

6. Electrical system components 12V

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6.1. General instructions

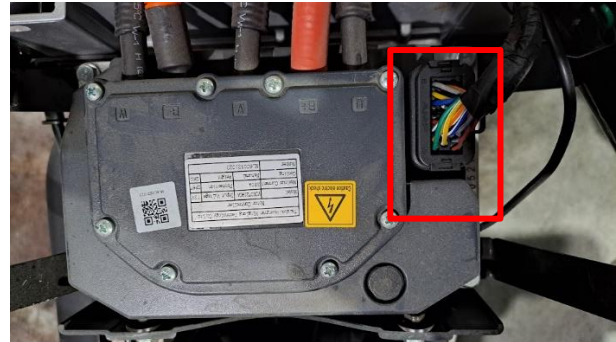
- To check if a control is working properly, perform a continuity test with a multimeter on the terminals of the connector corresponding to that control.
- This chapter shows the connectors that correspond to all the controls by showing a drawing of the connector as seen from the control side (not the main wiring).
- The drawing of the connector also shows the colours of the wires connected to its terminals.
- When a cable is indicated with two colours, the first colour corresponds to the dominant colour while the second is the minority colour which is identified by a line on the cable.
- For the continuity test it is not necessary to turn the ignition key to ON.
- Continuity occurs when the corresponding knob is operated: by holding down the button during the test or by switching to the required position.
- The electrical circuit of the switches and controls is low voltage so it is not necessary to use PPE (Personal Protective Equipment).
- The accelerator works by Hall effect so it must measure DC voltages and not continuities or resistances.
- Replace the component with a new one if continuity (buttons, switches or switches) or voltmeter reading (throttle) is not met. If the component does not work when injecting an external power supply, it must be replaced with a new one. If it complies with the specifications, you should check the main wiring or check for loose or misconnected connectors.
- Do not confuse polarity when checking lighting components.
- Replace the fuse with one of the same type and amperage.
- First find the cause of the blown fuse, otherwise the fuse will blow again.
- Do not replace the fuse with a higher amperage fuse or with a wire or other metal object as this may overheat the circuit and cause a fire.

6.2. 12V system measurement from the controller connector

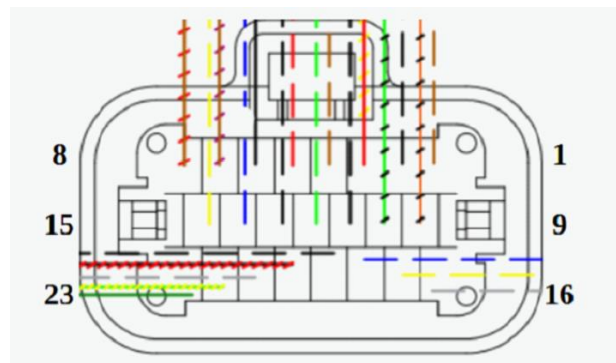
Required prior operations:

- Hull boot removal (→ See 1.4.1. Helmet boot. No need to remove the seat

Identify the connector of the analogue signals of the controller.



Identify the cable numbering as shown in the picture on the right.



Without removing the connector, and with the vehicle activated, the voltage of each signal must be measured with a fine-tipped multimeter probe.

For this purpose, the multimeter must be configured to measure DC voltage and scale 0-20V.



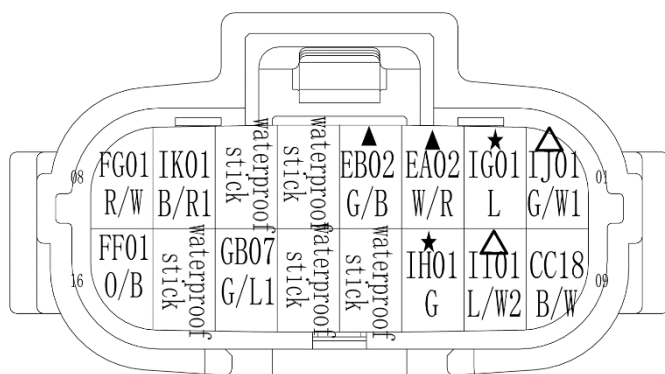
The definitions of each cable are as follows:

Code	Colours	Definition	Values
1	Brown	Power supply for hall sensor	5V
2	Black	Ground for hall sensor	
3	Red/orange	Power supply for hall sensor	5V
4	Brown/white	Ready button	Pressed: 0.8V Not pressed: 0V
5	Red	Accelerator power supply	5V
6	Black	Power supply for the controller	12V
7	Grey/blue	CAN L	
8	Brown/red	CAN H	
9	Orange	Power supply for hall sensor	5V
10	Green	Hall sensor square signal	0–5V
11	White	Hall sensor square signal	0–5V
12	White/green	Throttle signal	0.85–4.25V
13	Orange/white	Side kickstand sensor	2.8V
14	White/blue	Driving modes	Pressed: 0V Not pressed: 2.8V
15	Yellow/white	Diagnosis and programming	
16	Grey	Ground for hall sensor	
17	Yellow	Hall sensor square signal	0–5V
18	Blue	Hall sensor square signal	0–5V
19	Brown	Throttle ground	
20	No terminal		
21	White/grey	Reversing button	Pressed: 0.8V Not pressed: 0V
22	Yellow/Green	Brake button signal	Not active: 0.8V Activated: 12V
23	Green	Controller ground	

6.3. Connector wiring

The wiring of all 12V and CAN BUS electrical system connectors is detailed below. The drawings represent the female connectors.

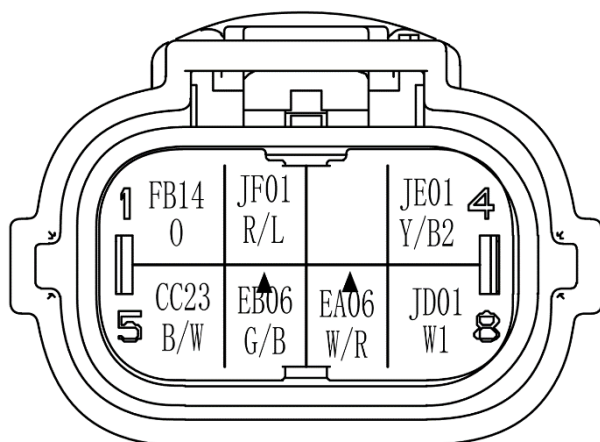
6.3.1. ABS connector



Colours of connections:

- ① IJ01: Green/White. Rear ABS sensor signal
- ② IG01: Light Blue. ABS front sensor power supply
- ③ EA02: White/Red. CAN H
- ④ EB02: Green/Black. CAN L
- ⑤ No terminal
- ⑥ No terminal
- ⑦ IK01: Black/Red. ABS tell-tale signal (instrument cluster)
- ⑧ FG01: Red/White. Fuse box
- ⑨ CC18: Black/White Ground
- ⑩ II01: Light Blue/White. ABS rear sensor power supply
- ⑪ IH01: Green. ABS front sensor signal
- ⑫ No terminal
- ⑬ No terminal
- ⑭ No terminal
- ⑮ No terminal
- ⑯ F F01: Orange/Black. Fuse box

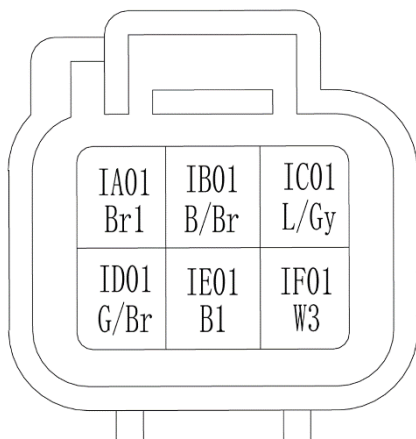
6.3.2. BDU connector



Colours for female side:

- ① FB14: Orange DC/DC output
- ② JF01: Signal activation, BDU to VCU
- ③ No terminal
- ④ JE01: Yellow/White. COMH_N communication with batteries
- ⑤ CC23: Black/White Ground
- ⑥ EB06: Green/Black. CAN L
- ⑦ EA06: White/Red. CAN H
- ⑧ JD01: COMH_P communication with batteries

6.3.3. Controller Block Connector



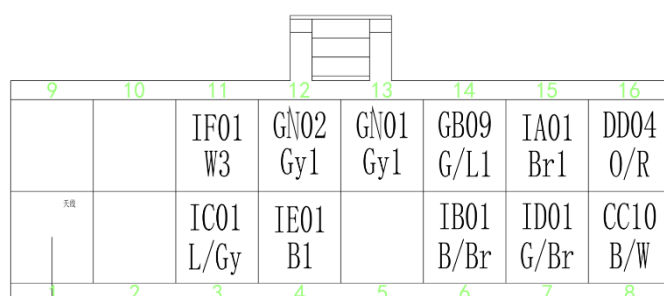
Colours for female side:

- ❶ IA01: Brown Solenoid valve positive
- ❷ IB01: Black/Brown. 5V
- ❸ IC01: Light Blue/Grey. Negative electronic micro switch
- ❹ ID01: Green/Brown. Solenoid valve negative
- ❺ IE01: Black. Pilot light
- ❻ IF01: White. Positive electronic micro switch.

NOTE:

There are two identical male and female connectors. It makes no difference how you connect them.

