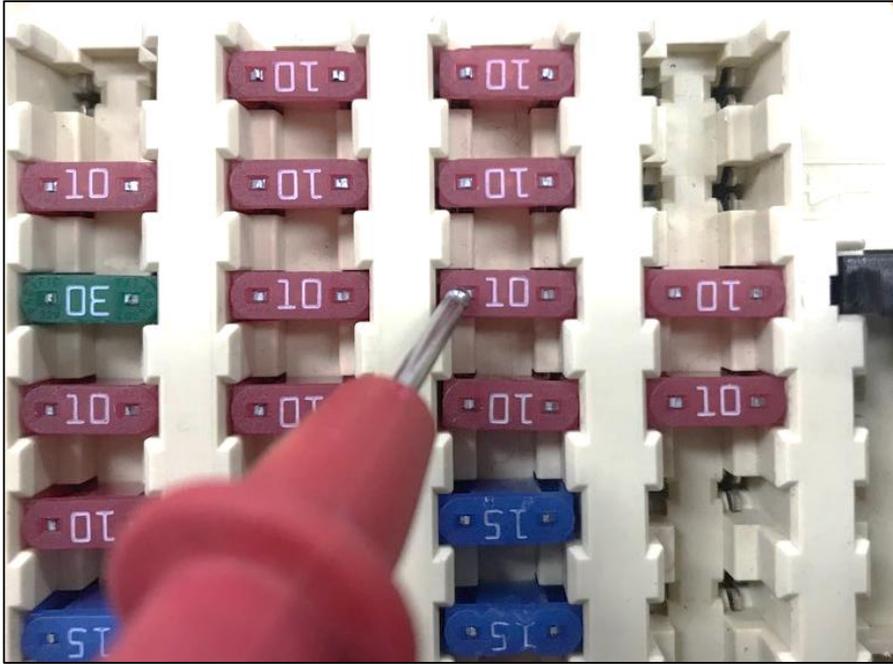
## • Dual Fuse Holder

① Make sure to use the provided dual fuse holder to connect the power when using the charging cable with the internal fuse box.



② The dual fuse holder is used for a stable connection of power between two devices (genuine and external). It can prevent the fuse slot from formation of a gap or loose connection failures.

