

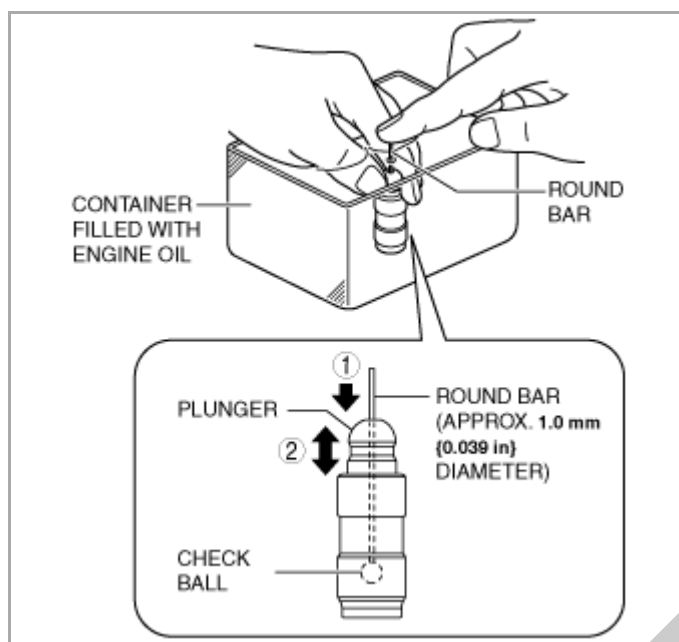
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2006 MAZDA 3 / Axela Sedan OEM Service and Repair Workshop Manual

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(2) While lightly pressing the check ball using a round bar (approx. 1.0 mm {0.039 in} diameter), bleed air by moving the plunger up and down.



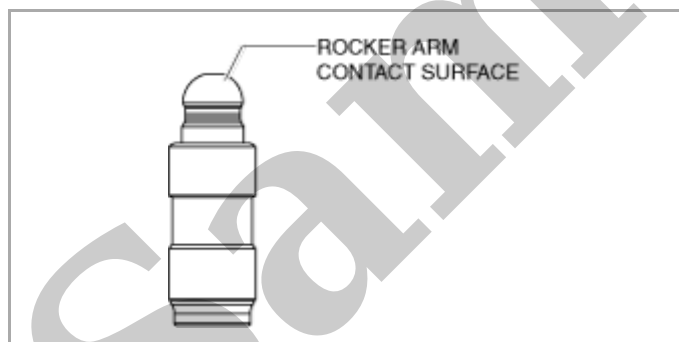
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(3) Press the end of the plunger in the oil and verify that there is no rebounding feel.

- If rebounding feel cannot be eliminated, replace the HLA.

2. Visually inspect the HLA surface where it contacts the rocker arm for wear or damage.

- If there is any malfunction, replace the HLA.

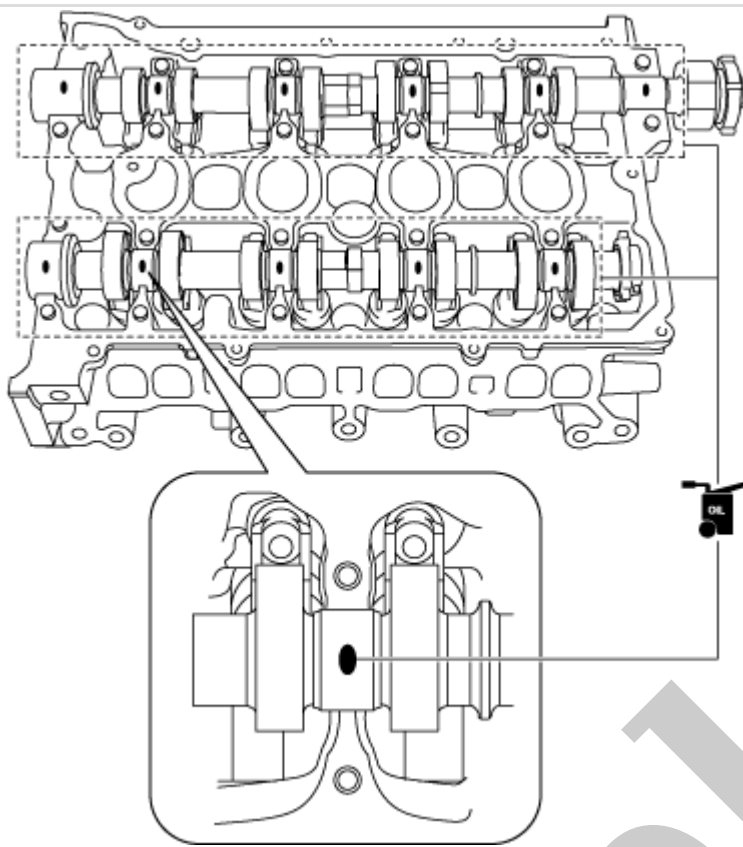


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3. Assemble the HLAs to their original positions.