6.3.4. ECU Lock Connector



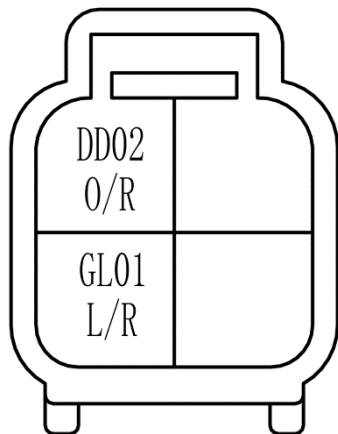
230

Antenna, AVSS(f) 0.5 white and light blue wire with waterproof heat shrink tubing tail

Colours for female side:

- ❶ No terminal
- ❷ No terminal
- ❸ IC01: Light Blue/Grey. Negative electronic micro switch
- ❹ IE01: Black. Pilot light
- ❺ No terminal
- ❻ IB01: Black/Brown. 5V
- ❼ ID01: Green/Brown. Negative solenoid valve.
- ❽ CC10: Black/White Ground
- ❾ No terminal
- ❿ No terminal
- ⓫ IF01: White. Positive electronic micro switch.
- ⓫ GN02: Grey. Alarm signal
- ⓫ GN01: Grey. Alarm signal
- ⓫ GB09
- ⓫ IA01: IA01: Brown Positive solenoid valve.
- ⓫ DD04: Orange/Red. 12 V battery positive terminal

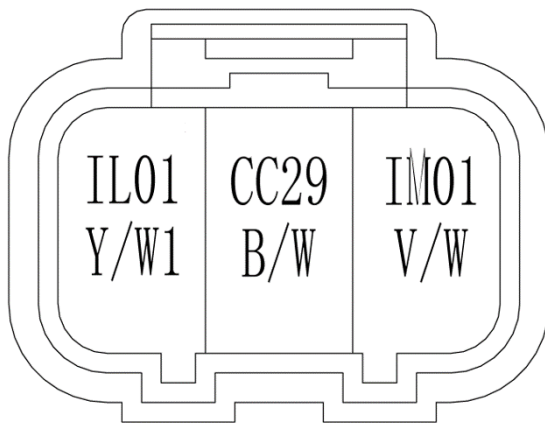
6.3.5. Electronic Lock Connector



Colours for female side:

- ❶ DD02: Orange/Red. 12V battery positive terminal
- ❷ GL01: Light Blue/Red. Electronic locking signal

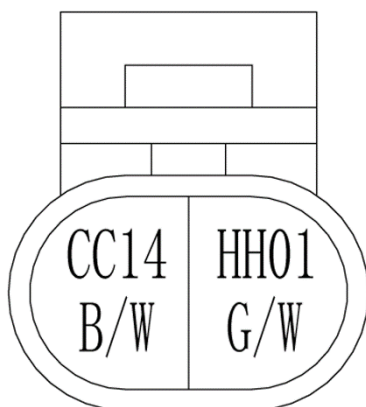
6.3.6. Menu button connector



Colours for female side:

- ❶ IL01: Yellow/White. Navigator, downwards
- ❷ CC29: Black/White Ground
- ❸ IM01: Violet/White. "OK" button:

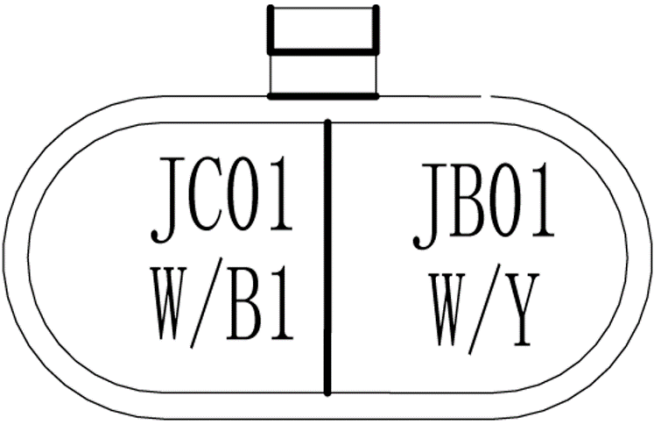
6.3.7. Side kickstand connector



Colours for female side:

- ❶ CC14: Black/White Ground
- ❷ HH01: Green/White. Side kickstand sign

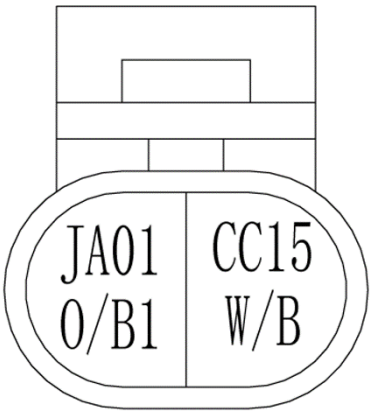
6.3.8. Charging Connector



Colours for female side:

- ① JC01: White/Black. Charger PE Signal
- ② JB01: White/Yellow. Charger CP Signal

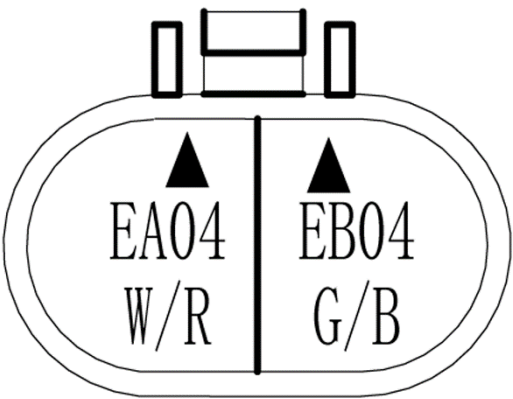
6.3.9. Charger Connector 1



Colours for female side:

- ① JA01: Orange/Black. Charging signal
- ② CC15: Black/White Ground

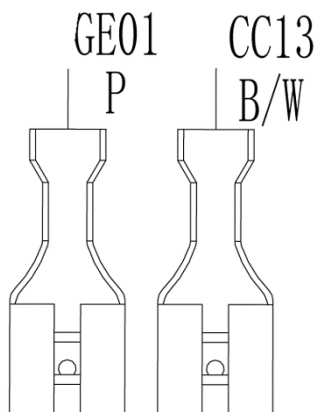
06/03/2010. Charger Connector 2



Colours for female side:

- ① EA04: White/Red. CAN H
- ② EB04: Green/Black. CAN L

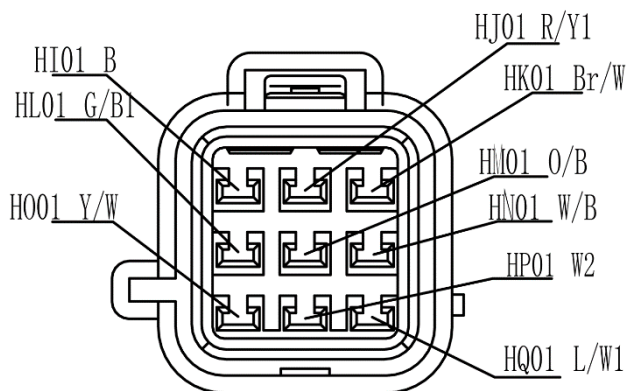
06/03/2011. Horn connectors



Colours for female side:

- ① GE01: Pink. Positive.
- ② CC13: Black/White Ground

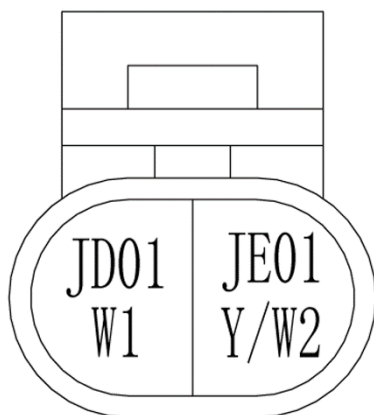
06/03/2012. Magnetic Coding Connector



Colours for female side

- ① HI01: Black. 5V magnetic encoder
- ② HJ01: Red/Yellow. Temperature sensor.
- ③ HK01: Brown+White. Magnetic encoder 5V negative
- ④ HL01: Green/Black. Magnetic encoder A negative
- ⑤ HM01: Orange/Black. Negative Z magnetic encoder
- ⑥ HN01: White/Black. Magnetic encoder B negative.
- ⑦ HO01: Yellow/White. Magnetic encoder A positive
- ⑧ HO01: White. Magnetic encoder Z positive
- ⑨ HQ01: Light Blue/White. Magnetic encoder B positive

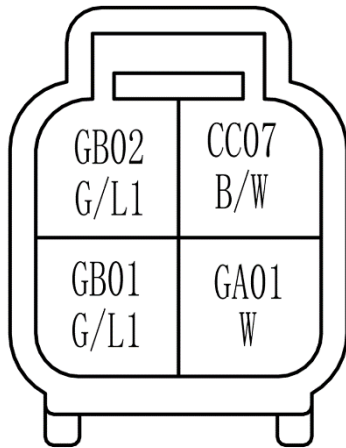
06/03/2013. Battery Communication Connector



Colours for female side

- ① JD01: White. COMH_P communication with batteries
- ② JE01: Yellow/White. COMH_N communication with batteries

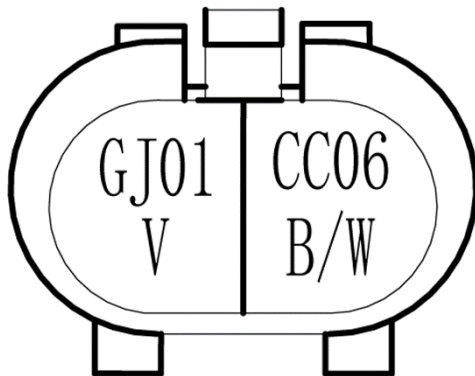
06/03/2014. Headlamp Connector



Colours for female side

- ① GB02: Green/Light Blue. Dipped-beam power
- ② CC07: Black/White Ground
- ③ GB01: Green/Light Blue. Dipped-beam power
- ④ GA01: White. Main beam power supply

