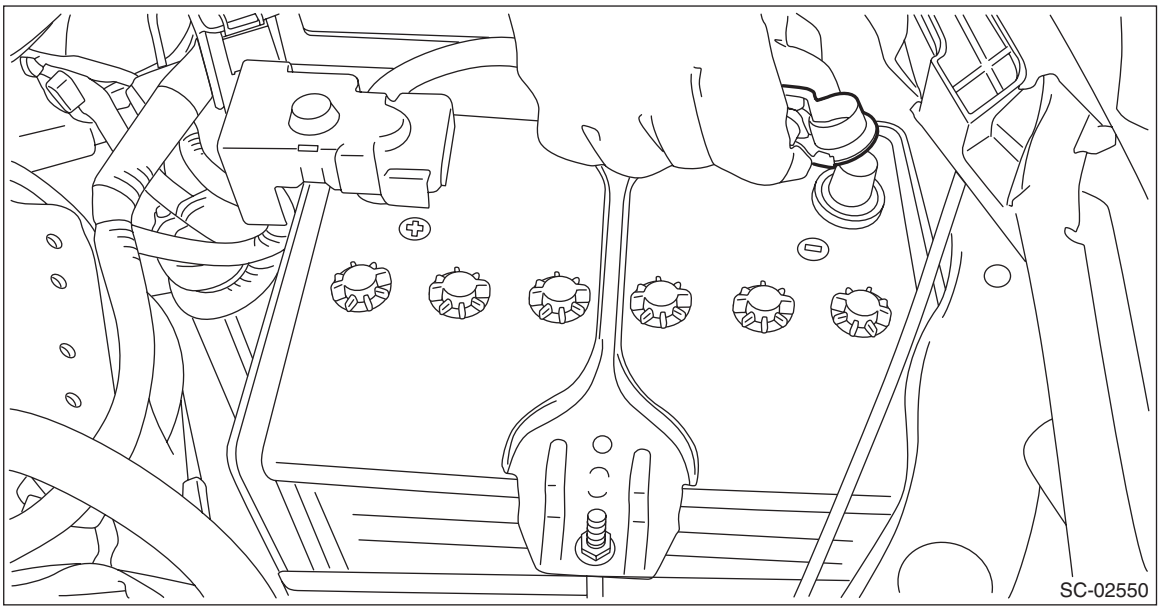
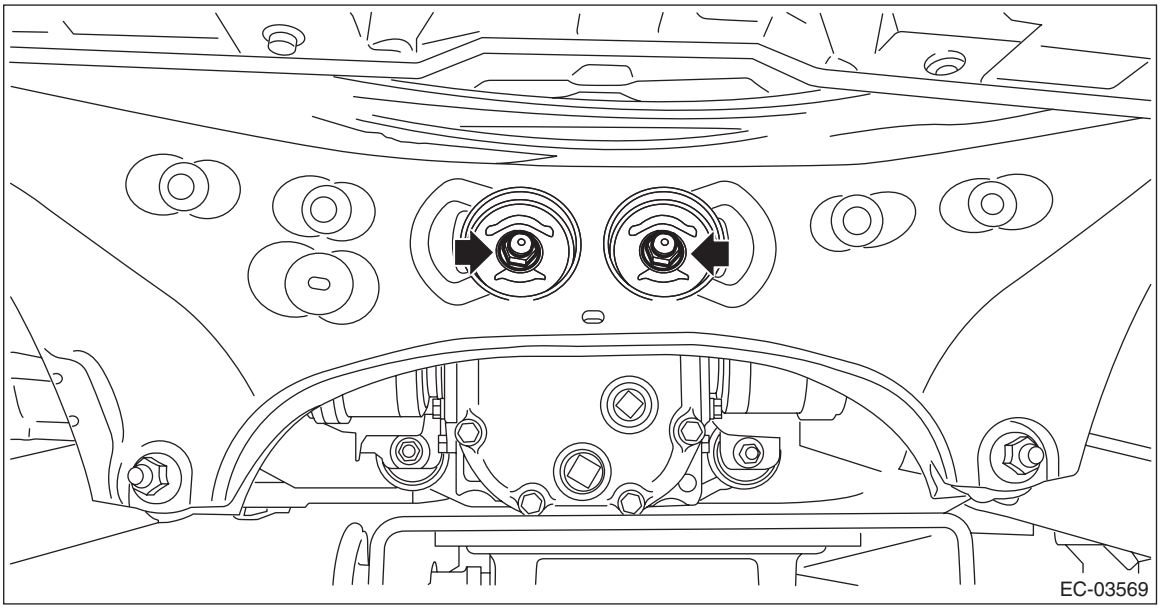
12.Leak Check Valve Assembly

A: REMOVAL

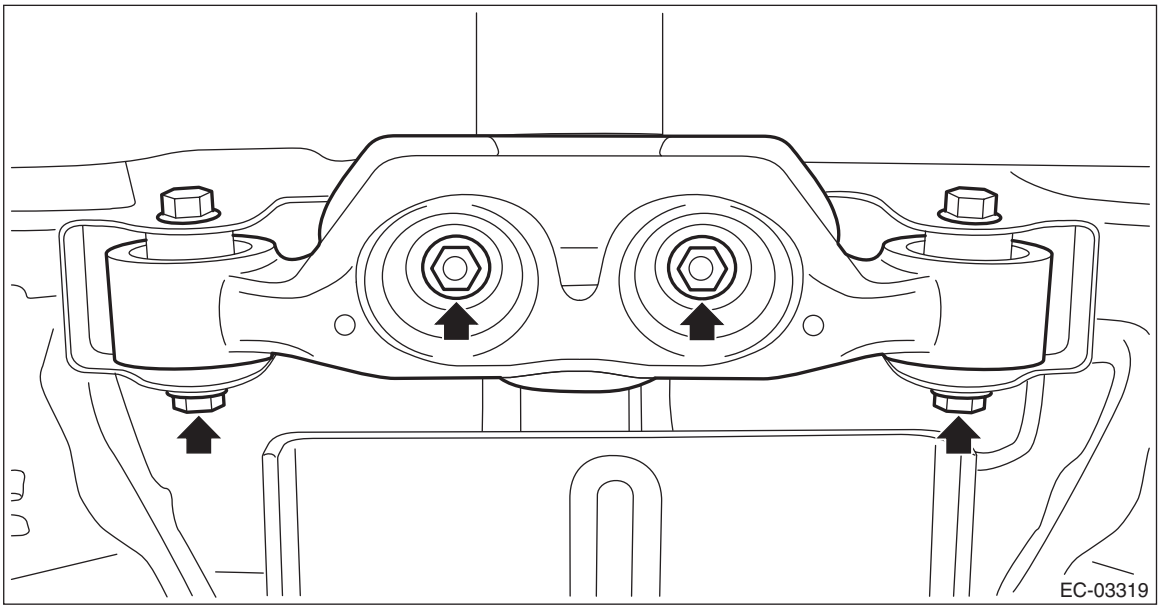
1) Disconnect the ground cable from battery.



2) Lift up the vehicle.
3) Remove the rear exhaust pipe. <Ref. to EX(H4DO(w/o HEV))-18, REMOVAL, Rear Exhaust Pipe.>
4) Remove the propeller shaft. <Ref. to DS-12, REMOVAL, Propeller Shaft.>
5) Support the rear differential with the transmission jack.
6) Remove the self-locking nuts which hold the rear differential to the rear sub frame assembly.



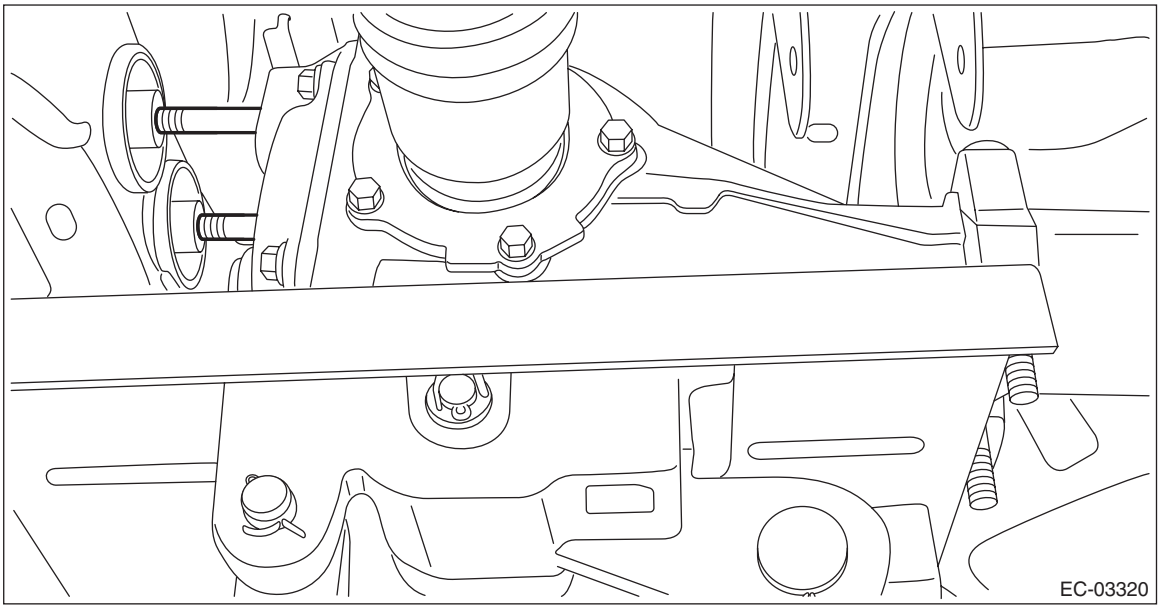
7) Remove the rear differential member from the rear sub frame assembly and the rear differential.



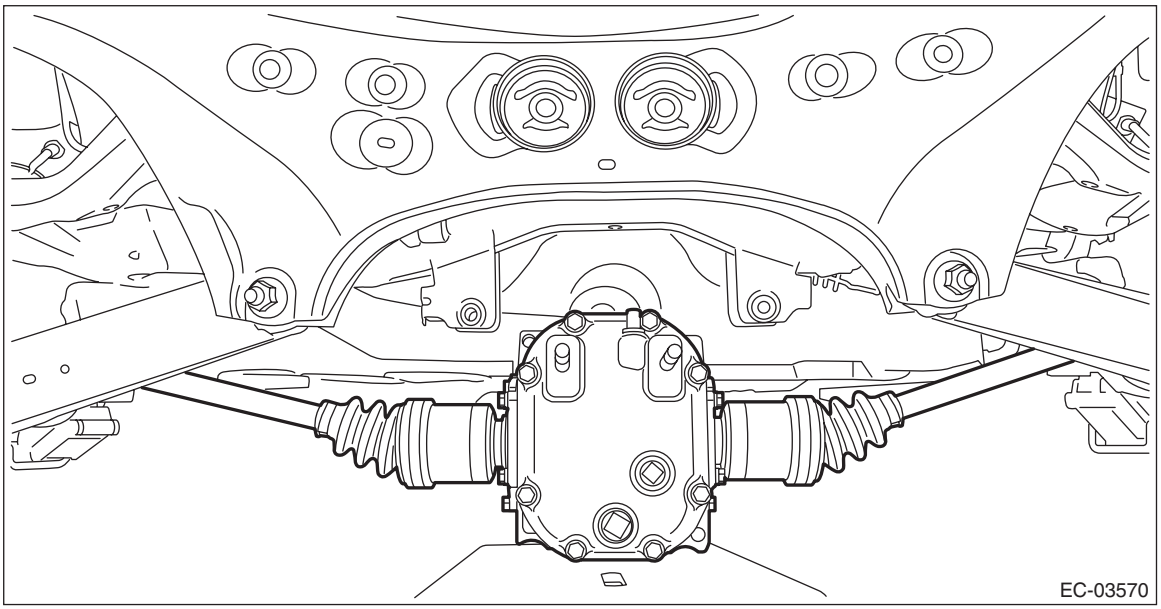
8) Lower the transmission jack gradually until the rear differential is at the position shown in the figure.

