

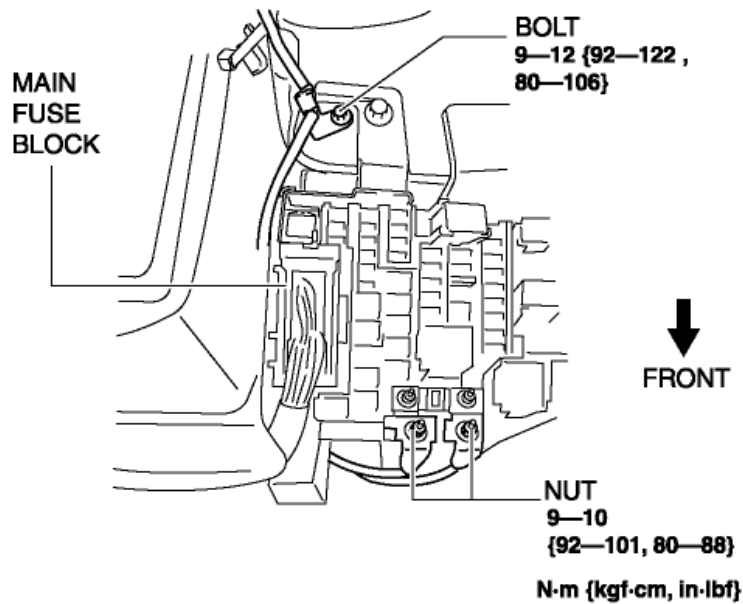
2012 - Mazda6 - Engine

ENGINE REMOVAL/ INSTALLATION [MZI 3.7 V6]

WARNING:

- Fuel vapor is hazardous. It can very easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
- Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete the "Fuel Line Safety Procedure". (See [BEFORE SERVICE PRECAUTION \[MZI 3.7 V6\]](#).)

1. Perform "Fuel Line Safety Procedures". Leave the fuel pump relay removed. (See [BEFORE SERVICE PRECAUTION \[MZI 3.7 V6\]](#).)
2. Disconnect both battery cables.
3. Remove the battery and battery tray. (See [BATTERY REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
4. Drain the power steering fluid. (See [POWER STEERING FLUID INSPECTION](#).)
5. Drain the engine coolant. (See [ENGINE COOLANT REPLACEMENT \[MZI 3.7 V6\]](#).)
6. Drain the ATF. (See [AUTOMATIC TRANSAXLE FLUID \(ATF\) REPLACEMENT \[AY6A-EL\]](#).)
7. Remove the engine cover. (See [ENGINE COVER REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
8. Disconnect the purge hose from the dynamic chamber side.
9. Disconnect the vacuum hose. (See [INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
10. Remove the air cleaner. (See [INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
11. Remove the aerodynamic under cover No.1. (See [AERODYNAMIC UNDER COVER NO.1 REMOVAL/ INSTALLATION](#).)
12. Remove the both front wheels and tires. (See [GENERAL PROCEDURES \(SUSPENSION\)](#).)
13. Remove the both front mudguards. (See [FRONT MUDGUARD REMOVAL/ INSTALLATION](#).)
14. Remove the both front splash shields.
15. Remove the generator and A/C drive belt. (See [DRIVE BELT REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
16. Disconnect the front drive shaft (RH) from the joint shaft side. (See [DRIVE SHAFT REMOVAL/ INSTALLATION](#).)
17. Disconnect the front drive shaft (LH) from the transaxle side. (See [DRIVE SHAFT REMOVAL/ INSTALLATION](#).)
18. Remove the front pipe. (See [EXHAUST SYSTEM REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
19. Disconnect the shift cable from the transaxle side. (See [AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION \[AY6A-EL\]](#).)
20. Disconnect the heater hose. (See [A/ C UNIT REMOVAL/ INSTALLATION](#).)
21. Disconnect the power steering oil pump hose out of the way. (See [POWER STEERING OIL PUMP REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
22. Disconnect the power steering return hose. (See [POWER STEERING OIL PUMP REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
23. Disconnect the radiator hose from the engine side. (See [RADIATOR REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
24. Disconnect the water hose from the thermostat side.
25. Disconnect the ATF oil cooler hose.
26. Disconnect the plastic fuel hose. (See [BEFORE SERVICE PRECAUTION \[MZI 3.7 V6\]](#).) (See [QUICK RELEASE CONNECTOR \(EMISSION SYSTEM\) REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
27. Disconnect the power steering reserve tank out of the way. (See [POWER STEERING OIL PUMP REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
28. Remove the wiring harness bolt and nuts shown in the figure.



29. Disconnect the wiring harness.

NOTE:

- Do not disconnect the engine side of this wiring harness.

30. Remove the A/C compressor with the pipes connected and secure the A/C compressor using wire or rope so that it is out of the way. (See [A/ C COMPRESSOR REMOVAL/ INSTALLATION](#).)