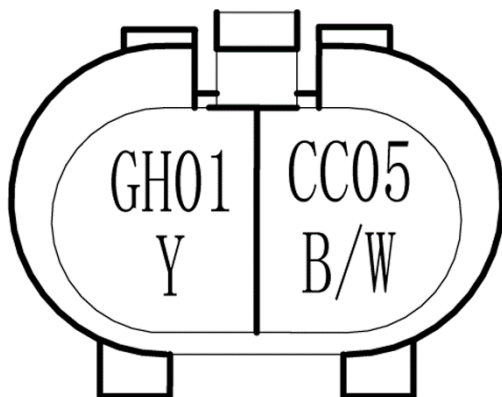
06/03/2015. Right Front Indicator Connector



Colours for female side

- ① GJ01: Violet Right indicator
- ② CC06: Black/White Ground

2016-03-6. Front Left indicator Connector



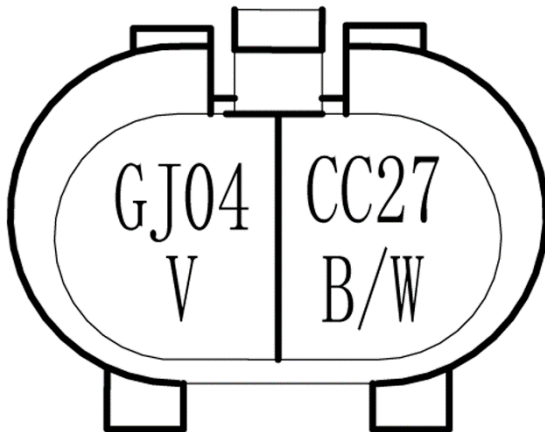
Colours for female side

- ① GH01: Yellow. Left indicator
- ② CC05: Black/White Ground

2017-03-6. Right Rear Indicator Connector

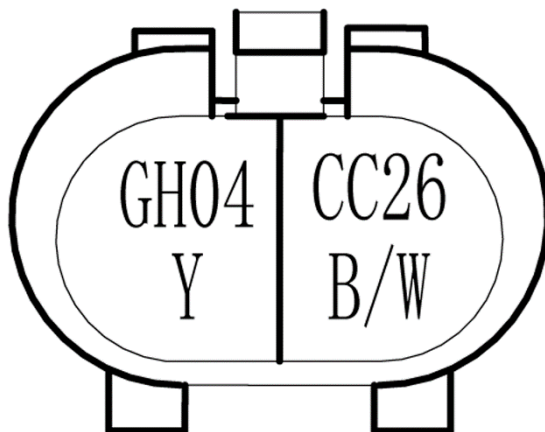
Colours for female side

- ① GJ04: Violet Right indicator.
- ② CC27: Black/White Ground

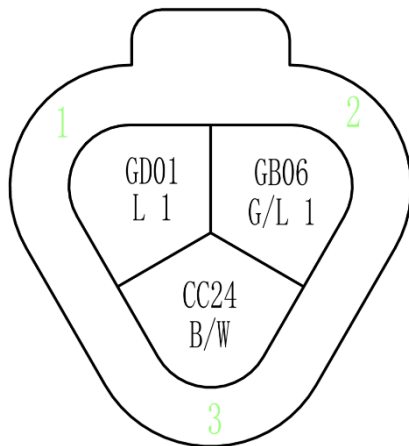
**2018-03-6. Left Rear indicator Connector**

Colours for female side

- ① GH04: Yellow. Left indicator.
- ② CC26: Black/White Ground



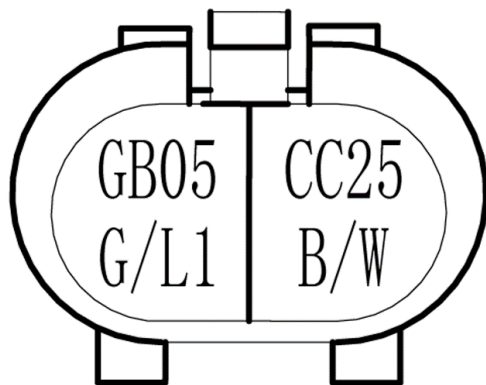
06/03/2019. Rear Lamp Connector



Colours for female side

- ① GD01: Light Blue. Brake light
- ② GB01: Green/Light Blue. Rear position light power supply
- ③ CC24: Black/White Ground

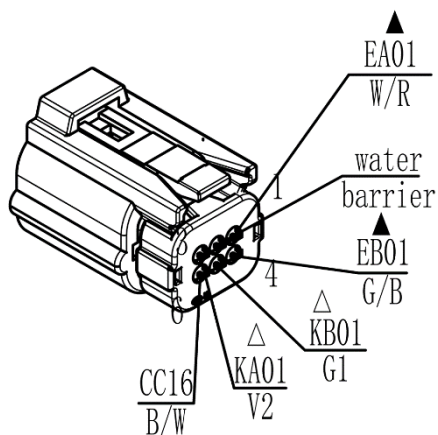
06/03/2020. Number plate light connector



Colours for female side

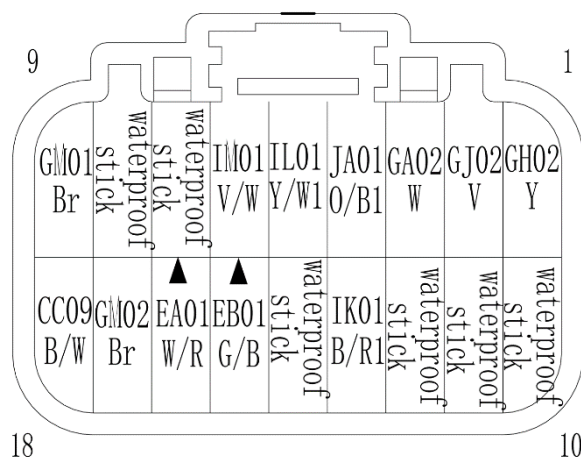
- ① GB05: Green/Light Blue. Number plate light
- ② CC25: Black/White Ground

06/03/2021. OBD connector



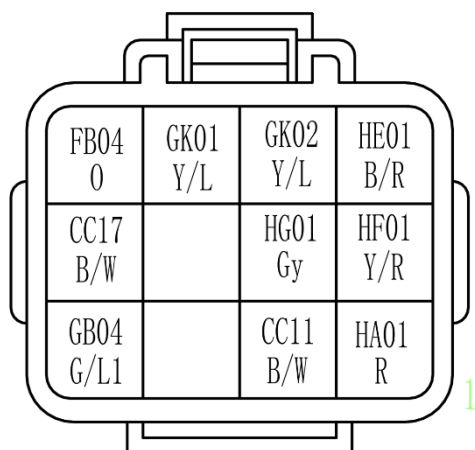
Colours for female side

- ① EA01: White/Red. CAN H
- ② No terminal
- ③ KA01: Violet D positive
- ④ EB01: Green/Black. CAN L
- ⑤ KB01: Green. D negative
- ⑥ CC16: Black/White Ground

06/03/2022. TFT Display Connector

Colours for female side

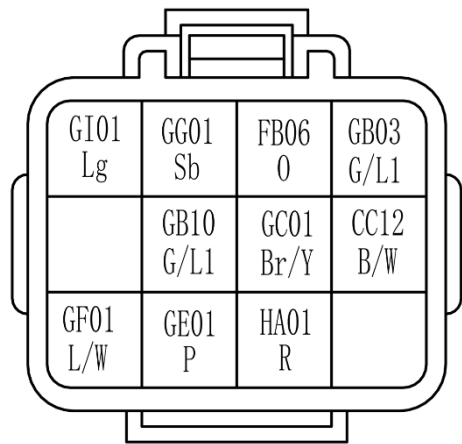
- ❶ GH02: Yellow. Tell-tale indicator lamp, left
- ❷ GJ02: Violet Tell-tale indicator lamp, right
- ❸ GA02: White. Dipped-beam light tell-tale
- ❹ JA01: Orange/White. Charge tell-tale
- ❺ IL01: Yellow/White. Navigator, downwards
- ❻ IM01: Violet/White. "OK" button:
- ❼ No terminal
- ❽ No terminal
- ❾ GM01: Brown Power supply TFT display
- ❿ No terminal
- ⓫ No terminal
- ⓬ No terminal
- ⓭ IK01: Black/Red. ABS tell-tale
- ⓮ No terminal
- ⓯ IB01: Green/Black. CAN L
- ⓰ EA01: White/Red. CAN H
- ⓱ GM02: Brown Power supply TFT display
- ⓲ CC09: Black/White Ground

06/03/2023. Right Switches Connector switch housing

Colours for female side

- ❶ FB04: Orange DC DC output
- ❷ GK01: Yellow/Light Blue. Emergency flashers.
- ❸ GK02: Yellow/Light Blue. Emergency flashers
- ❹ HE01: Black/Red. Driving modes
- ❺ CC17: Black/White Ground
- ❻ No terminal
- ❼ HG01: Grey. Reverse gear
- ❽ HF01: Yellow/Red. Signal P
- ❾ GB04: Green/Light Blue. Dipped-beam power
- ❿ No terminal
- ⓫ CC11: Black/White Ground
- ⓬ HA01: Red. Brake