## 7. Installation



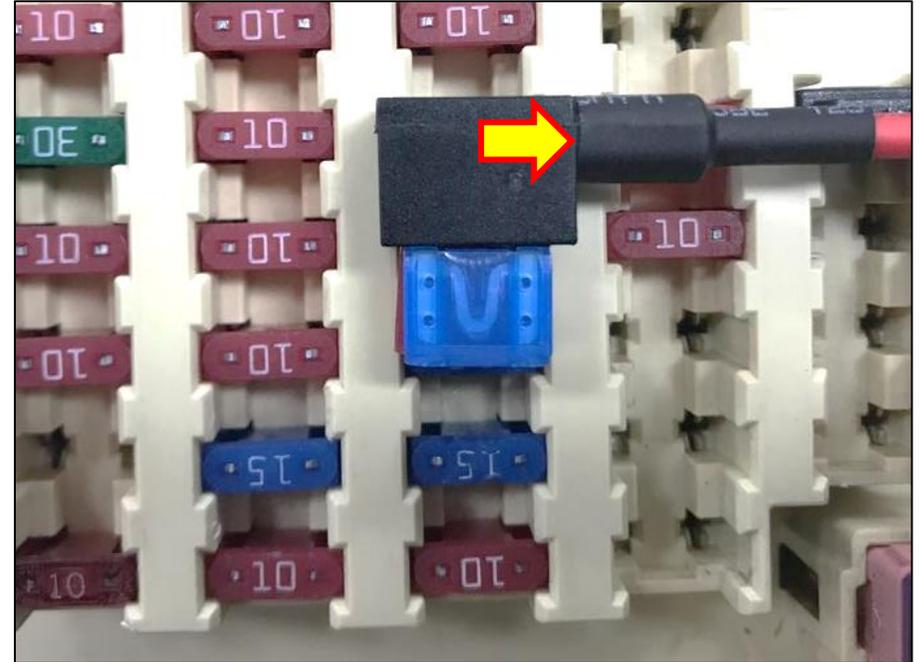
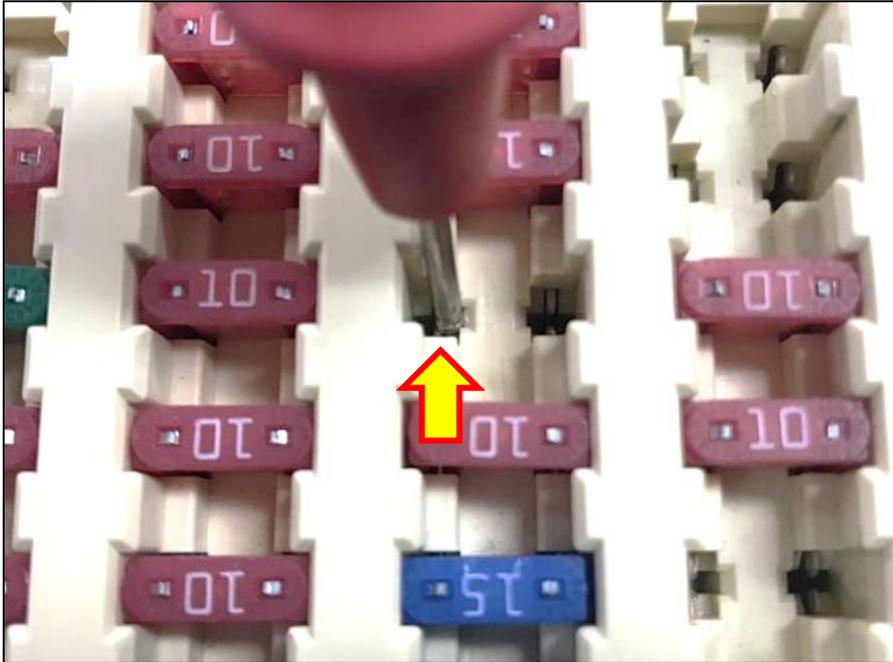
- **Checking the power output direction of the fuse slot**

※ When there is an electrical problem while using the product, **connect wires to the output terminal of the fuse** to prevent combustion for the safety of the vehicle and product

- ① Check the power type of the selected fuse using the tester
- ② Separate the selected fuse from the fuse slot

\* The photograph above is for reference only. Use a 20A fuse or higher when you are actually installing the external battery.

