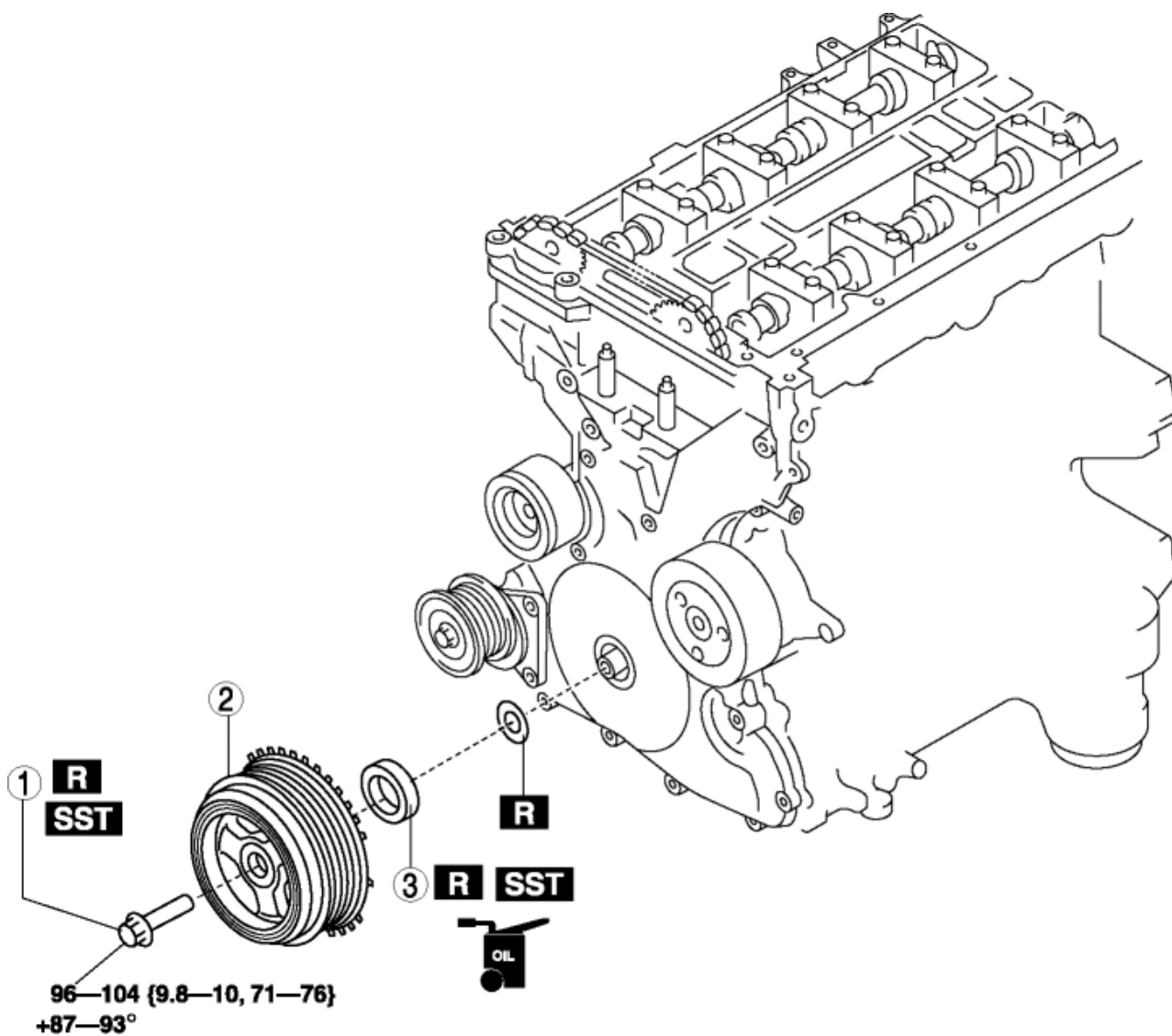


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FRONT OIL SEAL REPLACEMENT [MZR 2.5]