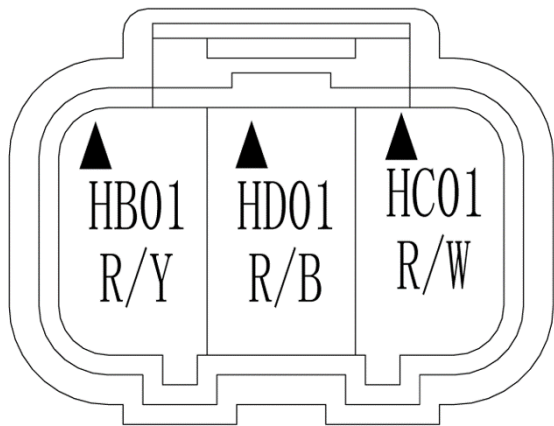
06/03/2024. Left Switches Connector
switch housing



Colours for female side

- 1 GI01: Light green. Right indicator
- 2 GG01: Sky blue. Left indicator.
- 3 FB06: Orange DC/DC output
- 4 GB03: Green/Light Blue. Dipped-beam power
- 5 No terminal
- 6 GB10: Green/Light Blue. Dipped-beam power
- 7 GC01: Brown/Yellow. Signal main beam
- 8 CC12: Black/White Ground
- 9 GF01: Light Blue/White. Horn power supply
- 10 GE01: Pink. Horn
- 11 HA01: Red. Brake
- 12 No terminal

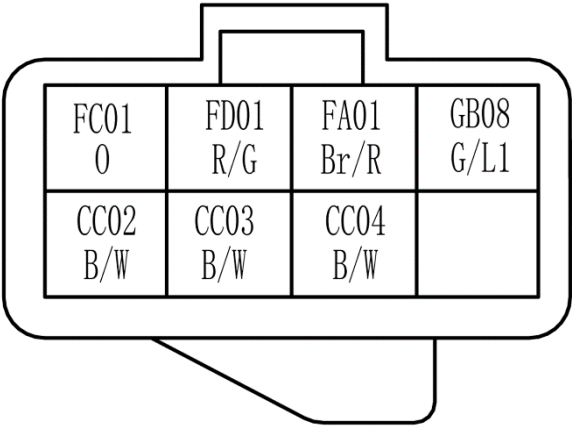
06/03/2025. Accelerator Knob Connector



Colours for female side

- 1 HB01: Red/Yellow: Accelerator signal
- 2 HD01: Red/Black. Accelerator reference.
- 3 HC01: Red/White. Throttle power supply

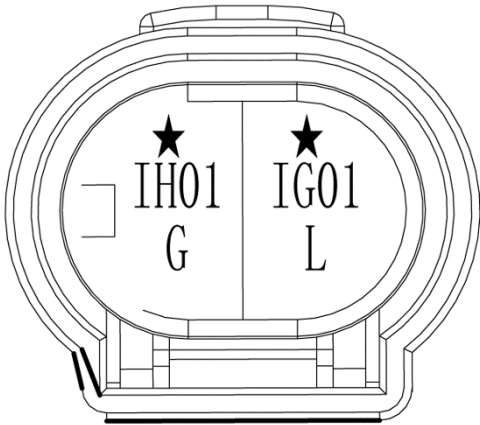
06/03/2026. DC Output Connector



Colours for female side

- ① FC01: Orange Fuse box
- ② FD01: Red/Green. Fuse box
- ③ FA01: Brown/Black. Signal activation DC/DC
- ④ GB08: Green/Light Blue. Position lights power supply
- ⑤ CC02: Black/White Ground
- ⑥ CC03: Black/White Ground
- ⑦ C C04: Black/White Ground
- ⑧ No terminal

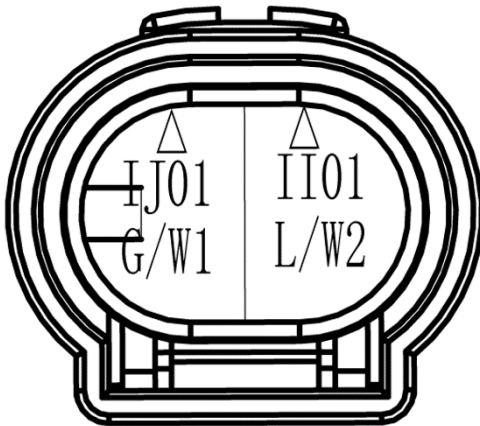
06/03/2027. Front Speed Sensor Connector



Colours for female side

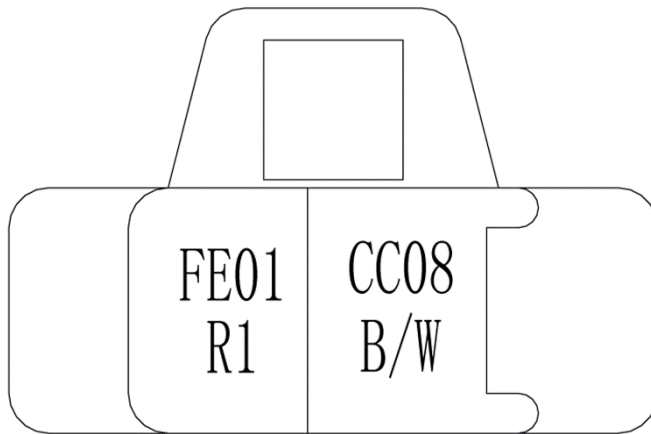
- ① IH01: Green. ABS front sensor signal
- ② IG01: Light blue ABS front sensor power supply

06/03/2028. Rear Speed Sensor Connector



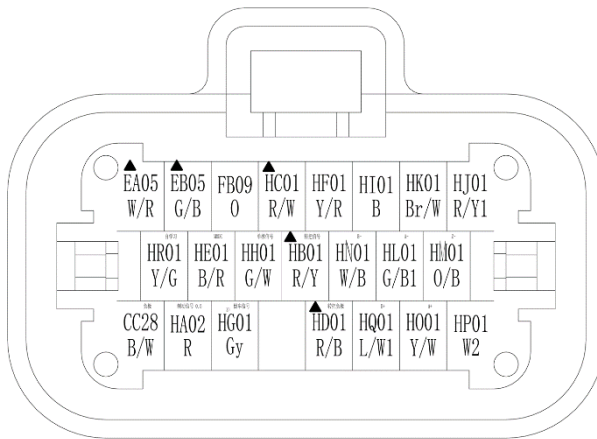
Colours for female side

- ① IJ01: Green/White. Rear ABS sensor signal
- ② II01: Light Blue/White. ABS rear sensor power supply

06/03/2029. USB connector

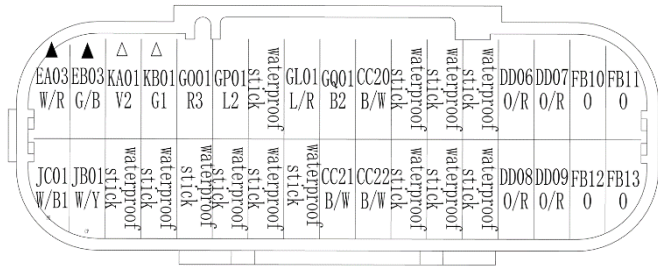
Colours for female side

- ❶ FE01: Red. Fuse box
- ❷ CC08: Black/White Ground

06/03/2030. ECU connector

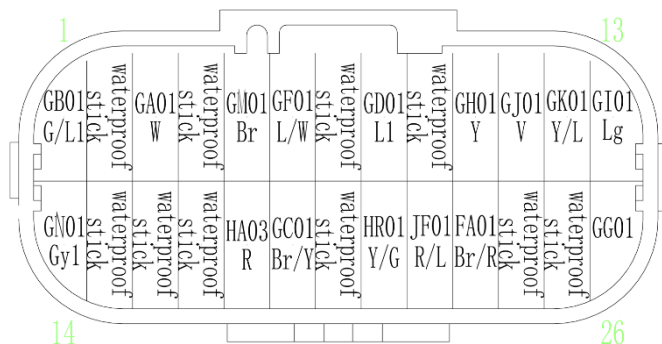
- ❶ EA05: White/Red
- ❷ EB05: Green/Black
- ❸ FB09: Orange
- ❹ HC01: Red/White
- ❺ HF01: Yellow/Red
- ❻ HI01: Black
- ❼ HK01: Brown/White
- ❽ HJ01: Red/Yellow
- ❾ HR01: Yellow/Green
- ❿ HE01: Black/Red
- ⓫ HH01: Green/White
- ⓬ HB01: Red/Yellow
- ⓭ HN01: White/Black
- ⓮ HL01: Green/Black
- ⓯ HM01: Orange/Black
- ⓰ CC28: Black/White
- ⓱ HA02: Red
- ⓲ HG01: Green
- ⓳ No terminal
- ⓴ HD01: Red/Black
- ⓵ HQ01: Blue/White
- ⓶ HO01: Yellow/White
- ⓷ HP01: White

06/03/2031. VCU Connector 1



Colours for female side

- 1 EA03: White/Red. CAN H
- 2 EB03: Green/Black. CAN L
- 3 KA01: Violet USB D+ signal
- 4 KB01: Violet USB signal D-
- 5 GO01: Red. 3V temperature sensor
- 6 GP01: Light Blue. Temperature sensor signal
- 7 No terminal
- 8 GL01: Light Blue/Red. Electronic locking signal
- 9 GQ01: Black. Temperature sensor ground
- 10 CC20: Black/White Ground
- 11 No terminal
- 12 No terminal
- 13 No terminal
- 14 DD06: Orange/Red. Battery positive terminal 12V
- 15 DD07: Orange/Red. Battery positive terminal 12V
- 16 F B10: Orange DC/DC output
- 17 F B11: Orange DC/DC output
- 18 JC01: White/Black. PE Signal charged
- 19 JB01: White/Yellow. Charger CP Signal
- 20 No terminal
- 21 No terminal
- 22 No terminal
- 23 No terminal
- 24 No terminal
- 25 No terminal
- 26 CC21: Black/White Ground
- 27 CC22: Black/White Ground
- 28 No terminal
- 29 No terminal
- 30 No terminal
- 31 DD08: Orange/Red. Battery positive terminal 12V
- 32 DD09: Orange/Red. Battery positive terminal 12V
- 33 FB12: Orange DC/DC output
- 34 FB13: Orange DC/DC output