## 7. Installation



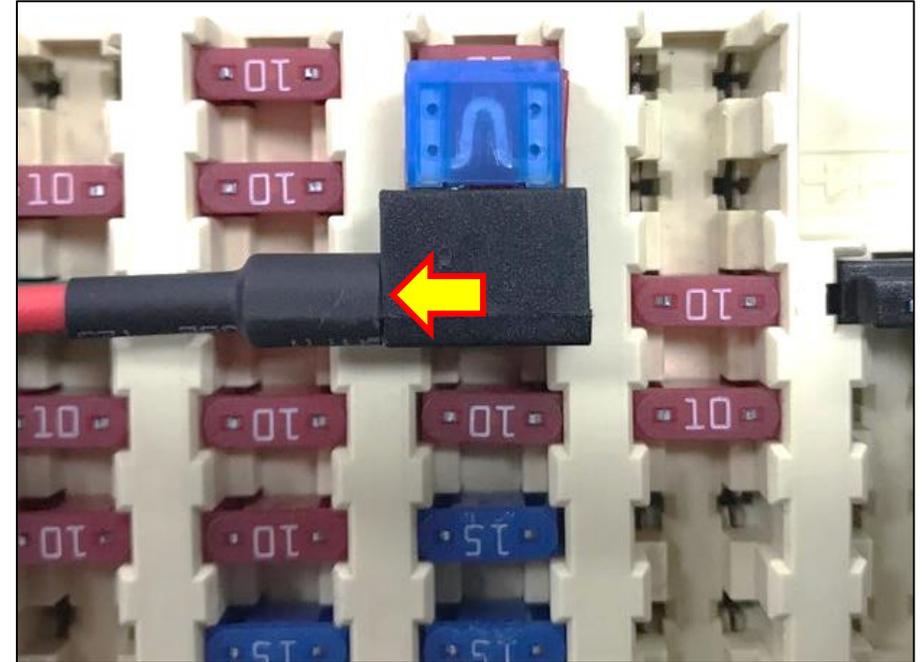
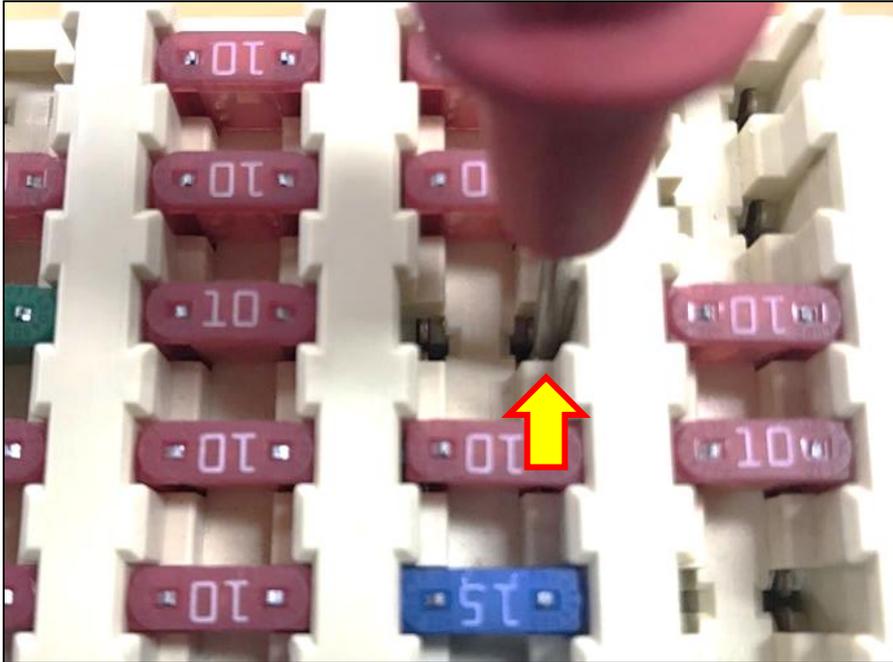
- **Checking the power output direction of the fuse slot**

① Check the power output of the 『left』 contact terminal

② Insert the fuse holder so that the output wiring of the fuse holder faces <right> when power is out from the 『left』

\* The photograph above is for reference only. Use a 20A fuse or higher when you are actually installing the external battery.

