■ A/C COMPRESSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0]

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id071100801031

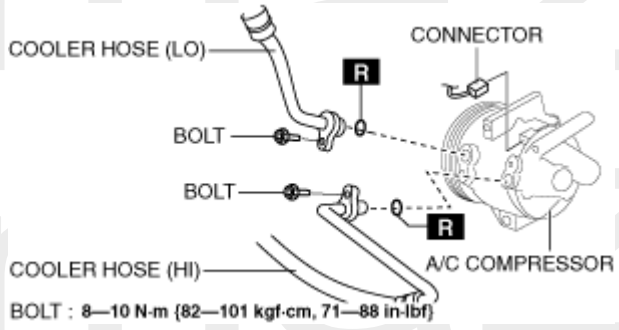
1.Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION.)

2.Discharge the refrigerant. (See REFRIGERANT RECOVERY.)(See REFRIGERANT CHARGING.)

3.Remove the front under cover No.2. (See FRONT UNDER COVER No.2 REMOVAL/INSTALLATION.)

4.Remove the drive belt. (See DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

5.Disconnect the connector.



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6.Remove bolts.

Caution

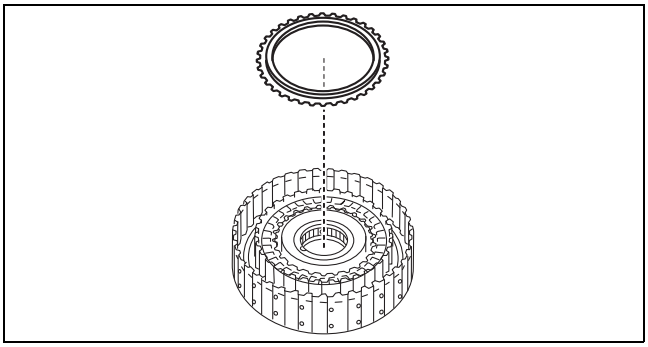
• If moisture or foreign matter enters the refrigeration cycle, cooling ability will be lowered and abnormal noise or other malfunctions could occur. Always plug open fittings immediately after removing any refrigeration cycle parts.

7.Remove the cooler hose (LO). (See REFRIGERANT LINE REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

8.Remove the cooler hose (HI). (See REFRIGERANT LINE REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

9.Remove bolts.

7. Remove the retaining plate.



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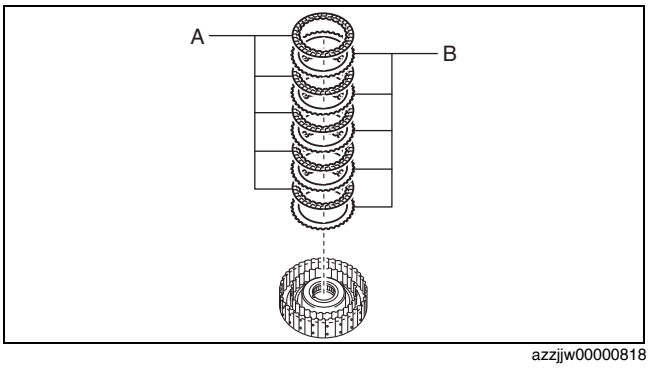
8. Remove the drive plates and driven plates.

A : Drive plate
B : Driven plate



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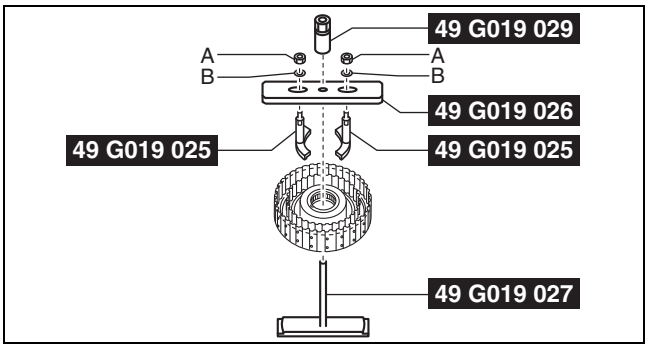
9. Remove the snap ring using the following procedure:
   (1) Install the **SSTs**.

Note
- When installing the **SST** (49 G019 025) to the **SST** (49 G019 026), use the nuts included with the **SST** (49 G019 025), or **M8×1.25** nuts.

