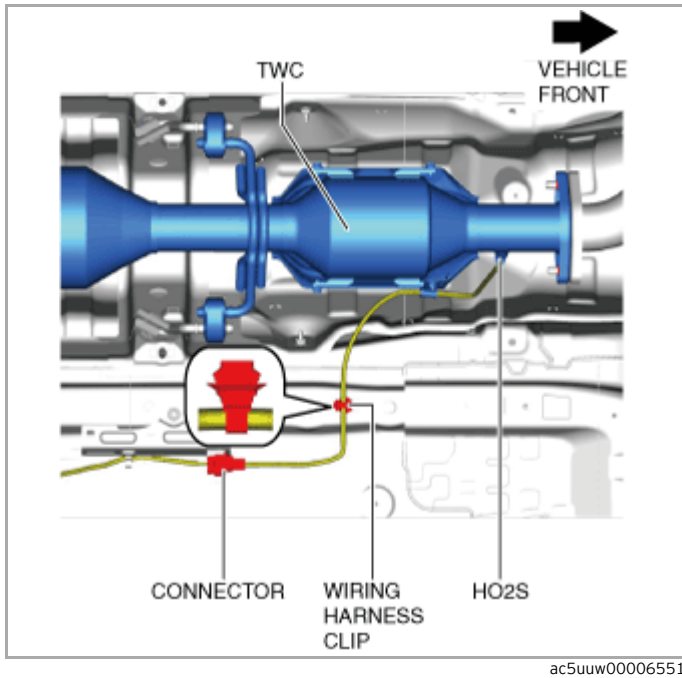


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2011 MAZDA 6/Atenza Wagon OEM Service and Repair Workshop Manual

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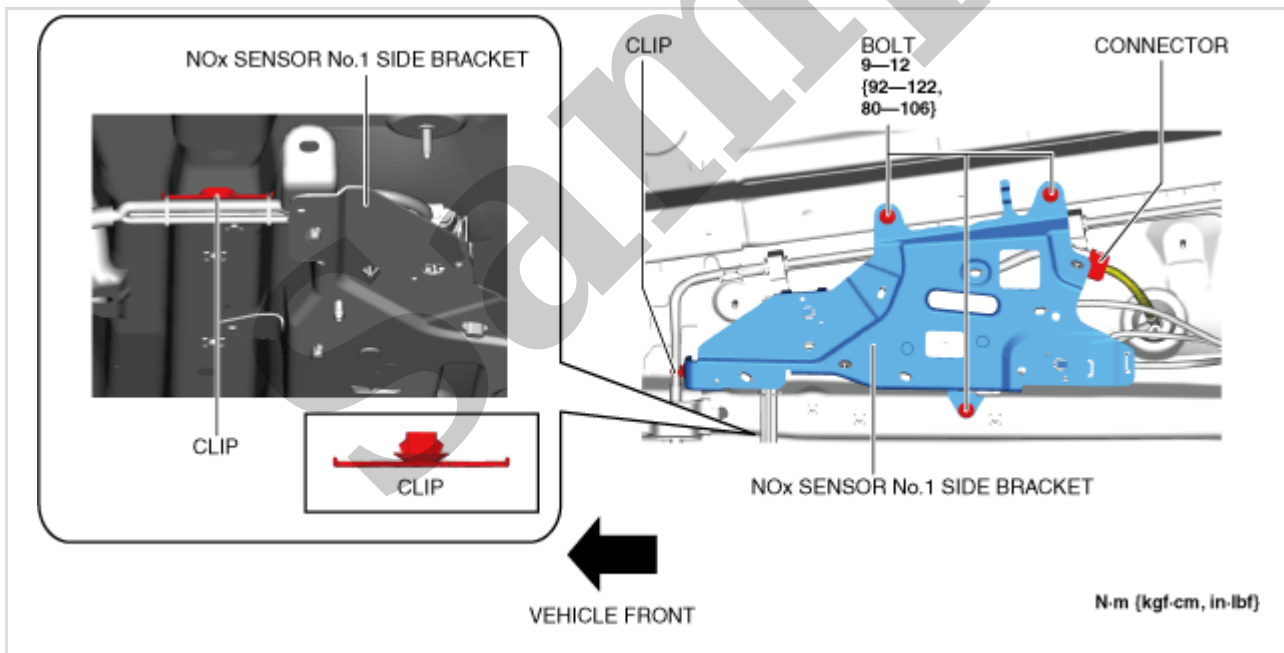