31. Remove the engine and transaxle component using an engine jack in the order indicated in the figure.

32. Install in the reverse order of removal.

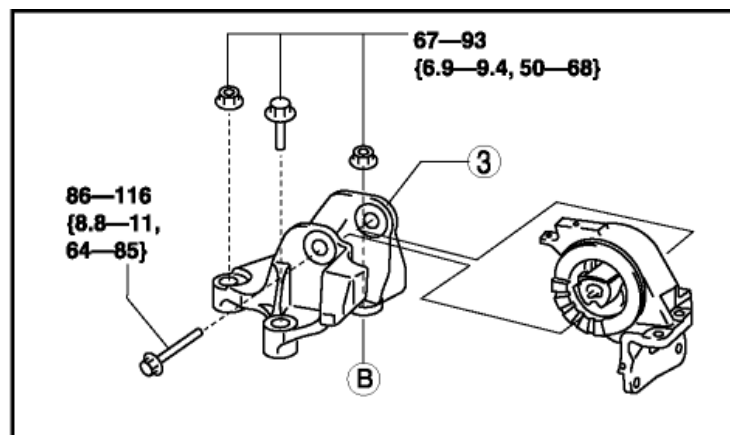
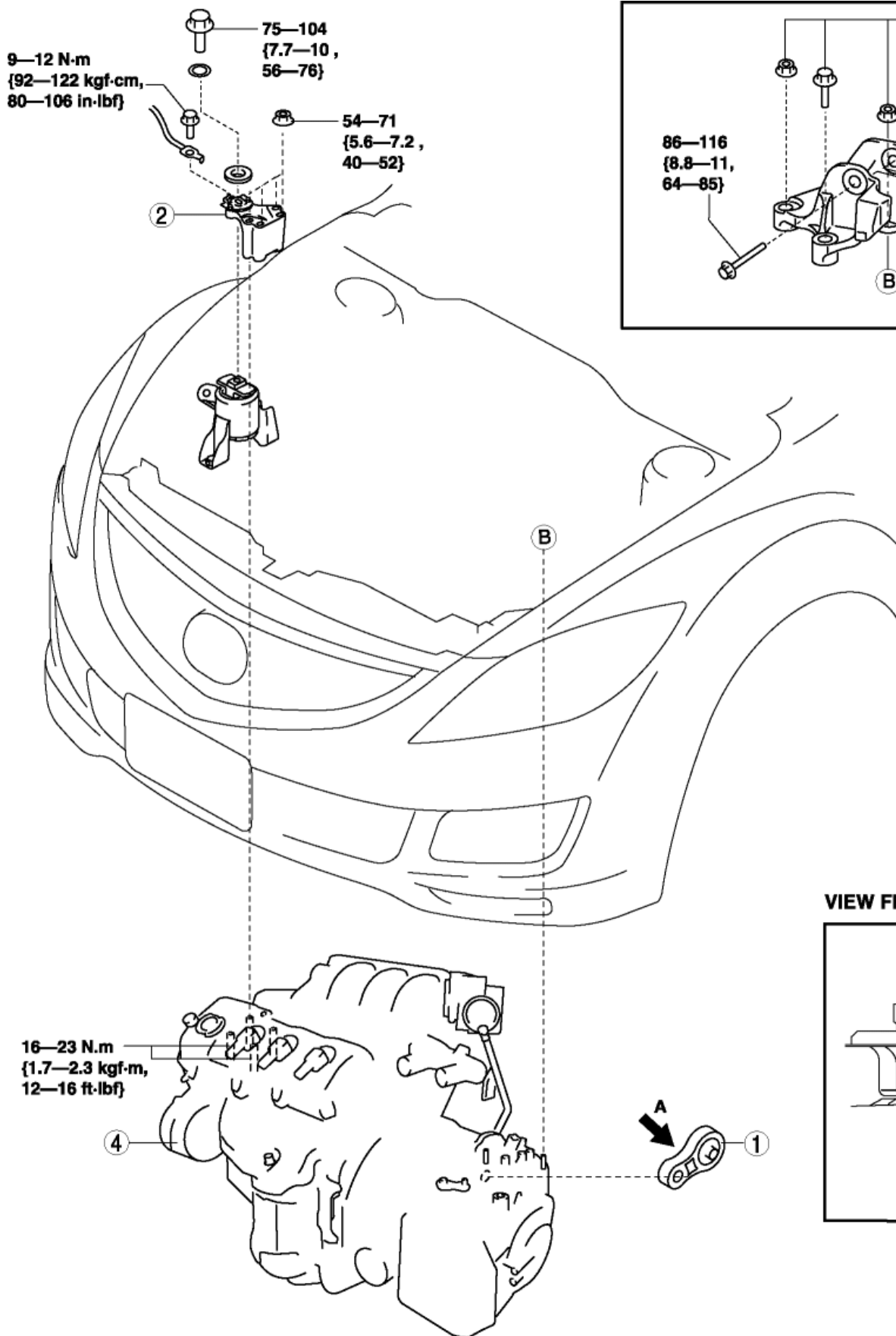
33. Start the engine and:

- Inspect the runout and contact on the pulley and belt.
- Inspect for engine oil, engine coolant, ATF, power steering fluid and fuel leakage.
- Verify the ignition timing, idle speed and idle mixture. (See [ENGINE TUNE-UP \[MZI 3.7 V6\]](#).)
- Engine accessories operation.

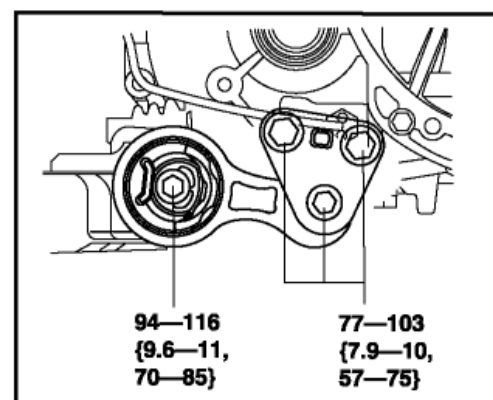
34. Perform a road test.

NOTE:

- If the engine is overhauled and installed to the vehicle, perform the road test and verify that there is no malfunction.



VIEW FROM A

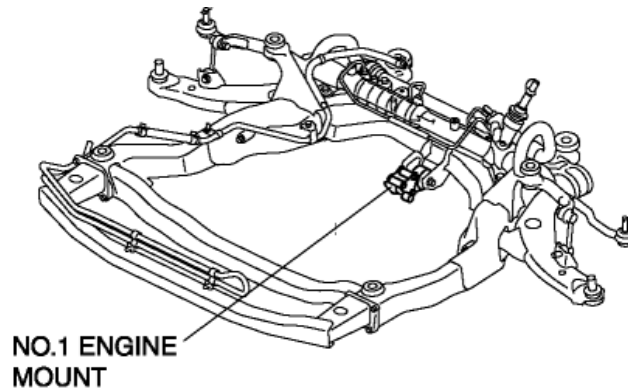


N·m {kgf·m, ft·lbf}

	(See No.1 Engine Mount Removal Note.)
	(See Engine Mount Installation Note.)
2	No.3 engine mount bracket (See No.3 Engine Mount Bracket and No.4 Engine Mount Bracket Removal Note.) (See Engine Mount Installation Note.)
3	No.4 engine mount bracket (See No.3 Engine Mount Bracket and No.4 Engine Mount Bracket Removal Note.) (See Engine Mount Installation Note.)
4	Engine and transaxle (See Engine and Transaxle Removal Note.)