## 7. Installation

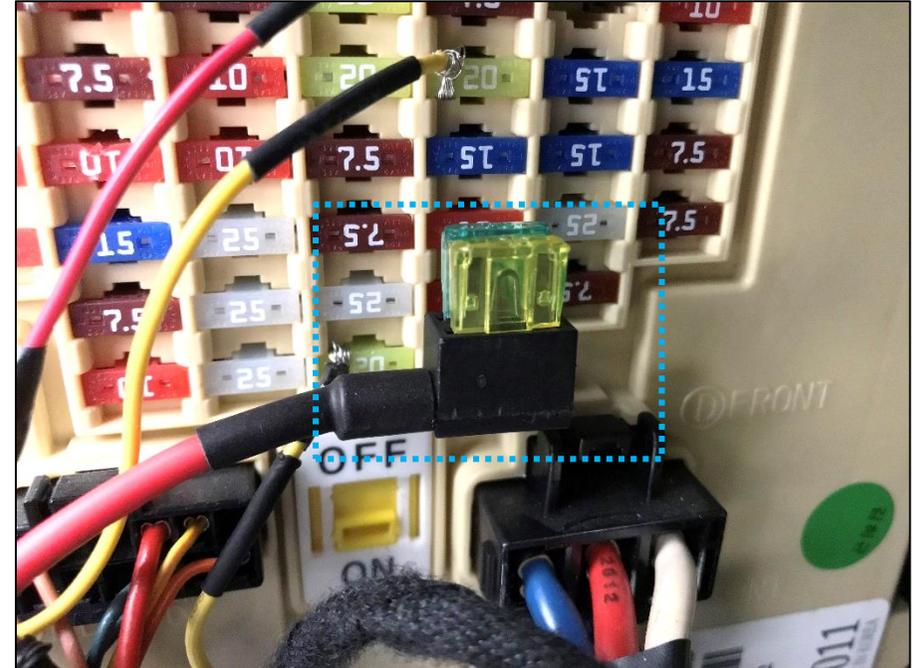
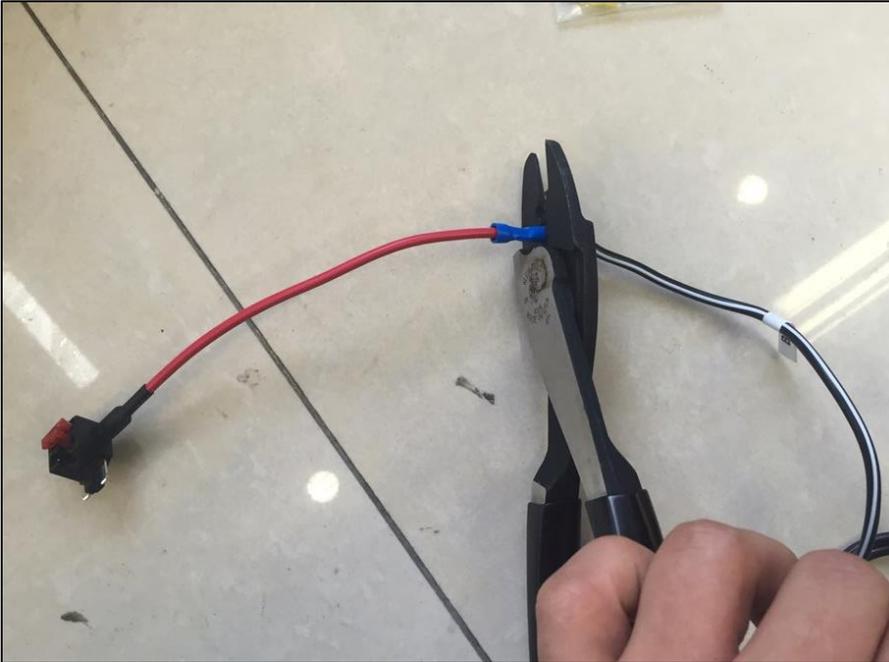


- Checking the power output direction of the fuse slot

- ① Check power output of the 『right』 contact terminal
- ② Insert the fuse holder so that the output wiring of the fuse holder faces <left> when power is out from the 『right』

\* The photograph above is for reference only. Use a 20A fuse or higher when you are actually installing the external battery.