1. Disconnect the negative battery cable.
2. Remove the plug hole plate. (See [PLUG HOLE PLATE REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
3. Remove the ignition coils. (See [IGNITION COIL REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
4. Remove the spark plugs. (See [SPARK PLUG REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
5. Remove the ventilation hose. (See [INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
6. Disconnect the camshaft position (CMP) sensor connector.
7. Disconnect the oil control valve (OCV) connector.
8. Remove the cylinder head cover. (See [TIMING CHAIN REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
9. Remove the front wheel and tire (RH). (See [GENERAL PROCEDURES \(SUSPENSION\)](#).)
10. Set the front mudguard (RH) out of the way. (See [FRONT MUDGUARD REMOVAL/ INSTALLATION](#).)
11. Remove the splash shield (RH).
12. Remove the aerodynamic under cover No.2. (See [AERODYNAMIC UNDER COVER NO.2 REMOVAL/ INSTALLATION](#).)
13. Remove the drive belt. (See [DRIVE BELT REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
14. Loosen the crankshaft position (CKP) sensor installation bolts. (See [CRANKSHAFT POSITION \(CKP\) SENSOR REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
15. Disconnect the drive shaft (RH) from joint shaft, set the drive shaft (RH) out of the way. (ATX) (See [DRIVE SHAFT REMOVAL/ INSTALLATION](#).)
16. Remove in the order indicated in the table.
17. Install in the reverse order of removal.

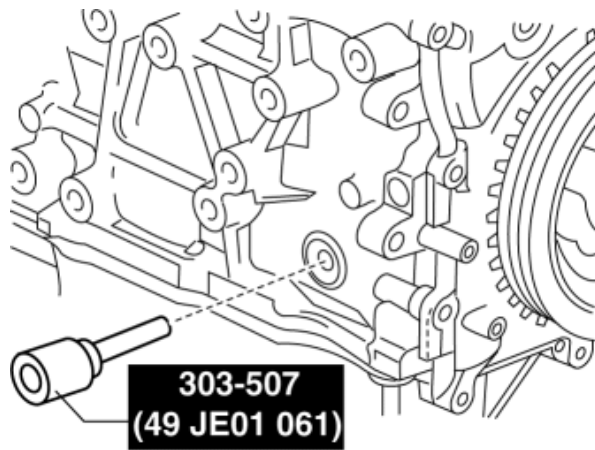


N·m {kgf·m, ft·lbf}

1	Crankshaft pulley lock bolt (See Crankshaft Pulley Lock Bolt Removal Note.) (See Crankshaft Pulley Lock Bolt Installation Note.)
2	Crankshaft pulley
3	Front oil seal (See Front Oil Seal Removal Note.) (See Front Oil Seal Installation Note.)

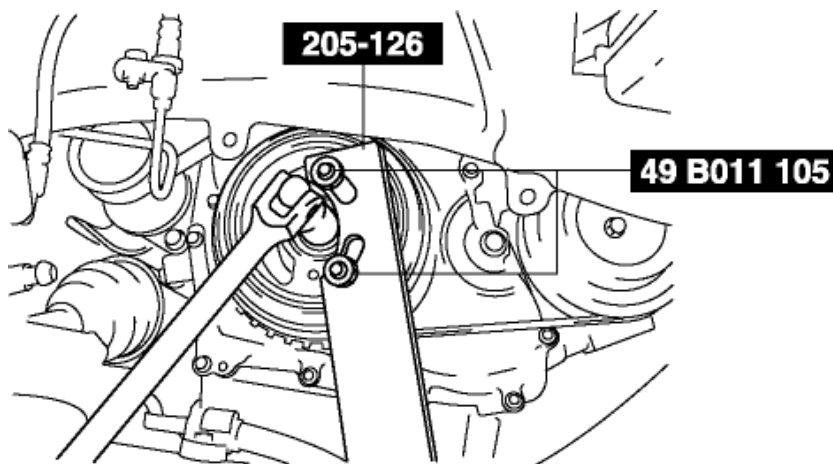
Crankshaft Pulley Lock Bolt Removal Note