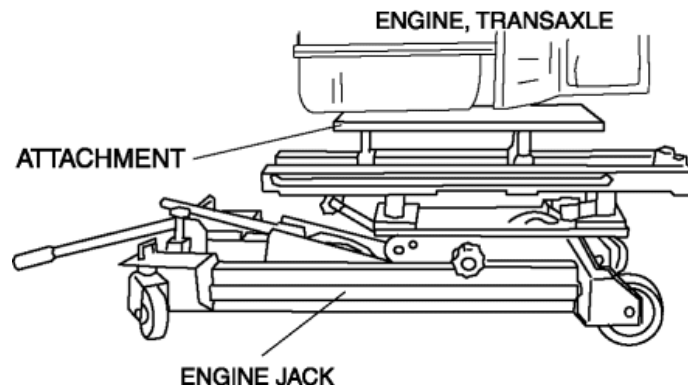
No.1 Engine Mount Removal Note

1. Remove the transverse member. (See **TRANSVERSE MEMBER REMOVAL/ INSTALLATION.**)
2. Remove the intermediate shaft bolt, and disconnect the steering shaft. (See **STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION [WITHOUT ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) (See **STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
3. Remove the No.1 engine mount, No.1 engine mount bracket and the front crossmember as a single unit. (See **FRONT CROSSMEMBER REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)



No.3 Engine Mount Bracket and No.4 Engine Mount Bracket Removal Note

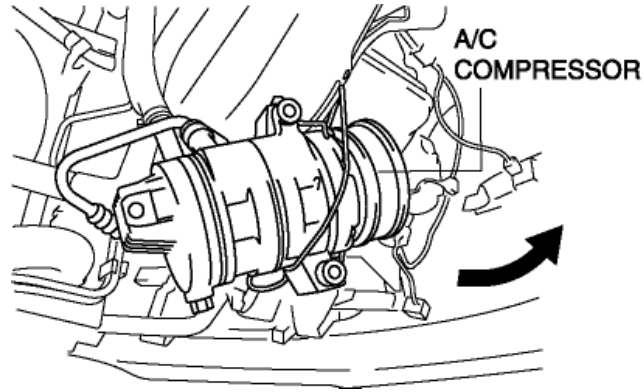
1. Secure the engine and transaxle using an engine jack and attachment.



Engine and Transaxle Removal Note

NOTE:

- When lowering the engine, slightly move it to the left side of the vehicle to set the A/C compressor out of the way.

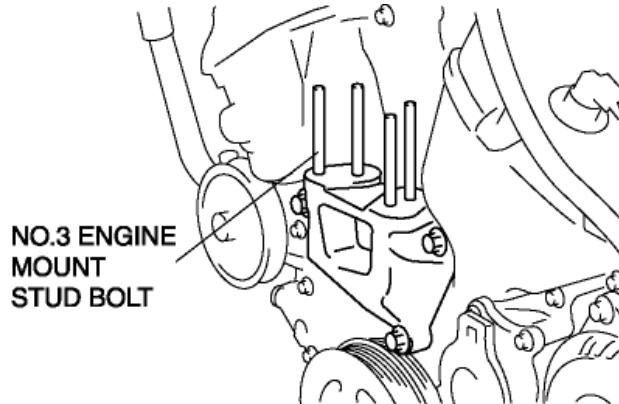


Engine Mount Installation Note

1. Tighten the No.3 engine mount stud bolts.

NOTE:

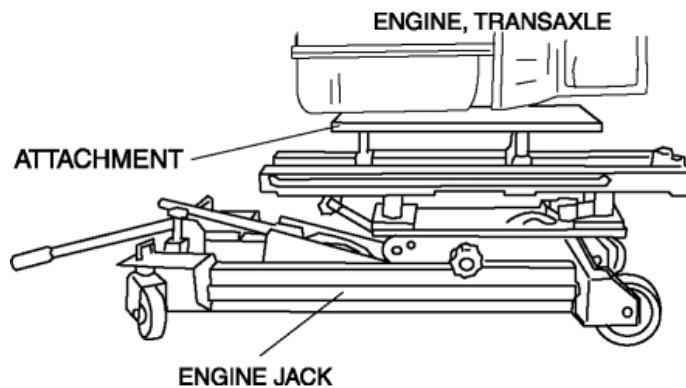
- If the No.3 engine mount bracket and the engine are removed, retighten the No.3 engine mount stud bolts.



Tightening torque

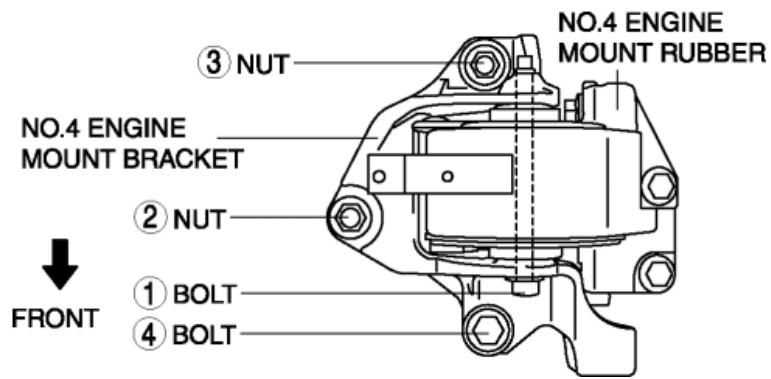
- 16—23 N·m {1.7—2.3 kgf·m, 12—16 ft·lbf}

2. Secure the engine and the transaxle using an engine jack and attachment as shown.

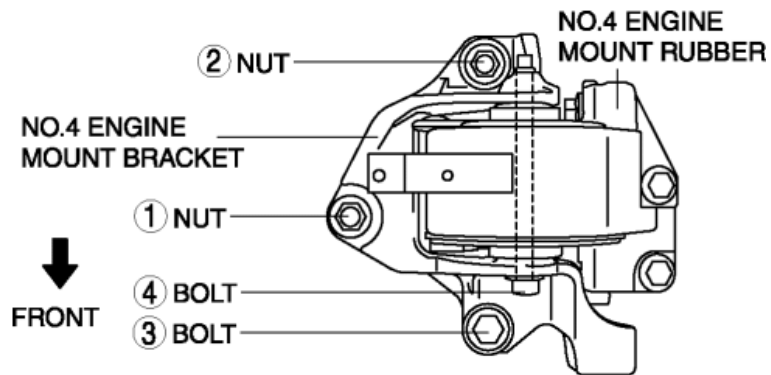


NOTE:

- Temporarily bolt 1 approximately three thread.
3. Temporarily tighten the No.4 engine mount bracket bolt and nuts in the order shown in the figure.



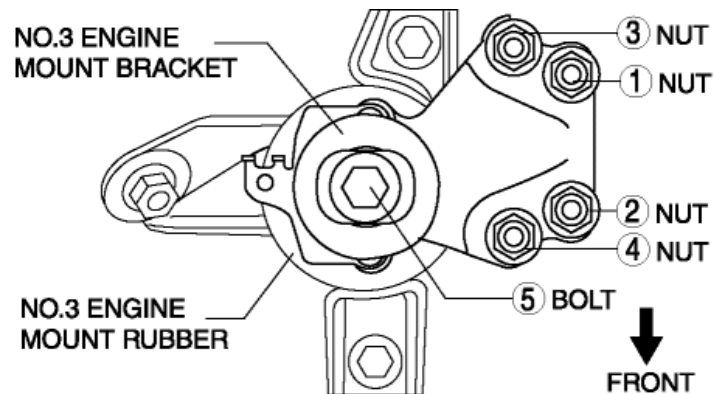
4. Tighten the No.4 engine mount bracket in the order shown in the figure.



