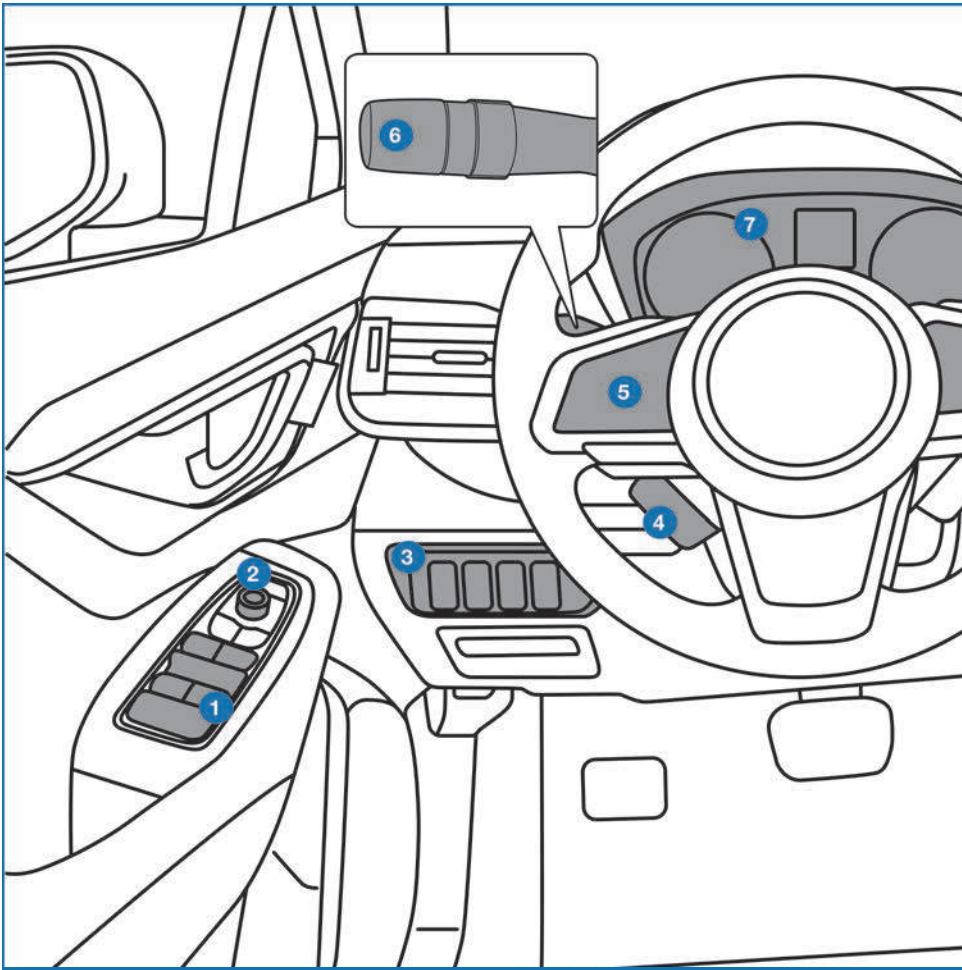
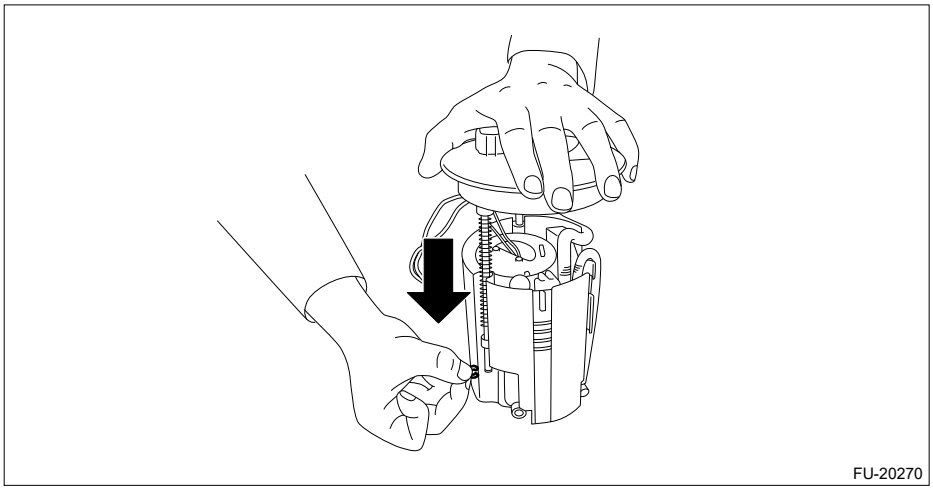
INSTRUMENT PANEL



1. Power Windows (p. 16)
2. Power Exterior Mirrors (p. 13)
3. Instrument Panel Switches (p. 27)
4. I Switch (p. 25)
5. Audio Controls (p. 24)
6. Light Controls (p. 25)
7. Combination Meter (p. 29)

11. Push the fuel filter assembly in the direction of the arrow to compress, and attach the new clip.



12. Connect the connector cable.

13. Install the fuel level sensor. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Fuel Level Sensor>INSTALLATION.

14. Inspect the fuel level sensor. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Fuel Level Sensor>INSPECTION.

15. Install the fuel pump assembly. Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Fuel Pump Assembly>INSTALLATION.

REMOVAL

1. CAM SPROCKET RH

Note:

- **When replacing a single part, perform the work with the engine assembly installed to body.**
- **Be sure to perform the following procedures before removing the timing chain.**