1. Remove the cylinder block lower blind plug.
2. Install the **SST**.



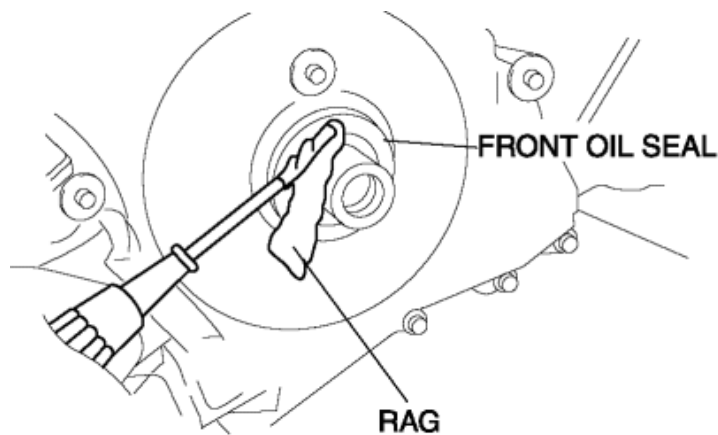
3. Turn the crankshaft clockwise until the crankshaft is in the No.1 cylinder TDC position (until the balance weight is attached to the **SST**).

4. Hold the crankshaft pulley using the **SSTs**.



Front Oil Seal Removal Note

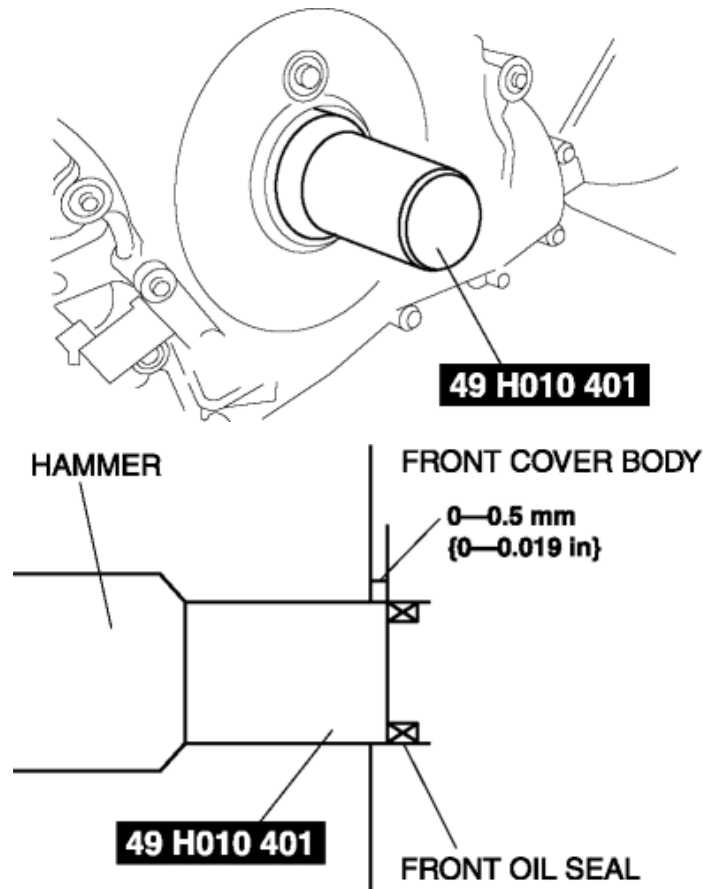
1. Cut the oil seal lip using a utility knife.
2. Remove the oil seal using a screwdriver wrapped with a rag.



