

2012 - Mazda6 - Engine

EXHAUST SYSTEM REMOVAL/ INSTALLATION [MZI 3.7 V6]

WARNING:

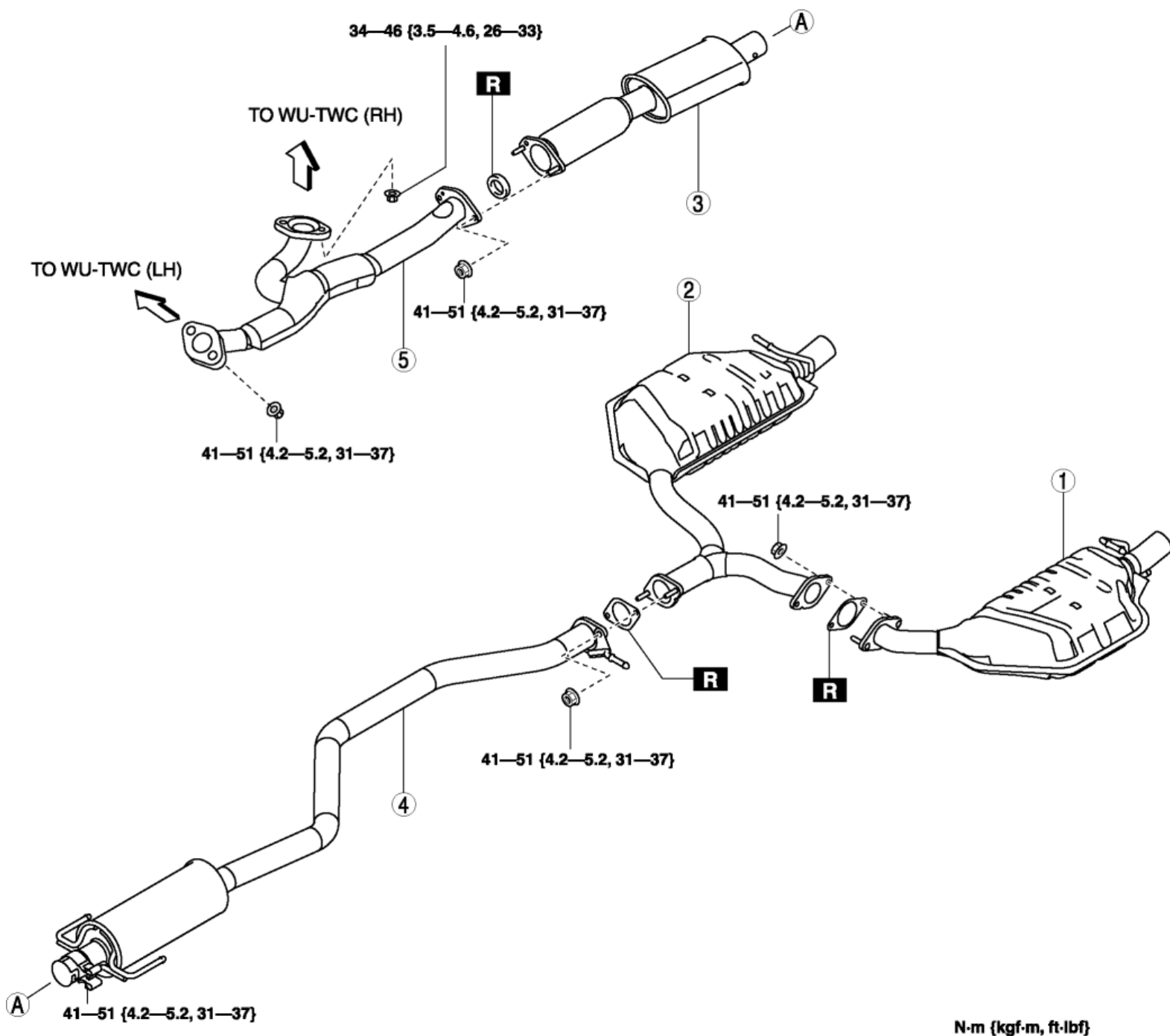
- When the engine and exhaust system are hot, they can badly burn. Turn off the engine and wait until they are cool before removing the exhaust system.

CAUTION:

- In installing WU-TWC, WU-TWC protector, WU-TWC hanger bracket and WU-TWC bracket, improper fastening or seating can happen. In order to avoid faulty installation, always refer to "Warm Up Three Way Catalytic Converter (WU-TWC) Installation Note" during the work. (See [Warm Up Three Way Catalytic Converter \(WU-TWC\) \(LH\) Installation Note.](#)) (See [Warm Up Three Way Catalytic Converter \(WU-TWC\) \(RH\) Installation Note.](#))