(4) Remove the TWC. (See [EXHAUST SYSTEM REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)

13. For SKYACTIV-D 2.2 vehicles, perform the following procedure.

(1) Disconnect the quick release connector from the urea injector. (See [UREA INJECTOR REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\]](#).) (See [QUICK RELEASE CONNECTOR \(EMISSION SYSTEM\) REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\]](#).)

(2) Remove the clips.

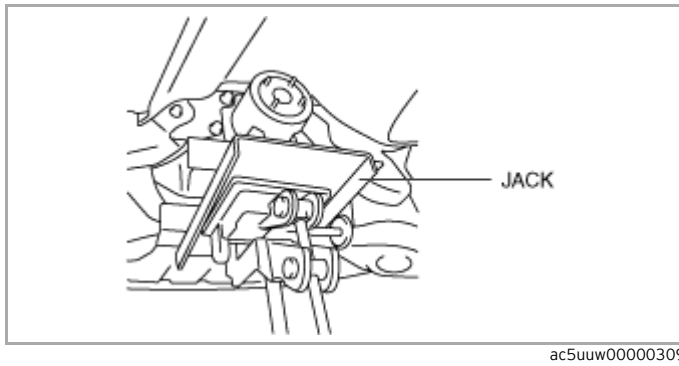


(3) Remove the bolts.

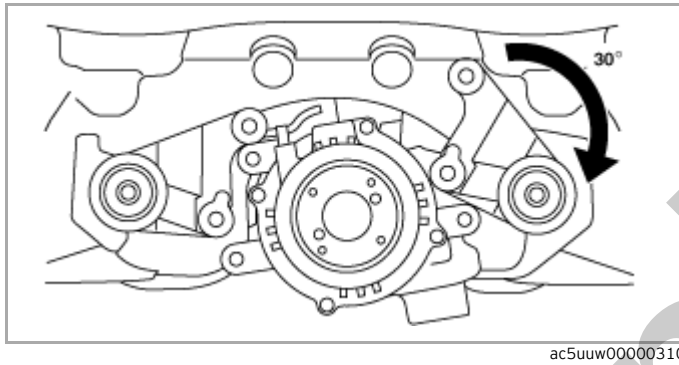
(4) Disconnect the connector.

(5) Set the NOx sensor No.1 side bracket aside.

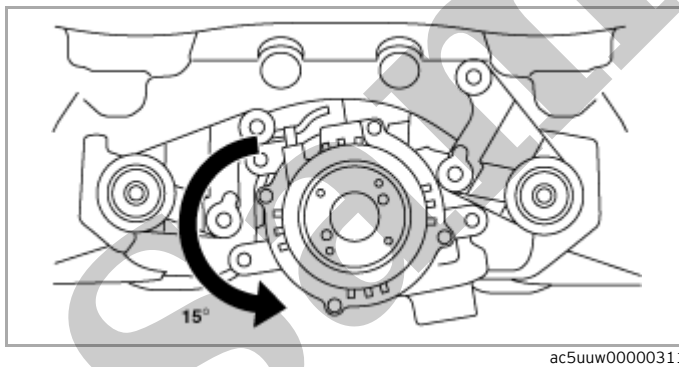
(6) Remove the bolts.