Front Oil Seal Installation Note

1. Apply clean engine oil to the oil seal lip.

2. Push the oil seal slightly in by hand.
3. Tap the oil seal in evenly using the **SST** and a hammer.

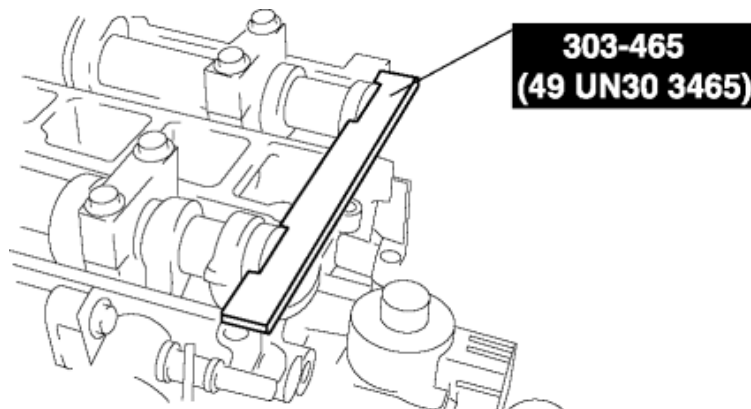


Front oil seal press-in amount

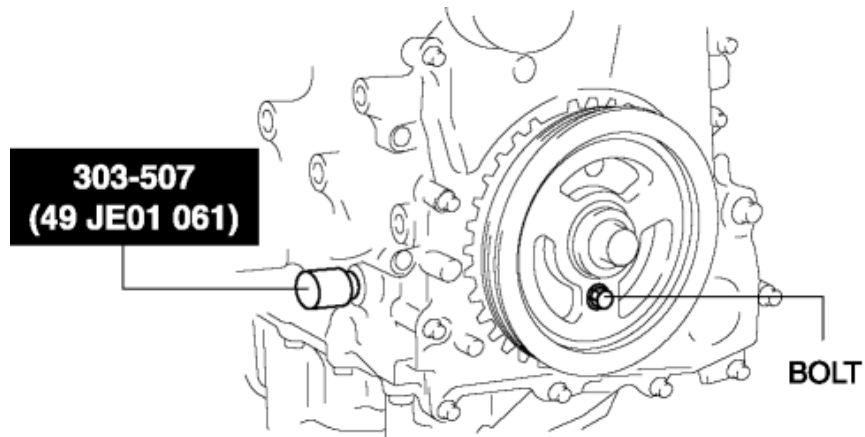
- 0—0.5 mm {0—0.019 in}

Crankshaft Pulley Lock Bolt Installation Note

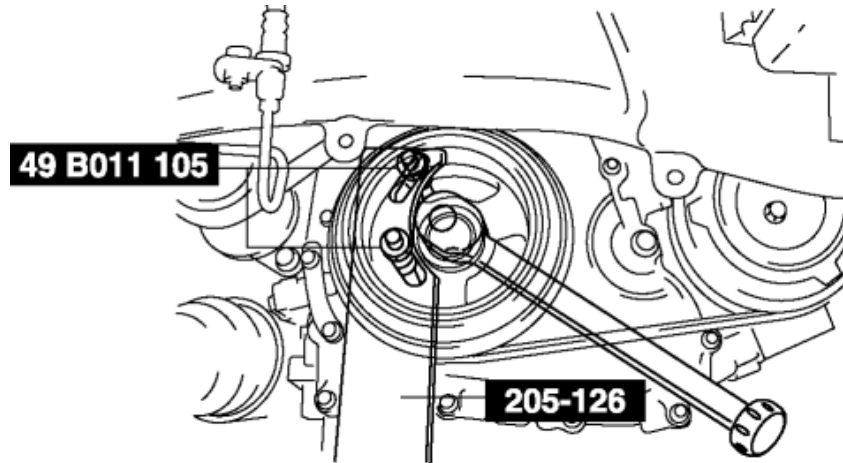
1. Install the **SST** on the camshaft as shown in the figure.



2. Verify that No.1 cylinder is at TDC of the compression stroke. (Position counterweight contacts **SST**.)
3. To position the crankshaft pulley, temporarily tighten it and, using a suitable bolt (**M6 X 1.0**), fix the crankshaft pulley to the engine front cover.



4. Hold the crankshaft pulley using the **SSTs**.



5. Tighten the crankshaft pulley lock bolt in the order shown in the following two steps using the **SST (49 D032 316)**.

Tightening torque

- 96—104 N·m {9.8—10 kgf·m, 71—76 ft·lbf}
- 87—93°

6. Remove the **M6 x 1.0** bolt.

7. Remove the **SST** from the camshaft.

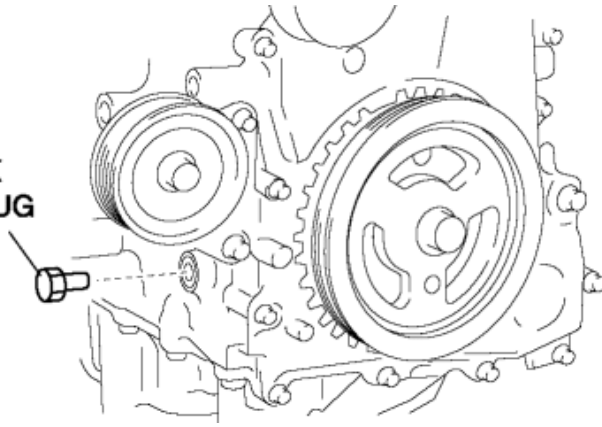
8. Remove the **SST** from the cylinder block lower blind plug hole.