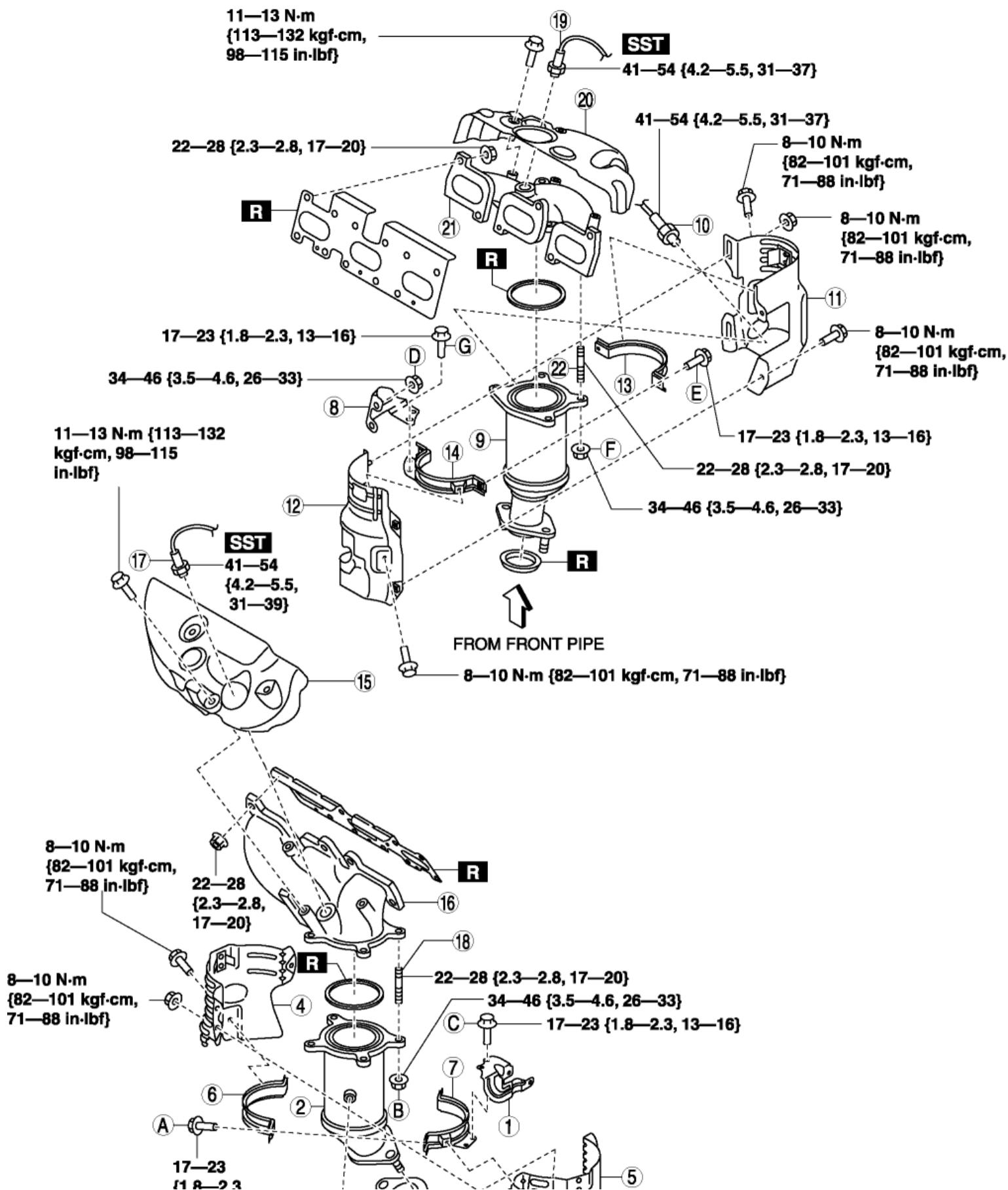
1. Disconnect the negative battery cable. (See [BATTERY REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
2. Remove the engine cover. (See [ENGINE COVER REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
3. Remove in the order indicated in the table.
4. Remove the insulator. (See [Exhaust System Insulator Removal/ Installation Note.](#))
5. Install in the reverse order of removal.

Step 1

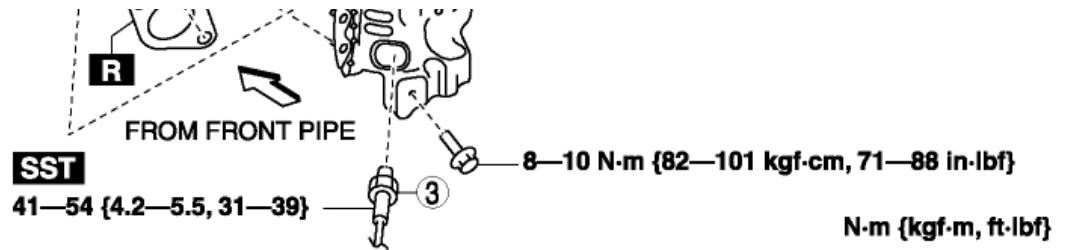


1	Main silencer (LH)
2	Main silencer (RH)
3	Presilencer (See Presilencer and Middle Pipe Removal Note.) (See Presilencer and Middle Pipe Installation Note.)
4	Middle pipe (See Presilencer and Middle Pipe Removal Note.) (See Presilencer and Middle Pipe Installation Note.)