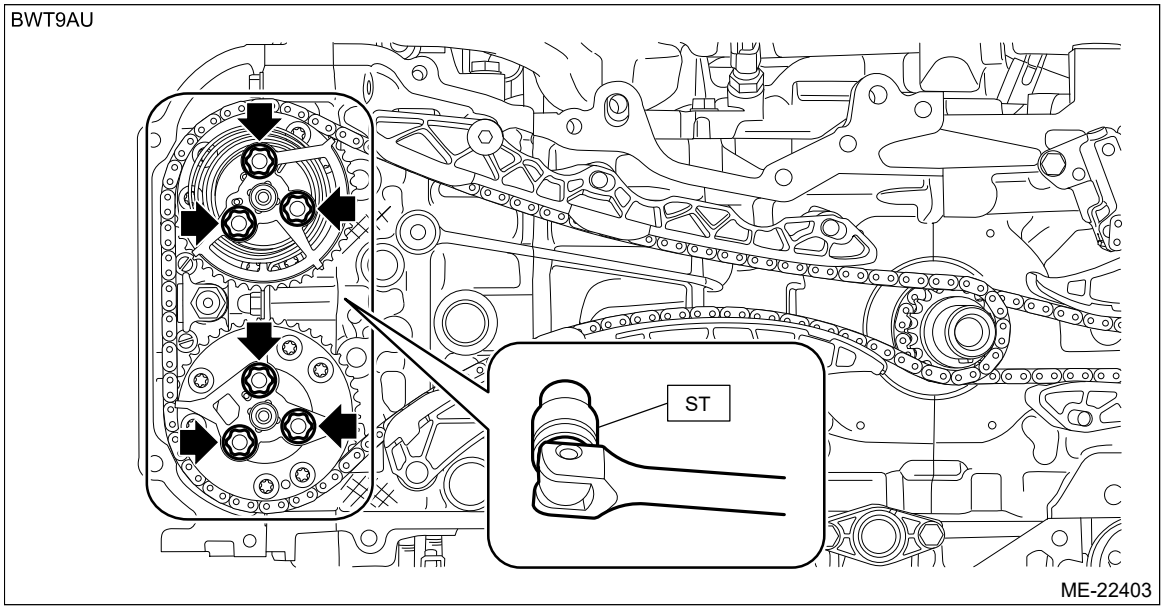
1. Using the ST, loosen the bolts which hold the cam sprocket RH.

Caution:

In order to prevent damage on each component while removing the timing chain, be careful not to loosen the bolts too much.

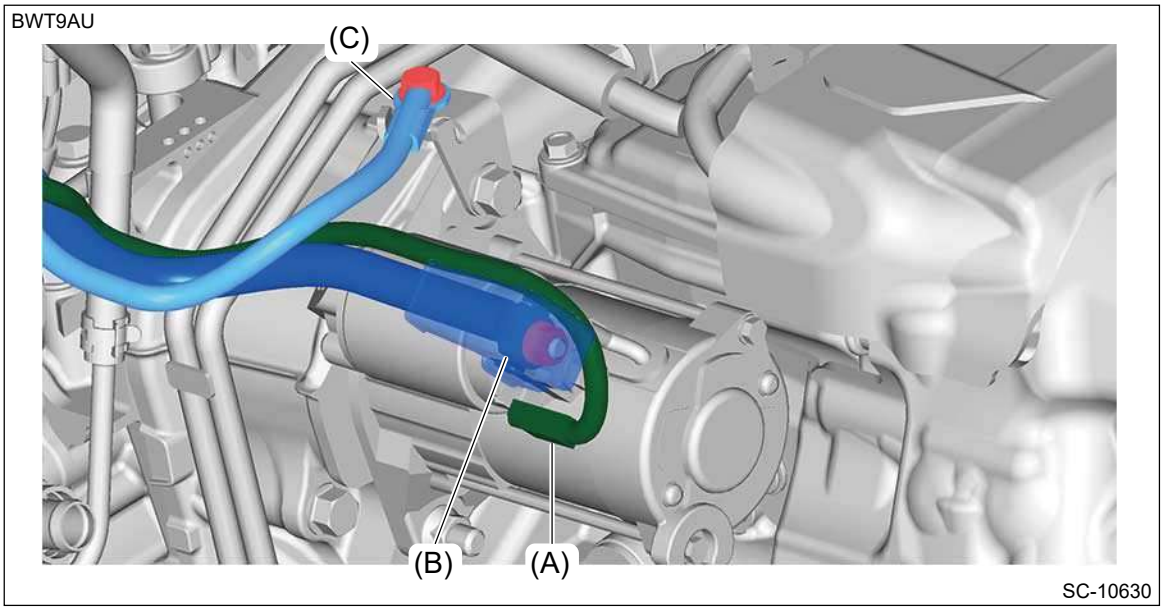
Preparation tool:

ST: SOCKET (18270KA010)



INTAKE CAM SPROCKET RH

1. Remove the timing chain RH. Ref. to MECHANICAL(H4DO)>Timing Chain Assembly>REMOVAL > TIMING CHAIN RH.
2. Remove the intake cam sprocket RH.