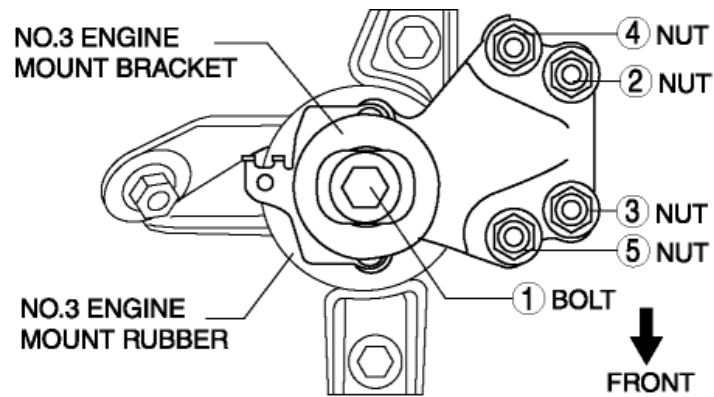
Tightening Torque

Installation Position	Tightening Torque
1, 2, 3	67—93 N·m {6.9—9.4 kgf·m, 50—68 ft·lbf}
4	86—116 N·m {8.8—11 kgf·m, 64—85 ft·lbf}

5. Temporarily tighten the No.3 engine mount bracket bolt and nuts in the order shown in the figure.



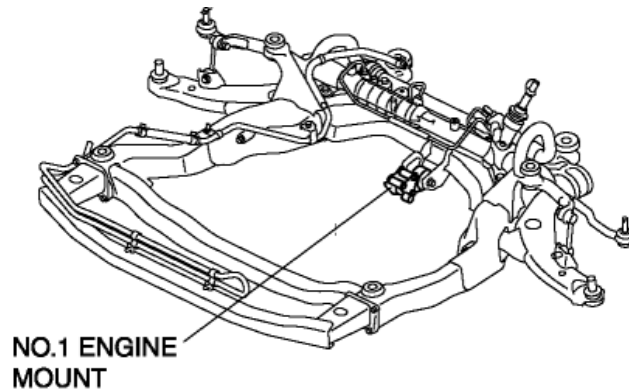
6. Tighten the No.3 engine mount bracket in the order shown in the figure.



Tightening Torque

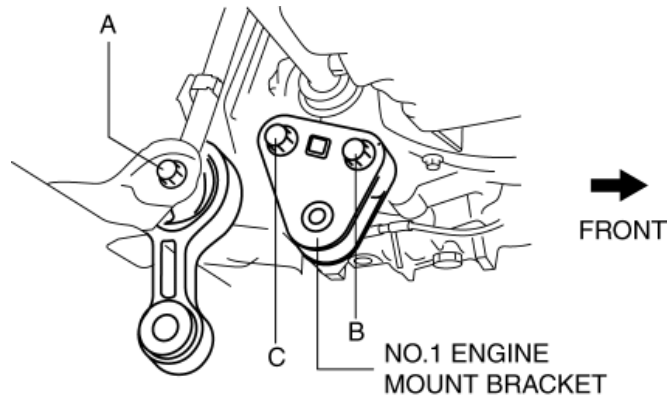
Installation Position	Tightening Torque
1	75—104 N·m {7.7—10 kgf·m, 56—76 ft·lbf}
2, 3, 4, 5	54—71 N·m {5.6—7.2 kgf·m, 40—52 ft·lbf}

7. Install the No.1 engine mount, No.1 engine mount bracket and the front crossmember as a single unit. (See [FRONT CROSSMEMBER REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)

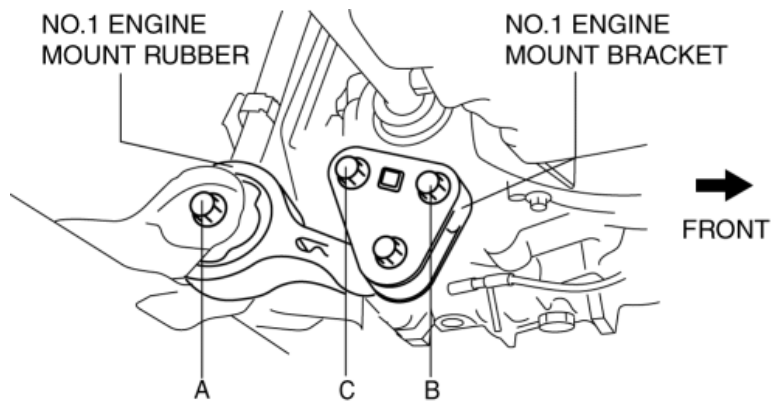


8. Install the through bolt A on the front crossmember side until approximately three pitches are showing.

9. Temporarily tighten the No.1 engine mount bracket bolts in the order of B and C.



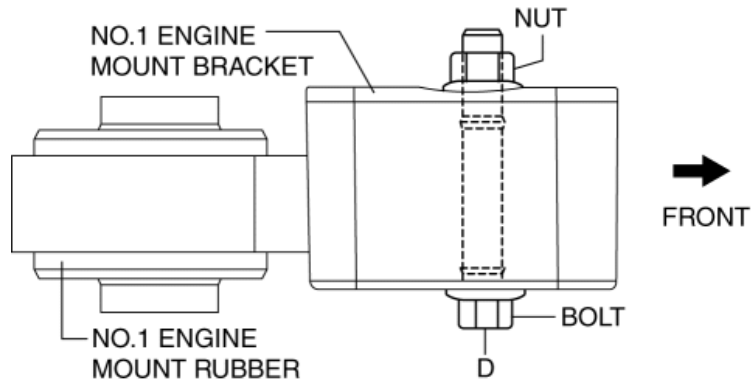
10. Tighten the No.1 engine mount bracket bolts in the order of B and C.



Tightening torque

- 77—103 N·m {7.9—10 kgf·m, 57—75 ft·lbf}

11. Tighten the No.1 engine mount bolt D.



Tightening torque

- 77—103 N·m {7.9—10 kgf·m, 57—75 ft·lbf}

12. Tighten the bolt A.

Tightening torque

- 94—116 N·m {9.6—11 kgf·m, 70—85 ft·lbf}

13. Install the intermediate shaft bolt, and disconnect the steering shaft. (See [STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION \[WITHOUT ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM\]](#) .) (See [STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION \[WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM\]](#) .)