Step 2



13—16}

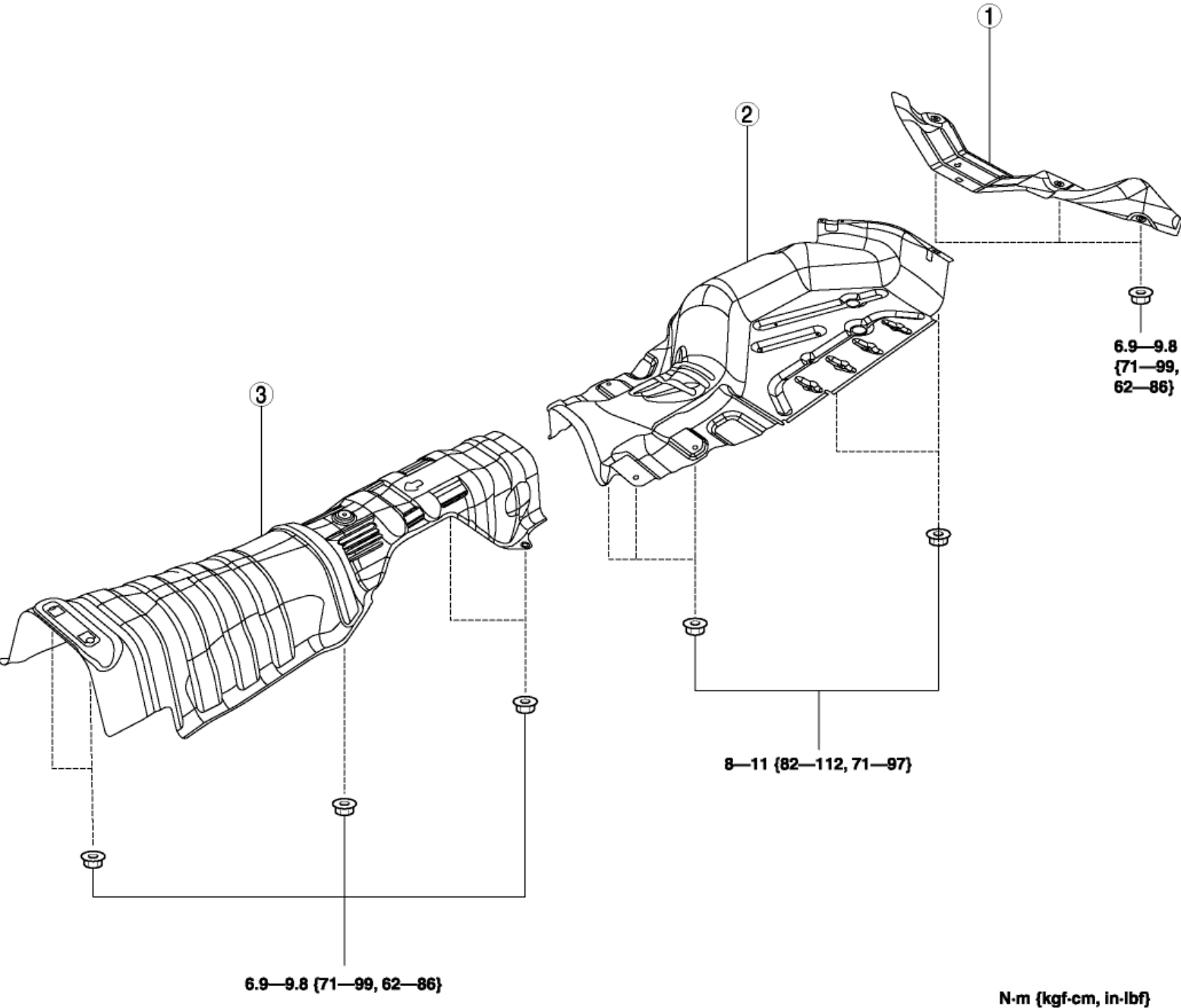


1	WU-TWC bracket (LH)
2	WU-TWC (LH) (See Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Removal Note.) (See Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Installation Note.)
3	HO2S (LH) (See HEATED OXYGEN SENSOR (HO2S) REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
4	WU-TWC protector No.1 (LH)
5	WU-TWC protector No.2 (LH)
6	WU-TWC hanger bracket No.1 (LH)
7	WU-TWC hanger bracket No.2 (LH)
8	WU-TWC bracket (RH)
9	WU-TWC (RH) (See Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Removal Note.) (See Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Installation Note.)
10	HO2S (RH) (See HEATED OXYGEN SENSOR (HO2S) REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
11	WU-TWC protector No.1 (RH)
12	WU-TWC protector No.2 (RH)
13	WU-TWC hanger bracket No.1 (RH)
14	WU-TWC hanger bracket No.2 (RH)
15	Exhaust manifold insulator (LH)
16	Exhaust manifold (LH) (See Exhaust Manifold (LH) Removal Note.) (See Exhaust Manifold (LH) Installation Note.)
17	A/F sensor (LH) (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
18	Stud

19	A/F sensor (RH) (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
20	Exhaust manifold insulator (RH)
21	Exhaust manifold (RH) (See Exhaust Manifold (RH) Installation Note.)
22	Stud

Exhaust System Insulator Removal/ Installation Note

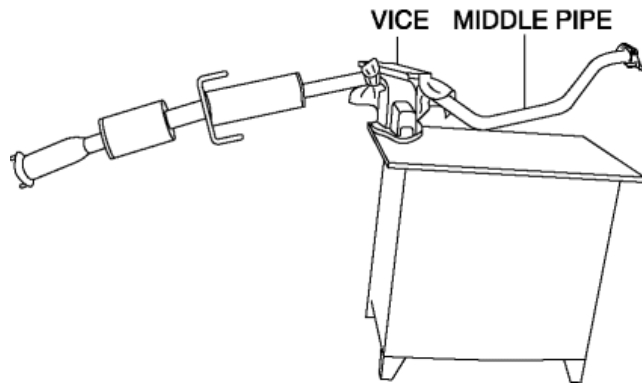
1. Remove the exhaust system insulator in the order shown in the figure.
2. Install in the reverse order of removal.



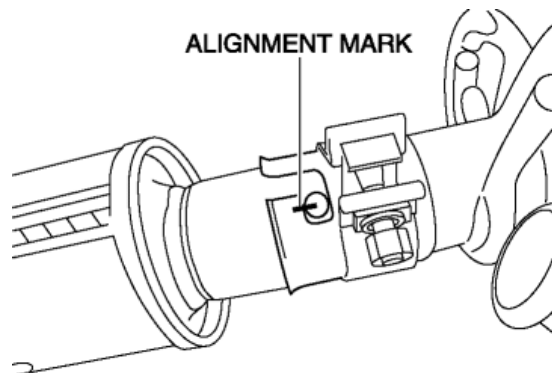
1	insulator (rear)
2	insulator (middle)
3	insulator (front)

Presilencer and Middle Pipe Removal Note

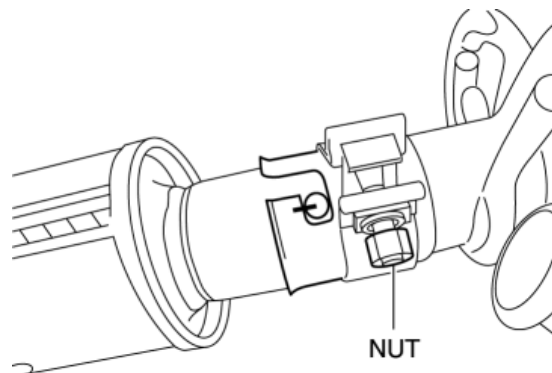
1. Remove the presilencer and the middle pipe as a single unit.
2. Secure the middle pipe in a vice.



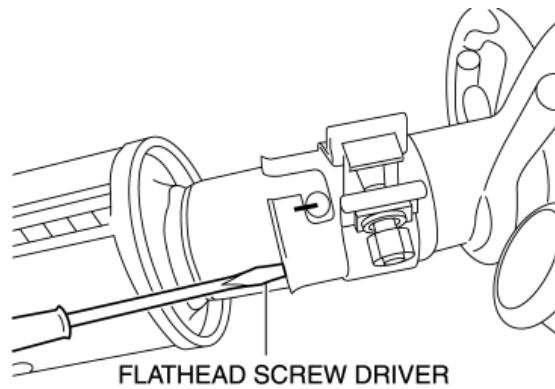
3. Remove the presilencer from the middle pipe using the following procedure.
 - a. As shown in the figure, place alignment marks on the presilencer and the middle pipe so that they can be re-assembled to their original position.



- b. Loosen the nut shown in the figure.