A : Nut included with **SST** (49 G019 025), or M8×1.25 nut
B : Washer



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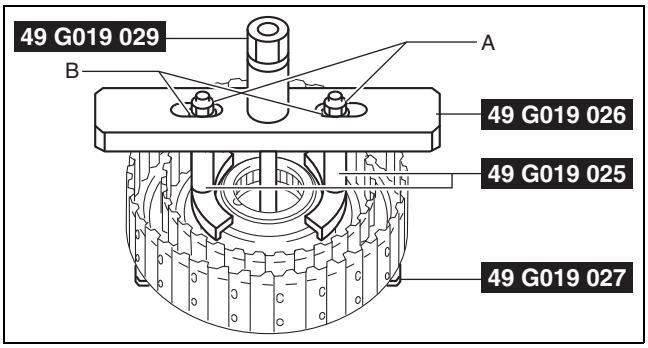
A : Nut included with **SST** (49 G019 025), or M8×1.25 nut
B : Washer



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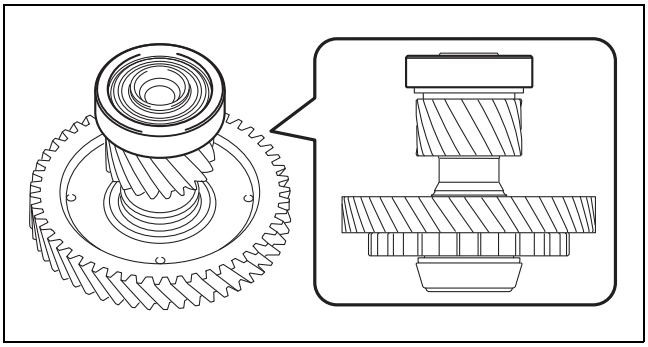

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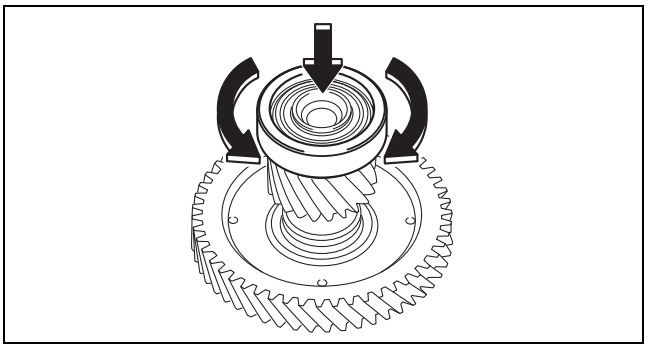
3. With a load applied by hand to the bearing race, rotate the bearing race and verify that there is no malfunction in the taper roller bearing (rotation sticking).
   - If there is a malfunction, disassemble the secondary gear and output gear and replace the taper roller bearing with a new one. (See 05-17-113 SECONDARY GEAR AND OUTPUT GEAR DISASSEMBLY [EW6A-EL].) (See 05-17-259 SECONDARY GEAR AND OUTPUT GEAR ASSEMBLY [EW6A-EL].)



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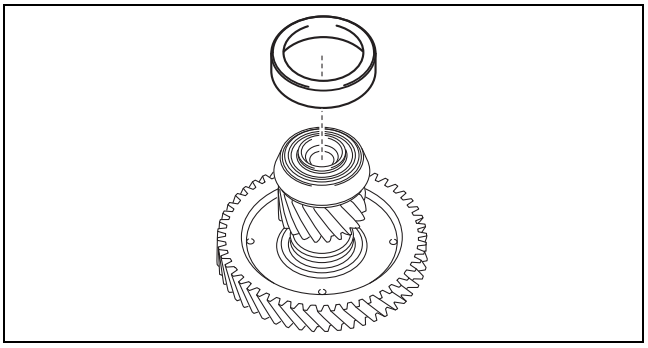
4. Remove the bearing race.



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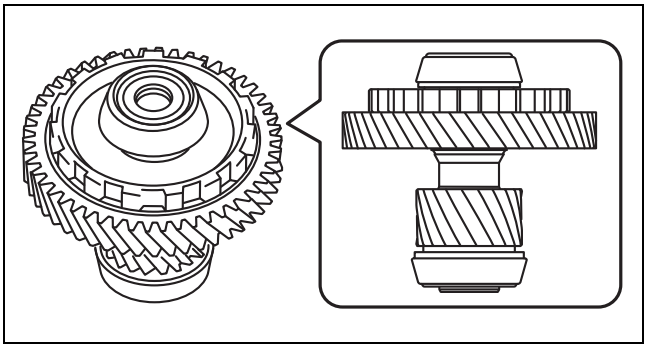
5. Place the secondary gear and output gear with the output gear side pointing downward on a workbench.



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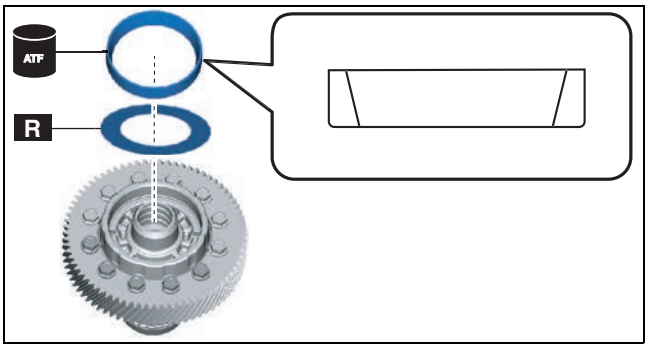
11. Assemble the shim, bearing race using the following procedure:

Note
- Bearing race size: Inner diameter **approx. 46 mm {1.8 in}**

(1) Apply ATF (ATF FZ) to the engagement area of the bearing race and differential.
(2) Using the **SST** and press, assemble the bearing race.