NOTE:

• When pulling out the stud bolt from the bushing portion of the rear sub frame assembly, adjust the angle and location of transmission jack and jack stand.

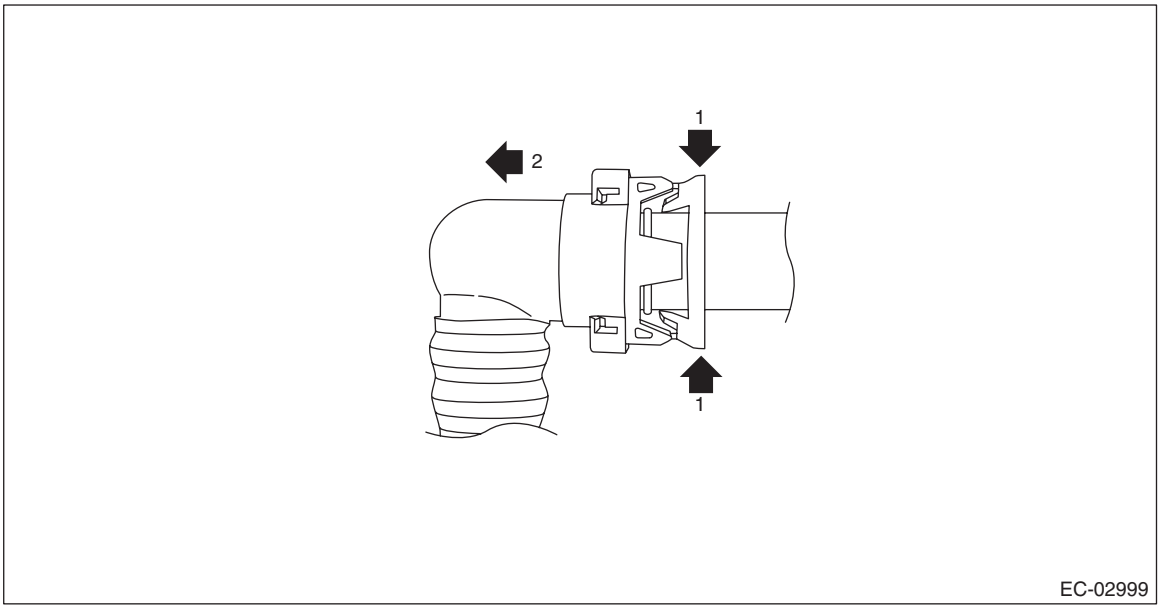


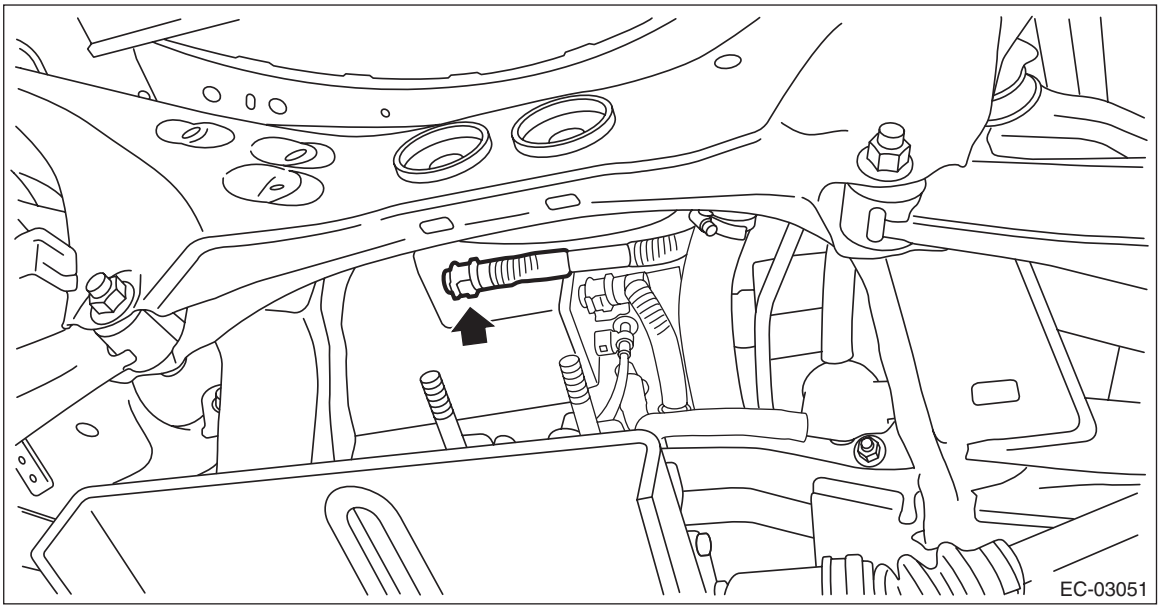
• Do not lower the rear differential excessively. Doing so may add extra load to the drive shaft or cause the falling-off of the drive shaft.



9) Disconnect the drain tube from the canister.

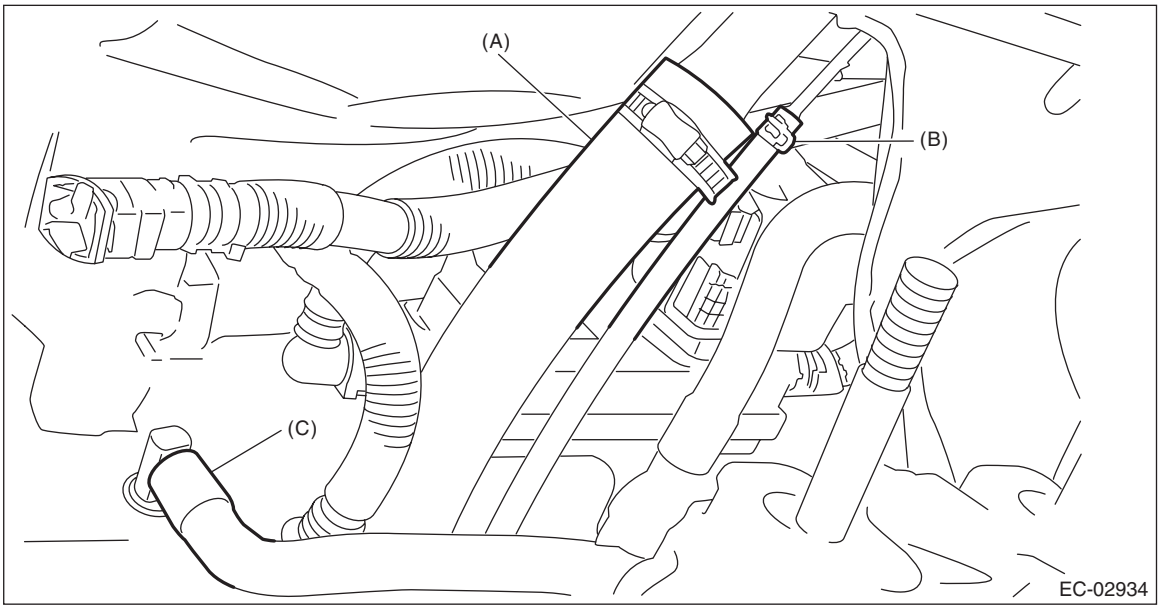
NOTE:
Disconnect the quick connector as shown in the figure.



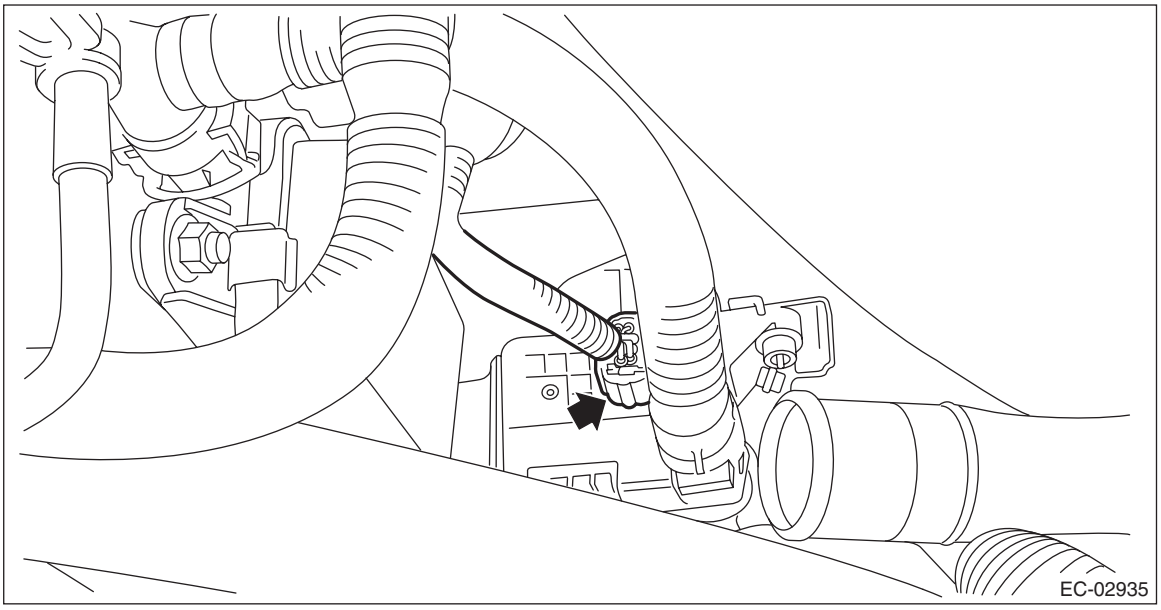


10) Disconnect the fuel filler hose (A) and evaporation hose (B).