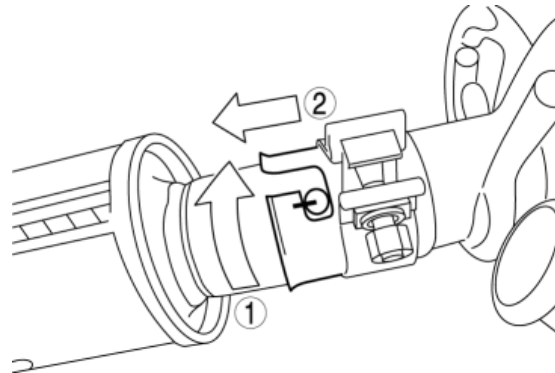
- c. As shown in the figure, spread the connection area of the presilencer and the middle pipe outward using a flathead screwdriver.



d. Remove the presilencer from the middle pipe in the direction of the arrow shown in the figure.

NOTE:

- If the removal is difficult, the middle pipe can be removed easily by spraying penetrant lubricating spray on the connection area of the presilencer and the middle pipe.



Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Removal Note

1. Disconnect the HO₂S (LH) connector.
2. Remove the WU-TWC (LH).

Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Removal Note

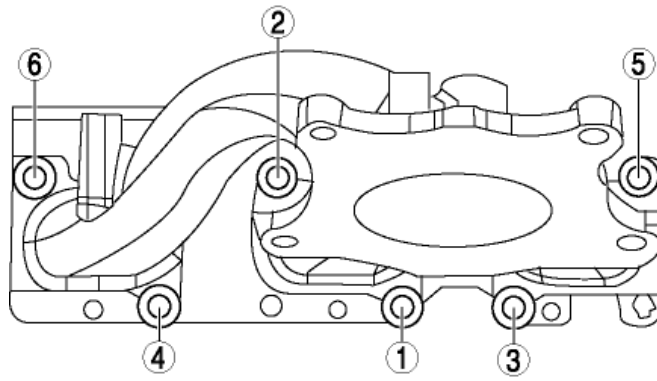
1. Remove the joint shaft. (See [JOINT SHAFT REMOVAL/ INSTALLATION.](#))
2. Disconnect the HO₂S (RH) connector.
3. Remove the WU-TWC (RH).

Exhaust Manifold (LH) Removal Note

1. Disconnect the A/F sensor connector.
2. Remove the exhaust manifold (LH).

Exhaust Manifold (RH) Installation Note

1. Tighten the exhaust manifold (RH) installation nuts in the order shown in the figure.

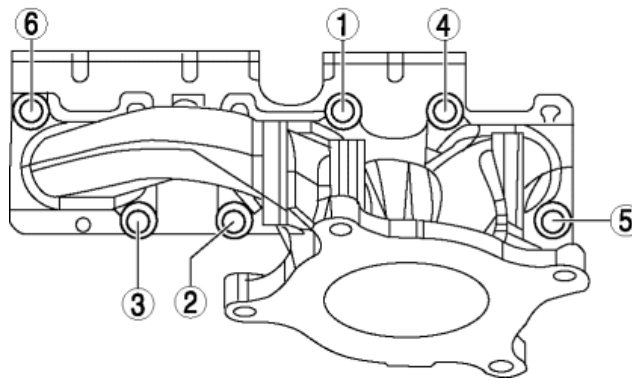


Tightening torque

- 22—28 N·m {2.3—2.8 kgf·m, 17—20 ft·lbf}

Exhaust Manifold (LH) Installation Note

1. Tighten the exhaust manifold (RH) installation nuts in the order shown in the figure.



Tightening torque

- 22—28 N·m {2.3—2.8 kgf·m, 17—20 ft·lbf}

Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Installation Note

CAUTION:

- Be sure to follow the procedure below in installing the components. Otherwise improper fastening or seating may occur.

1. Tighten nut of D with tightening torque.

Tightening torque

- 34—46 N·m {3.5—4.6 kgf·m, 26—33 ft·lbf}

2. Temporarily tighten bolt of E.
3. Temporarily tighten nut of F.
4. Temporarily tighten bolt of G.
5. Tighten nut of F with tightening torque.

Tightening torque

- 34—46 N·m {3.5—4.6 kgf·m, 26—33 ft·lbf}

6. Tighten bolt of G with tightening torque.

Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

7. Tighten bolt of E with tightening torque.

Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Installation Note

CAUTION:

- Be sure to follow the procedure below in installing the components. Otherwise improper fastening or seating may occur.
1. Temporarily tighten bolt of A.
 2. Temporarily tighten nut of B.
 3. Temporarily tighten bolt of C.
 4. Tighten nut of B with tightening torque.

Tightening torque

- 34—46 N·m {3.5—4.6 kgf·m, 26—33 ft·lbf}

5. Tighten bolt of C with tightening torque.

Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

6. Tighten bolt of A with tightening torque.

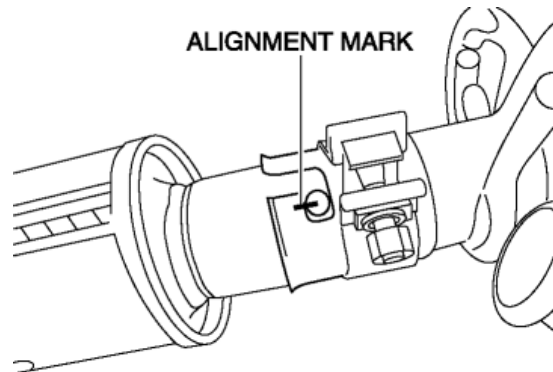
Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

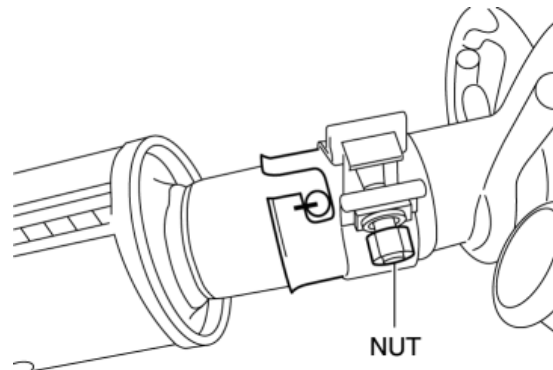
Presilencer and Middle Pipe Installation Note

NOTE:

- When newly replacing the presilencer or the middle pipe, place alignment marks on the new part in the same position as the removed part.
1. Install the presilencer to the middle pipe using the following procedure.
 - a. Align the presilencer and the middle pipe alignment marks.



- b. Tighten the nut shown in the figure.