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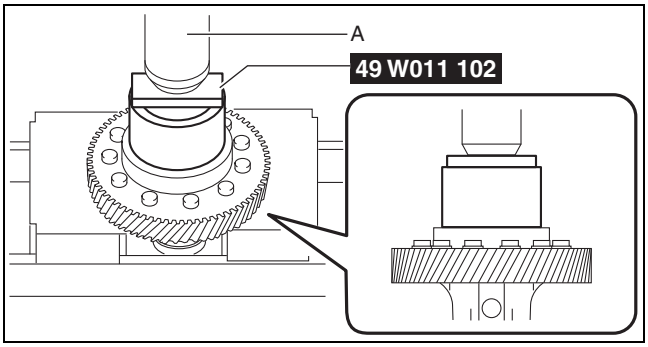
A : Press



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12. Perform the differential backlash measurement/adjustment. (See 05-17-298 DIFFERENTIAL BACKLASH MEASUREMENT/ADJUSTMENT [EW6A-EL].)

6. Select the appropriate snap ring from the following table:

Range*	Selected snap ring thickness
Exceeds 4.350 mm {0.1713 in}, 4.450 mm {0.1752 in} or less	2.8 mm {0.110 in}
Exceeds 4.250 mm {0.1673 in}, 4.350 mm {0.1713 in} or less	2.7 mm {0.106 in}
Exceeds 4.150 mm {0.1634 in}, 4.250 mm {0.1673 in} or less	2.6 mm {0.102 in}
Exceeds 4.050 mm {0.1594 in}, 4.150 mm {0.1634 in} or less	2.5 mm {0.098 in}
Exceeds 3.950 mm {0.1555 in}, 4.050 mm {0.1594 in} or less	2.4 mm {0.094 in}
Exceeds 3.850 mm {0.1516 in}, 3.950 mm {0.1555 in} or less	2.3 mm {0.091 in}
Exceeds 3.750 mm {0.1476 in}, 3.850 mm {0.1516 in} or less	2.2 mm {0.087 in}
Exceeds 3.650 mm {0.1437 in}, 3.750 mm {0.1476 in} or less	2.1 mm {0.083 in}
Exceeds 3.550 mm {0.1398 in}, 3.650 mm {0.1437 in} or less	2.0 mm {0.079 in}
Exceeds 3.450 mm {0.1358 in}, 3.550 mm {0.1398 in} or less	1.9 mm {0.075 in}
Exceeds 3.350 mm {0.1319 in}, 3.450 mm {0.1358 in} or less	1.8 mm {0.071 in}

* : The range is the sum of the average value of the low and reverse brake clearance and the thickness value of the removed snap ring.

Range = D + G
D: Average value of low and reverse brake clearance
G: Thickness of removed snap ring

Note
Example
D: Average value of low and reverse brake clearance is 1.879 mm {0.07398 in}
G: Thickness of removed snap ring is 2.305 mm {0.09075 in}
Range = 1.879 mm {0.07398 in} + 2.305 mm {0.09075 in} = 4.184 mm {0.16472 in}, the selected snap ring has a thickness of 2.6 mm {0.102 in}.

7. Assemble the selected snap ring using the following procedure:

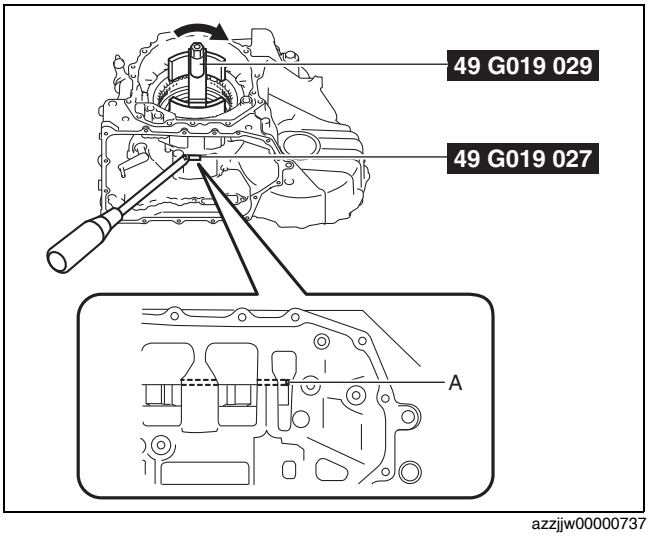
Note
- Snap ring size: Outer diameter **approx. 198.0 mm {7.795 in}**

(1) Tighten the **SST** (49 G019 029) until the snap ring groove of the transaxle case comes out.