9. Rotate the crankshaft clockwise 2 turns until the TDC position.

- If not aligned, loosen the crankshaft pulley lock bolt and repeat from Step 1.

10. Install the cylinder block lower blind plug.

**CYLINDER BLOCK
LOWER BLIND PLUG**



Tightening torque 18—22 N·m {1.9—2.2 kgf·m, 14—16 ft·lbf}

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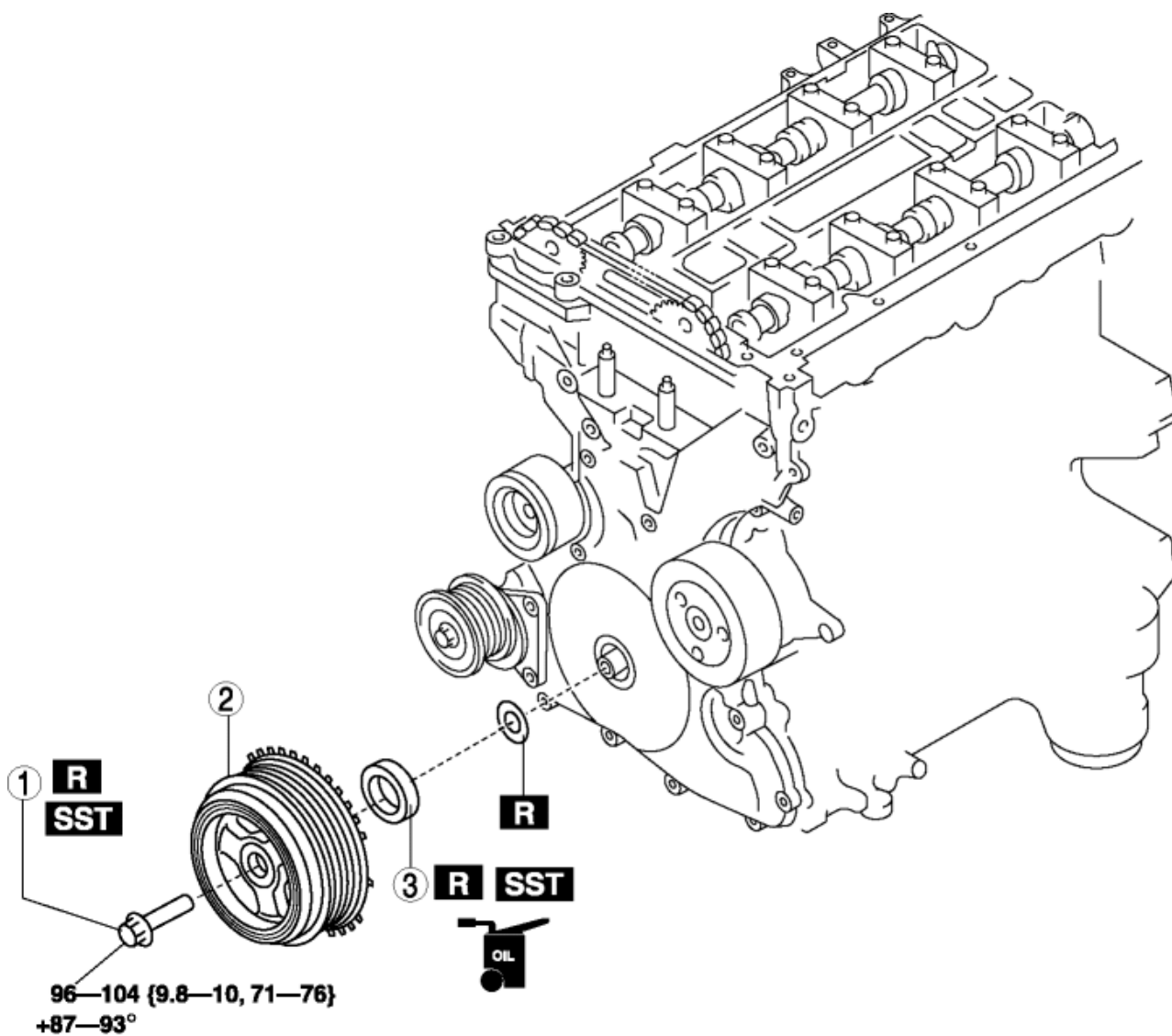
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FRONT OIL SEAL REPLACEMENT [MZR 2.5]