## 7. Installation



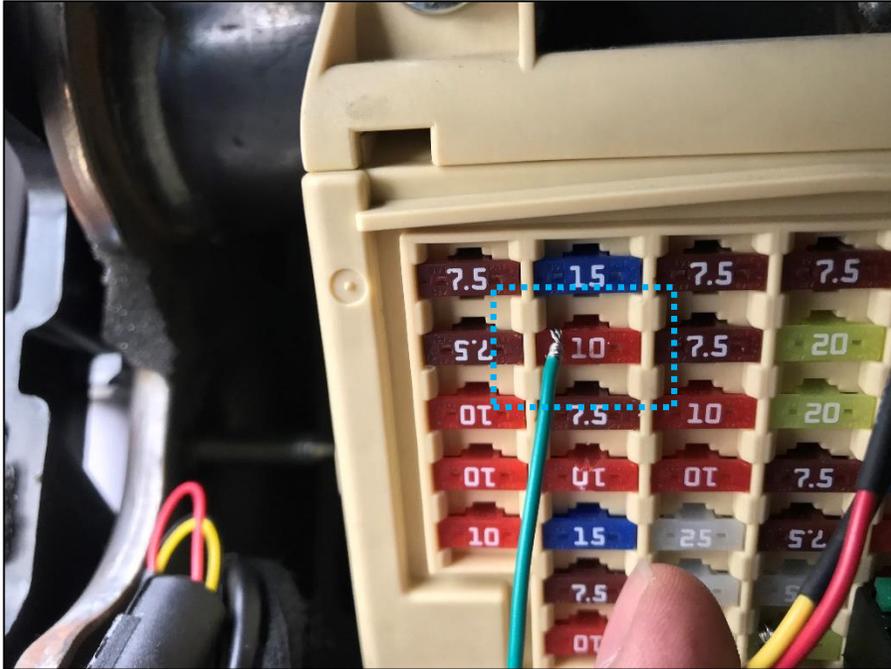
- **Connecting the power of charging cable**

- ① Tightly pinch the (+) wiring of the fuse holder and charging cable using a plier

- ② Select a B+ power 20A fuse or higher
  - ③ Connect the genuine fuse and external battery fuse to the fuse holder
  - ④ Check the power output direction of the fuse slot and connect the fuse holder
- ➔ Take care on the connection so the fuse holder does not fall out while driving

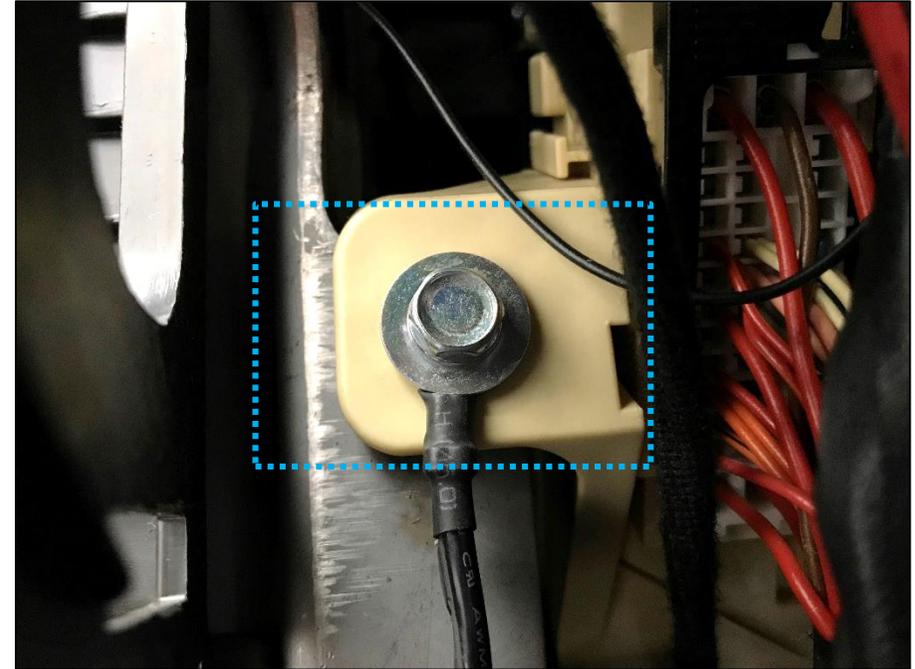
\* Use an ACC power fuse for the BAB-50 model.