Rocker Arm Installation Note

1. Apply engine oil to the HLAs and the end of the valve stems.



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7. Apply SAE 90 gear oil or equivalent, or engine oil to the thrust surface of the front camshaft cap.

Note

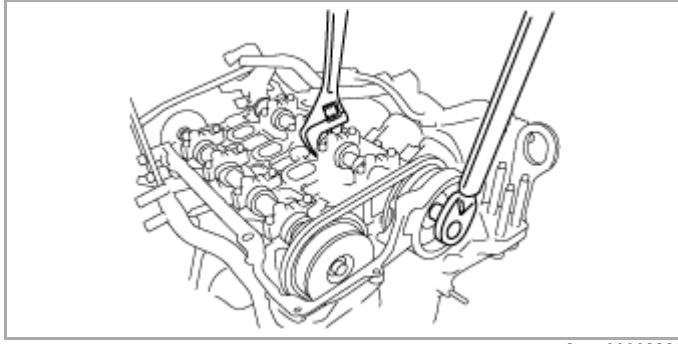
- If oil is applied to the front journal thrust surface of each camshaft, oil should not be applied to the front camshaft cap.

8. Apply sealant (LOCTITE 962T, 518, 272 or equivalent) to the rear camshaft cap installation area on the exhaust side of the cylinder head or the rear camshaft cap on the exhaust side.

Note

- To prevent engine oil leakage, apply sealant to the rear camshaft cap installation area on the exhaust side of the cylinder head or the rear camshaft cap on the exhaust side, and seal the journal.

6. Hold the intake camshaft using a wrench on the cast hexagon, and tighten the electric variable valve timing actuator installation bolt.



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Tightening torque

102–114 N·m {10.5–11.6 kgf·m, 76–84 ft·lbf}

Timing Chain Installation Note

1. Install the chain guide (No.1).

Tightening torque

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

2. Remove the bolt securing the tensioner arm and apply tension to the timing chain.

3. Rotate the crankshaft clockwise two turns and verify that the valve timing is correct.

- If the valve timing is not correct, remove the engine front cover and reassemble the timing chain to each sprocket. (See **TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]**.)

HYDRAULIC LASH ADJUSTER (HLA) INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]

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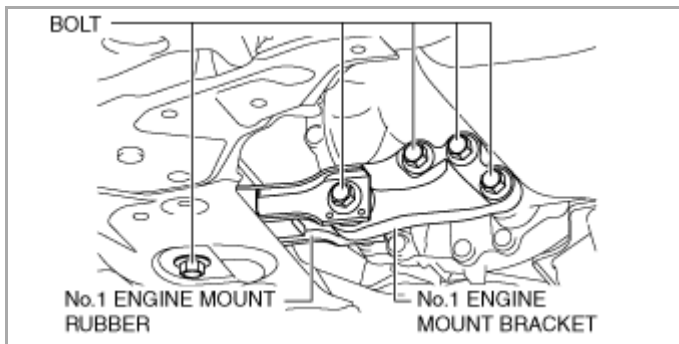
HLA Troubleshooting

Item	Occurrence	Possible cause	Action
1	After replacing oil, sound occurs when starting engine	Oil shortage in oil passage	• Maintain the engine speed between 2,000 to 3,000 rpm for approx. 2 s and 10 min *, and verify that the sound disappears.
2	Sound occurs at instant when engine is started on vehicle left for 1 day		
3	Starter cranked for 3 s or more and sound occurs directly after engine is started	HLA oil shortage	— If the sound disappears, the HLA is normal. — If the sound does not disappear, go to item 5.
4	Sound occurs directly after engine is started with newly replaced HLA		
5	Sound occurs continuously for 10 min or more	Insufficient oil pressure	• Inspect the oil pressure. (See OIL PRESSURE INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)] .) — If less than the specification, inspect each part of the engine.
		HLA malfunction	• Inspect the HLA. (See HLA Inspection .)
6	Sound occurs during idling after high-speed driving	Incorrect engine oil level	• Inspect the engine oil level. (See ENGINE OIL LEVEL INSPECTION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)] .)
		Engine oil deterioration	• Replace the engine oil. (See ENGINE OIL REPLACEMENT [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)] .)