2. Loosen the differential mounting bracket bolt and rotate the bracket as shown in the figure.



3. Rotate the rear differential as shown in the figure, and then remove the rear differential.

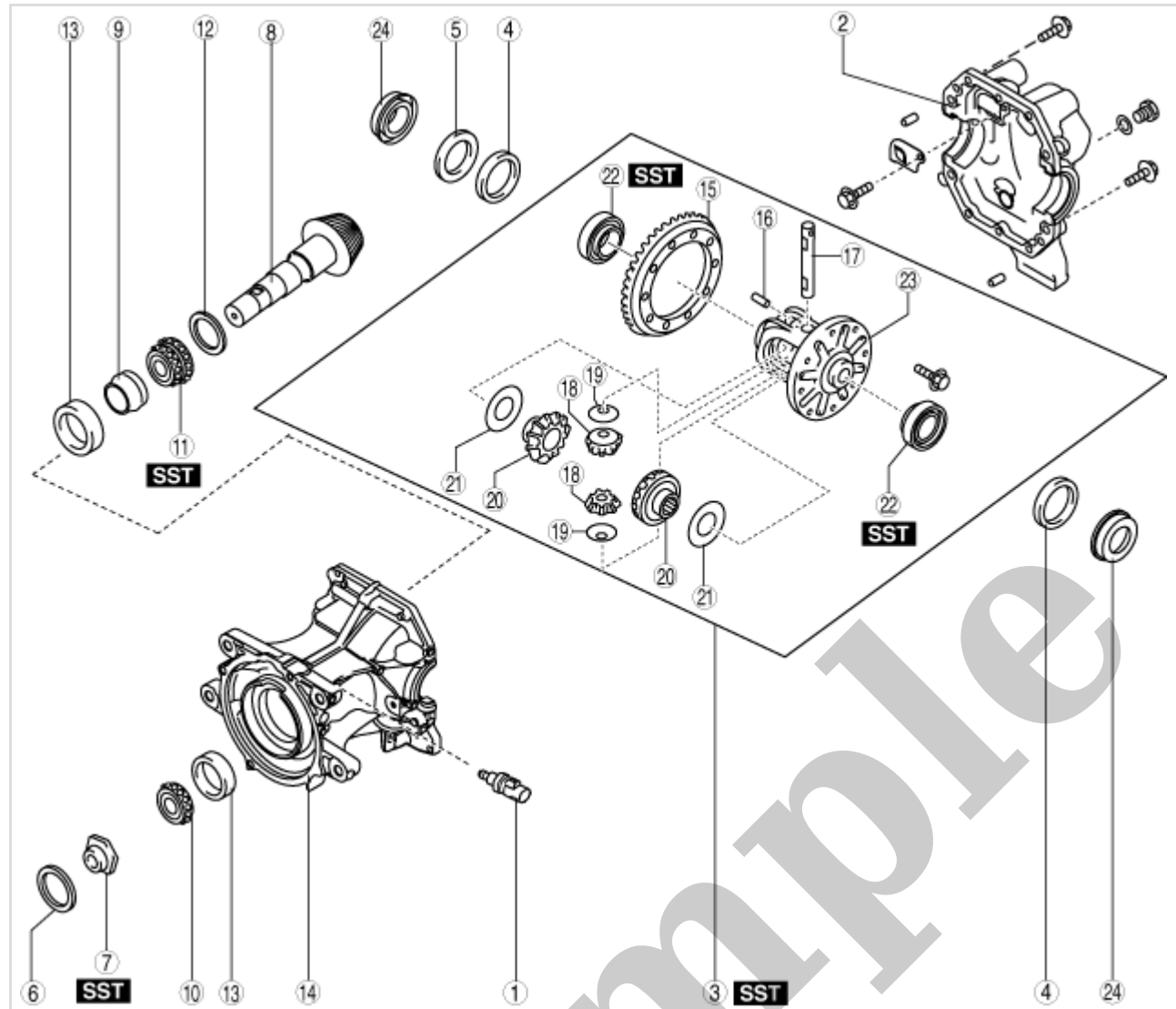


Rear Differential Mounting Bracket Installation Note

Caution

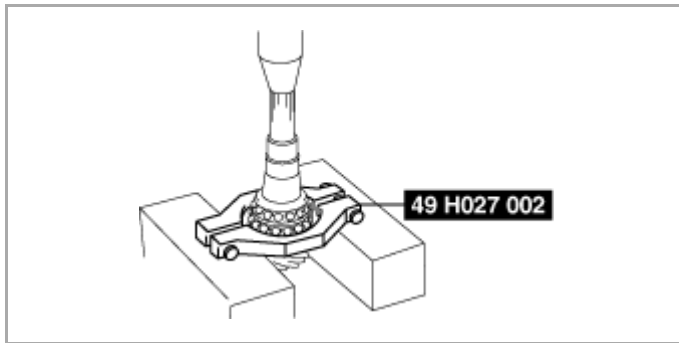
- Retighten the rear differential mounting bracket stud bolt when the rear differential mounting bracket nut is loosened.