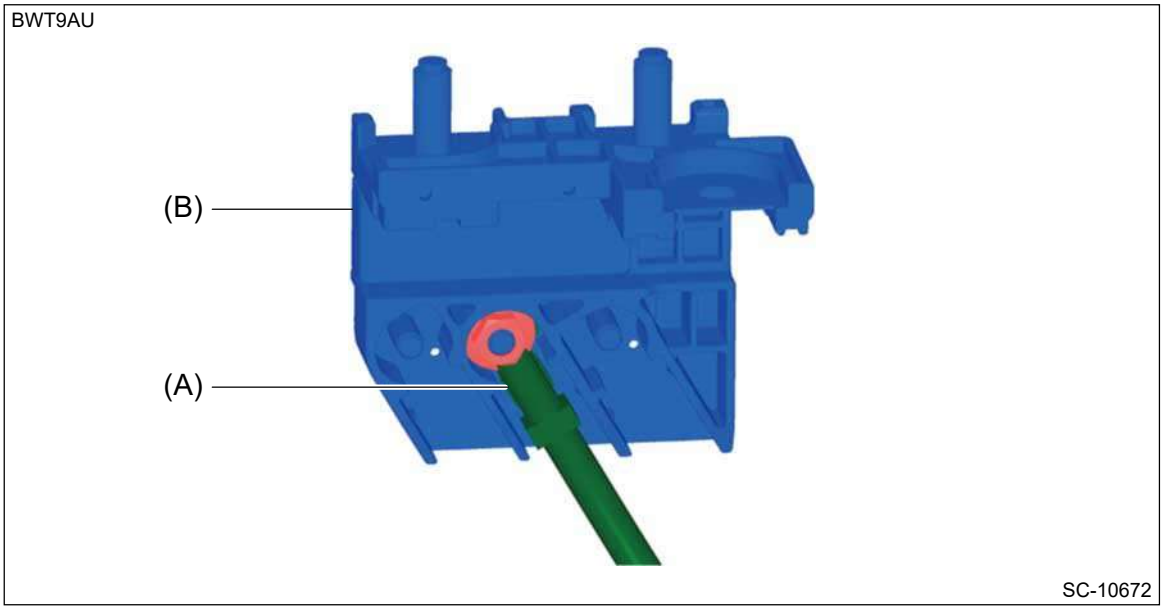


9. Install the air intake boot. Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>INSTALLATION.

10. Connect the terminal (A) to the slow blow fuse (B).

Tightening torque:

5.5 N·m (0.6 kgf-m, 4.1 ft-lb)



11. Set the terminal of battery cable assembly to the terminal base.

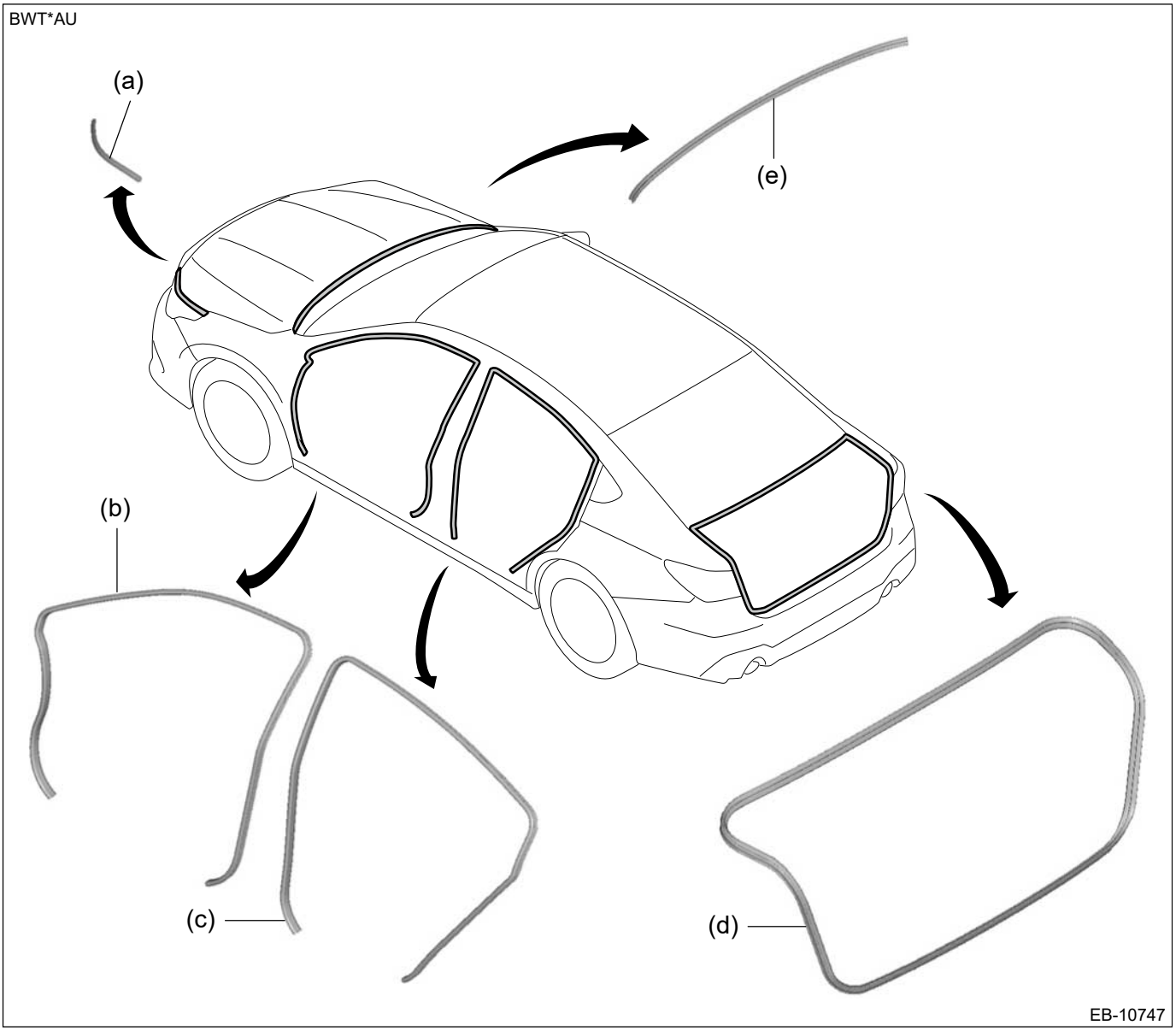
EXTERIOR BODY PANELS > Weather Strip

REPLACEMENT

1. FLANGE

SEDAN MODEL

1. Replace the hood seal rubber. Ref. to LIGHTING SYSTEM>Headlight Assembly>REPLACEMENT > SEAL RUBBER.
2. Replace the weather strip body side flange while pulling the rubber. Be careful not to tear the rubber.
3. Replace the weather strip trunk while pulling the rubber. Be careful not to tear the rubber.
4. Replace the seal cowl rubber while pulling the rubber. Be careful not to tear the rubber.



(a) Hood seal rubber
(c) Weather strip body side flange rear
(e) Seal cowl panel

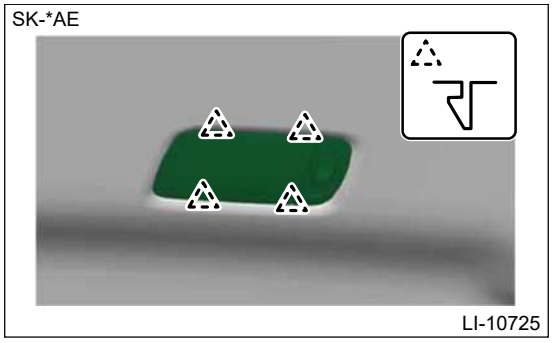
LIGHTING SYSTEM > Luggage Room Light

REMOVAL

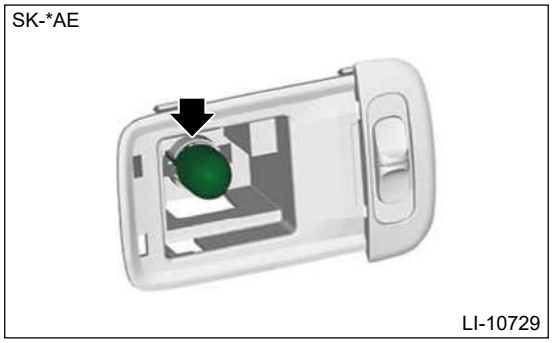
Note:
Do not remove the light assembly luggage room if removing the bulb only.

1. Disconnect the ground terminal from battery sensor. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
2. Remove the light assembly luggage room.
   Caution:
   - **Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.**
   - **When using a flat tip screwdriver, use an appropriate sized tool for the insertion opening, apply protective tape or cloth around the tool, and be careful not to cause damage.**

   (1) Release the claws and pull out the light assembly luggage room.



   (2) Disconnect the connector and remove the light assembly luggage room.
   (3) Remove the lens and the luggage room light bulb.

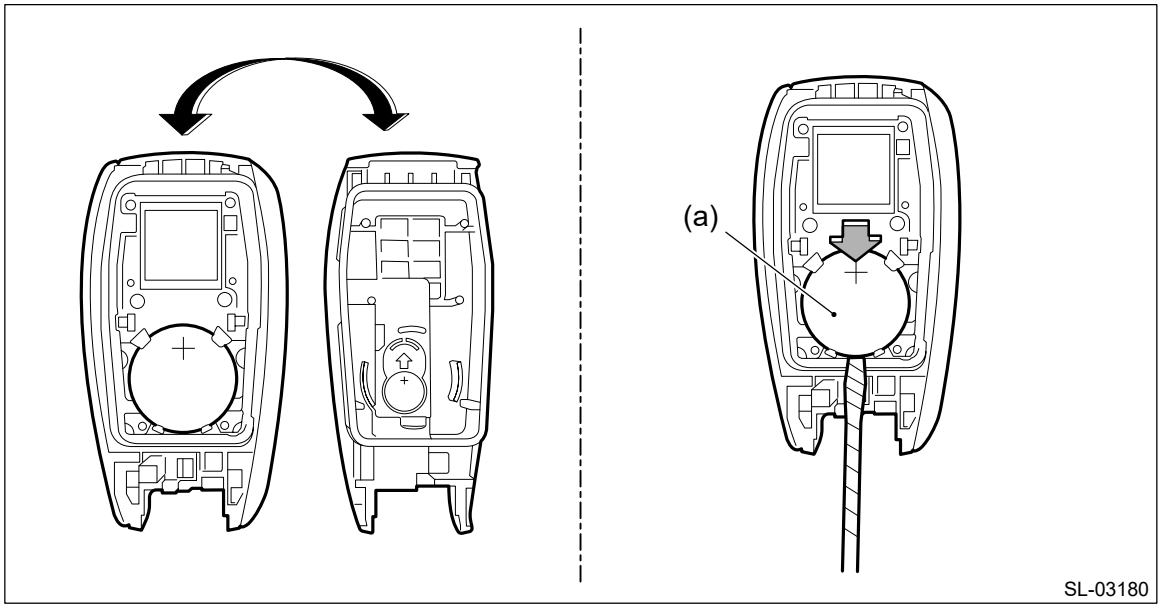


LIGHTING SYSTEM > Luggage Room Light

INSTALLATION

1. Install the luggage room light bulb.
   Caution:
   Use a dry clean cloth so that no grease or water adheres to the glass portion of the bulb.
2. Install the light assembly luggage room.
3. Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS>NOTE > BATTERY.