## 7. Installation



- **Connecting ACC IN wires**

- ① Take out the ACC or the IG2 power fuse from the fuse slot
- ② Check the power output direction of the fuse slot and connect the ACC IN wire to the power output terminal of the fuse
- ③ Re-connect the separated fuse

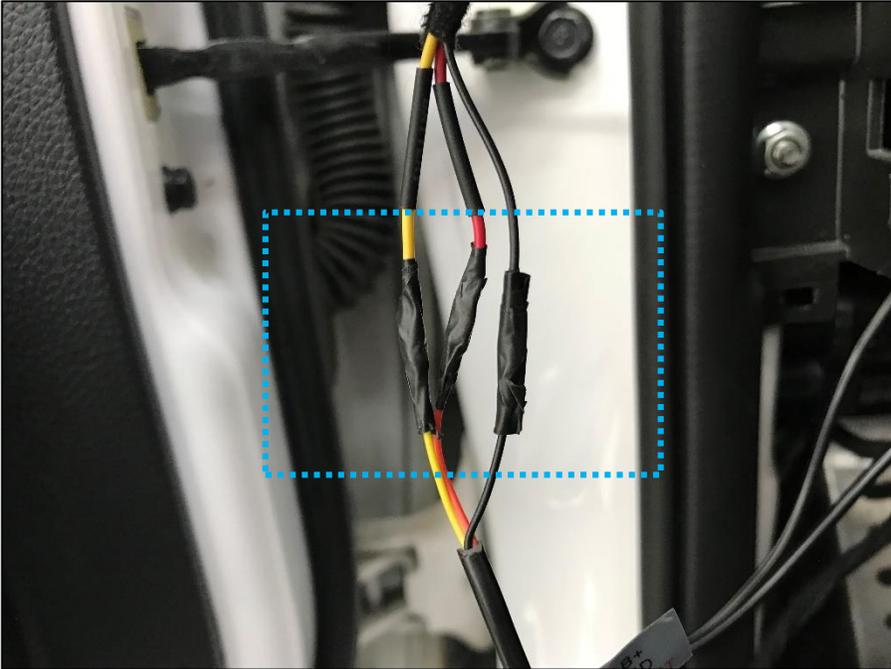


- **Connecting ground (GND) wires**

- ④ Check the bolt fastened on the vehicle chassis and loosen it
- ⑤ Firmly connect the ground terminal of the charging cable to the bolt and fasten the bolt

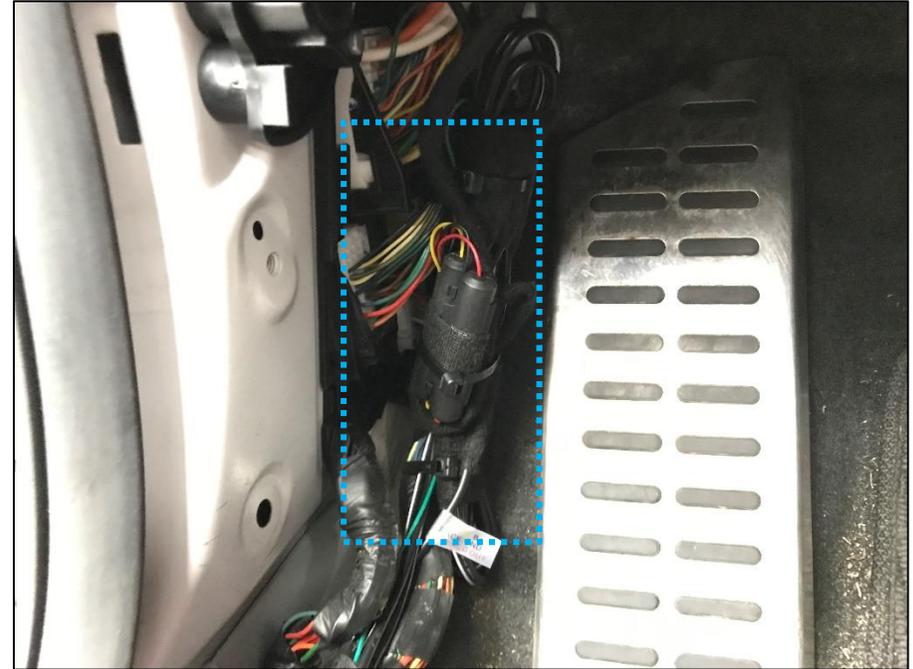
\* An additional ACC IN wire is not connected in the BAB-50 model.