Tightening torque

- 41—51 N·m {4.2—5.2 kgf·m, 31—37 ft·lbf}

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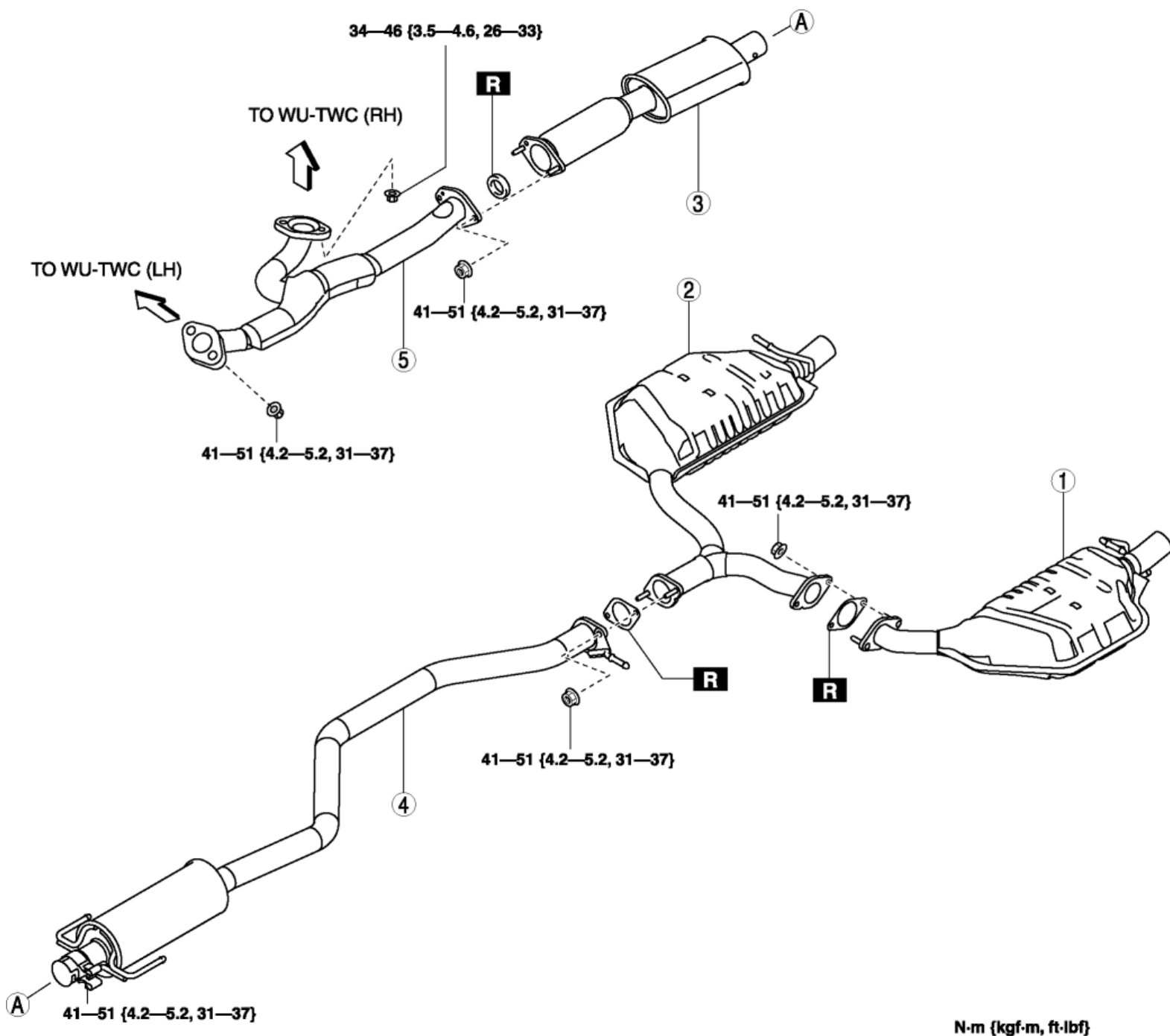
- When the engine and exhaust system are hot, they can badly burn. Turn off the engine and wait until they are cool before removing the exhaust system.

CAUTION:

- In installing WU-TWC, WU-TWC protector, WU-TWC hanger bracket and WU-TWC bracket, improper fastening or seating can happen. In order to avoid faulty installation, always refer to "Warm Up Three Way Catalytic Converter (WU-TWC) Installation Note" during the work. (See [Warm Up Three Way Catalytic Converter \(WU-TWC\) \(LH\) Installation Note.](#)) (See [Warm Up Three Way Catalytic Converter \(WU-TWC\) \(RH\) Installation Note.](#))