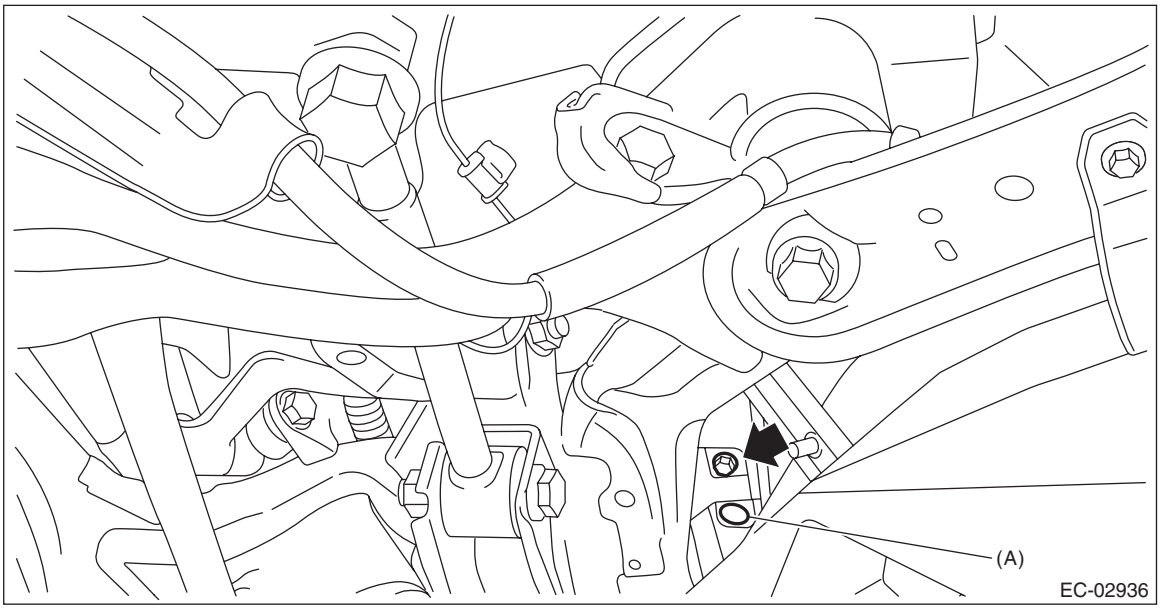
11) Disconnect the intake hose (C) from the connector.

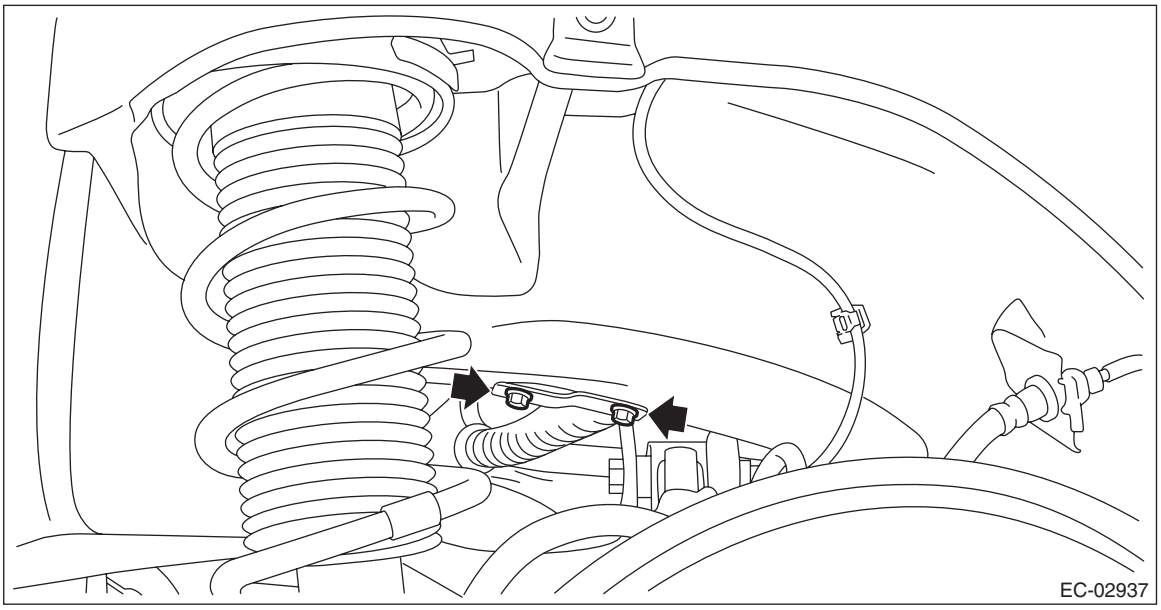


12) Disconnect the connector from the leak check valve assembly.



13) Remove the bolt and clip (A) which secure the leak check valve assembly to the vehicle, and remove the leak check valve assembly.

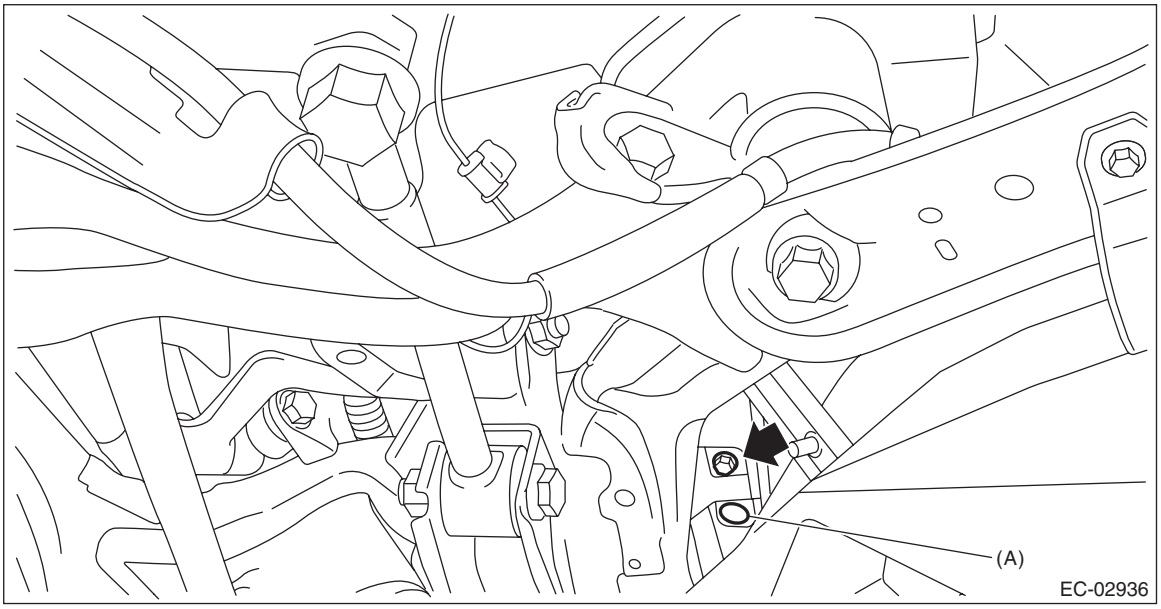


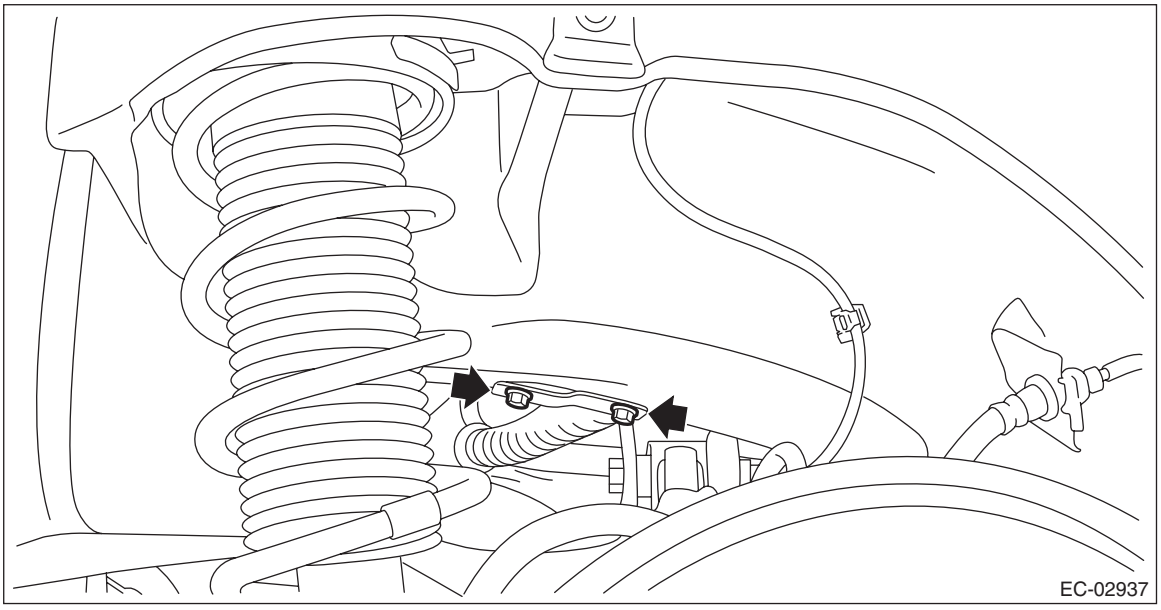


B: INSTALLATION

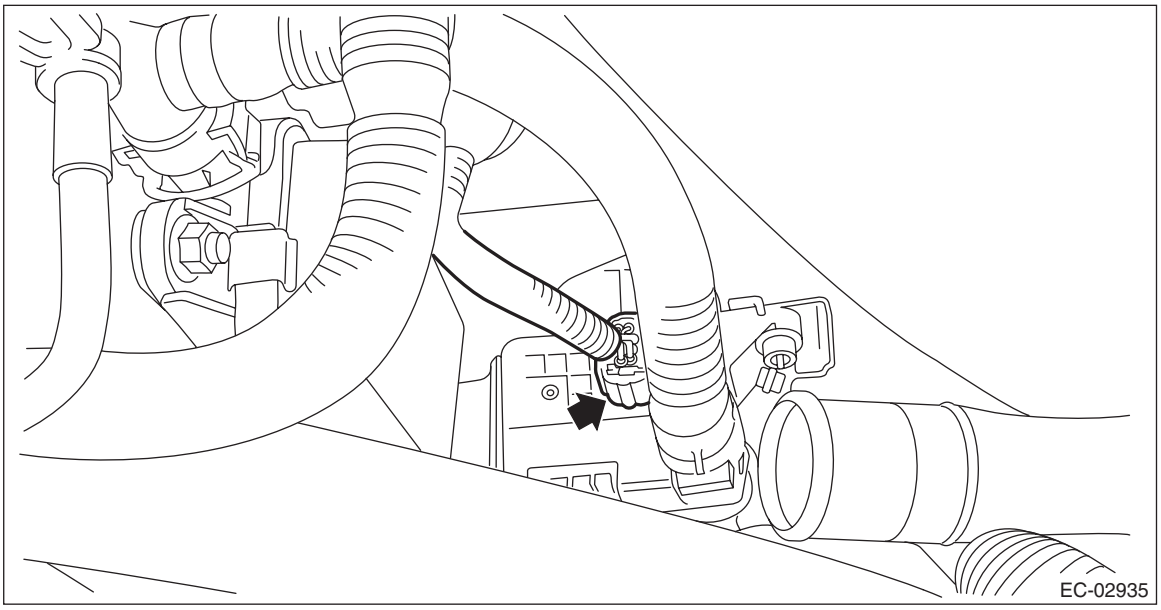
1) Install the leak check valve assembly to the vehicle with the bolt and clip (A).