1. Tighten the rear differential mounting bracket stud bolt.



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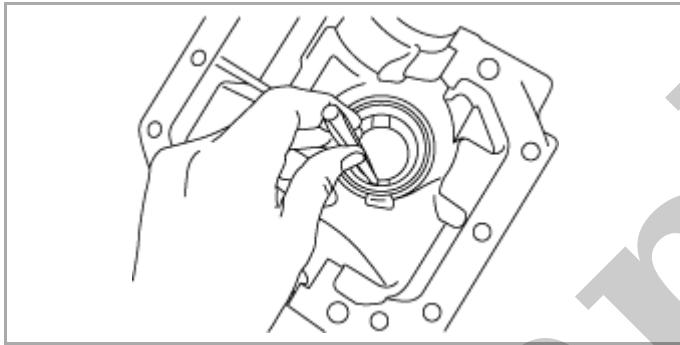
1	Differential oil temperature sensor
2	Rear cover (See Rear Cover Disassembly Note.)
3	Rear differential component (See Rear Differential Component Disassembly Note.)
4	Adjusting shim
5	Spacer
6	Oil seal (Coupling component)
7	Locknut (See Locknut Disassembly Note.)
8	Drive pinion (See Drive Pinion Disassembly Note.)
9	Collapsible spacer
10	Bearing inner race (front bearing)
11	Bearing inner race (rear bearing) (See Bearing Inner Race (Rear Bearing) Disassembly Note.)
12	Spacer
13	Bearing outer race (See Bearing Outer Race Disassembly Note.)
14	Differential carrier
15	Ring gear (See Ring Gear Disassembly Note.)
16	Pin
17	Pinion shaft
18	Pinion gear



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Bearing Outer Race Disassembly Note

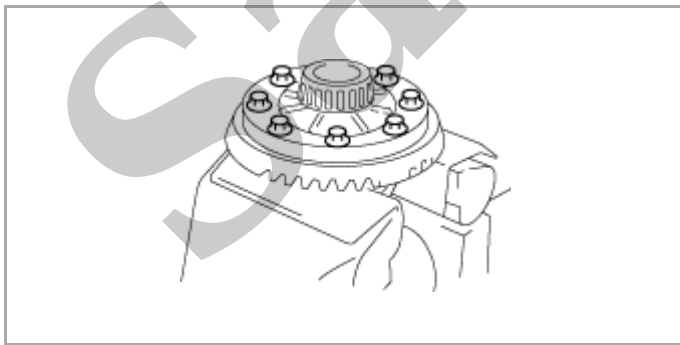
1. Remove the bearing outer races using the 2 grooves in the carrier and alternately tapping the sides of the races with a brass bar.



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Ring Gear Disassembly Note

1. Secure the gear case in a vise and remove the bolts.



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2. Lightly tap around the ring gear using a plastic hammer to remove the ring gear from the gear case.

Side Bearing Disassembly Note

Caution

- Mark or otherwise distinguish between the left and right side bearings so that they are not mixed up at the time of reassembly.

1. Remove the side bearing inner races from the gear case using the SST.

- Clean away the old sealant before applying the new sealant.
- Install the rear cover before the applied sealant starts to harden.
- Allow the sealant to set at least 30 minutes after installation before filling the differential with the specified oil.

Exploded view diagram of a rear differential assembly. The diagram shows the housing, internal gears, shafts, and seals. Key components are labeled with 'SST' (Special Service Tool) and 'R' (Right/Left). Torque values are provided in N-m, kgf-cm, and in-lbf.