14. Install the transverse member. (See [TRANSVERSE MEMBER REMOVAL/ INSTALLATION.](#))

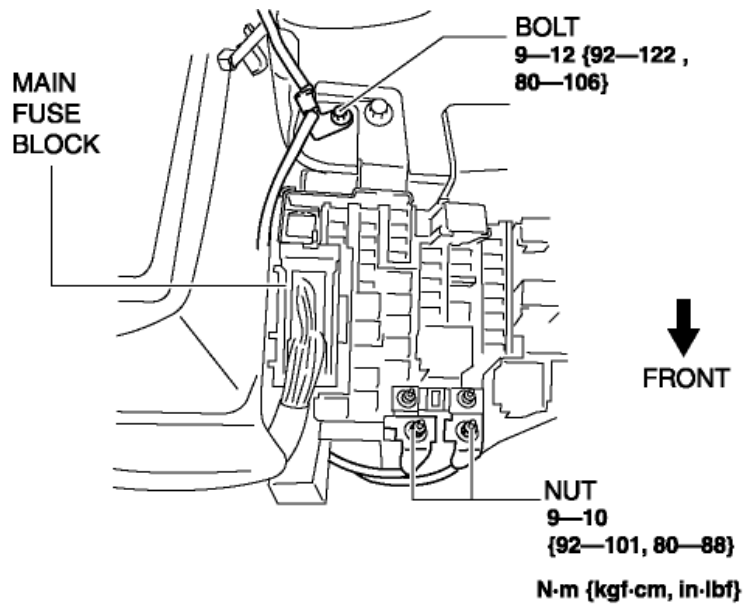
2012 - Mazda6 - Engine

ENGINE REMOVAL/ INSTALLATION [MZI 3.7 V6]

WARNING:

- Fuel vapor is hazardous. It can very easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
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1. Perform "Fuel Line Safety Procedures". Leave the fuel pump relay removed. (See **BEFORE SERVICE PRECAUTION [MZI 3.7 V6]**.)
2. Disconnect both battery cables.
3. Remove the battery and battery tray. (See **BATTERY REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
4. Drain the power steering fluid. (See **POWER STEERING FLUID INSPECTION**.)
5. Drain the engine coolant. (See **ENGINE COOLANT REPLACEMENT [MZI 3.7 V6]**.)
6. Drain the ATF. (See **AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [AY6A-EL]**.)
7. Remove the engine cover. (See **ENGINE COVER REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
8. Disconnect the purge hose from the dynamic chamber side.
9. Disconnect the vacuum hose. (See **INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
10. Remove the air cleaner. (See **INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
11. Remove the aerodynamic under cover No.1. (See **AERODYNAMIC UNDER COVER NO.1 REMOVAL/ INSTALLATION**.)
12. Remove the both front wheels and tires. (See **GENERAL PROCEDURES (SUSPENSION)**.)
13. Remove the both front mudguards. (See **FRONT MUDGUARD REMOVAL/ INSTALLATION**.)
14. Remove the both front splash shields.
15. Remove the generator and A/C drive belt. (See **DRIVE BELT REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
16. Disconnect the front drive shaft (RH) from the joint shaft side. (See **DRIVE SHAFT REMOVAL/ INSTALLATION**.)
17. Disconnect the front drive shaft (LH) from the transaxle side. (See **DRIVE SHAFT REMOVAL/ INSTALLATION**.)
18. Remove the front pipe. (See **EXHAUST SYSTEM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
19. Disconnect the shift cable from the transaxle side. (See **AUTOMATIC TRANSAXLE REMOVAL/ INSTALLATION [AY6A-EL]**.)
20. Disconnect the heater hose. (See **A/ C UNIT REMOVAL/ INSTALLATION**.)
21. Disconnect the power steering oil pump hose out of the way. (See **POWER STEERING OIL PUMP REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
22. Disconnect the power steering return hose. (See **POWER STEERING OIL PUMP REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
23. Disconnect the radiator hose from the engine side. (See **RADIATOR REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
24. Disconnect the water hose from the thermostat side.
25. Disconnect the ATF oil cooler hose.
26. Disconnect the plastic fuel hose. (See **BEFORE SERVICE PRECAUTION [MZI 3.7 V6]**.) (See **QUICK RELEASE CONNECTOR (EMISSION SYSTEM) REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
27. Disconnect the power steering reserve tank out of the way. (See **POWER STEERING OIL PUMP REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)
28. Remove the wiring harness bolt and nuts shown in the figure.



29. Disconnect the wiring harness.

NOTE:

- Do not disconnect the engine side of this wiring harness.

30. Remove the A/C compressor with the pipes connected and secure the A/C compressor using wire or rope so that it is out of the way. (See [A/ C COMPRESSOR REMOVAL/ INSTALLATION](#).)