*: Period of time engine oil flows to the HLA, this value includes tolerance caused by the ambient temperature and the oil used.

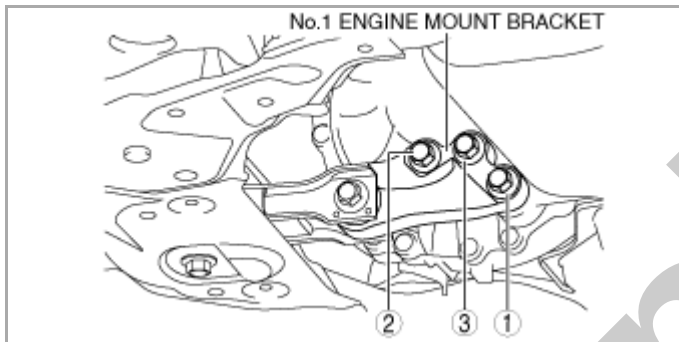
HLA Inspection

- 1.Disconnect the negative battery terminal. (See **NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION**.)
- 2.Remove the plug hole plate. (See **PLUG HOLE PLATE REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]**.)
- 3.Remove the ignition coil/ion sensors. (See **IGNITION COIL/ION SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]**.)
- 4.Remove the cylinder head cover. (See **TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]**.)



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2.Tighten the No.1 engine mount bracket installation bolts in the order shown in the figure.

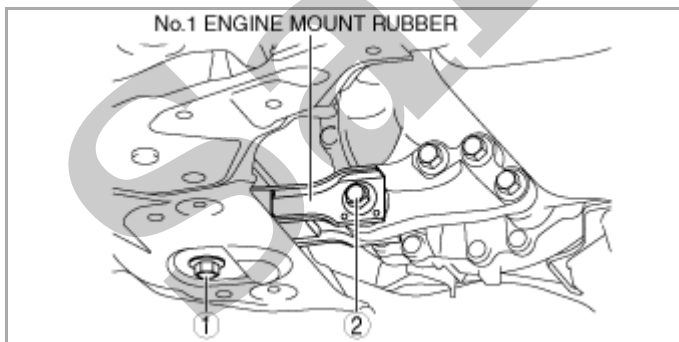


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Tightening torque

84–98 N·m {8.6–9.9 kgf·m, 62–72 ft·lbf}

3.Tighten the No.1 engine mount rubber installation bolts in the order shown in the figure.

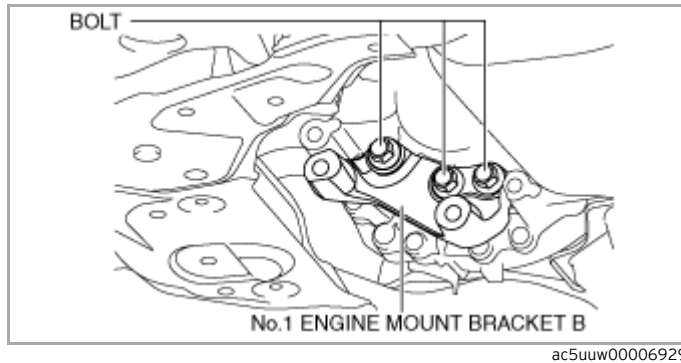


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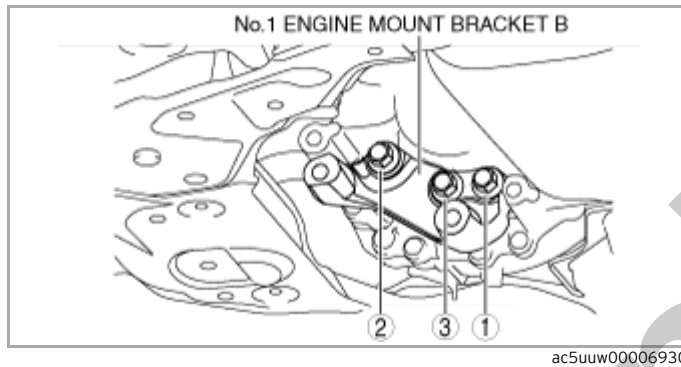
Tightening torque

Installation position	Tightening torque
1	141–172 N·m {15–17 kgf·m, 104–126 ft·lbf}
2	130–164 N·m {14–16 kgf·m, 96–120 ft·lbf}

No.1 Engine Mount (AWD)