Caution
- **If the SST (49 G019 029) is tightened with excessive force, surrounding parts could be damaged. Stop tightening the SST when the snap ring groove of the transaxle case comes out.**

Note
- Lock the **SST** (49 G019 027) against rotation using a flathead screwdriver and tighten the **SST** (49 G019 029).

A : Snap ring groove



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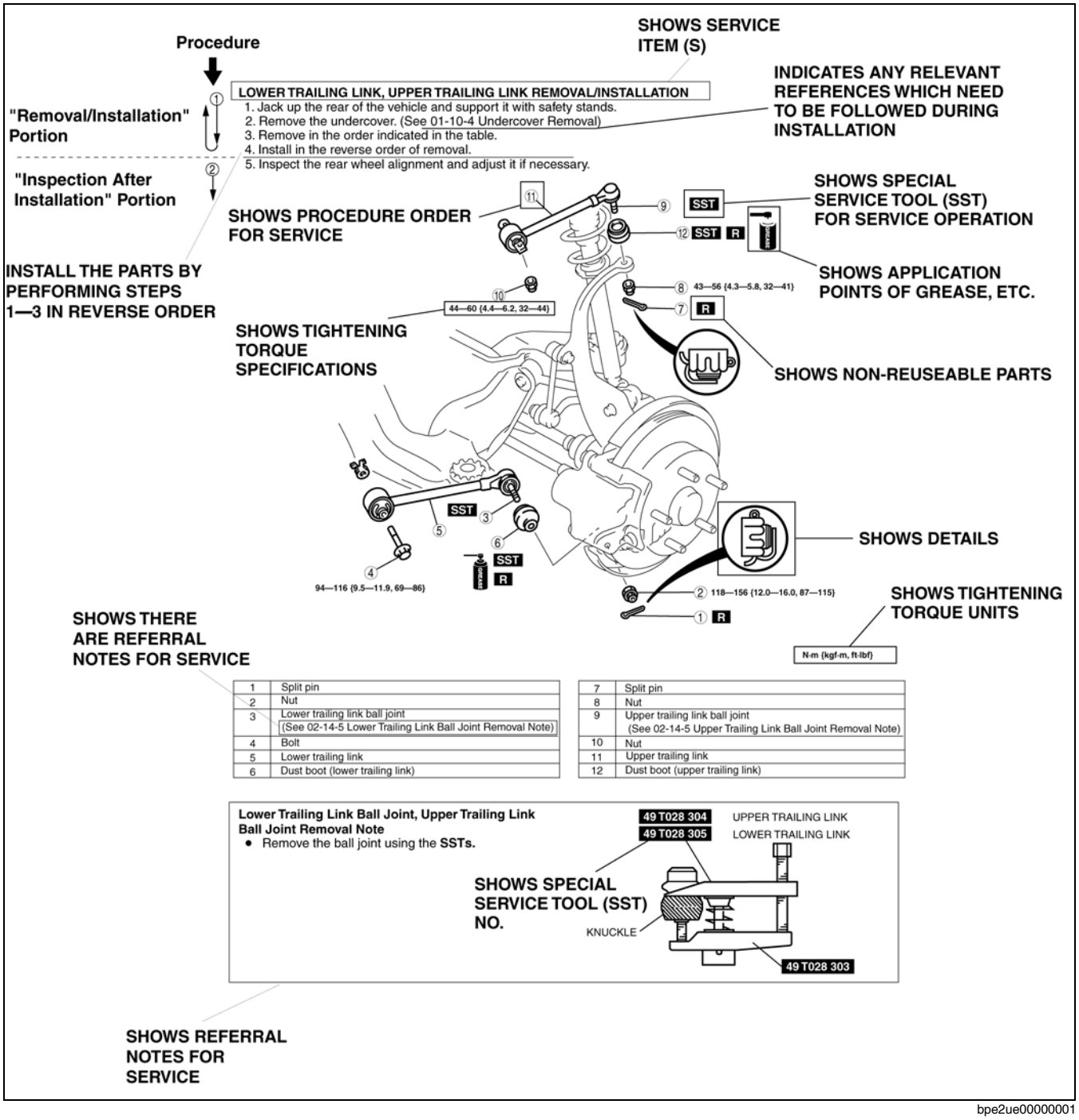
Terminal	Connected to	Test item	Test condition	Specification	Inspection item(s)
A	Battery	Voltage	Under any condition	B+	• Wiring harness between electric parking brake control module terminal A and battery
B	Ground point	Continuity	Electric parking brake control module terminal B—ground point	Continuity	• Wiring harness between electric parking brake control module terminal B and ground point
C	Electric parking brake motor gear unit (LH)	Continuity	Electric parking brake control module terminal C—electric parking brake motor gear unit (LH) terminal A	Continuity	• Wiring harness between electric parking brake control module terminal C and electric parking brake motor gear unit (LH) terminal A
D	Electric parking brake motor gear unit (LH)	Continuity	Electric parking brake control module terminal D—electric parking brake motor gear unit (LH) terminal B	Continuity	• Wiring harness between electric parking brake control module terminal D and electric parking brake motor gear unit (LH) terminal B
E	Battery	Voltage	Under any condition	B+	• Wiring harness between electric parking brake control module terminal E and battery
F	Ground point	Continuity	Electric parking brake control module terminal F—ground point	Continuity	• Wiring harness between electric parking brake control module terminal F and ground point