31. Remove the engine and transaxle component using an engine jack in the order indicated in the figure.

32. Install in the reverse order of removal.

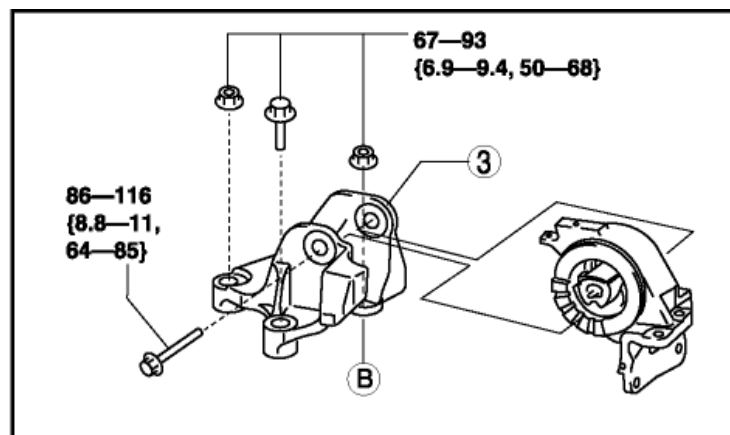
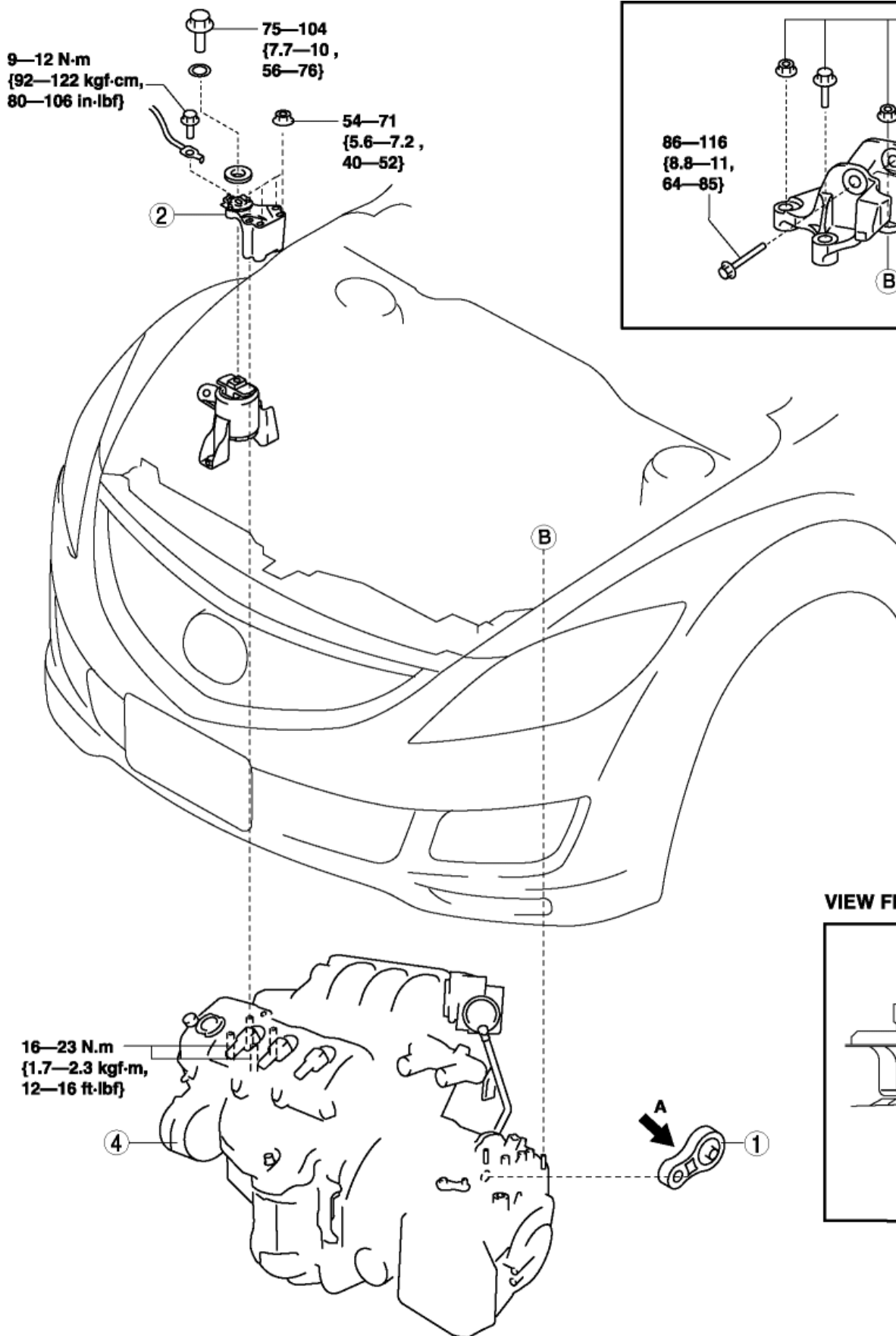
33. Start the engine and:

- Inspect the runout and contact on the pulley and belt.
- Inspect for engine oil, engine coolant, ATF, power steering fluid and fuel leakage.
- Verify the ignition timing, idle speed and idle mixture. (See [ENGINE TUNE-UP \[MZI 3.7 V6\]](#).)
- Engine accessories operation.

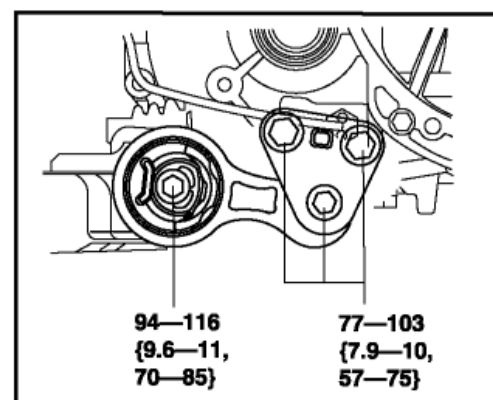
34. Perform a road test.

NOTE:

- If the engine is overhauled and installed to the vehicle, perform the road test and verify that there is no malfunction.



VIEW FROM A

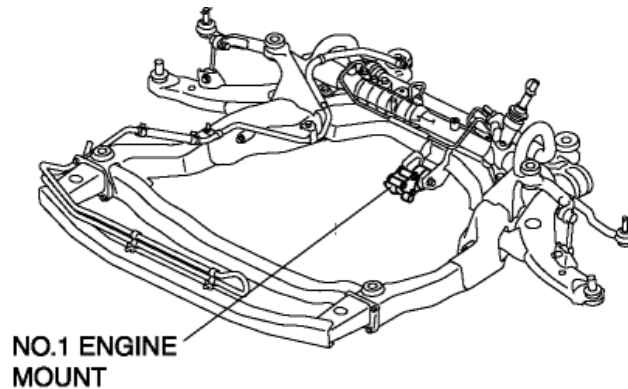


N·m {kgf·m, ft·lbf}

	(See No.1 Engine Mount Removal Note.)
	(See Engine Mount Installation Note.)
2	No.3 engine mount bracket (See No.3 Engine Mount Bracket and No.4 Engine Mount Bracket Removal Note.) (See Engine Mount Installation Note.)
3	No.4 engine mount bracket (See No.3 Engine Mount Bracket and No.4 Engine Mount Bracket Removal Note.) (See Engine Mount Installation Note.)
4	Engine and transaxle (See Engine and Transaxle Removal Note.)

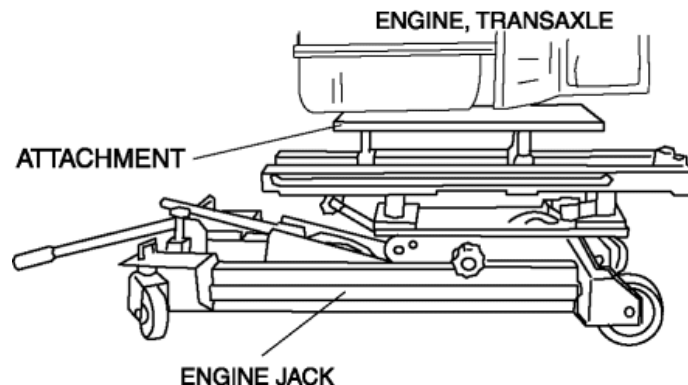
No.1 Engine Mount Removal Note

1. Remove the transverse member. (See **TRANSVERSE MEMBER REMOVAL/ INSTALLATION.**)
2. Remove the intermediate shaft bolt, and disconnect the steering shaft. (See **STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION [WITHOUT ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) (See **STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
3. Remove the No.1 engine mount, No.1 engine mount bracket and the front crossmember as a single unit. (See **FRONT CROSSMEMBER REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)