06/03/2032. VCU Connector 2

Colours for female side

- ❶ GB01: Green/Light Blue. Dipped-beam power
- ❷ No terminal
- ❸ GA01: White. Main beam power
- ❹ No terminal
- ❺ GM01: Brown Power supply TFT display
- ❻ GF01: Light Blue/White. Horn power supply
- ❼ No terminal
- ❽ GD01: Light Blue. Brake light
- ❾ No terminal
- ❿ GH01: Yellow. Left indicator
- ⓫ GJ01: Violet Right indicator
- ⓬ GK01: Yellow/Light Blue. Emergency flashers
- ⓭ GI01: Light green. Right indicator
- ⓮ GN01: Grey. Alarm signal
- ⓯ No terminal
- ⓰ No terminal
- ⓱ No terminal
- ⓲ HA03: Red. Brake
- ⓳ GC01: Brown/Yellow. Signal main beam
- ⓴ No terminal
- ⓵ HR01: Yellow/Green. Engine calibration.
- ⓶ JF01: Red/Light Blue. BDU activation signal
- ⓷ FA01: Brown/Red. Signal activation DC/DC
- ⓸ No terminal
- ⓹ No terminal
- ⓺ GG01: Sky blue. Left indicator

6.4. Left-hand control switches switch housing

Diagnosis of the left-hand switch housing controls is carried out from the VCU. To do this, identify the VCU 2 connector in section 6.3.32. Connector wiring - VCU 2.

Using a multimeter configured to measure DC voltages, take the measurements between the corresponding pin and ground.

High beams:

Identify pin number 19

Button pressed: 14V

Button not pressed: 0 V



Left indicator:

Identify pin number 26

Button pressed: 14V

Button not pressed: 0V

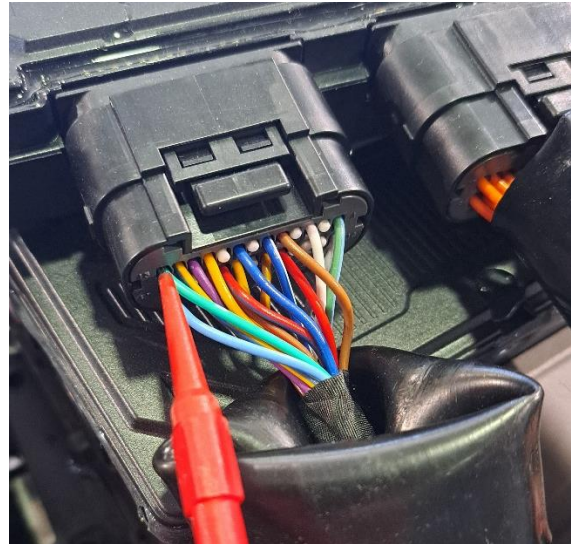


Right indicator

Identify pin number 13

Button pressed: 14V

Button not pressed: 0V

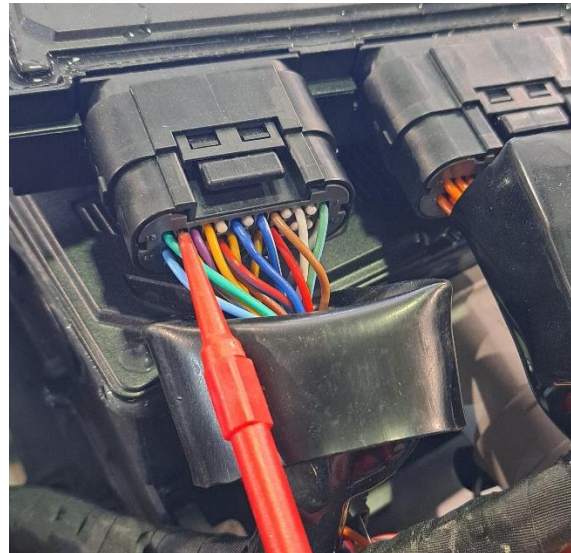


Emergency flashing lights ("Warning")

Identify pin number 12

Button pressed: 14V

Button not pressed: 0V



Horn

With the scooter activated, identify pin number 6. There must always be 14 V

With the scooter switched off, measure continuity between pin number 6 and the pink horn wire.



6.5. Button "P" on the switch housing

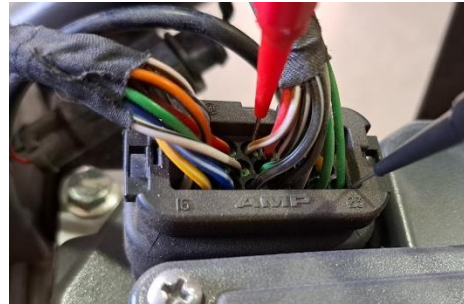
Preliminary indications:

- 6.2 12V system measurement from the controller connector

Identify pins number 4 and 23 on the controller connector.

Button pressed: 0V

Button not pressed: 0.8V



6.6. Rear or front brake light push button

Preliminary indications:

- 6.2 12V system measurement from the controller connector

Identify pins number 22 and 23 on the controller connector.

Button pressed: 0.8V

Button not pressed: 13.5V



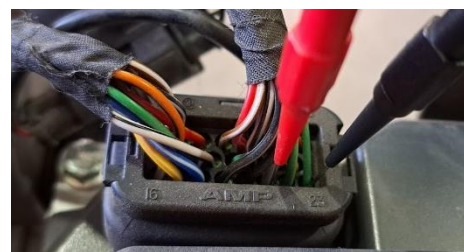
6.7. Driving mode push button

Preliminary indications:

- 6.2 12V system measurement from the controller connector

The measurement of driving modes should be carried out at two points. Both measurements must be correct:

1. Identify connectors 21 and 23. The voltages for each switch position are as follows:
 - Eco: 2.45V
 - Normal: 2.45V
 - Sport: 0V
2. Identify connectors 14 and 23. The



voltages for each switch position
are as follows:

- Eco: 0V
- Normal: 2.45V
- Sport: 2.45V



6.8. “R” button (Reverse gear)

Preliminary indications:

- 6.2 12V system measurement from the controller connector

Identify pins number 21 and 23 on the
controller connector.

Button pressed: 0V

Button not pressed: 0.8V



6.9. Disassembly of brake pump brackets

Necessary tools



10 mm socket spanners, angled or ring spanner

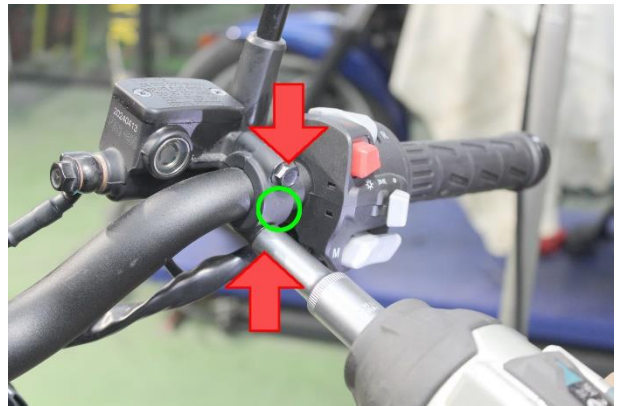
First remove the brake master cylinder using a 10 mm spanner, offset or socket spanner to remove the screws securing the brake master cylinder support to the handlebars.

When fitting, remember to position the brake pump support with the "UP" mark (green circle) facing upwards.

Separate the brake pump support from the brake pump with the corresponding rear-view mirror.

Tightening torque:

Brake pump support screws 5 ± 1 Nm



6.10. Disassembly of the handlebar counterweights

Necessary tools



5 mm Allen key

To remove the counterweights from the handlebars, use a 5 mm Allen key to remove the screw in the centre of the handlebars. Next, pull the counterweight outwards.

Tightening torque:

5 ± 1 Nm counterweight screws



6.11. Dismantling of the switch housings

NOTE: In this section, the procedure for disassembly of the right-hand switch housing is explained, but it is the same for the left-hand switch housing.

Necessary tools



5 mm Allen key

Disconnect the brake light push button connectors and put the brake pump aside in its horizontal position in a place that does not disturb or strain the brake hose.



Remove the two screws marked with red arrows at the bottom of the switch housing with a 5 mm Allen key.



Remove the third screw in the centre of the bottom of the switch housing with a 5 mm Allen key.



Separate the two switch housing shells.

With the right hand switch housing removed, you can remove the throttle grip rod by first removing the right hand counterweight as described in the above procedure.



Tightening torque:

Screws for fastening of switch housings
 2 ± 0.5 Nm

The procedure is the same for the left switch housing.



When fitting the sprockets, match one of the sprocket locating pegs with the hole in the switch housings marked with a green circle in the picture.



The right handlebar has a second hole in the lower part of the switch housing to insert the locating peg of the lower valve. This second hole is not located on the left-hand switch housing.



6.12. Ignition knob

Preliminary operations to access the contact knob and its two connectors:

- Disassembly of the windscreen (→ 1.5.1.)
- Disassembly of the headlamp (→ 1.5.2.)
- Disassembly of the instrument cluster assembly (→ 1.5.3.)
- Dismantling of the counter-shield (→ 1.5.4.)