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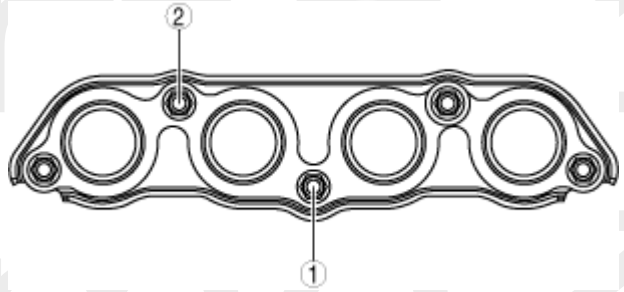
2.Remove the exhaust manifold.

Exhaust manifold installation note

1.Temporarily tighten the exhaust manifold installation nuts (1) and (2) shown in the figure by hand.



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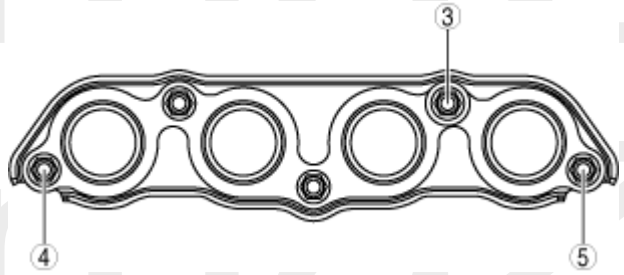
2.Tighten the exhaust manifold installation nuts (1) and (2) shown in the figure to 33—53 N·m {3.4—5.4 kgf·m, 25—39 ft·lbf}.

3.Temporarily tighten the exhaust manifold installation nuts (3) to (5) shown in the figure by hand.



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4.Tighten the exhaust manifold installation nuts (3) to (5) shown in the figure.