No.3 Engine Mount Bracket and No.4 Engine Mount Bracket Removal Note

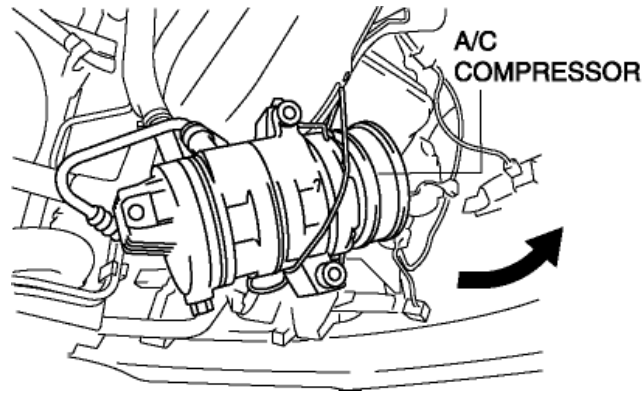
1. Secure the engine and transaxle using an engine jack and attachment.



Engine and Transaxle Removal Note

NOTE:

- When lowering the engine, slightly move it to the left side of the vehicle to set the A/C compressor out of the way.

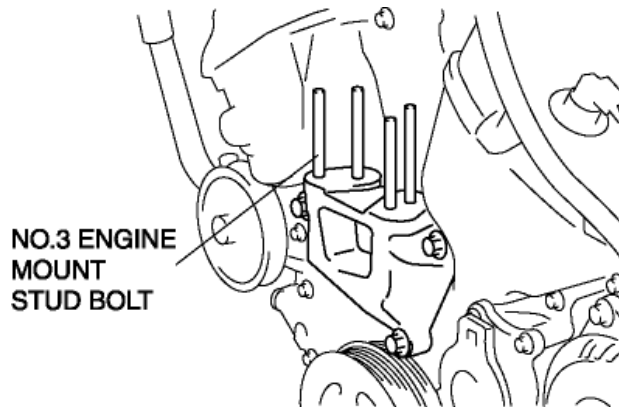


Engine Mount Installation Note

1. Tighten the No.3 engine mount stud bolts.

NOTE:

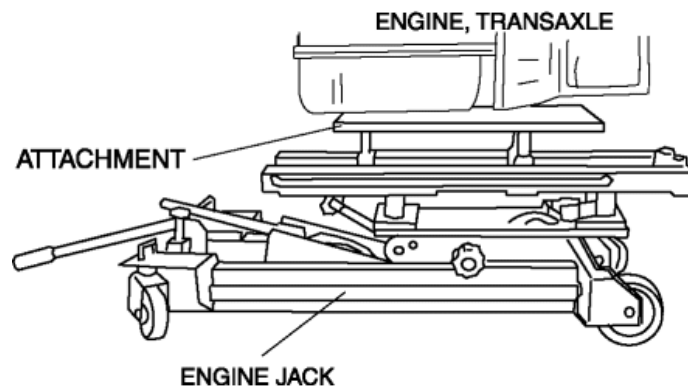
- If the No.3 engine mount bracket and the engine are removed, retighten the No.3 engine mount stud bolts.



Tightening torque

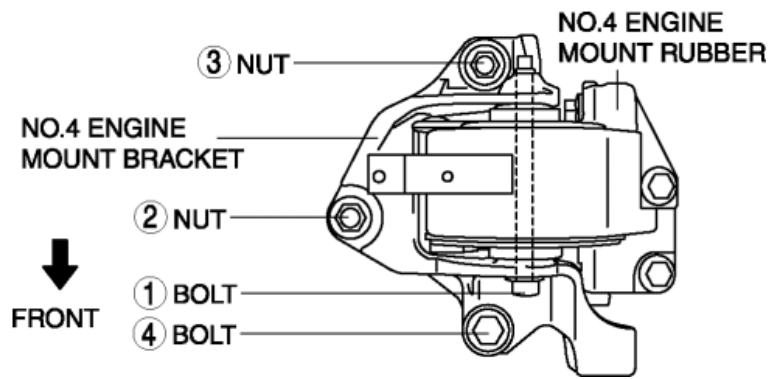
- 16—23 N·m {1.7—2.3 kgf·m, 12—16 ft·lbf}

2. Secure the engine and the transaxle using an engine jack and attachment as shown.

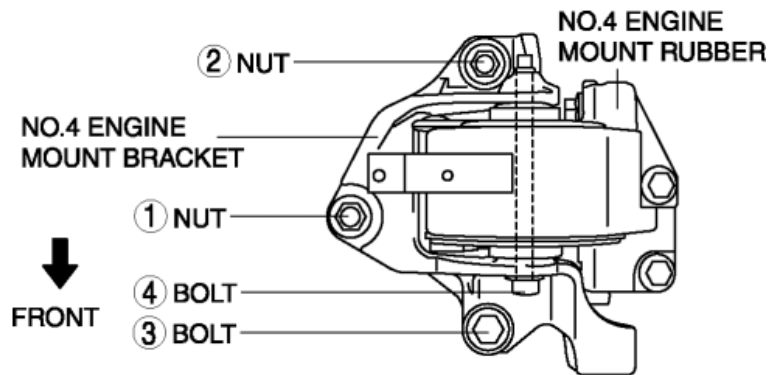


NOTE:

- Temporarily bolt 1 approximately three thread.
3. Temporarily tighten the No.4 engine mount bracket bolt and nuts in the order shown in the figure.



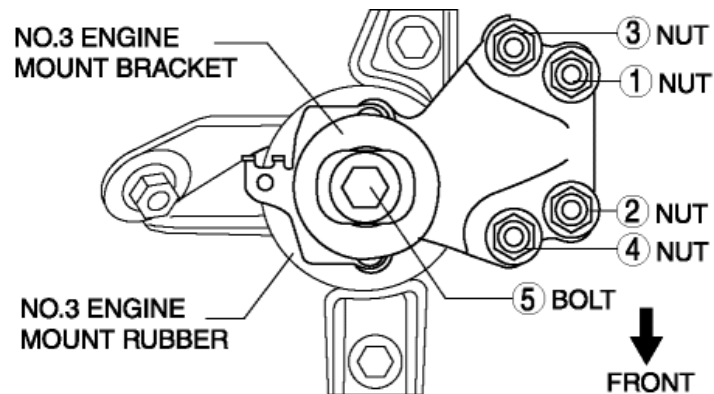
4. Tighten the No.4 engine mount bracket in the order shown in the figure.