LIGHTING SYSTEM > Luggage Room Light



SECURITY AND LOCKS > Access Key

INSTALLATION

1. ACCESS KEY BATTERY

1. Install the access key battery.
2. Install the mechanical key.

SECURITY AND LOCKS > Access Key

INSPECTION

1. ACCESS KEY BATTERY

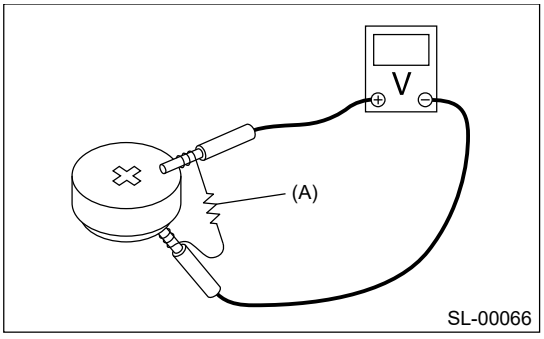
Measure the access key battery voltage.

Preparation tool:

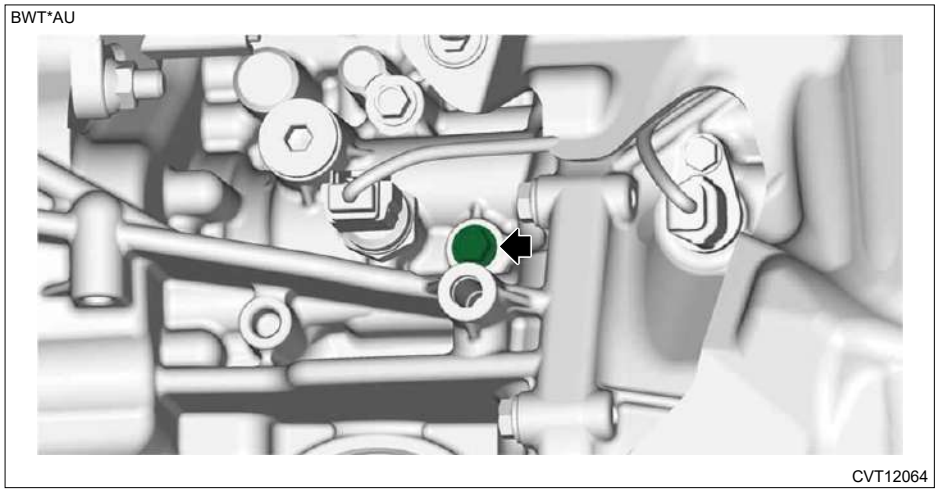
Circuit tester

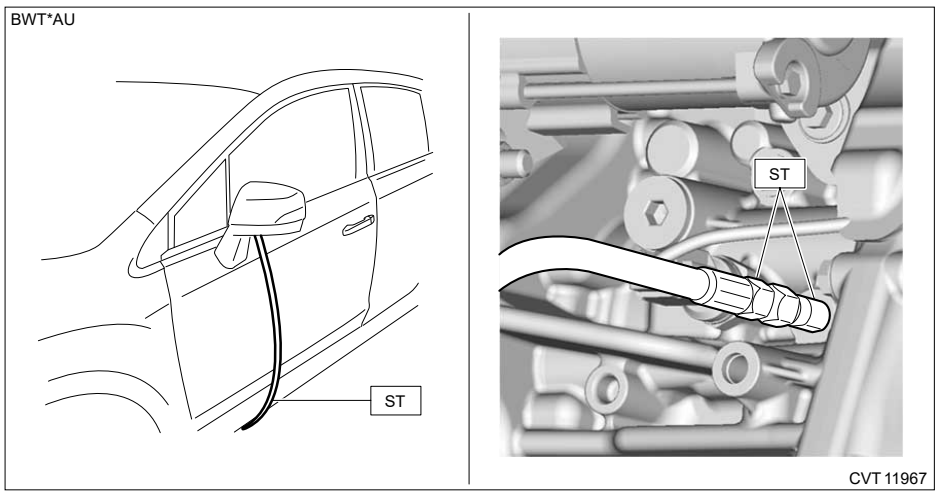
Note:

Complete the measurement within 5 seconds because the battery discharges during measurement.



Battery terminal	Inspection conditions	Standard





6. Set the gauge so that it can be seen from the driver's seat.
7. Connect the Subaru Select Monitor.
8. Turn the ignition switch to ON. (Engine OFF)
9. Display [ATF Temperature].
10. Turn off all systems causing an electrical load, such as headlights, A/C, seat heater and rear defogger.
11. Apply the parking brake.
12. Start the engine.
13. Turn OFF the pre-collision brake function.
14. Turn the VDC function OFF.
15. Check the CVTF level. Ref. to CONTINUOUSLY VARIABLE TRANSMISSION(TR580)>CVTF>INSPECTION.
16. Warm up until [ATF Temperature] reaches to 60 — 80°C (140 — 176°F).
17. Install the front wheel LH. Ref. to WHEEL AND TIRE SYSTEM>Tire and Wheel>INSTALLATION.
18. Lift up the vehicle.