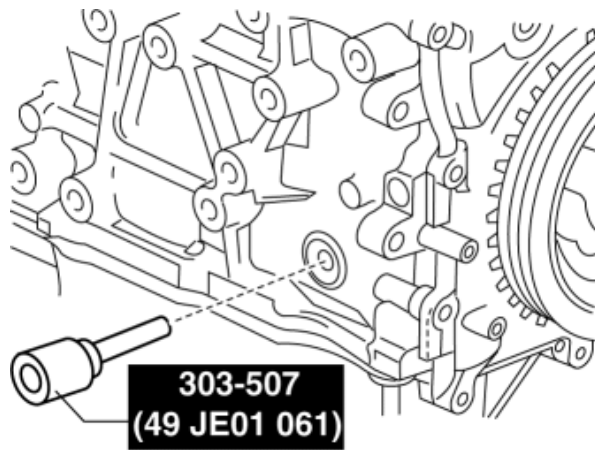
1. Disconnect the negative battery cable.
2. Remove the plug hole plate. (See [PLUG HOLE PLATE REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
3. Remove the ignition coils. (See [IGNITION COIL REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
4. Remove the spark plugs. (See [SPARK PLUG REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
5. Remove the ventilation hose. (See [INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
6. Disconnect the camshaft position (CMP) sensor connector.
7. Disconnect the oil control valve (OCV) connector.
8. Remove the cylinder head cover. (See [TIMING CHAIN REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
9. Remove the front wheel and tire (RH). (See [GENERAL PROCEDURES \(SUSPENSION\)](#).)
10. Set the front mudguard (RH) out of the way. (See [FRONT MUDGUARD REMOVAL/ INSTALLATION](#).)
11. Remove the splash shield (RH).
12. Remove the aerodynamic under cover No.2. (See [AERODYNAMIC UNDER COVER NO.2 REMOVAL/ INSTALLATION](#).)
13. Remove the drive belt. (See [DRIVE BELT REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
14. Loosen the crankshaft position (CKP) sensor installation bolts. (See [CRANKSHAFT POSITION \(CKP\) SENSOR REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)
15. Disconnect the drive shaft (RH) from joint shaft, set the drive shaft (RH) out of the way. (ATX) (See [DRIVE SHAFT REMOVAL/ INSTALLATION](#).)
16. Remove in the order indicated in the table.
17. Install in the reverse order of removal.



1	Crankshaft pulley lock bolt (See Crankshaft Pulley Lock Bolt Removal Note.) (See Crankshaft Pulley Lock Bolt Installation Note.)
2	Crankshaft pulley
3	Front oil seal (See Front Oil Seal Removal Note.) (See Front Oil Seal Installation Note.)

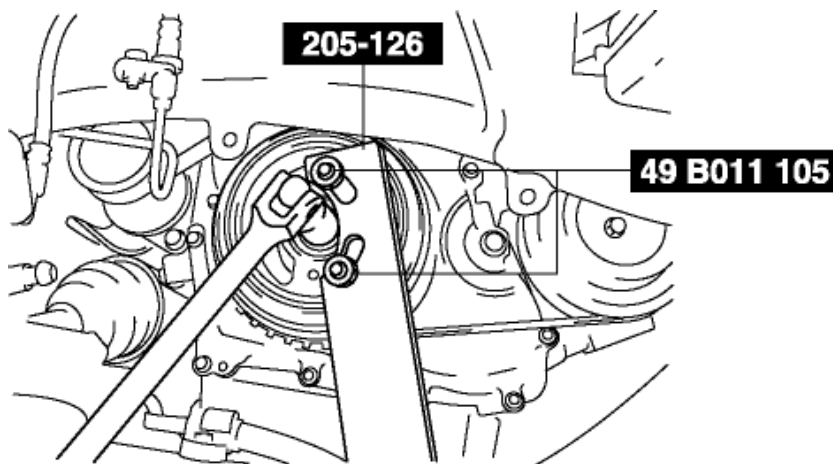
Crankshaft Pulley Lock Bolt Removal Note