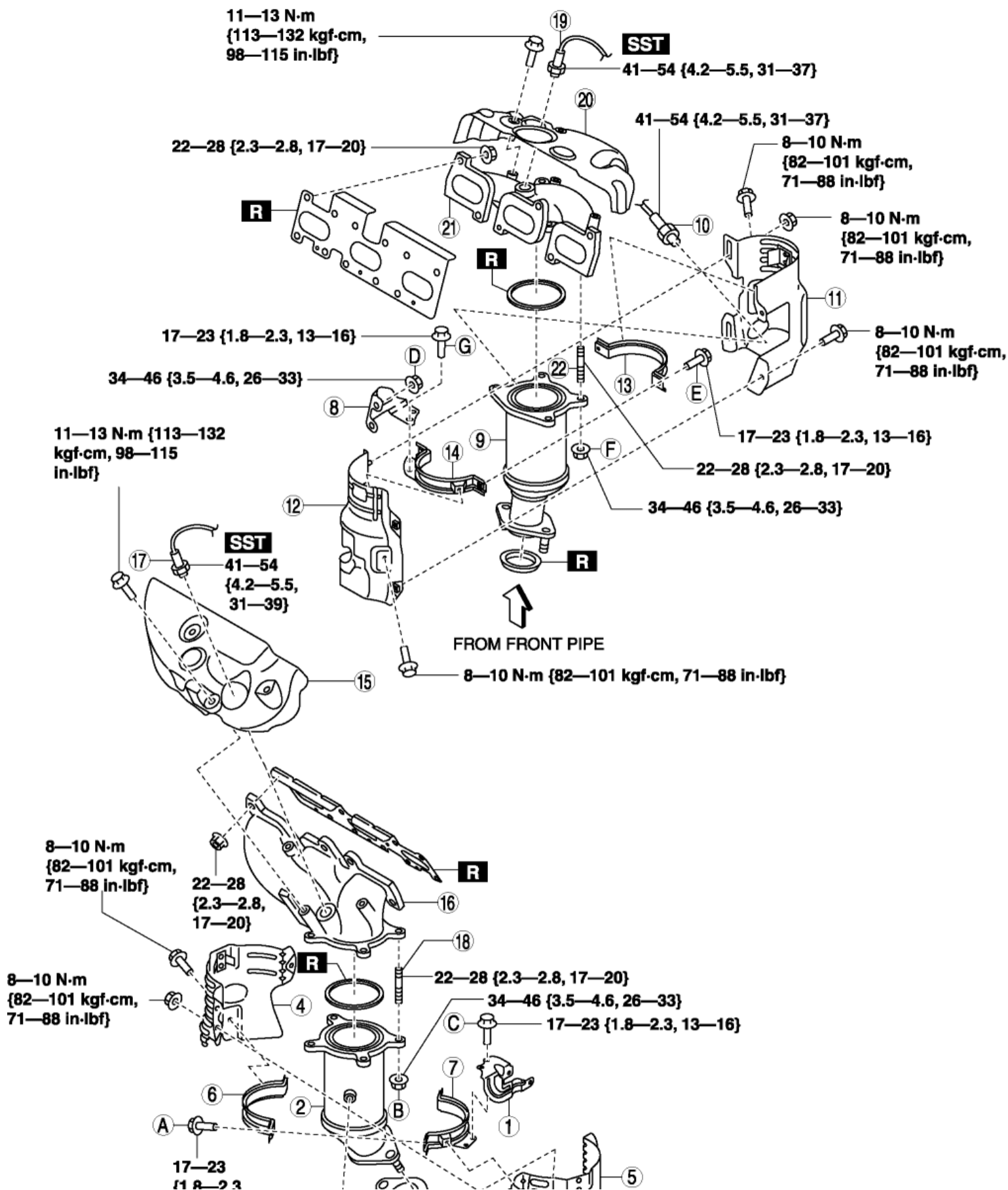
1. Disconnect the negative battery cable. (See [BATTERY REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
2. Remove the engine cover. (See [ENGINE COVER REMOVAL/ INSTALLATION \[MZI 3.7 V6\]](#).)
3. Remove in the order indicated in the table.
4. Remove the insulator. (See [Exhaust System Insulator Removal/ Installation Note.](#))
5. Install in the reverse order of removal.

Step 1

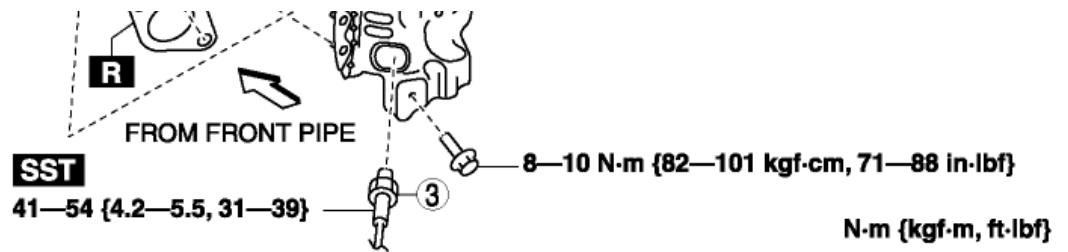


1	Main silencer (LH)
2	Main silencer (RH)
3	Presilencer (See Presilencer and Middle Pipe Removal Note.) (See Presilencer and Middle Pipe Installation Note.)
4	Middle pipe (See Presilencer and Middle Pipe Removal Note.) (See Presilencer and Middle Pipe Installation Note.)