Tightening torque:
7.5 N·m (0.8 kgf-m, 5.5 ft-lb)





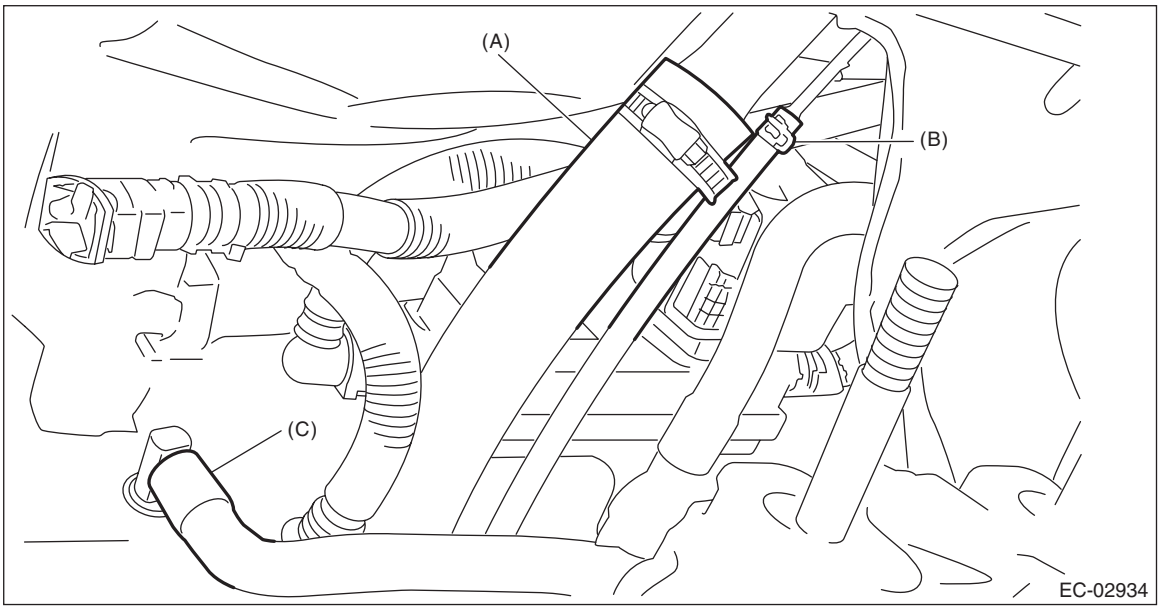
2) Connect the connector to the leak check valve assembly.

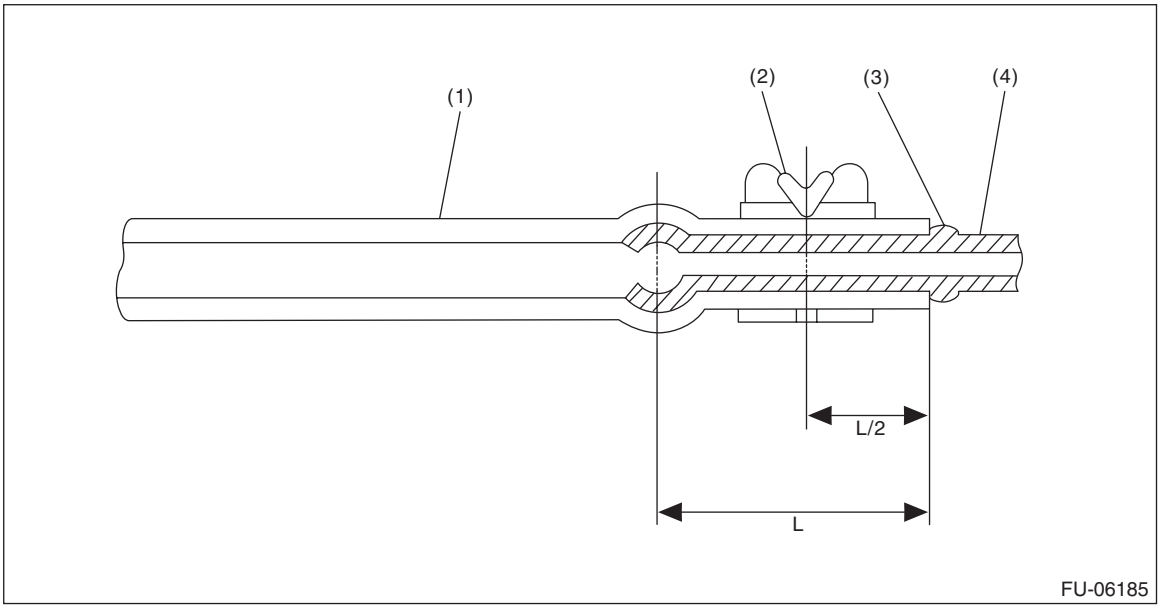


3) Connect the intake hose (C) to the connector.

4) Securely insert the fuel filler hose (A) and evaporation hose (B) until the hose end contacts the spool, then attach the clamp and clip as shown in the figure.

Tightening torque:
2.5 N·m (0.3 kgf-m, 1.8 ft-lb)

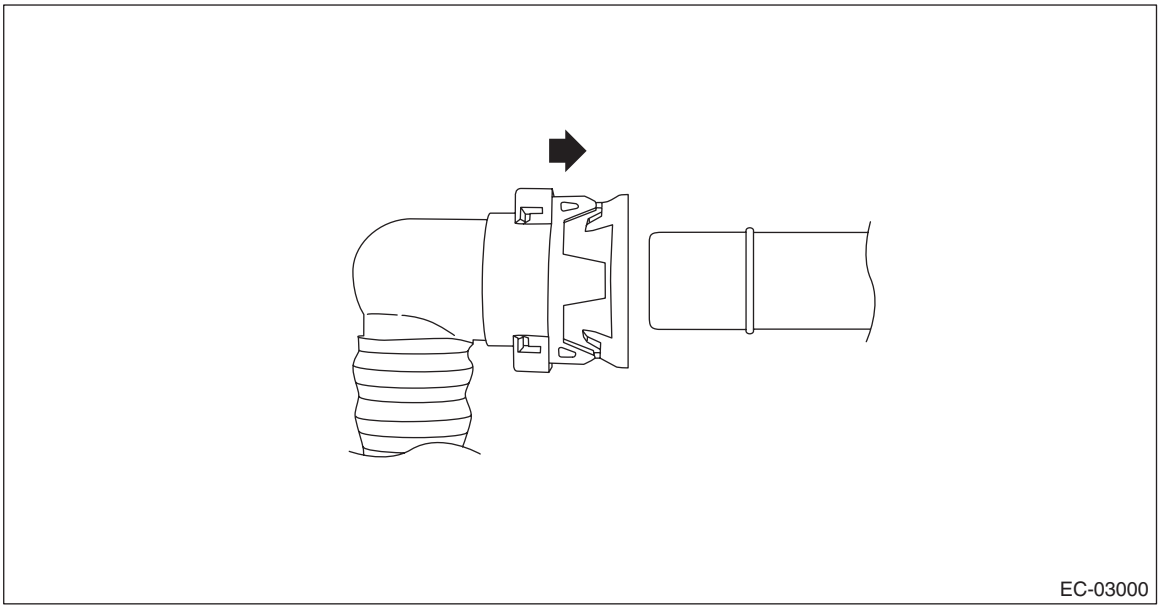


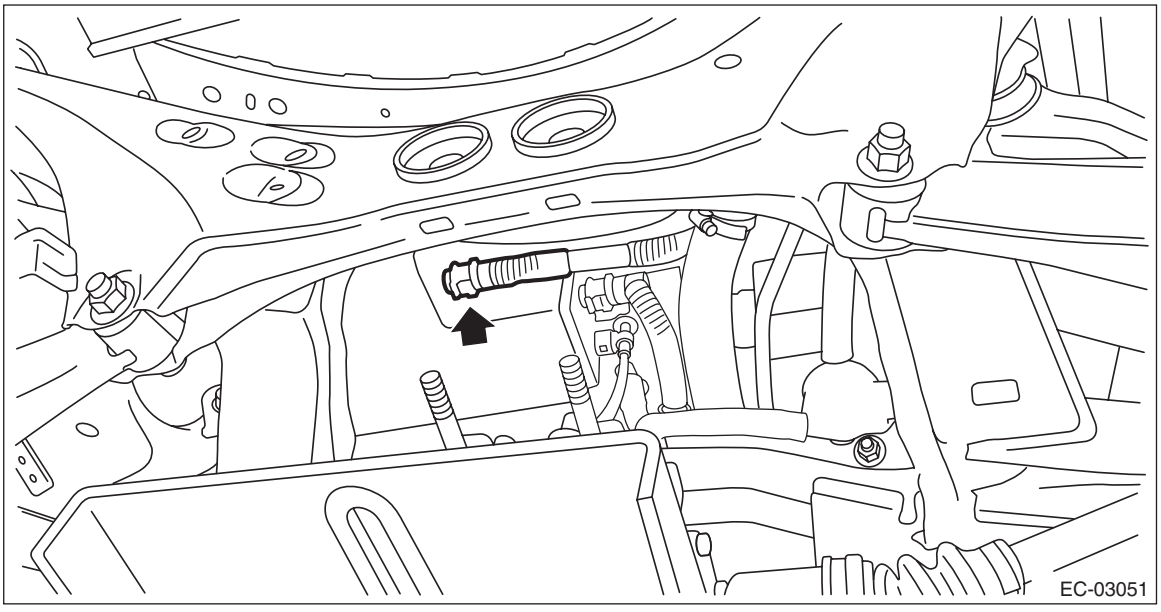


(1) Hose
(2) Clamp and clip
(3) Spool
(4) Pipe

5) Connect the drain tube to the canister.

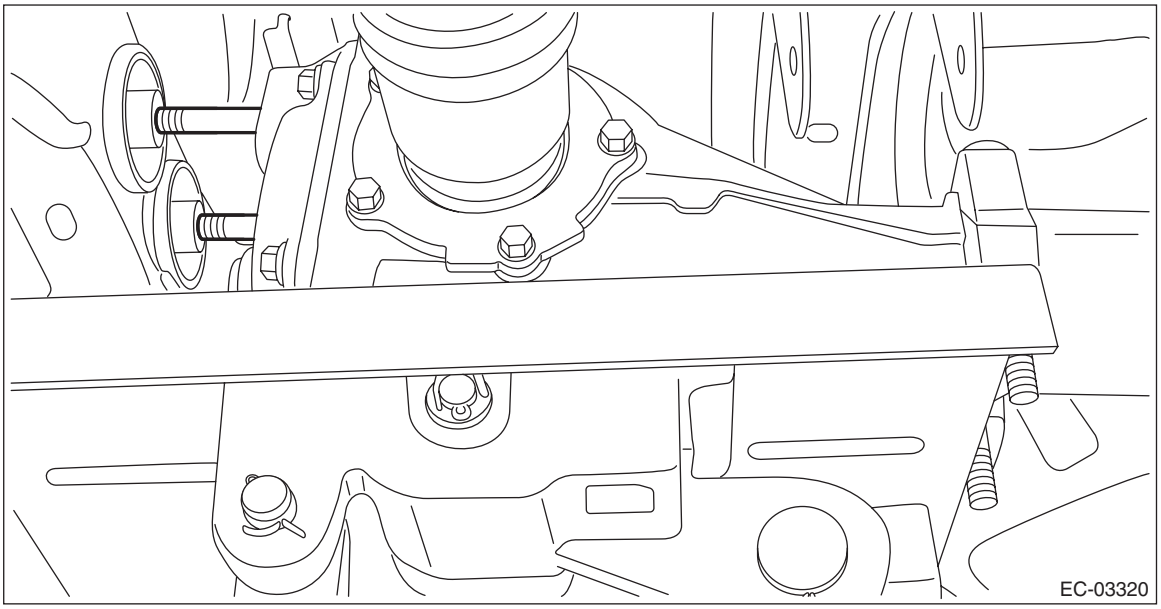
NOTE:
Connect the quick connector as shown in the figure.