## 7. Installation



- **Connecting the output cable**

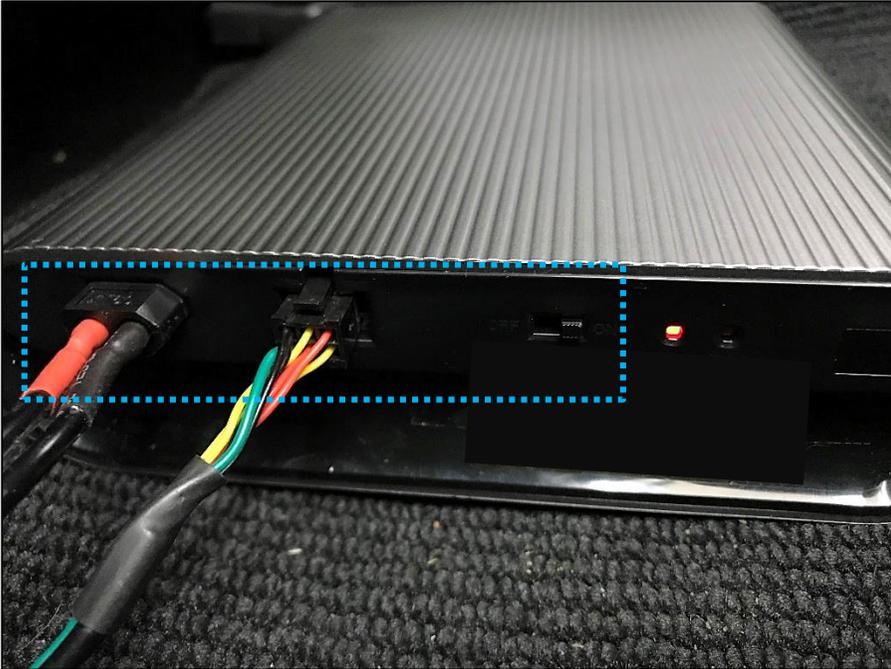
- ① Connect the power wires B+ (yellow), ACC OUT (red), and GND (black) of the output cable to the constant power cables of the dash dam (B+, ACC, GND) respectively



- **Organizing slack wires**

- ② Organize the slack wires following the genuine wiring of the vehicle up to the kick panel location of the driver's seat

## 7. Installation



- **Connecting to the external battery connector**

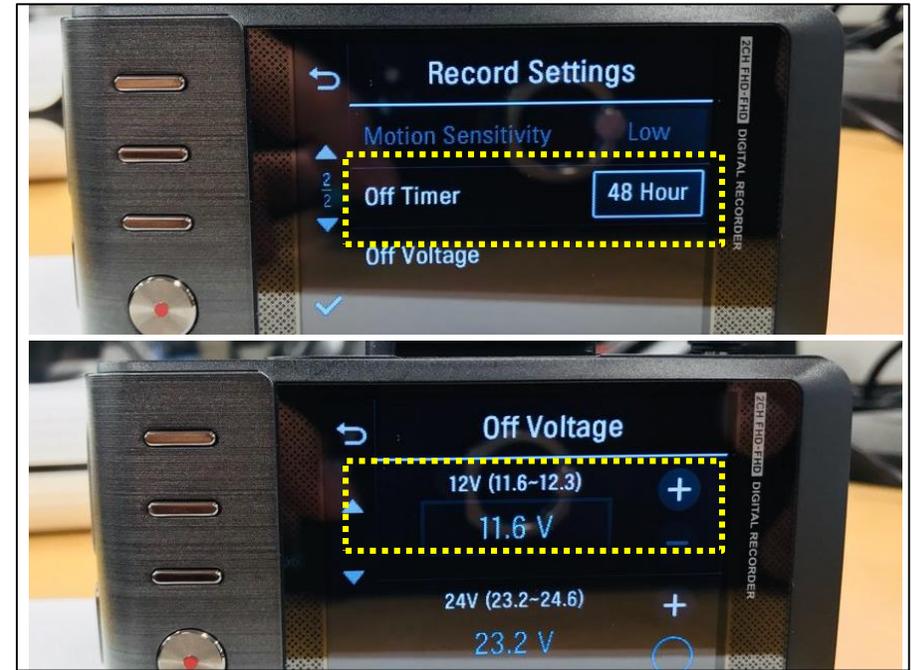
- ① Connect the connectors of output and input cables to the corresponding ports of the external battery
- ② Set the power switch to ON