Warning:

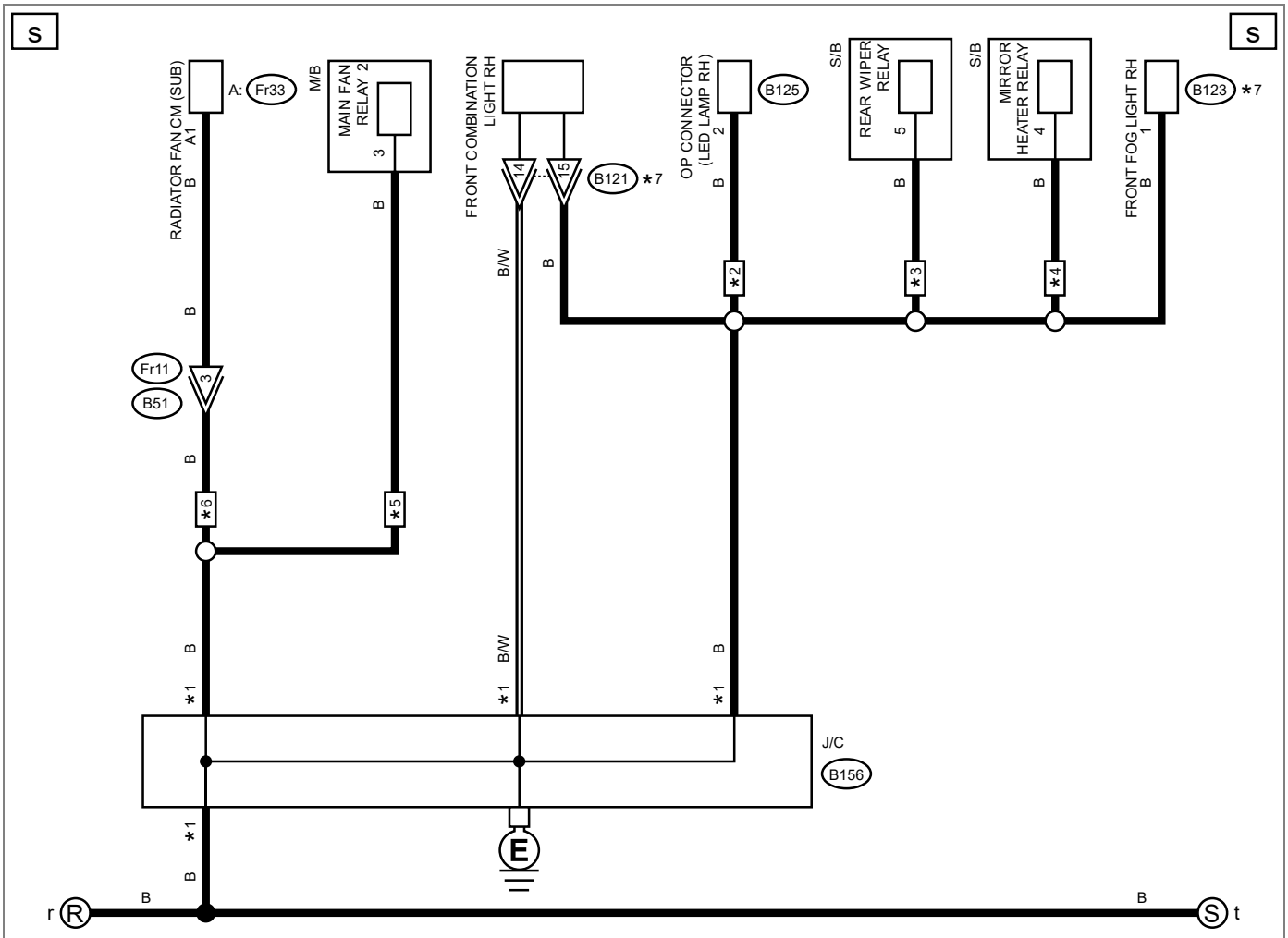
- **Lift up the vehicle until the tire bottom is 0.3 m (0.98 ft) or more above the ground.**
- **Make sure that safety is secured where the tiers rotate.**

19. Release the parking brake.
20. Shift the select lever to "D range".
21. Release the brake pedal, and rotate the tires.

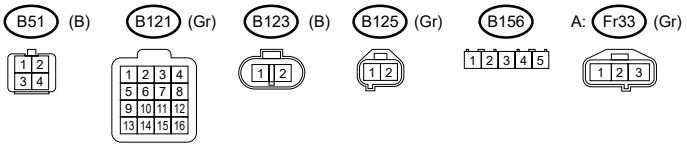
Note:

Rotate the tires until the vehicle speed reaches or exceeds 2 km/h (1.2 MPH).

22. Depress the brake pedal to stop the tire rotation.
23. Shift the select lever to "P range".
24. Apply the parking brake.
25. Place wheel chocks at the front and rear of all wheels.
26. Record the secondary pressure with the engine idling.



*1 : TERMINAL No. OPTIONAL ARRANGEMENT
*2 : WITH LED ACCESSORY LINER
*3 : OUTBACK MODEL
*4 : WITH MIRROR HEATER AND WITHOUT SEAT POSITION MEMORY
*5 : ENGINE TYPE FB
*6 : ENGINE TYPE FA
*7 : HARNESS REPAIR KIT



WI-84394

Caution:
Before performing diagnosis, refer to “CAUTION” in “General Description”. Ref. to AIRBAG(DIAGNOSTICS)>General Description>CAUTION.

1. CHECK CENTRAL Gateway CM AND SUBARU SELECT MONITOR COMMUNICATION.

Connect the Subaru Select Monitor, and check for the communication with [Central Gateway].

Is the check result OK?

Yes	Go to 5.
No	Go to 2.

2. CHECK SUBARU SELECT MONITOR.

Connect the Subaru Select Monitor to another vehicle, and check for the communication.

Is the check result OK?

Yes	Go to 3.
No	Repair or replace the Subaru Select Monitor.