9-12 N-m
{92-122 kgf-cm,
80-106 in-lbf}

69-83
{7.1-8.4,
51-61}

13-17 N-m
{133-173 kgf-cm,
116-150 in-lbf}

190-570
{20-58,
141-420}

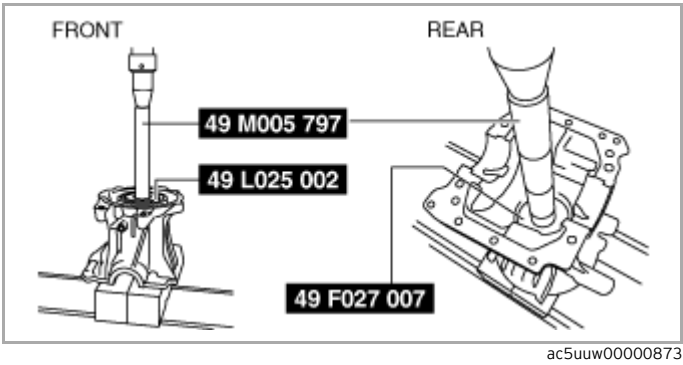
N-m (kgf-m, ft-lbf)

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1	Gear case
2	Side bearing (See Side Bearing Assembly Note.)
3	Thrust washer (See Thrust washer Assembly Note.)
4	Side gear
5	Thrust washer
6	Pinion gear
7	Pinion shaft
8	Pin
9	Ring gear (See Ring Gear Assembly Note.)
10	Differential carrier
11	Bearing outer race (See Bearing Outer Race Assembly Note.)

Bearing Outer Race Assembly Note

1.Press in the bearing outer race using the SSTs and a press.



Spacer, Bearing Inner Race Assembly Note

1.Install a new spacer of the same size as the originally installed spacer.

Spacer thickness

Identification mark	Thickness (mm {IN})	Identification mark	Thickness (mm {IN})
08	3.08 {0.1213}	29	3.29 {0.1295}
09	3.095 {0.1219}	30	3.305 {0.1301}
11	3.11 {0.1224}	32	3.32 {0.1307}
12	3.125 {0.1230}	33	3.335 {0.1313}
14	3.14 {0.1236}	35	3.35 {0.1319}
15	3.155 {0.1242}	36	3.365 {0.1325}
17	3.17 {0.1248}	38	3.38 {0.1331}
18	3.185 {0.1254}	39	3.395 {0.1337}
20	3.20 {0.1260}	41	3.41 {0.1343}
21	3.215 {0.1266}	42	3.425 {0.1348}
23	3.23 {0.1272}	44	3.44 {0.1354}
24	3.245 {0.1278}	45	3.455 {0.1360}
26	3.26 {0.1283}	47	3.47 {0.1366}
27	3.275 {0.1289}	-	-

2.Press the bearing inner race (rear bearing) into the drive pinion using the SSTs and a press.

7.If the combined thickness of the previously installed adjusting shims is not between C1 and C2, or if the adjusting shims have to be replaced, select two appropriate adjusting shims from the table below.

Adjusting shim thickness

Identification mark	Thickness (mm {IN})	Identification mark	Thickness (mm {IN})
339	3.39 {0.133}	393	3.93 {0.155}
342	3.42 {0.135}	396	3.96 {0.156}
345	3.45 {0.136}	399	3.99 {0.157}
348	3.48 {0.13}	402	4.02 {0.158}
351	3.51 {0.138}	405	4.05 {0.159}
354	3.54 {0.139}	408	4.08 {0.161}
357	3.57 {0.141}	411	4.11 {0.162}
360	3.60 {0.142}	414	4.14 {0.163}
363	3.63 {0.143}	417	4.17 {0.164}
366	3.66 {0.144}	420	4.20 {0.165}
369	3.69 {0.145}	423	4.23 {0.167}
372	3.72 {0.146}	426	4.26 {0.168}
375	3.75 {0.148}	429	4.29 {0.169}
378	3.78 {0.149}	432	4.32 {0.170}
381	3.81 {0.150}	435	4.35 {0.171}
384	3.84 {0.151}	438	4.38 {0.172}
387	3.87 {0.152}	441	4.41 {0.174}
390	3.90 {0.154}	–	–

Caution

- If adjusting shims are to be reused, do not mix up the left and right shims.
- Do not mix up the left and right side bearing outer races and spacers.