- **Fixing the external battery**

- ③ Attached the provided Velcro tape underneath the external battery to fix it in place

\* Set the power switch to LOW (normal charge) or HIGH (fast charge) for the BAB-50 model,

# 7. Installation



## • Testing and adjusting setting values

- ① Test the external battery depending on the start or off state of the vehicle  
(LED status indicators, constant recording entering parking mode, etc.)

- ② Adjust the setting values on the Settings menu of camera
  - ➔ Use parked recording
  - ➔ Set the Off Timer to 'Maximum' or 'Disable'
  - ➔ Set the Off Voltage timer to 'Minimum' or 'Disable'

\* Set to use the recording for parking mode to the maximum.

# 8. LED Status Indicators

Description on the Status Indicator		
Model	BAB-50 (iVolt Mini)	BAB-100 (iVolt)
<b>Power Switch On</b>	Red and green indicators light on at the same time for 3 seconds	
<b>Before Charging (After Starting Vehicle)</b>	Red indicator flickers for 10 seconds	
<b>While Charging</b>	Red indicator lights on	
<b>Charging is Complete</b>	Green indicator lights on	
<b>Low Input Power</b>	Red and green indicators flicker at the same time	
<b>High Internal Battery Temperature</b>	Red and green indicators flicker alternately	

# 9. Precautions

- **Charging Cable (Power Input Cable)**

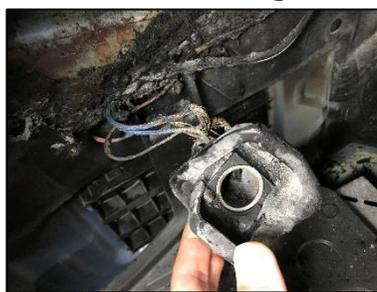
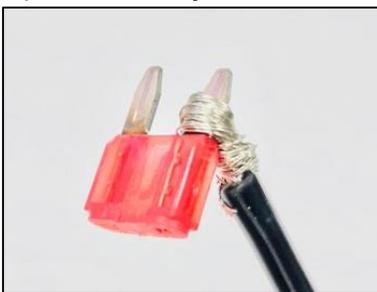
① Extending the cable with a thin cable under the standard specification (14 AWG) is not allowed.

➔ If extended, a voltage drop occurs so you cannot charge the battery and abnormal noise is generated while starting the vehicle



② Directly connecting (soldering) the charging cable with the vehicle fuse or wiring is prohibited

➔ If connected and the contact area is incomplete for any reason, heat and combustion is generated due to a high current



③ If extending the charging cable is required, use a 14 AWG cable and solder it.

➔ A 14AWG charging cable and fuse holder is provided by default



## 9. Precautions

- **General**

- ① Use this document as reference and install by checking the power of the fuse on the actual vehicle.
- ② Make sure to check the power type of the spare fuse and unused fuse slots with a tester before connecting.
- ③ Since the fuse box layout is provided separately in the vehicle manual for some car manufacturers, make sure to install after checking the connection circuit of the fuse.
- ④ Since the vehicle fuse box is closely related to the electronic control device, installing the power cable using a dual fuse holder is recommended to prevent widening of the fuse slot contact terminal.