3. CHECK DATA LINK CONNECTOR.

1. Turn the ignition switch to ON.
2. Using the tester, measure the voltage between data link connector and chassis ground.
   Connector & terminal
   (i221) No. 16 (+) — Chassis ground (−):
   (i221) No. 8 (+) — Chassis ground (−):

Is the voltage 10 V or more?

Yes	Check the central gateway CM. Ref. to CENTRAL GATEWAY (DIAGNOSTICS)>Basic Diagnostic Procedure>PROCEDURE.
No	Go to 4.

1. CHECK VDCCM&H/U INPUT VOLTAGE.

1. Turn the ignition switch to OFF.
2. Disconnect the connector from the VDCCM&H/U.
3. Turn the ignition switch to ON.
4. Measure the voltage between VDCCM&H/U connector and chassis ground.
   Connector & terminal
   (B66) No. 1 (+) — Chassis ground (−):
   (B66) No. 36 (+) — Chassis ground (−):

Is the voltage 10 — 15 V?

Yes	Go to 2.
No	Repair the VDCCM&H/U power supply circuit.

2. CHECK VDCCM&H/U INPUT VOLTAGE.

Calculate the voltage difference measured in step 1.
A: (B66) No. 1 (+) — Chassis ground (−):
B: (B66) No. 36 (+) — Chassis ground (−):

Is the voltage difference between A and B 2 V or more?

Yes	Repair the power supply circuit.
No	Go to 3.

3. CHECK INSTALLATION OF VDCCM&H/U GROUND.

Is the VDCCM&H/U ground terminal installation bolt installed correctly?

Yes	Go to 4.
No	Install the VDCCM&H/U ground terminal installation bolt correctly.

Caution:

Before performing diagnosis, refer to “CAUTION” in “General Description”. Ref. to DOOR MIRROR (DIAGNOSTICS)>General Description>CAUTION.

1. CHECK BATTERY.
   - no → Perform the instructed procedures.
   - yes ↓
2. CHECK FUSE.
   - no → Perform the instructed procedures.
   - yes ↓
3. CHECK IGNITION SWITCH.
   - no → Perform the instructed procedures.
   - yes ↓
4. CHECK DTC.
   - yes → Perform the instructed procedures.
   - no → Go to 5.
5. CHECK FRONT DOOR STEP LIGHT (DRIVER’S SEAT).
   - no → Perform the instructed procedures.
   - yes ↓
6. CHECK CONNECTOR CONNECTION.
   - yes → Perform the instructed procedures.
   - no → Go to 7.
7. CHECK INPUT SIGNAL.
   - no → Perform the instructed procedures.

DTC P0390 CAMSHAFT POSITION SENSOR "B" CIRCUIT BANK 2

1. —

DTC detecting condition:

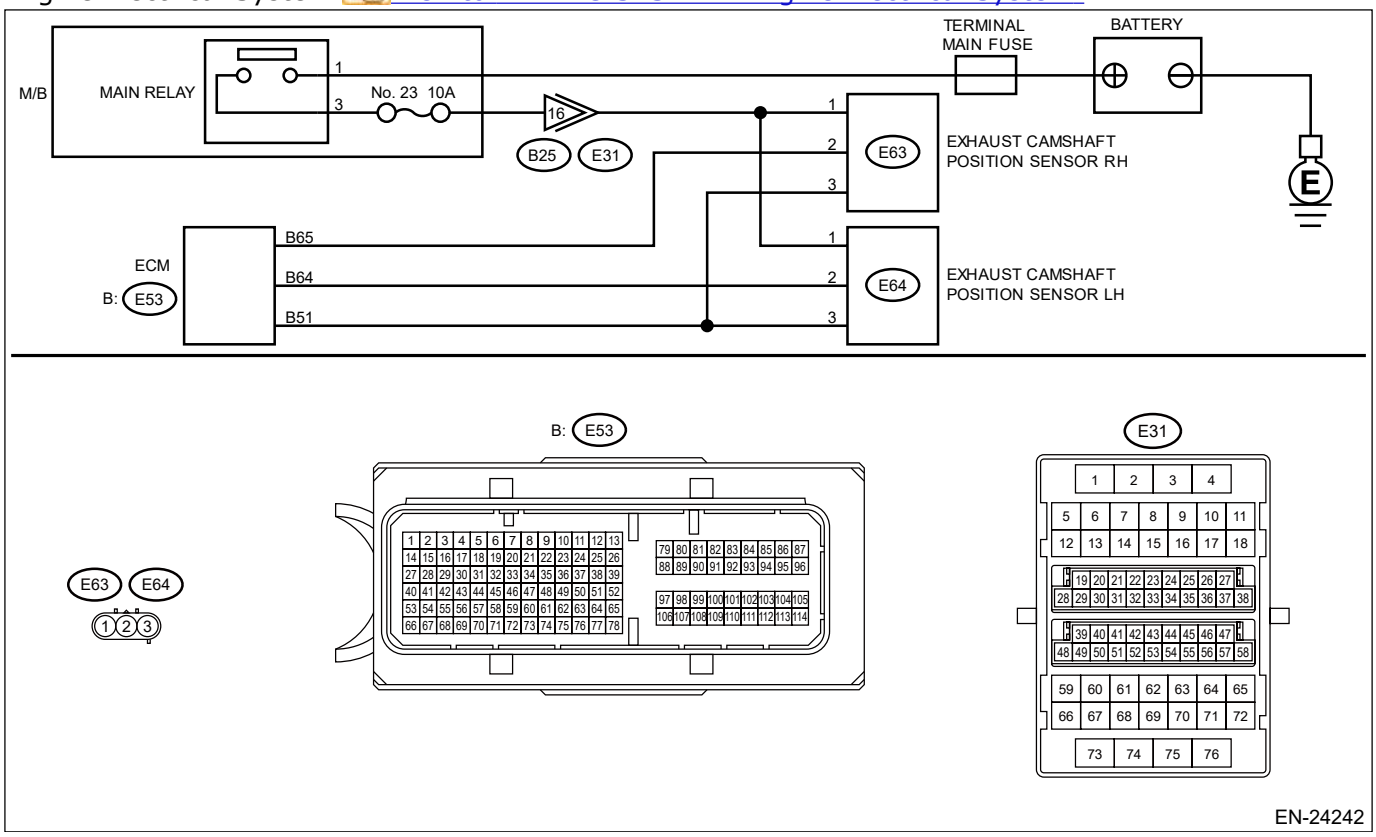
Immediately at fault recognition

Trouble symptom:

- Engine stall
- Failure of engine to start

Wiring diagram:

Engine Electrical System Ref. to WIRING SYSTEM>Engine Electrical System.



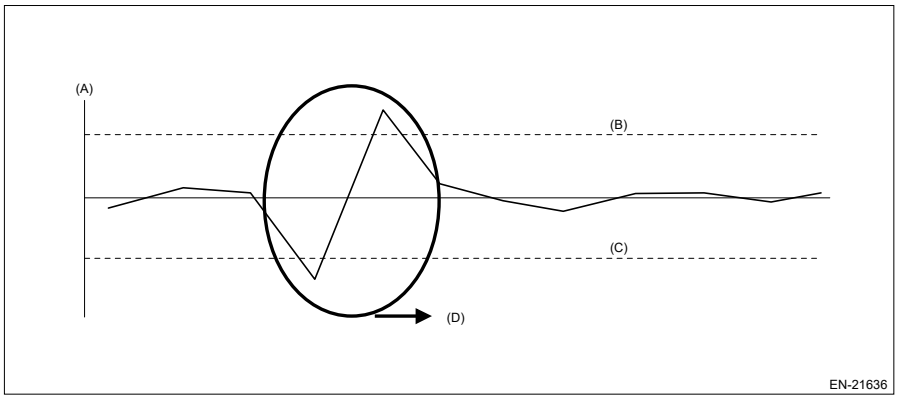
Caution:

Use the check board when measuring the ECM terminal voltage and resistance. Ref. to ENGINE (DIAGNOSTICS)(H4DO)>General Description>PREPARATION TOOL > HOW TO USE CHECK BOARD.

Note:

After the faulty parts are repaired or replaced, perform the final check in Basic Diagnostic Procedure. Ref. to ENGINE (DIAGNOSTICS)(H4DO)>Basic Diagnostic Procedure>PROCEDURE.

Diagnostic value	**180 degree interval difference = (A − B) − (B − C)** of negative side (Diagnostic value before 180° CA)

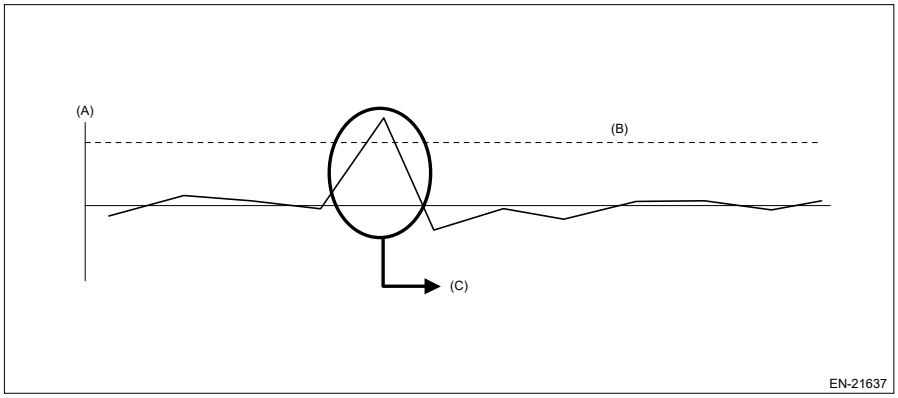


(A) 180 degree interval difference (C) Threshold valve (negative number) (D) Judged as misfire.

(B) Threshold valve (positive number)

<360° Interval Difference Method>

Diagnostic value	**360 degree interval difference = (B − A) − (D − C)**
Misfire judgment	360 degree interval difference > Judgment value → Judged as misfire



(A) 360 degree interval difference (B) Threshold valve (C) Judged as misfire.

<720° Interval Difference Method>

Diagnostic value	**720 degree interval difference = (A − B) − (E − F)**
Judge as a misfire in the following cases. • 720 degree interval difference ≥ Judgment value of positive side • 720 degree interval difference ≤ Judgment value of negative side (Diagnostic value before 720° CA)	

3. CHECK DTC (U-CODE).

Check the displayed DTC.

Is DTC for the bus off or the data no-receive displayed? (Current malfunction)

Yes	Perform the diagnosis for DTCs for the displayed bus off or the data no-receive.
No	Go to 4.

4. CHECK DTC.

Check the displayed DTC.

Is DTC U0428 displayed? (Current malfunction)

Yes	Go to 5.
No	Go to 7.

5. CHECK DTC.

1. Turn the ignition switch to OFF.
2. Disconnect the steering angle sensor connector.
3. Connect the disconnected connectors.
4. Using the Subaru Select Monitor, read all DTCs. Ref. to LAN SYSTEM (DIAGNOSTICS)>Diagnostic Trouble Code (DTC).

Is DTC U0428 displayed? (Current malfunction)

Yes	Go to 6.
No	Go to 7.