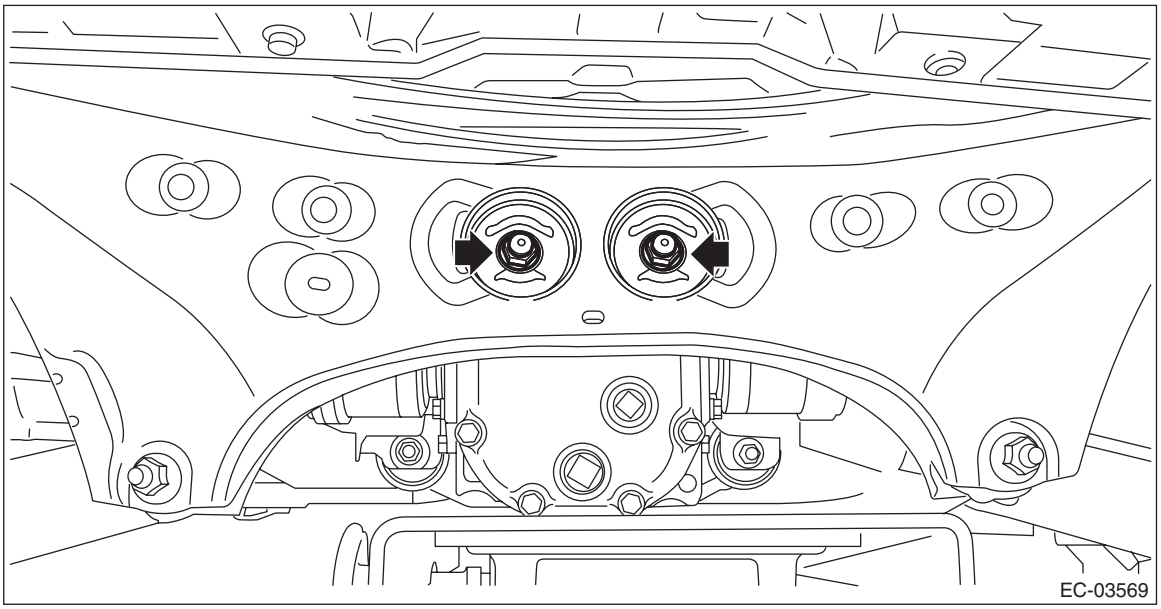
6) Lift up the transmission jack gradually, and set the rear differential to the rear sub frame assembly.

NOTE:
When inserting the stud bolt into the bushing portion of the rear sub frame assembly, adjust the angle and location of transmission jack and jack stand.



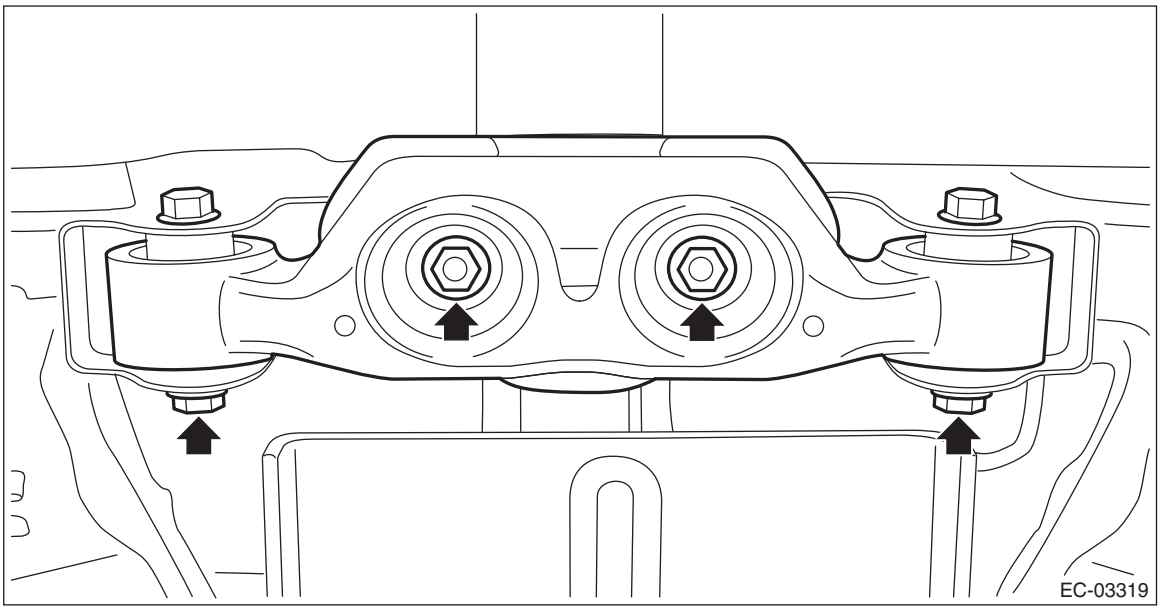
7) Temporarily tighten the self-locking nuts which hold the rear differential to the rear sub frame assembly.

NOTE:
Use a new self-locking nut.



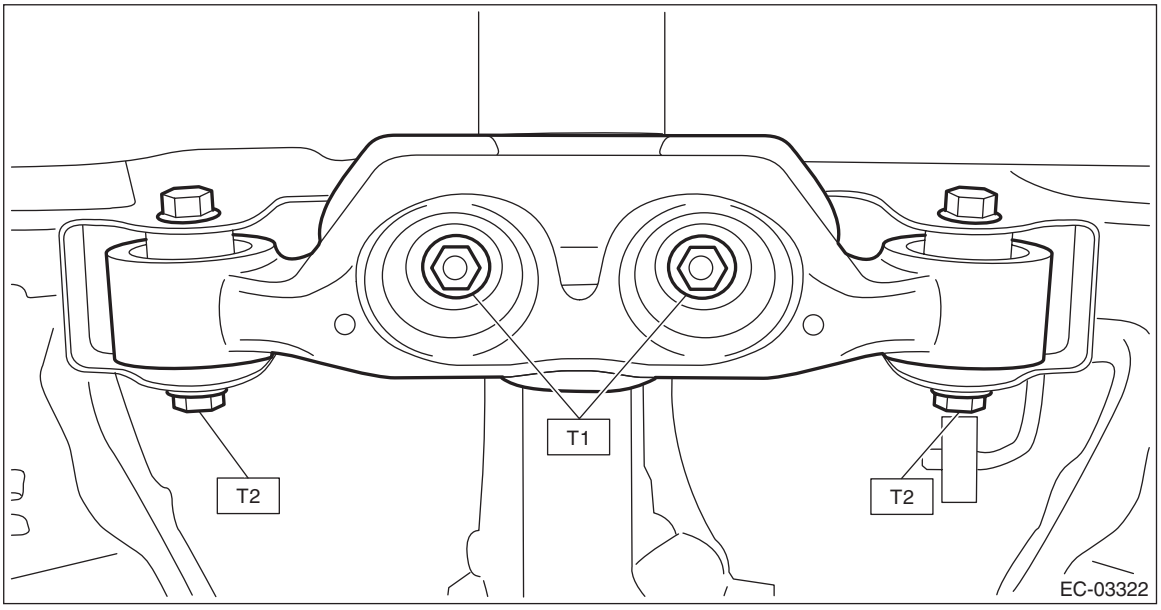
8) Set the rear differential member to the rear sub frame assembly and rear differential, and temporarily tighten the self-lock nuts which secure the rear differential member to the rear sub frame assembly and rear differential.

NOTE:
Use a new self-locking nut.



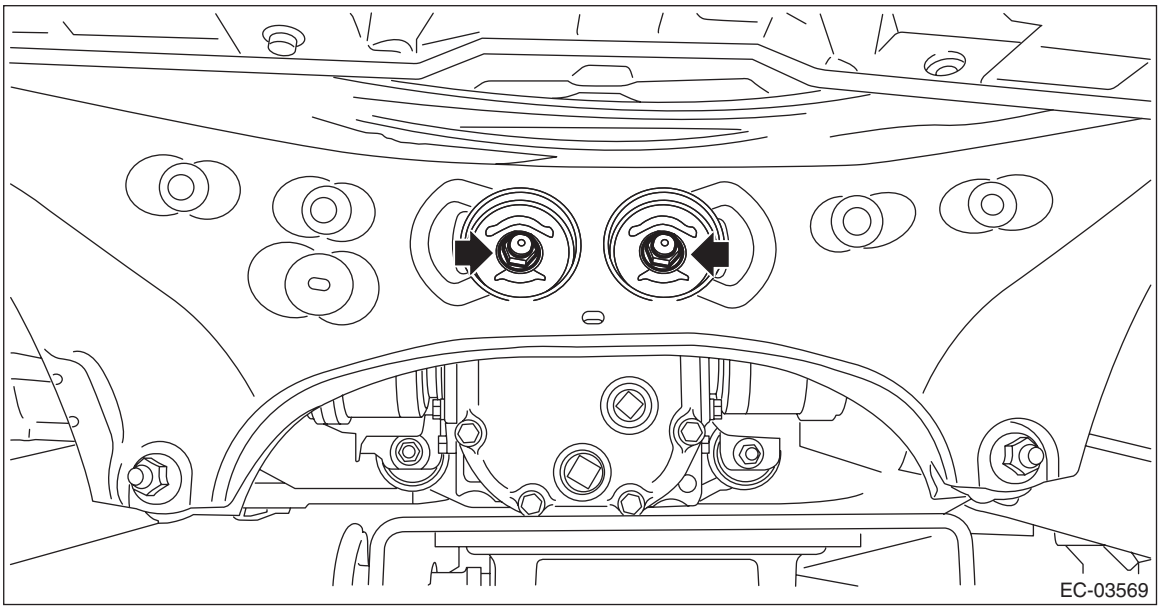
9) Remove the transmission jack from the rear differential.
10) Tighten the self-locking nuts which secure the rear differential member to the rear sub frame assembly and rear differential.