2. Tighten the No.1 engine mount bracket B installation bolts in the order shown in the figure.

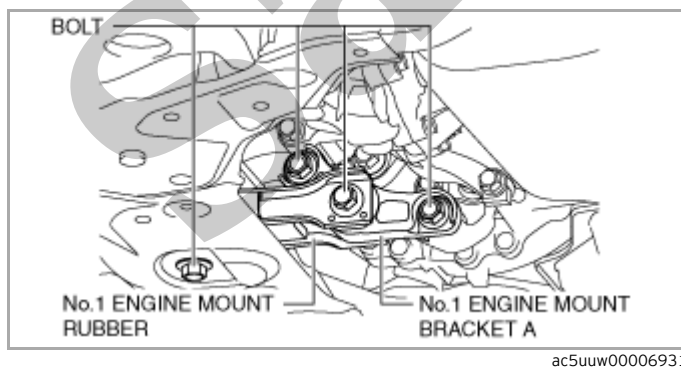


Tightening torque

131–153 N·m {14–15 kgf·m, 97–112 ft·lbf}

3. Install the transfer. (See [TRANSFER REMOVAL/INSTALLATION \[FW6AX-EL\]](#).)

4. Install the No.1 engine mount bracket A and No.1 engine mount rubber, and temporarily tighten the bolts shown in the figure.

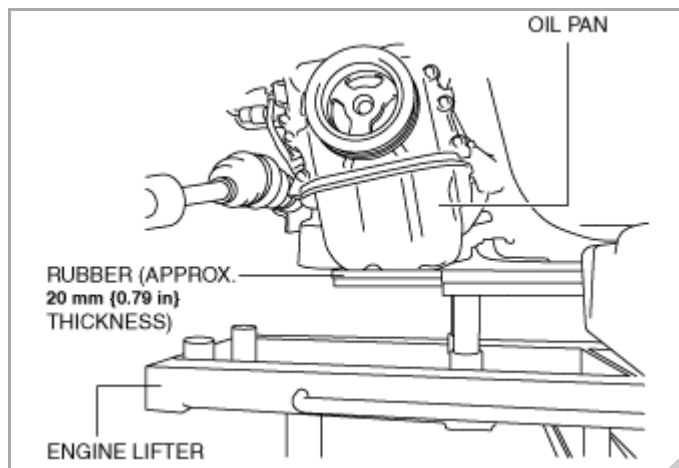


5. Tighten the No.1 engine mount bracket A installation bolts to the specified tightening torque.

— When using an engine lifter, insert rubber of appropriate size (approx. 20 mm {0.79 in} thickness) between the engine lifter and the oil pan to support the oil pan.

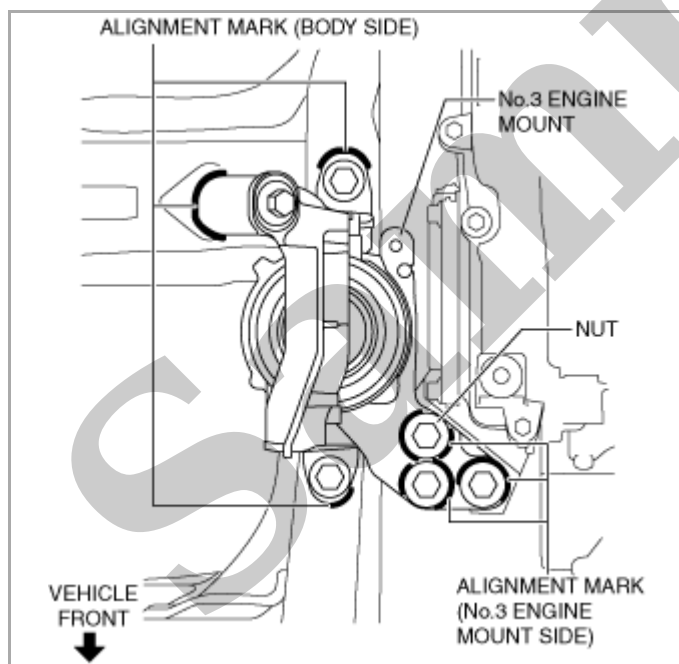
— When using a garage jack, place rubber of appropriate size (approx. 20 mm {0.79 in} thickness) on a batten which is large enough to cover and support the oil pan.

3. Before removing the No.3 engine mount, support the engine (oil pan) using a commercially available engine lifter or garage jack.



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4. Place alignment marks on the locations shown in the figure so that they can be assembled to the same positions as before removal.