Necessary tools



Phillips
screwdriver no.
2



Small
screwdriver or
punch



10 mm socket
spanner

The contact knob assembly is connected to the main wiring via two connectors accessible on the right-hand side of the front panel.

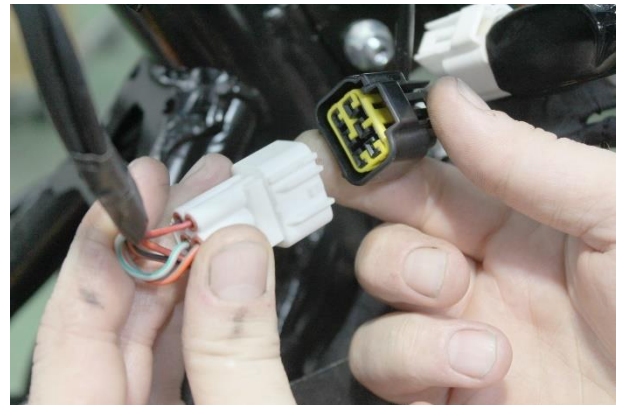
Locate the first 6-pin black and white connector.



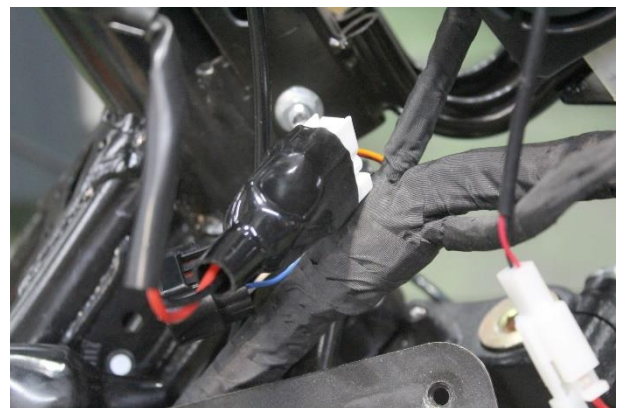
Tighten the locking flange.



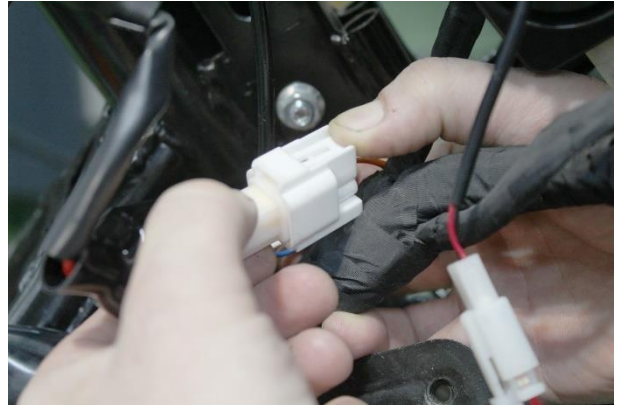
Disconnect the connector.



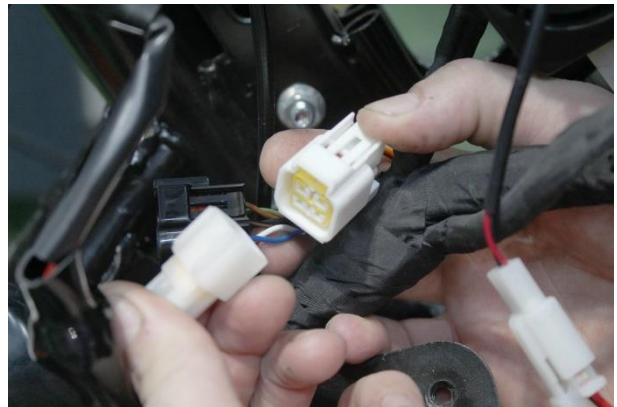
Locate the second connector wrapped in a rubber sleeve. Both the male and female connectors are white. Remove the rubber cover.



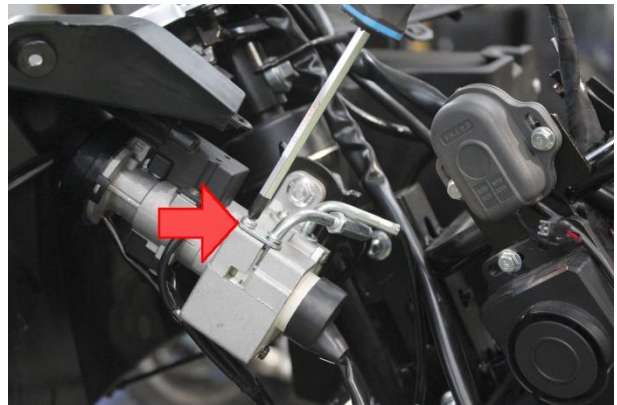
Press the locking flange.



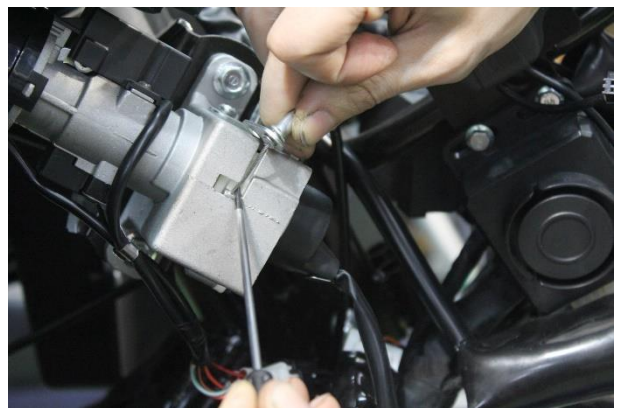
Disconnect the connector.



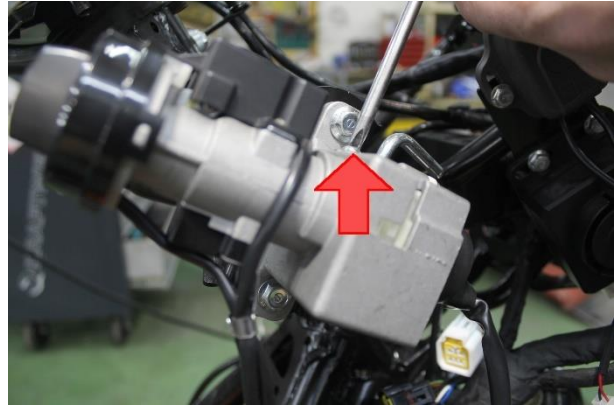
Using a #2 Phillips head screwdriver, remove the screw from the plate on the contact knob assembly where it supports the Type 2 charging connector cover release cable.



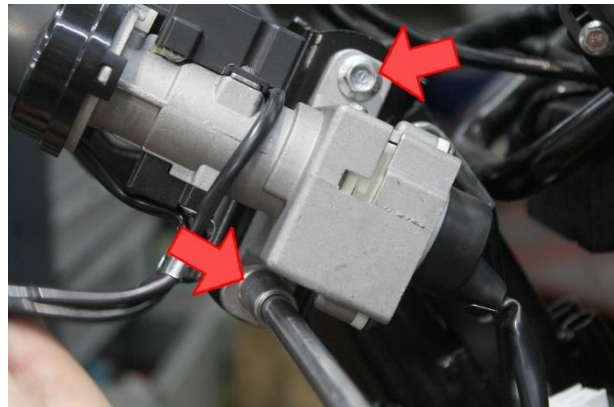
Using a fine-tipped screwdriver or punch, manipulate the opening cable head of the Type 2 charging connector cover to release it from the contact knob assembly.



Using a #2 Phillips head screwdriver, remove the screw from the plate on the contact knob assembly where the seat latch release cable rests.



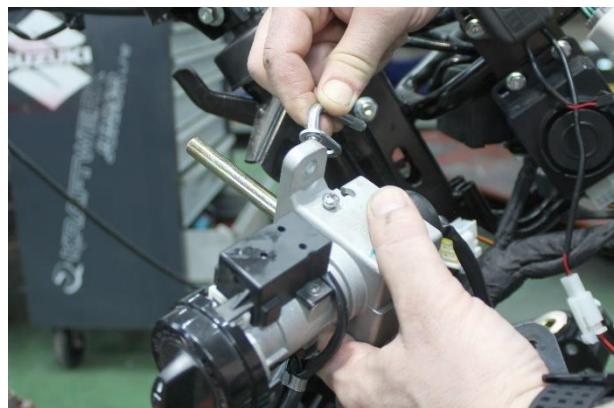
Using a 10 mm socket spanner, remove the two screws securing the ignition knob assembly.



Remove the contact knob assembly from its housing.



Release the mechanical cable from the seat lock.



6.13. Side kickstand

Preliminary indications:

- 6.2 12V system measurement from the controller connector

Identify connectors 13 and 23 of the controller connector.

Switch pressed: 2.8V

Switch not pressed: 0V



Preliminary operations to access the side kickstand switch and its connector:

- Disassembly of the front wheel arch (→ 1.4.1.)
- Disassembly of the lower centre sides (→ 1.4.2.)

Necessary tools



5 mm Allen key

Locate the two-pin black connector (male and female) on the left-hand side of the vehicle.



Pull the locking flange apart.