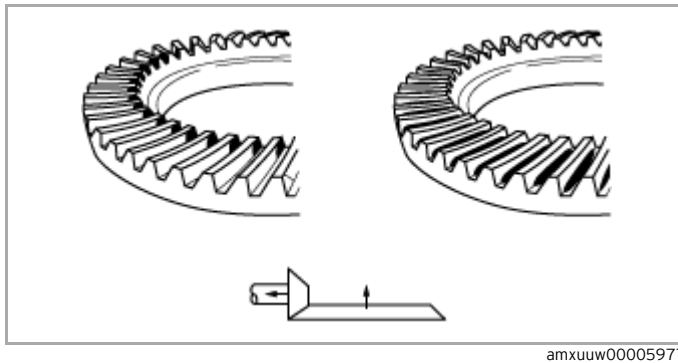
8.Assemble the rear differential component to the differential carrier.

9.Tap the selected adjusting shim between the spacer and the bearing race with a plastic hammer.

10.Perform the ring gear and drive pinion backlash adjustment.

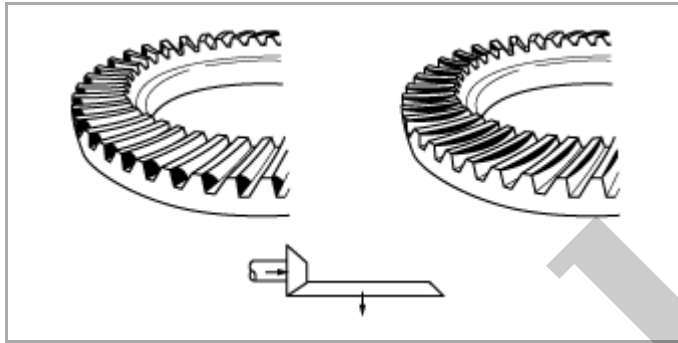
Note

- Install the SST so that it does not contact the ring gear.



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— If heel and face contact appears as indicated in the figure, replace the spacer with a thicker one and move the drive the pinion inward.



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Spacer thickness

Identification mark	Thickness (mm {IN})	Identification mark	Thickness (mm {IN})
08	3.08 {0.1213}	29	3.29 {0.1295}
09	3.095 {0.1219}	30	3.305 {0.1301}
11	3.11 {0.1224}	32	3.32 {0.1307}
12	3.125 {0.1230}	33	3.335 {0.1313}
14	3.14 {0.1236}	35	3.35 {0.1319}
15	3.155 {0.1242}	36	3.365 {0.1325}
17	3.17 {0.1248}	38	3.38 {0.1331}
18	3.185 {0.1254}	39	3.395 {0.1337}
20	3.20 {0.1260}	41	3.41 {0.1343}
21	3.215 {0.1266}	42	3.425 {0.1348}
23	3.23 {0.1272}	44	3.44 {0.1354}
24	3.245 {0.1278}	45	3.455 {0.1360}
26	3.26 {0.1283}	47	3.47 {0.1366}
27	3.275 {0.1289}	—	—

Oil Seal (Side gear) Assembly Note

1. Apply differential oil to the new oil seal lip.
2. Assemble the oil seal using the SSTs.

DIFFERENTIAL OIL INSPECTION

SM2898020

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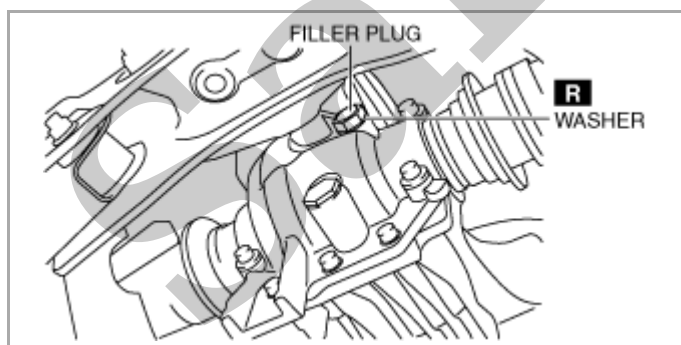
Replacement Part

Washer

Quantity: 1

Location of use: Filler plug

- 1.Place the vehicle on level ground.
- 2.Remove the filler plug and washer.
- 3.Verify that the oil is at the brim of the filler plug hole.
- 4.If it is low, add the specified oil.
- 5.Install a new washer and the filler plug, and tighten.



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Tightening torque

40–53 N·m {4.1–5.4 kgf·m, 30–39 ft·lbf}