Tightening torque:
T1: 50 N·m (5.1 kgf-m, 36.9 ft-lb)
T2: 110 N·m (11.2 kgf-m, 81.1 ft-lb)

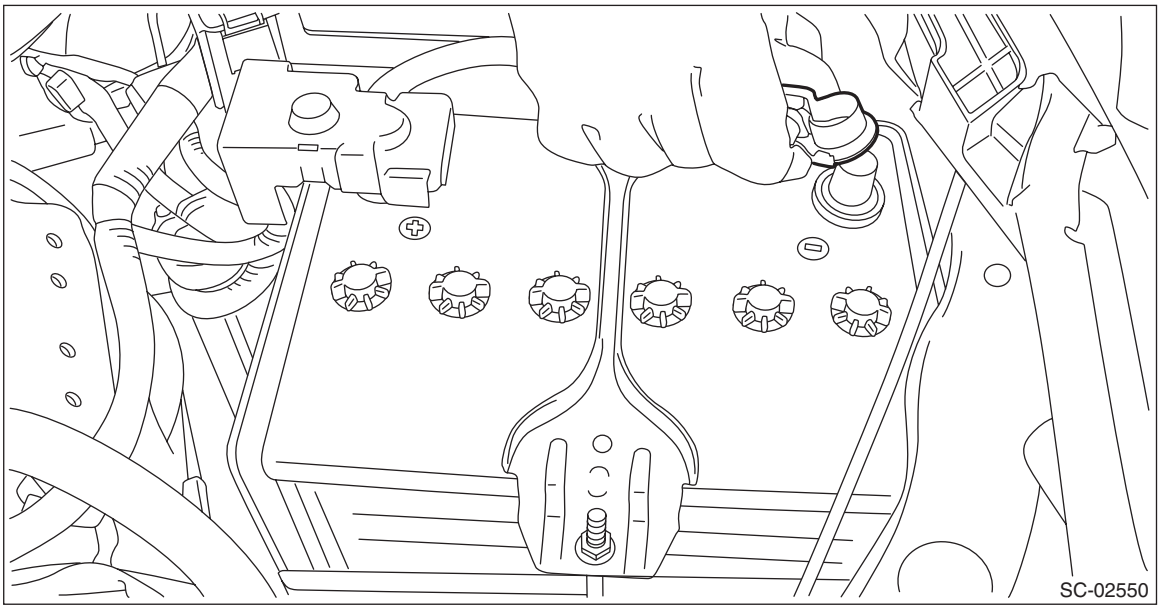


11) Tighten the self-locking nuts which secure the rear differential to the rear sub frame assembly.

Tightening torque:
70 N·m (7.1 kgf-m, 51.6 ft-lb)



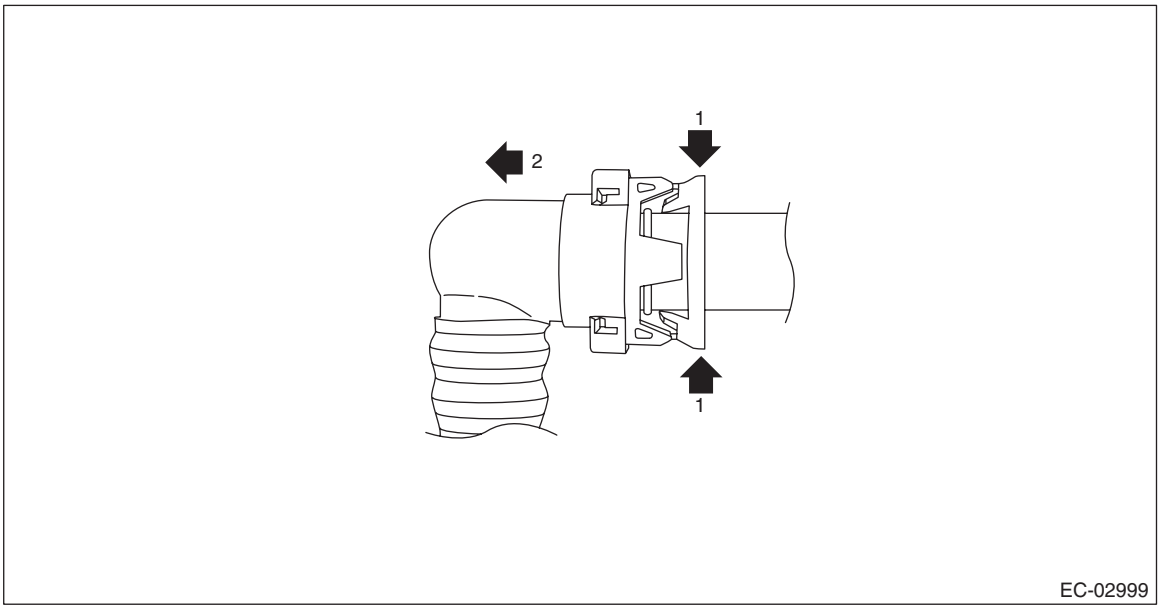
12) Install the propeller shaft. <Ref. to DS-13, INSTALLATION, Propeller Shaft.>
13) Install the rear exhaust pipe. <Ref. to EX(H4DO(w/o HEV))-20, INSTALLATION, Rear Exhaust Pipe.>
14) Lower the vehicle.
15) Connect the battery ground terminal.

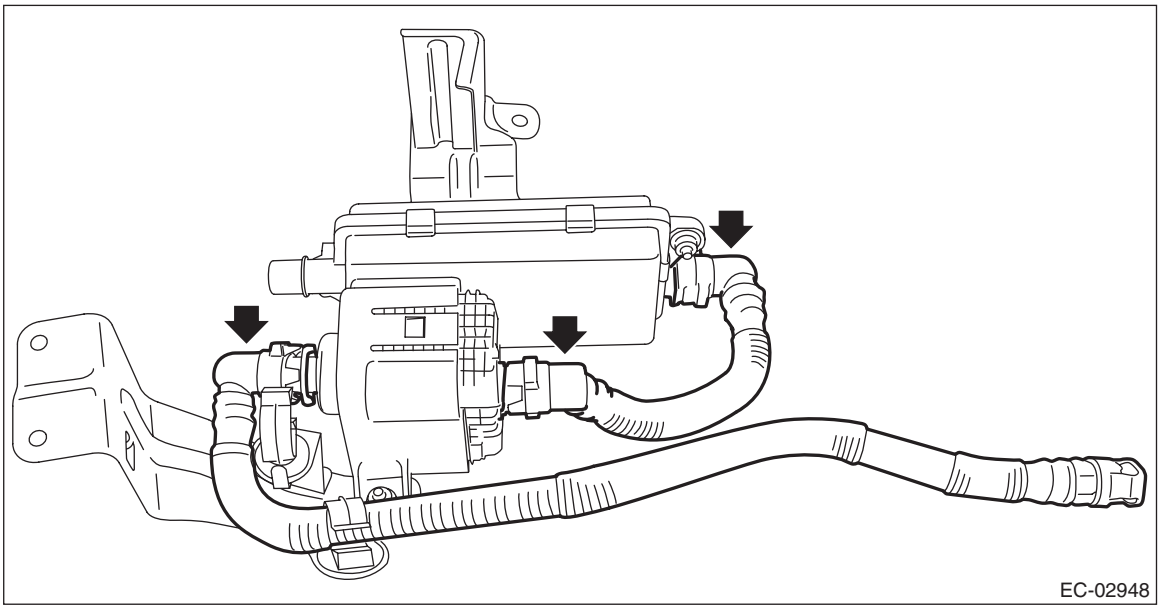


C: DISASSEMBLY

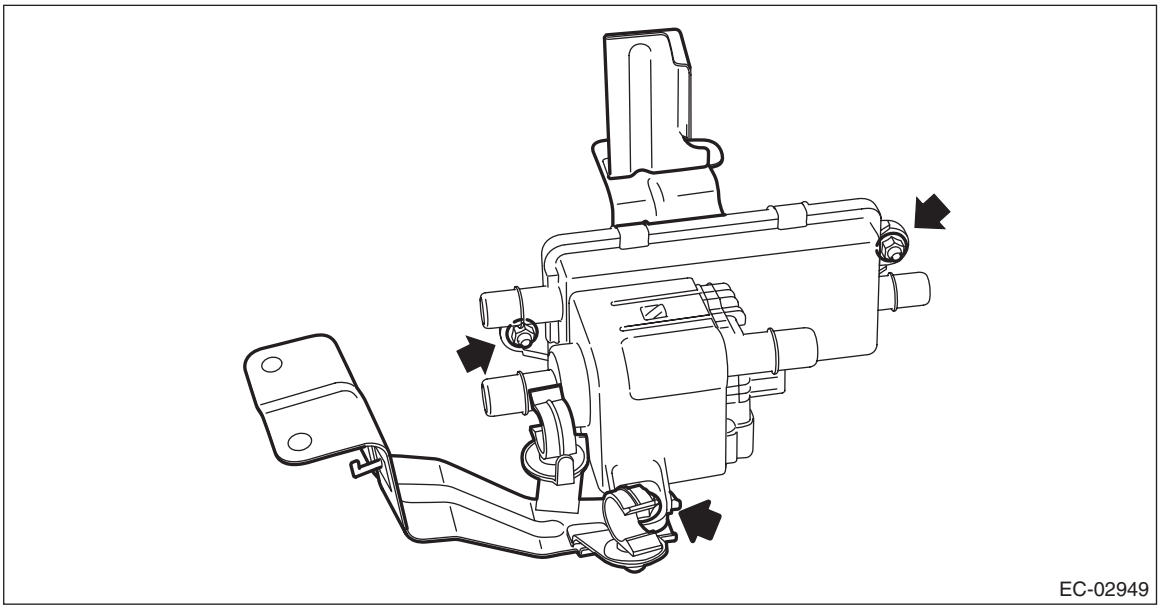
1) Remove the drain separator from the leak check valve assembly. <Ref. to EC(H4DO(w/o HEV))-62, REMOVAL, Drain Separator.>
2) Disconnect the drain tube from the leak check valve assembly.

NOTE:
Disconnect the quick connector as shown in the figure.





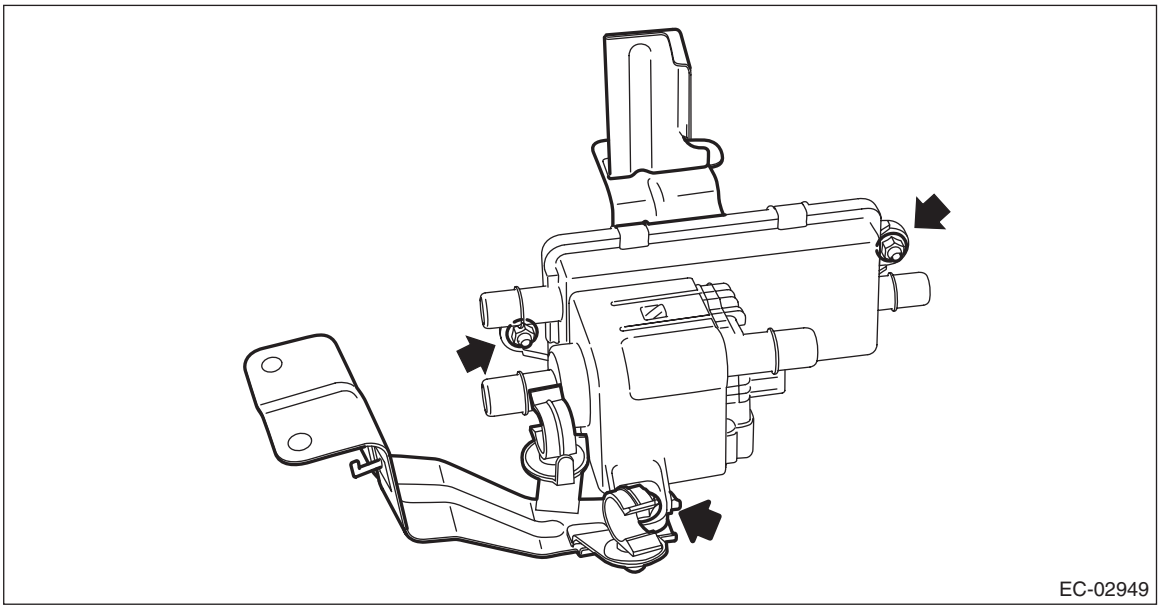
3) Remove the bracket from the leak check valve assembly.