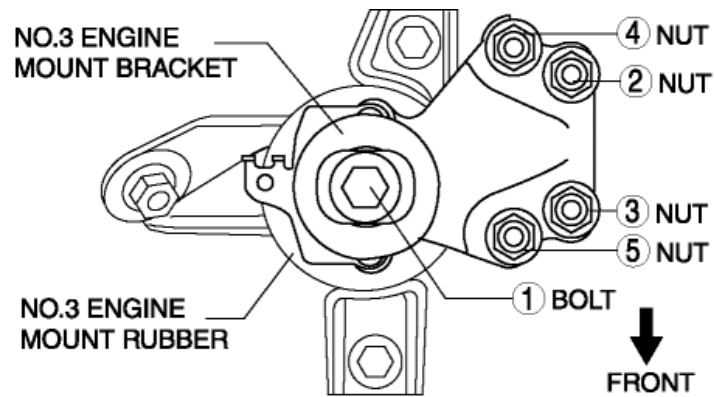
Tightening Torque

Installation Position	Tightening Torque
1, 2, 3	67—93 N·m {6.9—9.4 kgf·m, 50—68 ft·lbf}
4	86—116 N·m {8.8—11 kgf·m, 64—85 ft·lbf}

5. Temporarily tighten the No.3 engine mount bracket bolt and nuts in the order shown in the figure.



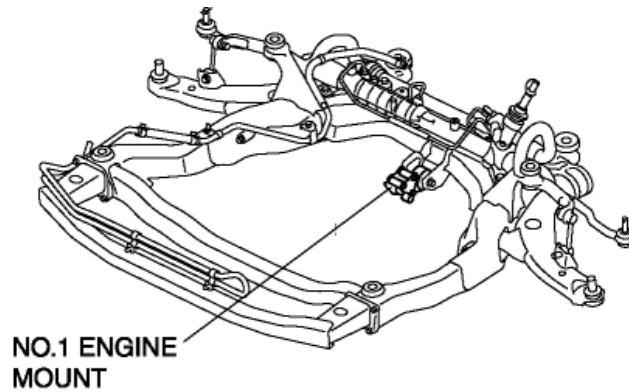
6. Tighten the No.3 engine mount bracket in the order shown in the figure.



Tightening Torque

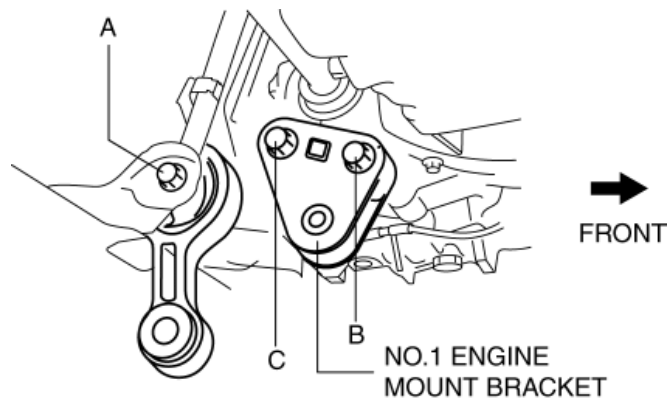
Installation Position	Tightening Torque
1	75—104 N·m {7.7—10 kgf·m, 56—76 ft·lbf}
2, 3, 4, 5	54—71 N·m {5.6—7.2 kgf·m, 40—52 ft·lbf}

7. Install the No.1 engine mount, No.1 engine mount bracket and the front crossmember as a single unit. (See [FRONT CROSSMEMBER REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)

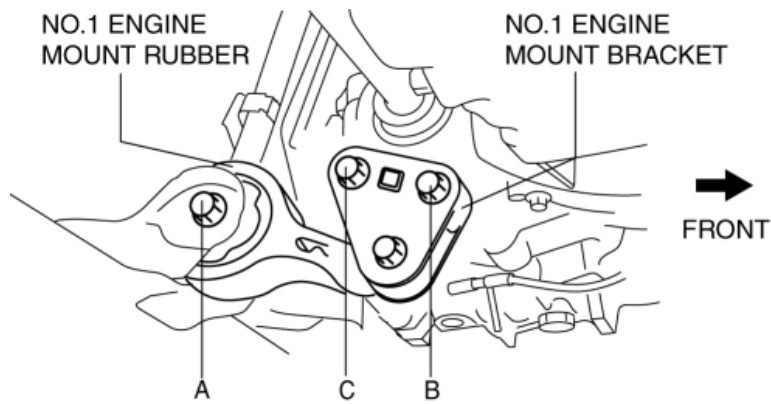


8. Install the through bolt A on the front crossmember side until approximately three pitches are showing.

9. Temporarily tighten the No.1 engine mount bracket bolts in the order of B and C.



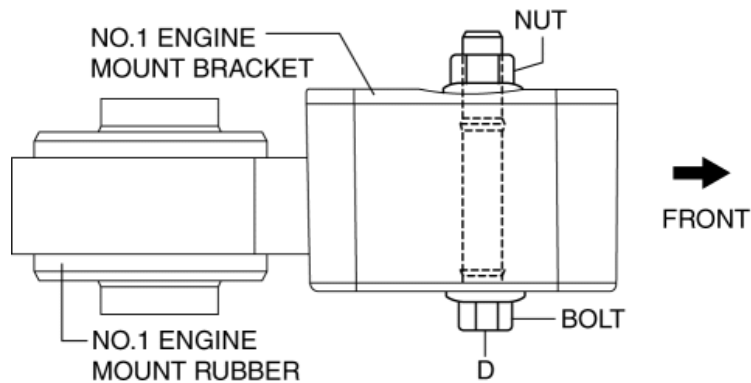
10. Tighten the No.1 engine mount bracket bolts in the order of B and C.



Tightening torque

- 77—103 N·m {7.9—10 kgf·m, 57—75 ft·lbf}

11. Tighten the No.1 engine mount bolt D.



Tightening torque

- 77—103 N·m {7.9—10 kgf·m, 57—75 ft·lbf}

12. Tighten the bolt A.

Tightening torque

- 94—116 N·m {9.6—11 kgf·m, 70—85 ft·lbf}

13. Install the intermediate shaft bolt, and disconnect the steering shaft. (See [STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION \[WITHOUT ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM\]](#) .) (See [STEERING WHEEL AND COLUMN REMOVAL/ INSTALLATION \[WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM\]](#) .)

14. Install the transverse member. (See [TRANSVERSE MEMBER REMOVAL/ INSTALLATION.](#))