Exhaust manifold installation nut tightening torque

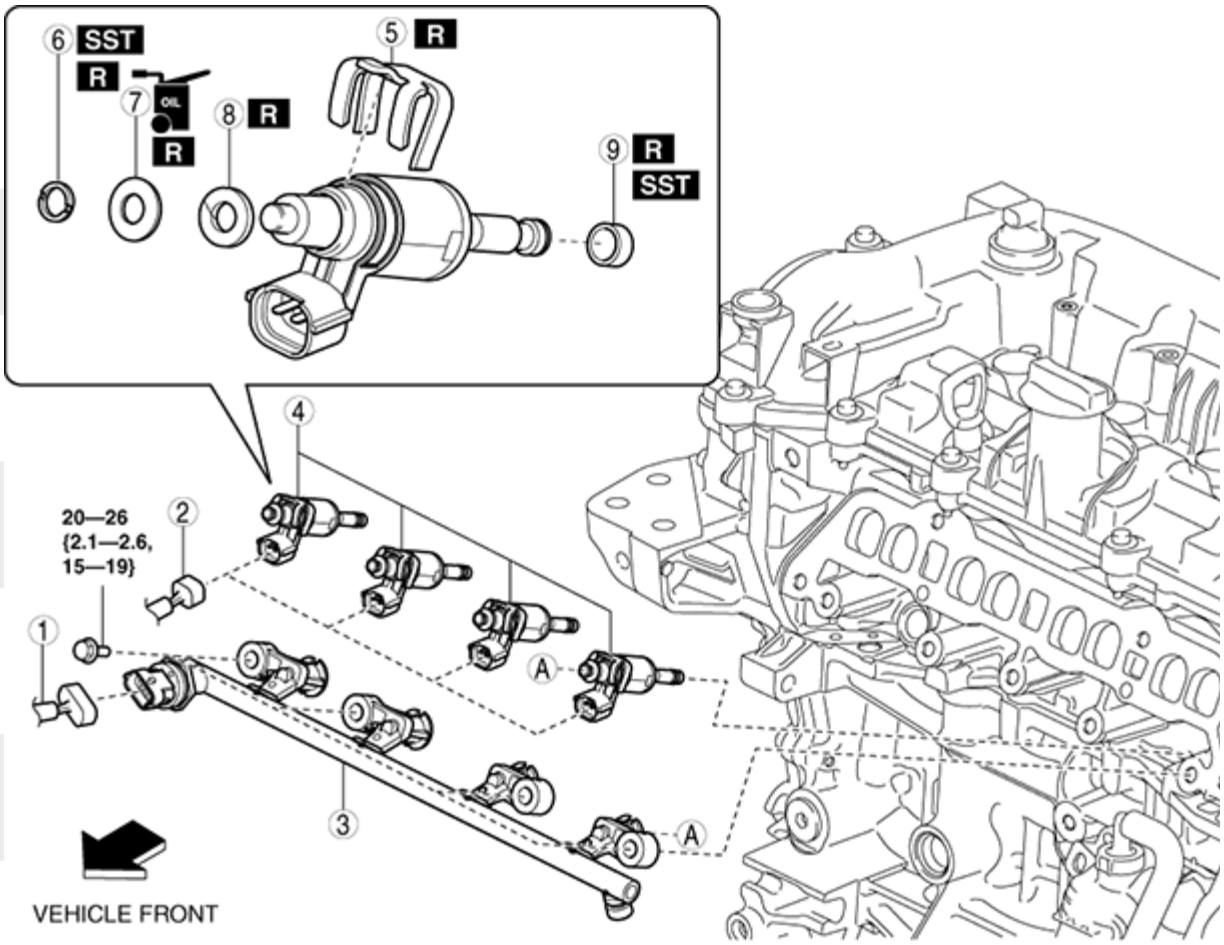
43—64 N·m {4.4—6.5 kgf·m, 32—47 ft·lbf}

5.Tighten the exhaust manifold installation nuts (1) and (2) shown in the figure.

Exhaust manifold installation nut tightening torque

43—64 N·m {4.4—6.5 kgf·m, 32—47 ft·lbf}

6.Temporarily tighten the bolts (6) and (7) shown in the figure.



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• If any brush is worn almost to or beyond the limit, replace all of the brushes.

Generator brush length

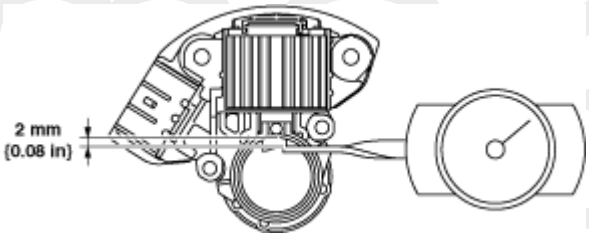
Standard: 22.5 mm {0.886 in}

Minimum: 5.0 mm {0.20 in}

Brush spring

1.Measure the force of the brush spring using a spring pressure gauge.

2.Read the spring pressure gauge at the brush tip projection of 2 mm {0.08 in}.



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• If not within specification, replace the brush spring.

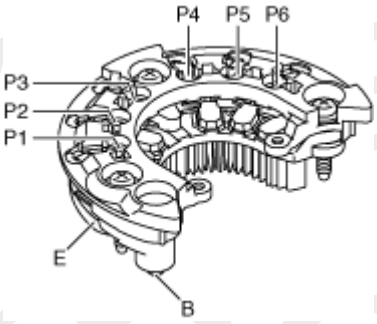
Generator brush spring force

Standard: 4.1—5.3 N {0.42—0.54 kgf, 1.0—1.1 lbf}

Minimum: 1.7 N {0.17 kgf, 0.38 lbf}

Rectifier (Using an analog circuit tester)

1.Inspect for continuity of the diodes using an analog circuit tester.



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■ LUBRICATION SYSTEM LOCATION INDEX [SKYACTIV-G 2.0]