D: ASSEMBLY

1) Install the bracket to the leak check valve assembly.

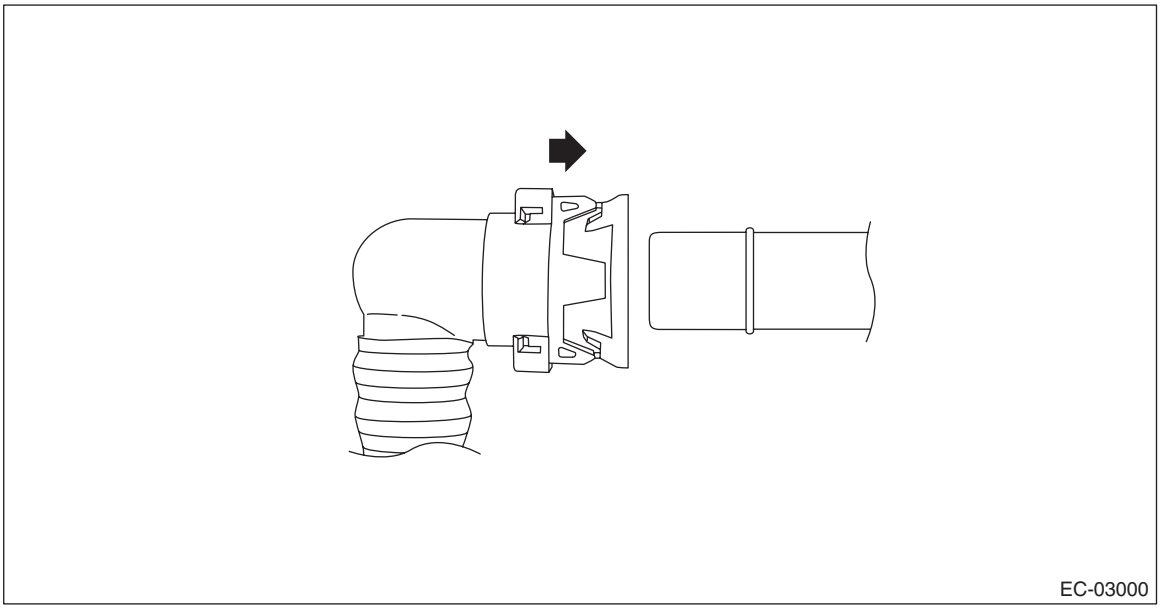
Tightening torque:
18 N·m (1.8 kgf-m, 13.3 ft-lb)

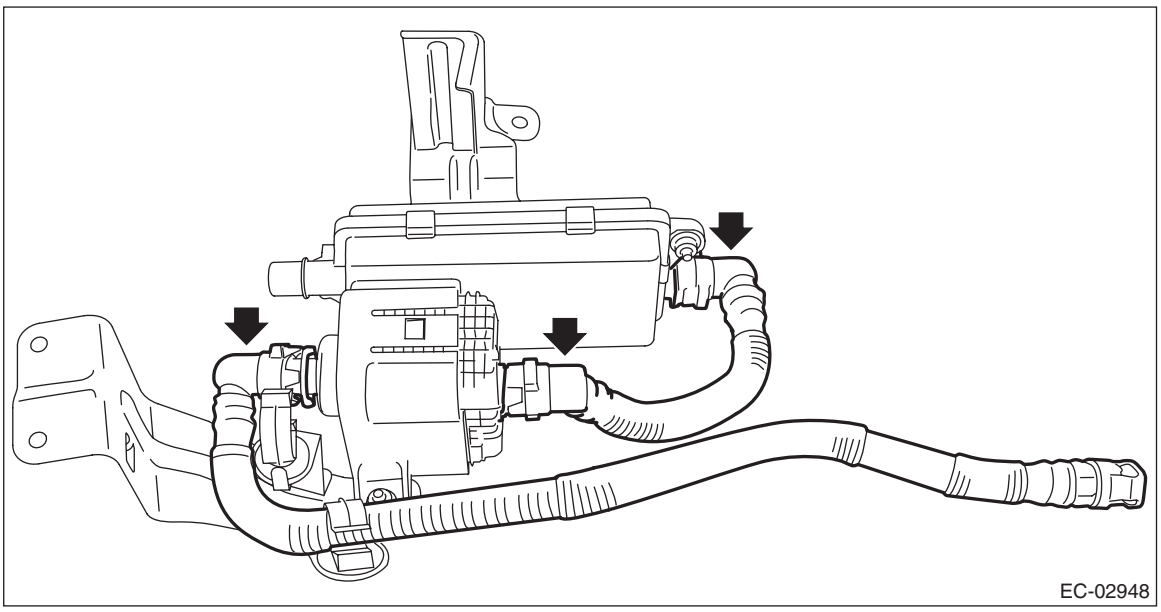


2) Install the drain tube to the leak check valve assembly.

CAUTION:
• Check that there is no damage or dust on the quick connector. If necessary, clean the seal surface of the pipe.
• Make sure that the quick connector is securely connected.

NOTE:
Connect the quick connector as shown in the figure.


EC-03000

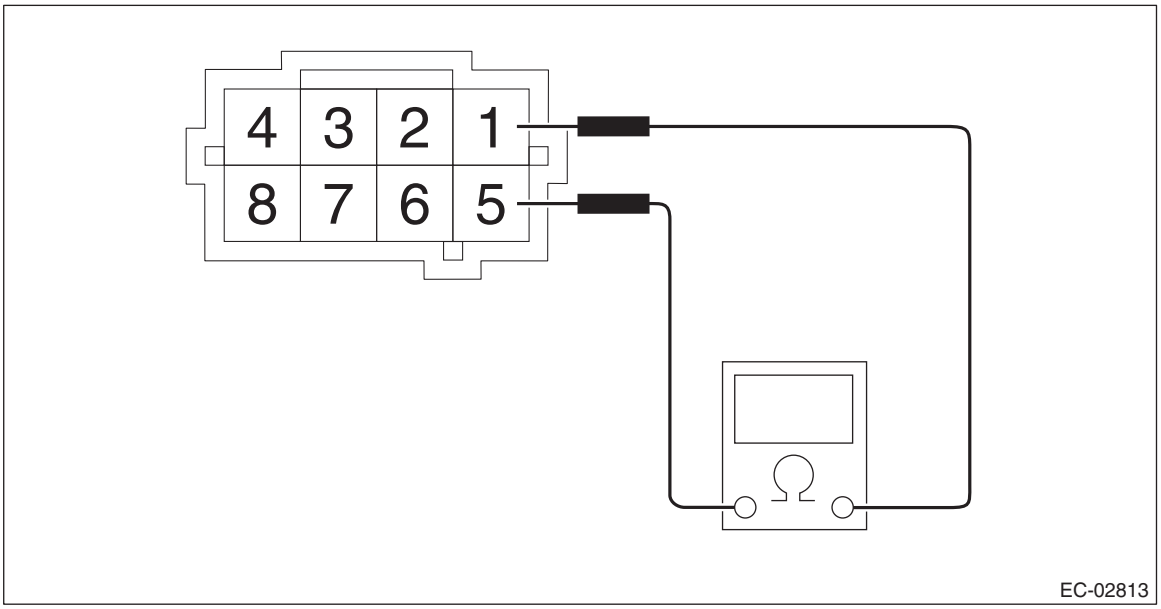

EC-02948

3) Install the drain separator to the leak check valve assembly. <Ref. to EC(H4DO(w/o HEV))-62, INSTALLATION, Drain Separator.>

E: INSPECTION

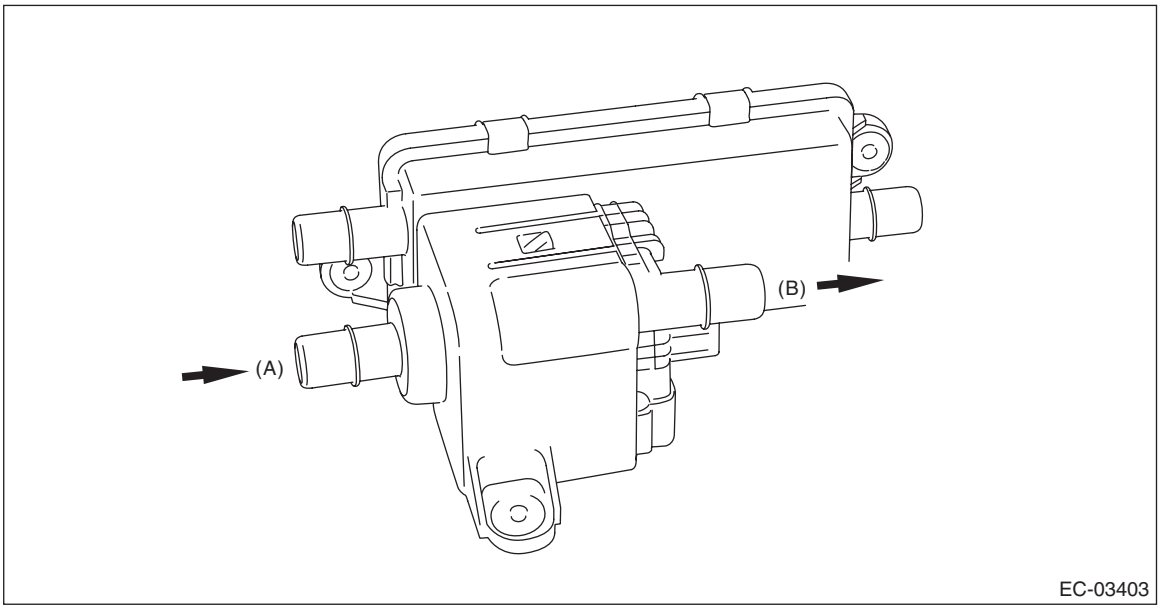
1. CHECK SWITCHING VALVE

1) Check the resistance between switching valve terminals.