Step 2



13—16}

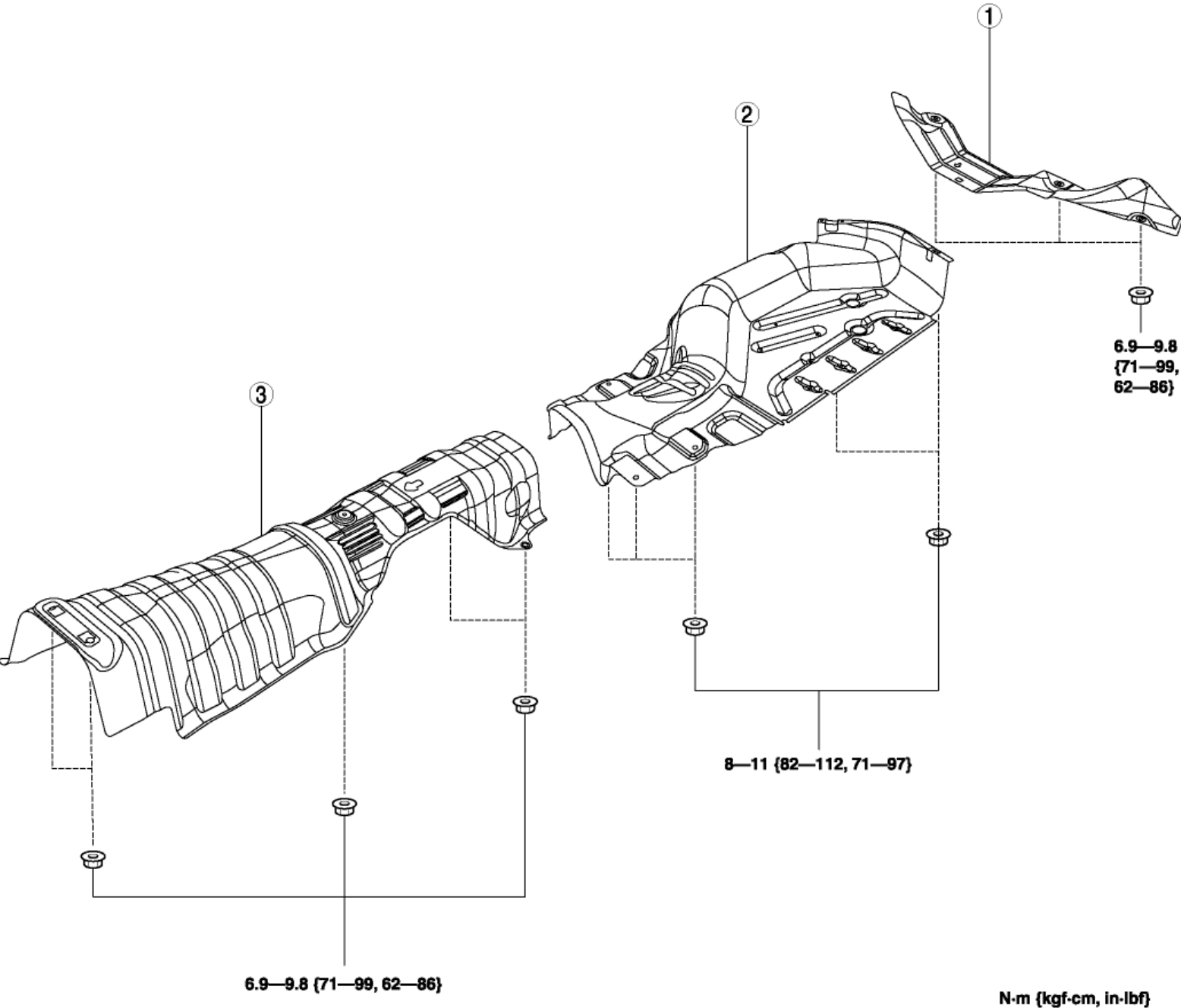


1	WU-TWC bracket (LH)
2	WU-TWC (LH) (See Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Removal Note.) (See Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Installation Note.)
3	HO2S (LH) (See HEATED OXYGEN SENSOR (HO2S) REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
4	WU-TWC protector No.1 (LH)
5	WU-TWC protector No.2 (LH)
6	WU-TWC hanger bracket No.1 (LH)
7	WU-TWC hanger bracket No.2 (LH)
8	WU-TWC bracket (RH)
9	WU-TWC (RH) (See Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Removal Note.) (See Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Installation Note.)
10	HO2S (RH) (See HEATED OXYGEN SENSOR (HO2S) REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
11	WU-TWC protector No.1 (RH)
12	WU-TWC protector No.2 (RH)
13	WU-TWC hanger bracket No.1 (RH)
14	WU-TWC hanger bracket No.2 (RH)
15	Exhaust manifold insulator (LH)
16	Exhaust manifold (LH) (See Exhaust Manifold (LH) Removal Note.) (See Exhaust Manifold (LH) Installation Note.)
17	A/F sensor (LH) (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
18	Stud

19	A/F sensor (RH)
	(See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
20	Exhaust manifold insulator (RH)
21	Exhaust manifold (RH)
	(See Exhaust Manifold (RH) Installation Note.)
22	Stud

Exhaust System Insulator Removal/ Installation Note

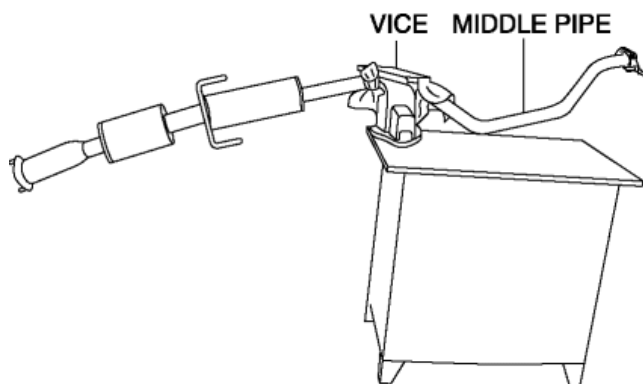
1. Remove the exhaust system insulator in the order shown in the figure.
2. Install in the reverse order of removal.



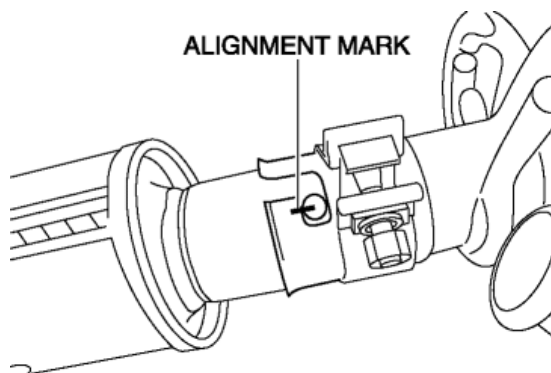
1	insulator (rear)
2	insulator (middle)
3	insulator (front)

Presilencer and Middle Pipe Removal Note

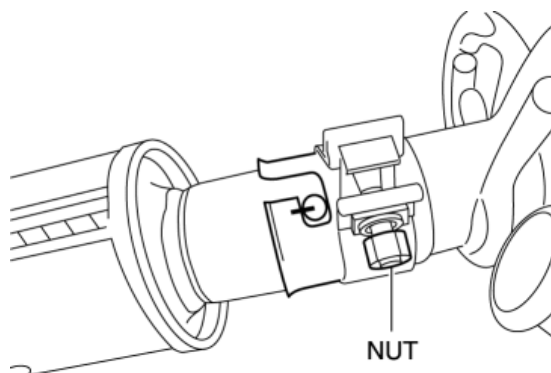
1. Remove the presilencer and the middle pipe as a single unit.
2. Secure the middle pipe in a vice.



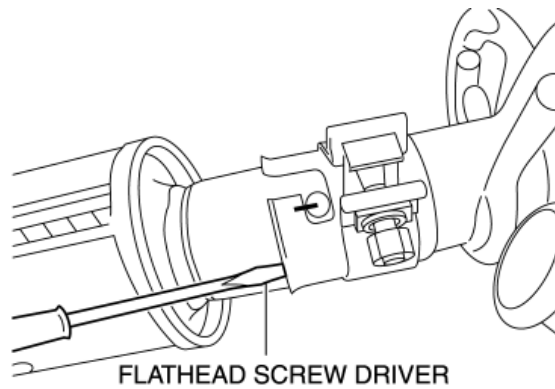
3. Remove the presilencer from the middle pipe using the following procedure.
 - a. As shown in the figure, place alignment marks on the presilencer and the middle pipe so that they can be re-assembled to their original position.



- b. Loosen the nut shown in the figure.



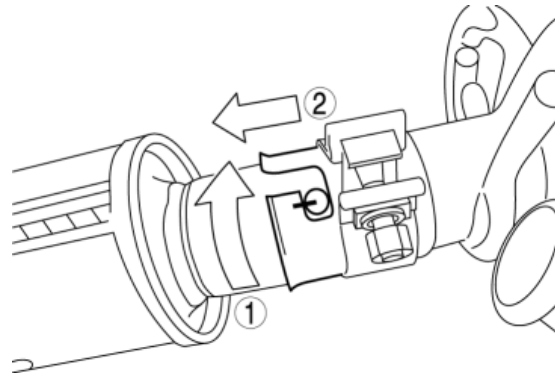
- c. As shown in the figure, spread the connection area of the presilencer and the middle pipe outward using a flathead screwdriver.



d. Remove the presilencer from the middle pipe in the direction of the arrow shown in the figure.