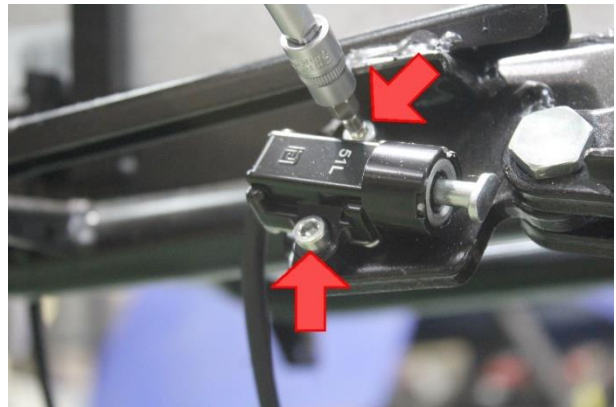
Disconnect the connector.



Remove the two screws securing the side kickstand switch to the frame using a 4 mm Allen key.

Tightening torque:

Side kickstand switch fixing screws
 $3 \pm 0,6$ Nm



6.14. Accelerator

Identify pins 19 and 12 of the controller connector. The measured voltage should be approximately:

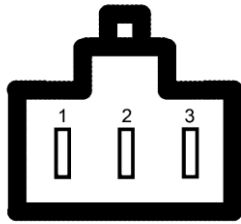
1. Throttle in minimum position: 0.86V
2. Throttle in maximum position: 4.26V



To measure the throttle supply voltage, identify connectors 5 and 19. The voltage must be 5V.

6.14.1. Isolated throttle signal measurement

Accelerator Connector



Cable colours

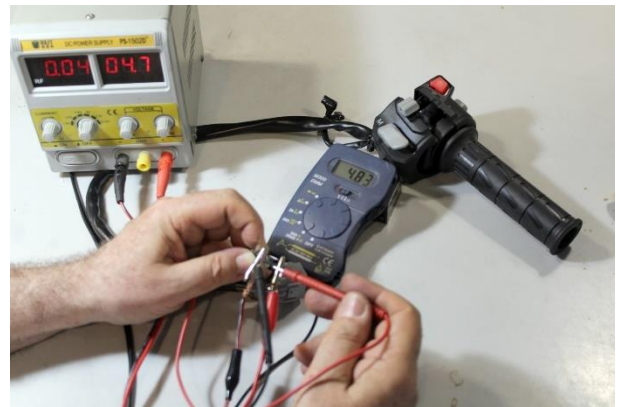
- ① Red/White
- ② Black/White
- ③ Green/White



Identify the throttle connector and supply it with 5V DC voltage from a power supply:

1. Black/white cable: 0 V or reference
2. Red/white cable: 5V

Check with a multimeter (set as a DC voltmeter with 20V scale) that the voltage is that provided by the source.



The measurement of the throttle signal is made by measuring the voltage between the green/white and black/white wire.

Connect the red multimeter probe to the green/white wire while the black multimeter probe is connected to the black/white wire. At the same time, the 5 V indicated in the previous step must be inserted between the red/white and black/white wires.



The measurement with the throttle in its idle position should be approximately 0.86 V.

The measurement with the throttle in its maximum position should be approximately 4.26 V.



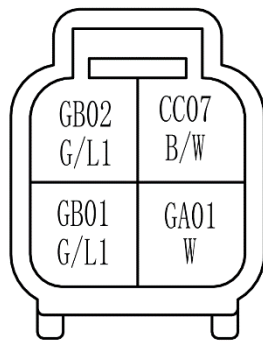
6.15. Horn



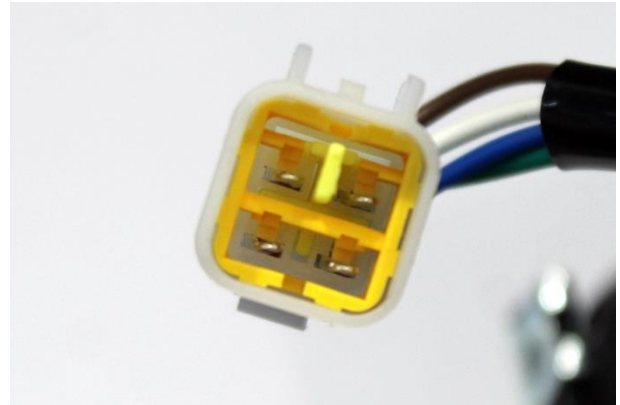
The horn is located on the left-hand side of the front. You can access your Fast-on connectors through the upper opening of the front wheel arch. The wires at the terminals of the separate Fast-on connectors are coloured pink and black/white.

To check if the horn is working, disconnect the Fast-on terminals from the horn and connect a charged 12V battery to the horn terminals using suitable cables. Polarity does not matter. If the horn sounds, the horn is working properly. It is easier to test through the front wheel arch rather than removing the front bodywork.

6.16. Headlamp



White connector



Identification of the wires at the connector terminals

- | | |
|--------------------|--------------------|
| ① Green/Light blue | ③ Green/Light blue |
| ② Black/White | ④ White |

Connect a charged 12V battery to the following terminals of the headlamp connector (with the appropriate cables):

Negative (-) battery terminal with Black/White cable ②

Positive (+) battery terminal with:

Green/Blue wire ③: dipped beam headlights are illuminated 

White wire ④: both high beam lights are illuminated. 

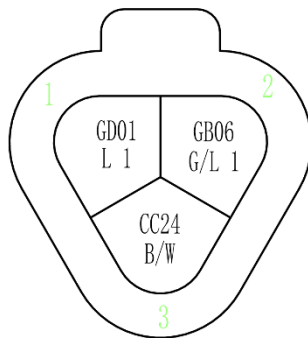
Green/Blue wire ①: both light guides are illuminated with position light

NOTE: High beams are brighter than dipped beams

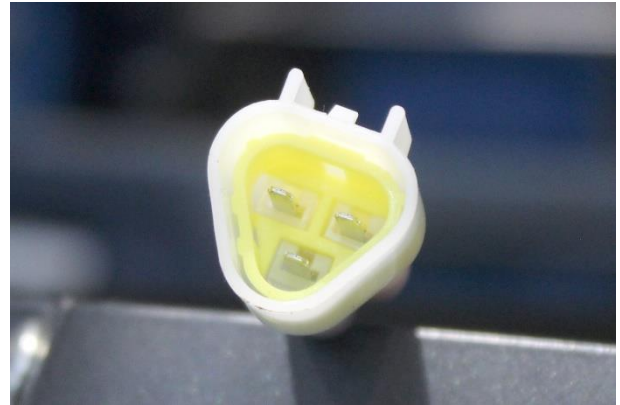
Preliminary operations to gain access to the headlamp and its connector:

- Disassembly of the windscreen (→ 1.5.1.)
- Disassembly of the headlamp (→ 1.5.2.)

6.17. Rear lamp



White connector



Preliminary operations to access the rear lamp and its connector:

- Removal of seat, auxiliary battery and charging compartment (→ 1.3.1.)
- Disassembly of the rear bodywork shell (→ 1.3.2.)

Identification of the wires at the connector terminals

- ① Light blue
- ② Green/Light blue
- ③ Black/White

Connect a charged 12V battery to the following terminals of the rear lamp connector (using the appropriate cables):

Negative (-) battery terminal with Black/White cable ③

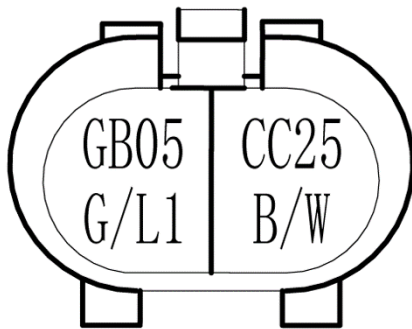
Positive (+) battery terminal with:

Light blue wire ①: brake light is illuminated

Green/light blue wire ②: position light is illuminated

NOTE: Brake light is brighter

6.18. Number plate light



White connector



Preliminary operations to access the number plate lamp connector:

- Removal of seat, auxiliary battery and charging compartment (→ 1.3.1.)
- Disassembly of the rear body work shell (→ 1.3.2.)

Identification of the wires at the connector terminals

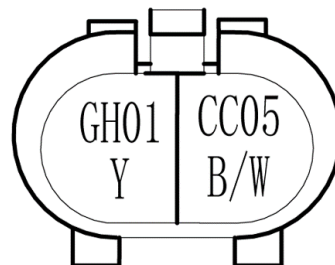
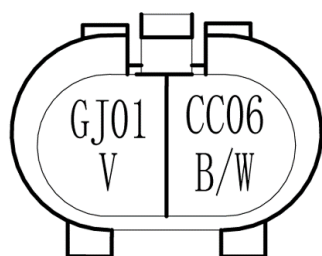
- ① Green/Light blue
- ② Black/White

Connect a charged 12V battery to the following terminals of the rear lamp connector (using the appropriate cables):

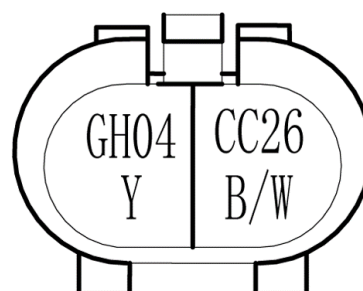
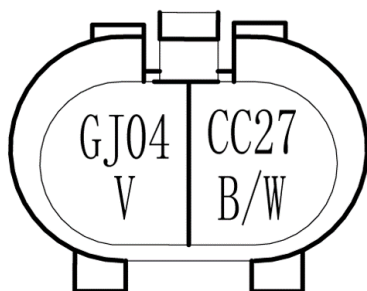
Negative (-) battery terminal with Black/White cable ②

Positive (+) battery terminal with Green/Light Blue cable ①, the number plate light will illuminate.