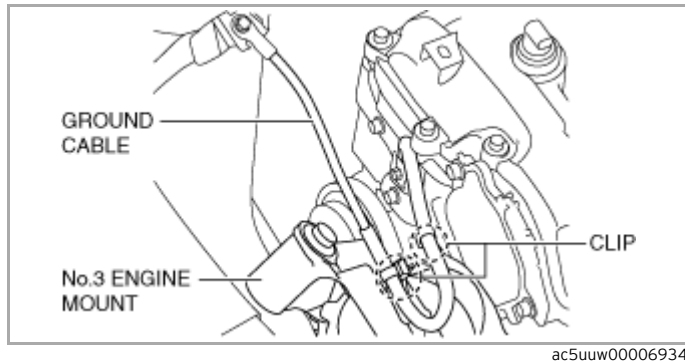
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Note

- Paint so that the No.3 engine mount is framed on the body side and the outline of the nut is framed on the No.3 engine mount side.

5. Remove the No.3 engine mount.

No.3 engine mount installation note

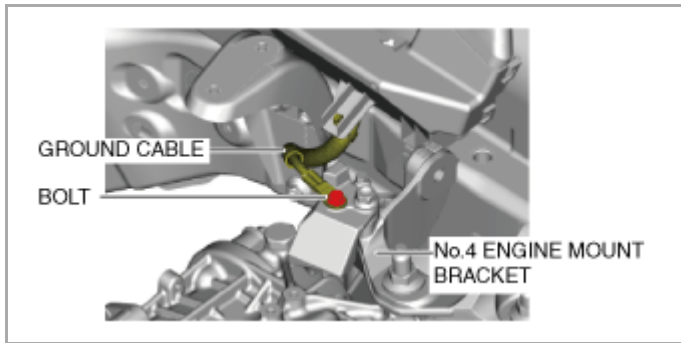


No.4 Engine Mount

Caution

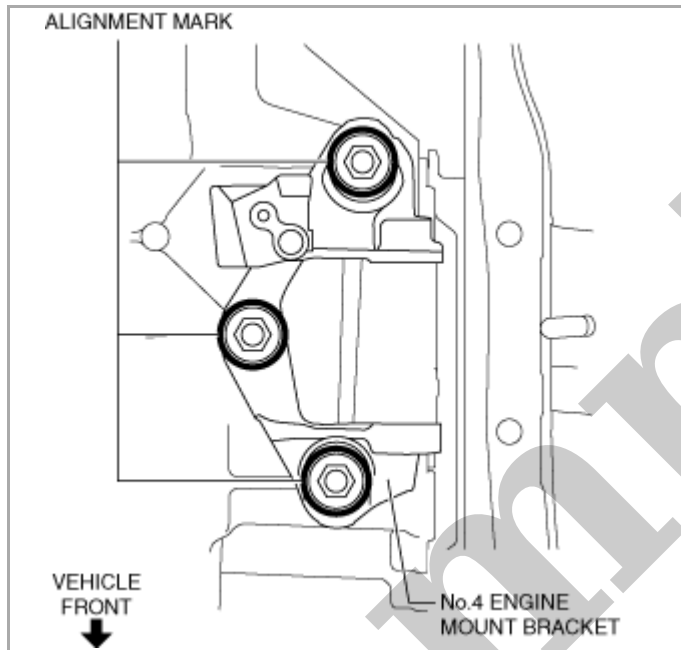
- Slots have been adopted for the No.4 engine mount bracket installation holes. If the No.4 engine mount bracket is deviated from the original position when installing the No.4 engine mount bracket, engine noise or vibration could increase. Before removing the No.4 engine mount bracket, place alignment marks on the No.4 engine mount bracket so that they can be assembled to the same positions as before removal.

1. Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))
2. Remove the air cleaner, air hose and fresh air duct as a single unit. (See [INTAKE-AIR SYSTEM REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITHOUT CYLINDER DEACTIVATION\)\].](#))
3. Remove the PCM component. (See [PCM REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITHOUT CYLINDER DEACTIVATION\)\].](#))
4. Remove the battery and battery tray. (See [BATTERY REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITHOUT CYLINDER DEACTIVATION\)\].](#))
5. Remove in the order indicated in the table.
6. Install in the reverse order of removal.



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2. Place alignment marks on the locations shown in the figure so that they can be assembled to the same positions as before removal.



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Note

- Paint so that the outline of the nut is framed on the bracket side.

3. Remove the No.4 engine mount bracket.

No.4 engine mount bracket installation note

Note

- When replacing the No.4 engine mount bracket, place a mark at the same position as the one placed before removal.
- If the No.4 engine mount bracket nut is loosened, tighten the transaxle stud bolts because they may have loosened.

1. Tighten the transaxle stud bolts.