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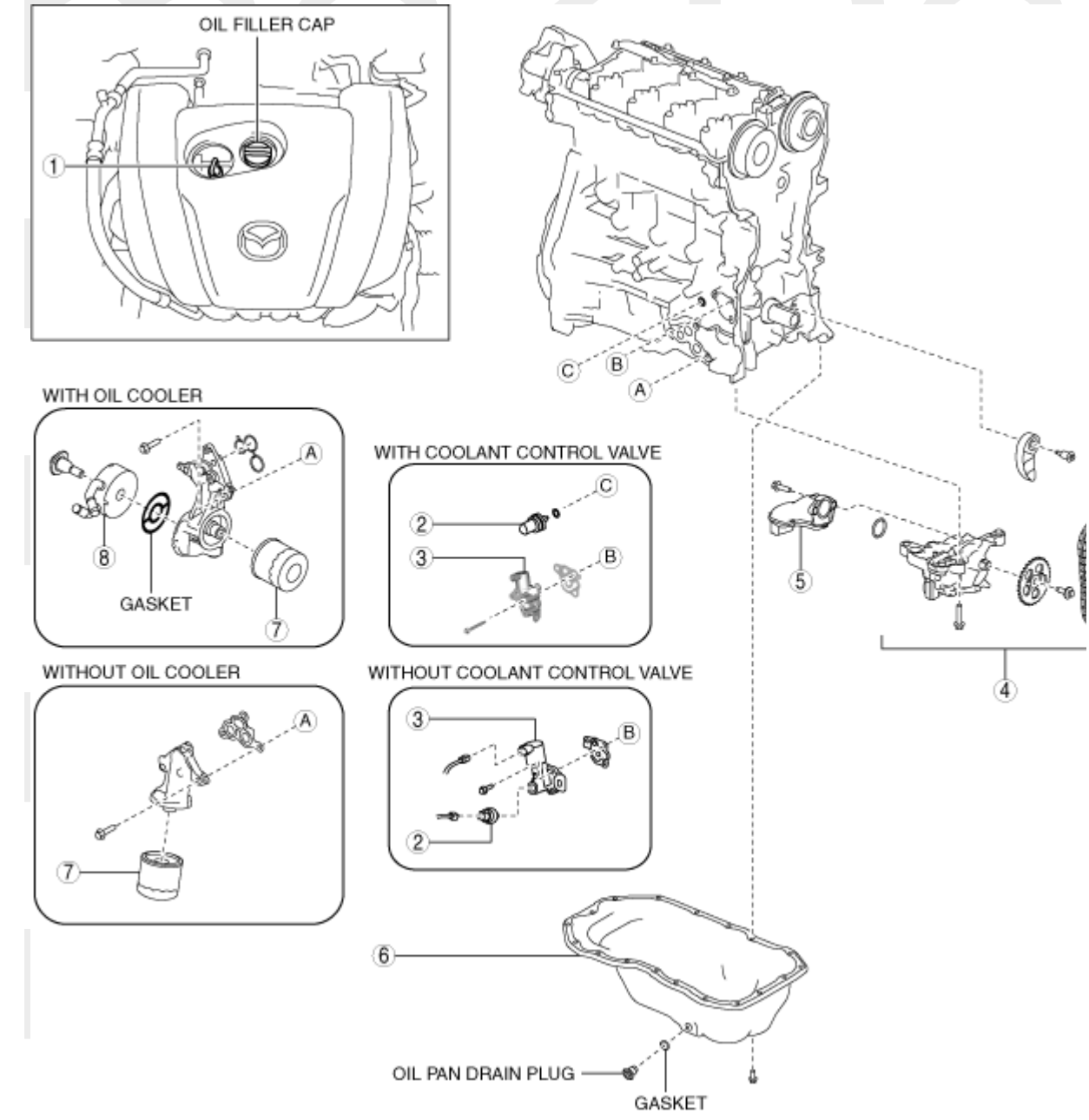
id0111h3800100



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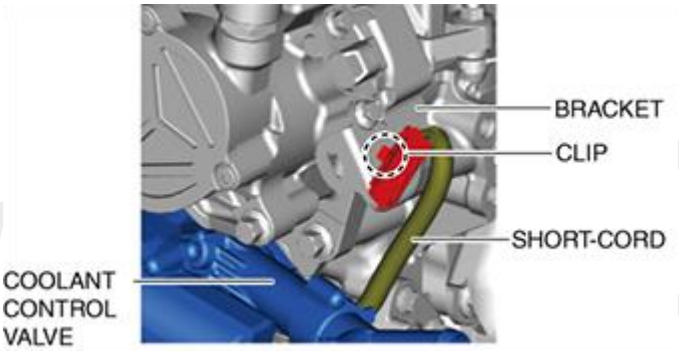

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3.Remove the coolant control valve.

4.When replacing the engine coolant control valve, remove ECT sensor No.2. (See ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

Coolant control valve installation note

Caution

• Do not apply oil (such as engine oil, ATF) to the O-ring. Otherwise, the O-ring could swell causing a seal malfunction.

1.If the engine coolant control valve has been replaced, install ECT sensor No.2. (See ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

2.Insert a new gasket into the coolant control valve groove.

3.Install the coolant control valve.

Tightening torque

8—11 N·m {82—112 kgf·cm, 71—97 in·lbf}

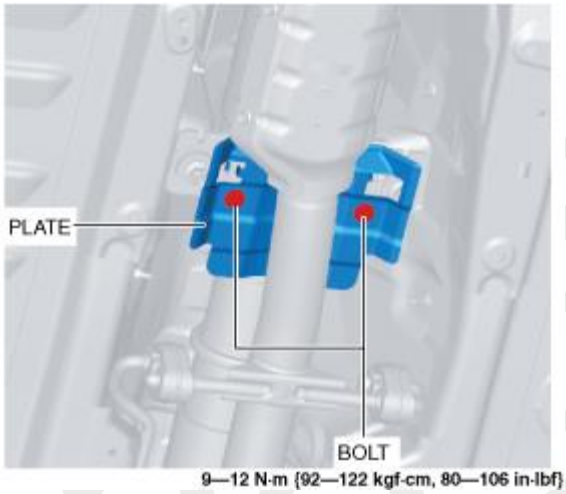
Lower radiator hose component installation note

Caution

• Do not apply oil (such as engine oil, ATF) to the gasket. Otherwise, the gasket could swell causing a seal malfunction.

1.Install the lower radiator hose component using the following procedure:

(1)Insert a new gasket into the pipe groove. (2)Tighten the nuts shown in the figure.