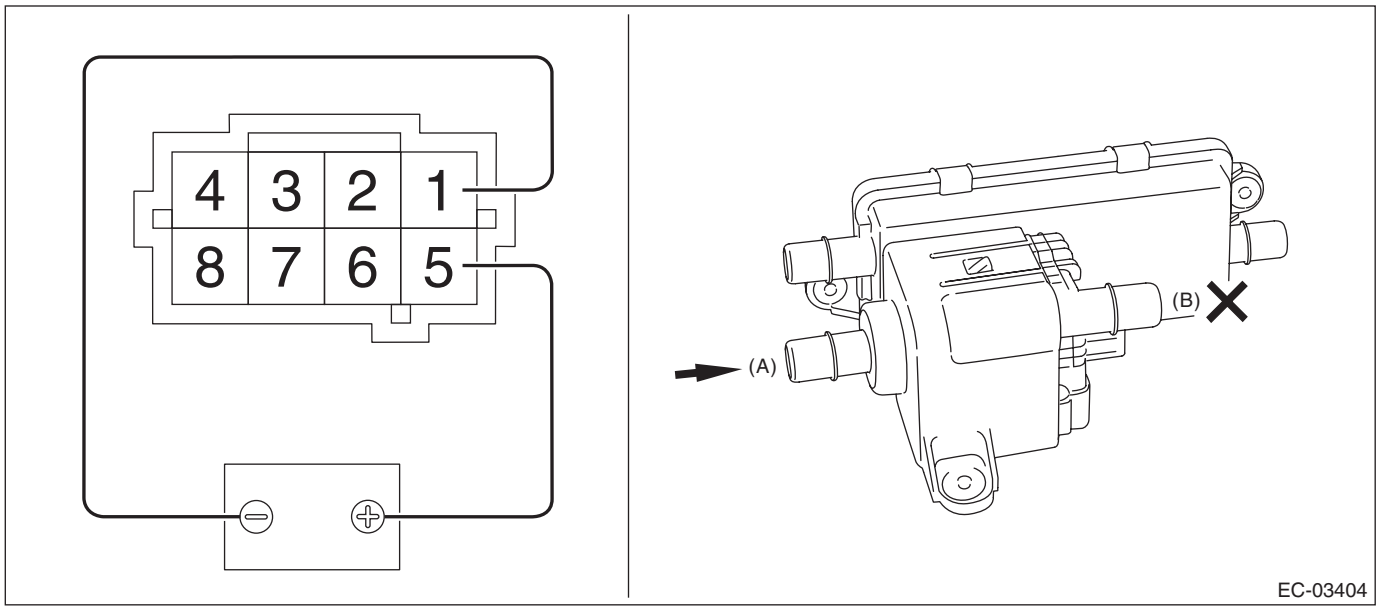


Terminal No.	Standard
1 and 5	27^{+3}_{-2} Ω (when 20°C (68°F))
	31±4 Ω (60°C (140°F))

2) Check that air is discharged from (B) when air is blown into (A).



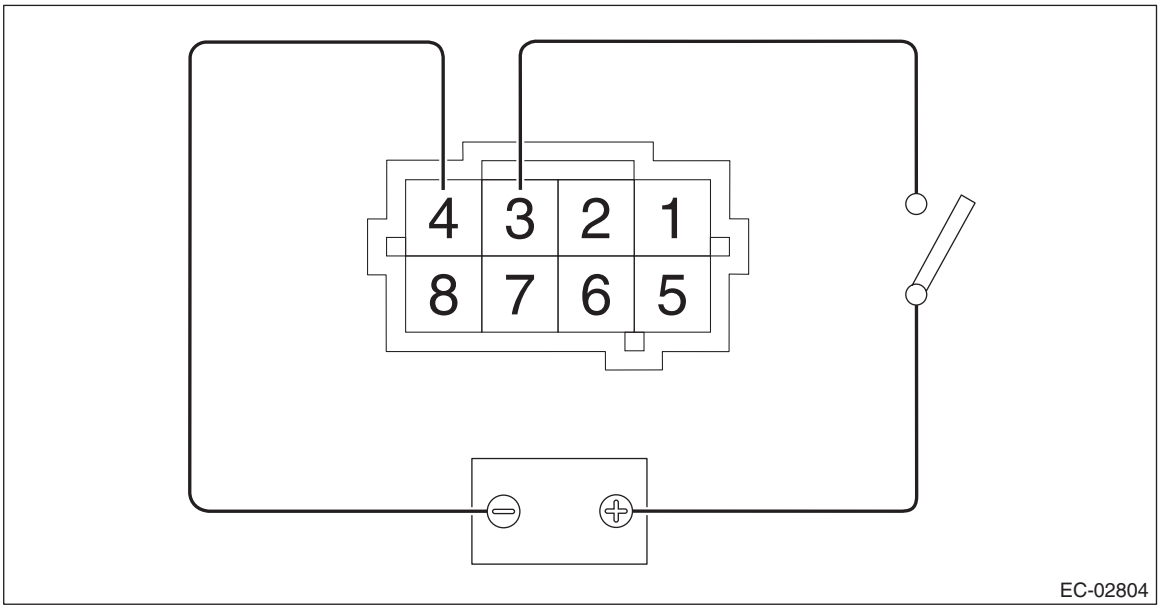
3) Connect the battery positive terminal to the terminal No. 5 and the battery negative terminal to the terminal No. 1. Check that air does not come out from (B) when air is blown into (A).



2. CHECK VACUUM PUMP

1) Connect the battery positive terminal to terminal No. 3 and the battery ground terminal to terminal No. 4, and inspect the vacuum pump operation.

CAUTION:
Do not operate the vacuum pump for 5 minutes or more.

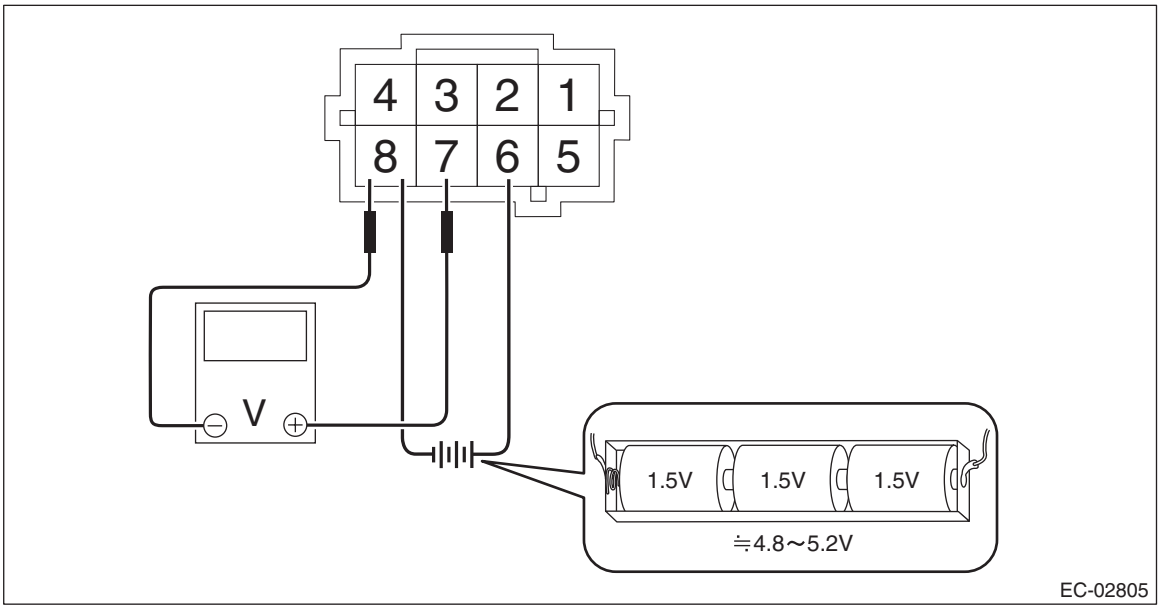


3. CHECK PRESSURE SENSOR

1) Connect dry-cell battery positive terminal to terminal No. 6 and dry-cell battery ground terminal to terminal No. 8, circuit tester positive terminal to terminal No. 7 and the circuit tester negative terminal to terminal No. 8.

NOTE:
- Use new dry-cell batteries.
- Using circuit tester, check the voltage of a single dry-cell battery is 1.6 V or more. And also check the voltage of three batteries in series is between 4.8 V and 5.2 V.

- For power supply, 5 V DC voltage source can also be used.

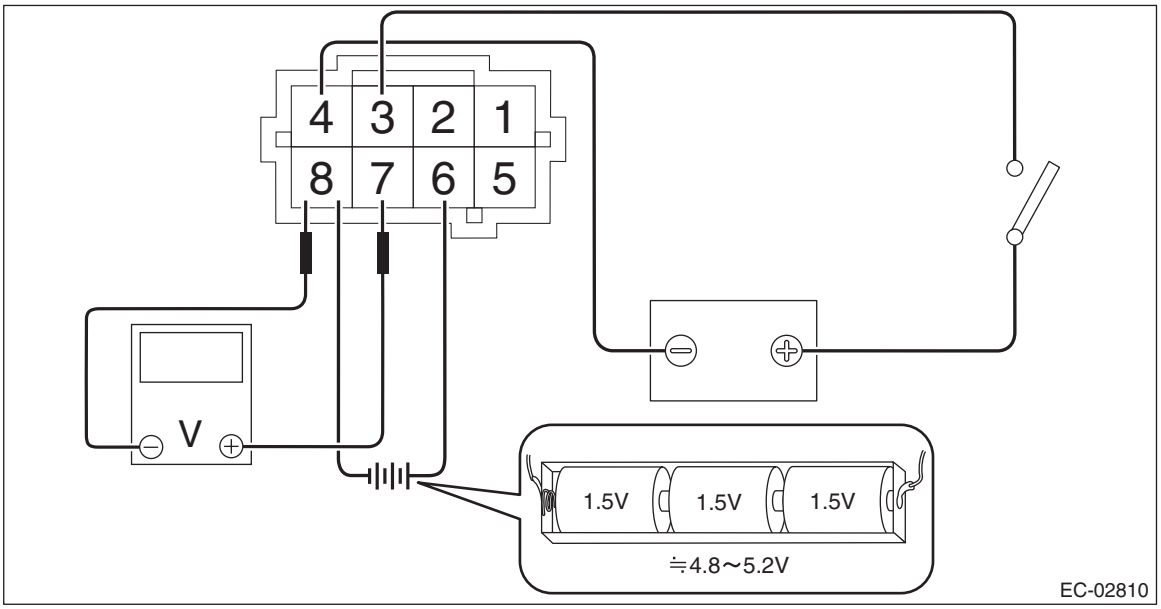


2) Check the voltage at a normal atmospheric pressure.

NOTE:
The atmospheric pressure at higher altitude is lower than normal. Therefore, the voltage is lower than the standard value.

Terminal No.	Standard
7 (+) and 8 (–)	Approx. 3.5 V (when 25°C (77°F))

3) Connect the battery positive terminal to terminal No. 3 and the battery ground terminal to terminal No. 4, and check that there is a voltage drop from the voltage measured in step 2) when the vacuum pump is operated.



4. OTHER INSPECTIONS

1) Check that the leak check valve assembly has no deformation, cracks or other damages.
2) Check that the tube or hose have no cracks, damage or loose part.