NOTE:

- If the removal is difficult, the middle pipe can be removed easily by spraying penetrant lubricating spray on the connection area of the presilencer and the middle pipe.



Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Removal Note

1. Disconnect the HO2S (LH) connector.
2. Remove the WU-TWC (LH).

Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Removal Note

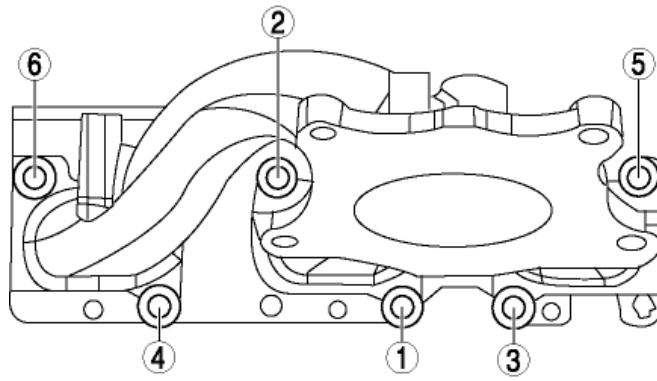
1. Remove the joint shaft. (See [JOINT SHAFT REMOVAL/ INSTALLATION.](#))
2. Disconnect the HO2S (RH) connector.
3. Remove the WU-TWC (RH).

Exhaust Manifold (LH) Removal Note

1. Disconnect the A/F sensor connector.
2. Remove the exhaust manifold (LH).

Exhaust Manifold (RH) Installation Note

1. Tighten the exhaust manifold (RH) installation nuts in the order shown in the figure.

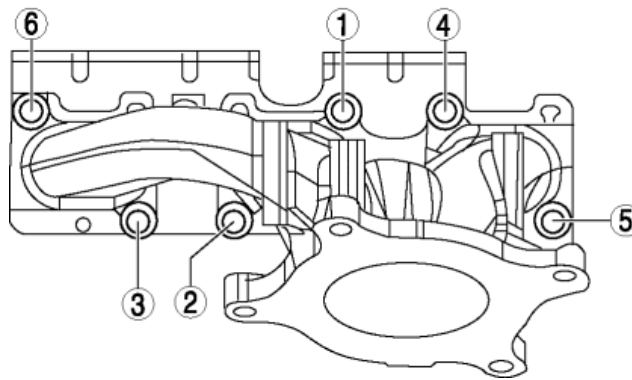


Tightening torque

- 22—28 N·m {2.3—2.8 kgf·m, 17—20 ft·lbf}

Exhaust Manifold (LH) Installation Note

1. Tighten the exhaust manifold (RH) installation nuts in the order shown in the figure.



Tightening torque

- 22—28 N·m {2.3—2.8 kgf·m, 17—20 ft·lbf}

Warm Up Three Way Catalytic Converter (WU-TWC) (RH) Installation Note

CAUTION:

- Be sure to follow the procedure below in installing the components. Otherwise improper fastening or seating may occur.

1. Tighten nut of D with tightening torque.

Tightening torque

- 34—46 N·m {3.5—4.6 kgf·m, 26—33 ft·lbf}

2. Temporarily tighten bolt of E.
3. Temporarily tighten nut of F.
4. Temporarily tighten bolt of G.
5. Tighten nut of F with tightening torque.

Tightening torque

- 34—46 N·m {3.5—4.6 kgf·m, 26—33 ft·lbf}

6. Tighten bolt of G with tightening torque.

Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

7. Tighten bolt of E with tightening torque.

Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

Warm Up Three Way Catalytic Converter (WU-TWC) (LH) Installation Note

CAUTION:

- Be sure to follow the procedure below in installing the components. Otherwise improper fastening or seating may occur.
1. Temporarily tighten bolt of A.
 2. Temporarily tighten nut of B.
 3. Temporarily tighten bolt of C.
 4. Tighten nut of B with tightening torque.

Tightening torque

- 34—46 N·m {3.5—4.6 kgf·m, 26—33 ft·lbf}

5. Tighten bolt of C with tightening torque.

Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

6. Tighten bolt of A with tightening torque.

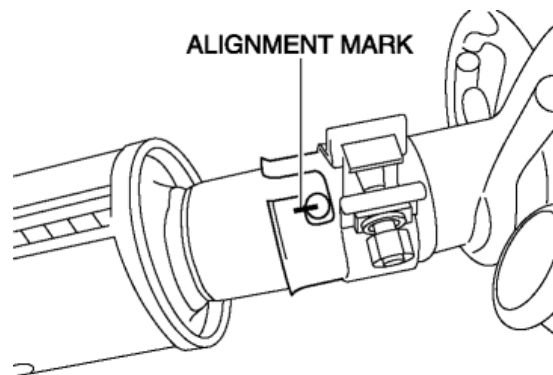
Tightening torque

- 17—23 N·m {1.8—2.3 kgf·m, 13—16 ft·lbf}

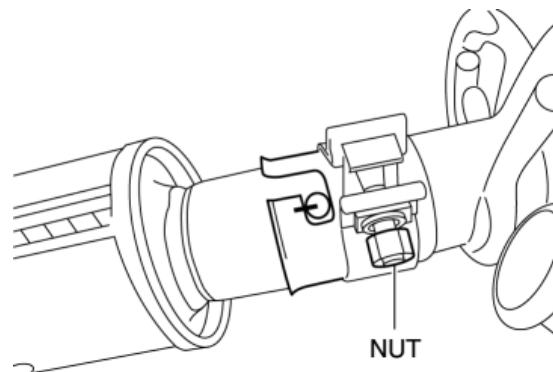
Presilencer and Middle Pipe Installation Note

NOTE:

- When newly replacing the presilencer or the middle pipe, place alignment marks on the new part in the same position as the removed part.
1. Install the presilencer to the middle pipe using the following procedure.
 - a. Align the presilencer and the middle pipe alignment marks.



- b. Tighten the nut shown in the figure.



Tightening torque

- 41—51 N·m {4.2—5.2 kgf·m, 31—37 ft·lbf}

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