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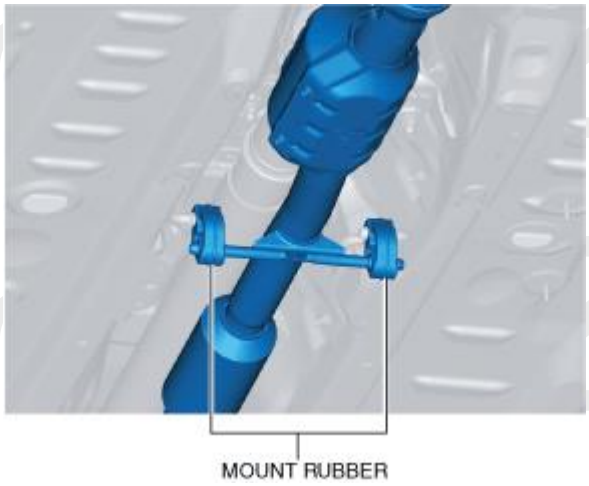
4.Remove the TWC from the mount rubber.



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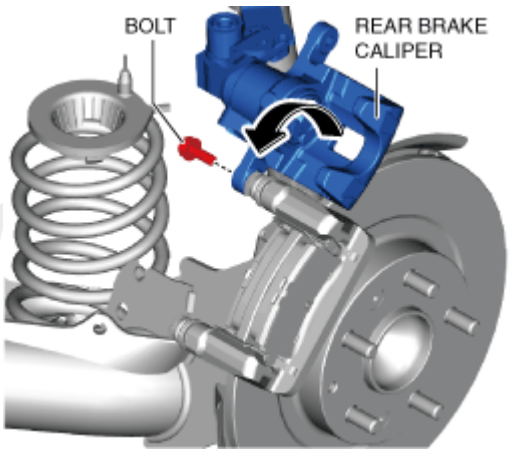
5.Disconnect the TWC from the main silencer. (See EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

6.Suspend the TWC using a cable as shown in the figure.



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Caution

• If the double-sided adhesive tape affixed to the shim contacts the caliper and piston, the tape's adhesive surface will roughen causing disc pad wear which may become a source of noise when the rear brake caliper moves. When moving the rear brake caliper be careful not to allow the double-sided adhesive tape on the shim to contact the caliper and piston.

7.Move the rear brake caliper in the direction of the arrow shown in the figure.

8.Tighten the caliper installation bolt.

With Electric Parking Brake

Note

• When in maintenance mode, the clearance between the disc pad and the disc plate expands.

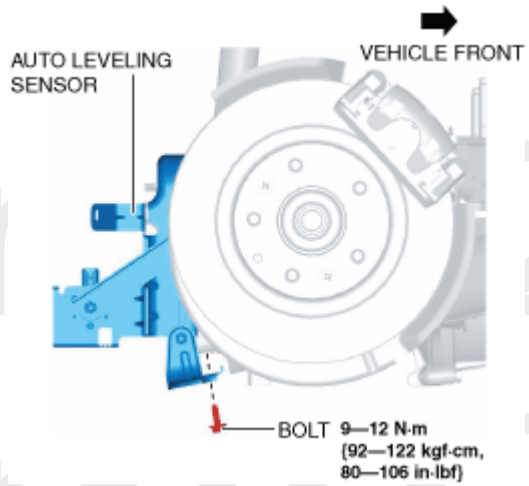
• When the maintenance mode is completed, perform the electric parking brake automatic adjustment.

• With the electric parking brake automatic adjustment, the electric parking brake motor gear unit operation time is longer than normal.

1.Switch to the maintenance mode. (See MAINTENANCE MODE.)

2.Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION.)

3.Disconnect the electric parking brake motor gear unit connector.



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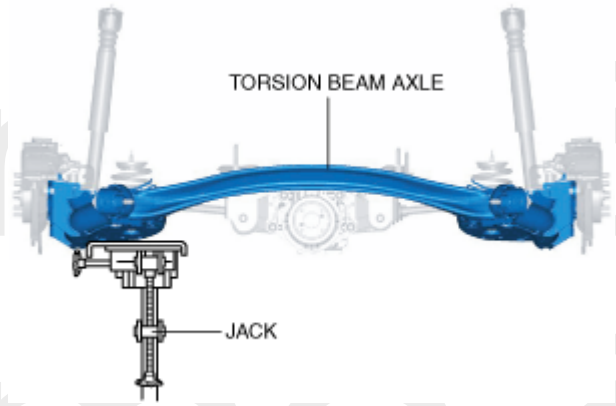
7.Support the torsion beam axle using a jack.

Warning

• If the torsion beam axle falls off while it is removed/installed, it may cause serious injury or death, or vehicle damage. Always use a jack when removing/installing the torsion beam axle and verify that it is securely supported.



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8.Remove in the order indicated in the table.

9.Install in the reverse order of removal.