6.19. Indicators



Right front indicator Left front indicator



Right rear indicator Left rear indicator

Preliminary operations to access the indicator connectors:

- Removal of seat, auxiliary battery and charging compartment (→ 1.3.1.)
- Disassembly of the rear body of the bodywork for rear indicators (→ 1.3.2.)
- Disassembly of the windscreen for front indicators (→ 1.5.1.)
- Disassembly of the headlamp for front indicators (→ 1.5.2.)

Identification of the wires at the connector terminals

- ① Yellow (left indicator)/Violet (right indicator)
- ② Black/White

Connect a charged 12V battery to the following terminals of the rear lamp connector (using the appropriate cables):

Negative (-) battery terminal with Black/White cable ②

Positive (+) battery terminal with Yellow or Violet cable ① and the indicator will illuminate.

NOTE: To avoid having to remove the front bodywork, it is easier to access the front indicator connectors through the front wheel arch.

6.20. 12V circuit fuses

6.20.1. Fuse box fuses

No tools are required to access the fuses. You must remove the central moulding by separating the seven locating pegs marked with the green circles.



Carefully pull the centre moulding away from the central bodywork.



Remove the centre moulding.

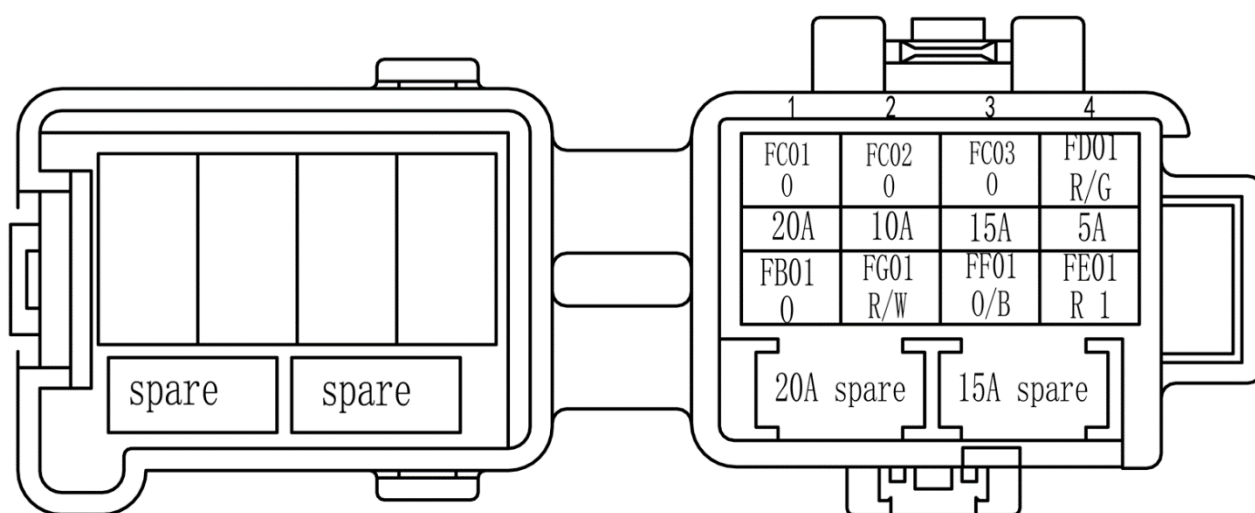


The fuse box is accessible through the window.



Description of fuses

Code	Protected circuit	Maximum amperage
1	Fuse output DC DC 12V	20A
2	ABS valve power supply fuse	10A
3	ABS engine power supply fuse	15A
4	USB connector fuse	5A
5	Spare fuse	20A
6	Spare fuse	15A



6.20.2. Auxiliary battery fuse

Preliminary operations to access the auxiliary battery fuse:

Removal of seat, auxiliary battery and charging compartment (→ 1.3.1.)

Locate the auxiliary battery fuse under the charging compartment. This fuse is 20A and a spare fuse is included in the fuse holder.



6.21. ECU

Preliminary operations to access the ECU:

- Disassembly of the windscreen (→ 1.5.1.)
- Disassembly of the headlamp (→ 1.5.2.)
- Disassembly of the instrument cluster assembly (→ 1.5.3.)

Necessary tools



10 mm socket
spanner

This device is located just below the 12/5 V converter on the front right-hand side of the vehicle.

Press on the flange of the connector.



Disconnect the connector.



Remove the two screws securing the locking ECU to the frame using a 10 mm socket spanner.

Tightening torque:

ECU fixing screws 3 ± 0.6 Nm

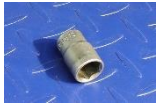


6.22. ABS modulator

Preliminary operations to access the ABS modulator:

- Disassembly of the windscreen (→ 1.5.1.)
- Disassembly of the headlamp (→ 1.5.2.)
- Disassembly of the instrument cluster assembly (→ 1.5.3.)

Necessary tools



10 mm socket spanner



14 mm open-end spanner

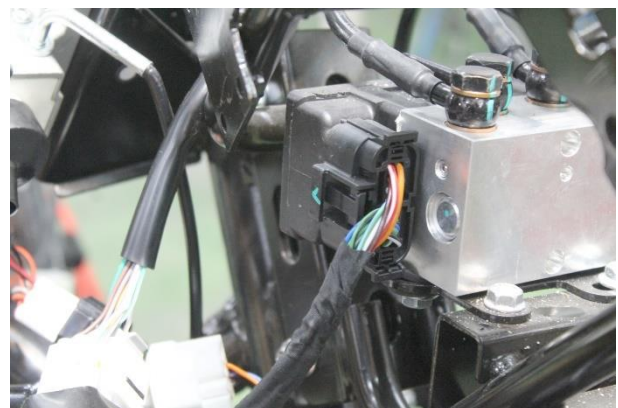
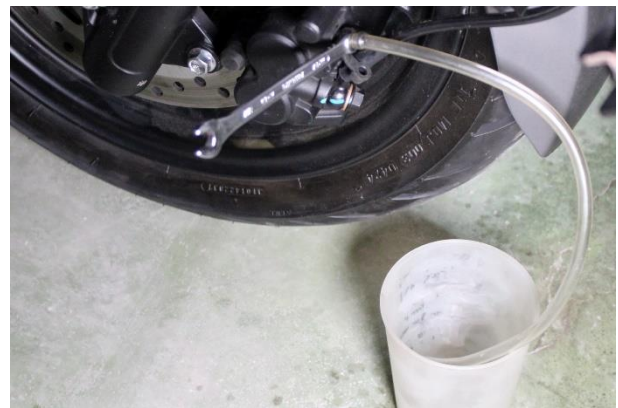


8 mm ring spanner

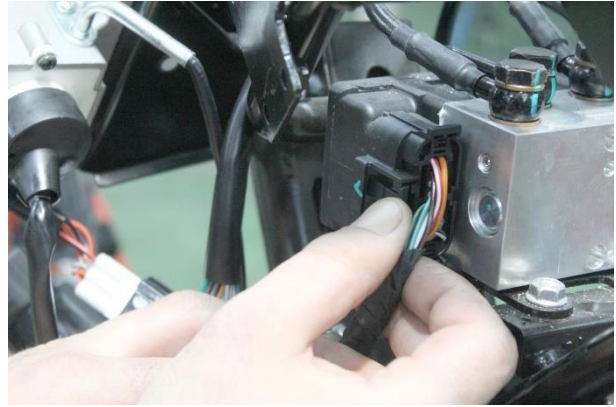
This operation is only required to replace the ABS modulator with a new one. Before dismantling, the brake fluid must be drained from the front and rear hydraulic circuit by connecting a hose to the bleeder valve of the front and rear caliper and pouring the contents into a suitable container.

Open the valve by loosening it with an 8 mm ring spanner.

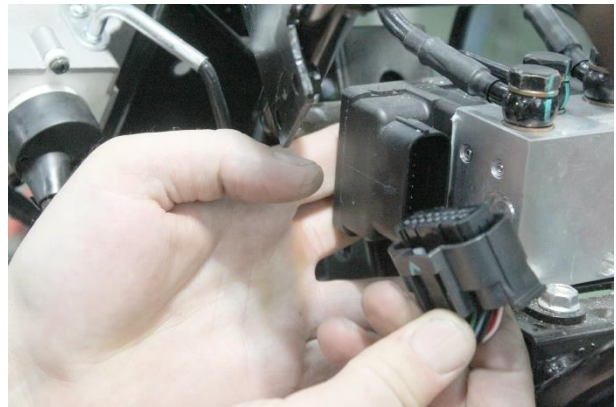
Avoid spraying brake fluid on plastic or painted surfaces – it is highly corrosive.



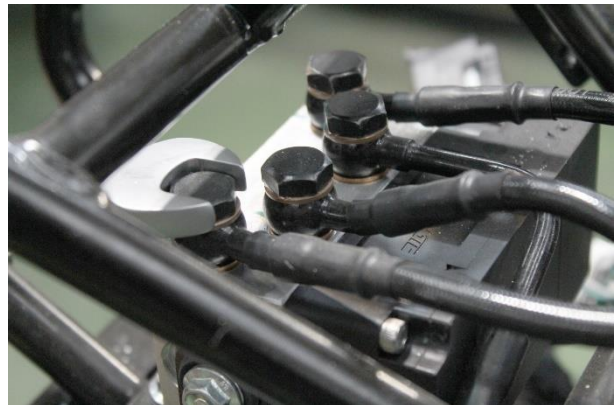
Press the locking flange on the modulator connector.



Disconnect the connector from the modulator.



Remove the four hose banjo screws using a 14 mm open-end spanner.



Remove the two screws securing the ABS modulator to the frame using a 10 mm socket spanner.

Tightening torque:

ABS fixing screws 8 ± 1 Nm