1. Remove the cylinder block lower blind plug.
2. Install the **SST**.



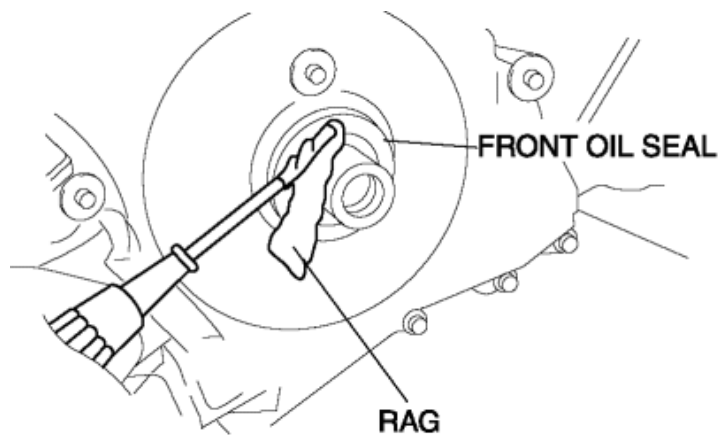
3. Turn the crankshaft clockwise until the crankshaft is in the No.1 cylinder TDC position (until the balance weight is attached to the **SST**).

4. Hold the crankshaft pulley using the **SSTs**.



Front Oil Seal Removal Note

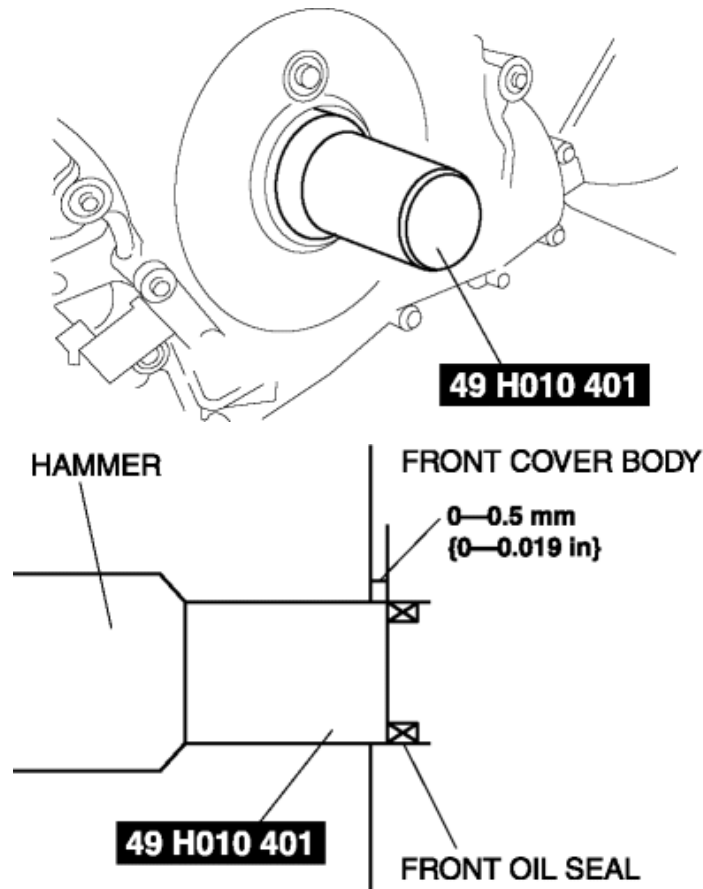
1. Cut the oil seal lip using a utility knife.
2. Remove the oil seal using a screwdriver wrapped with a rag.



Front Oil Seal Installation Note

1. Apply clean engine oil to the oil seal lip.

2. Push the oil seal slightly in by hand.
3. Tap the oil seal in evenly using the **SST** and a hammer.

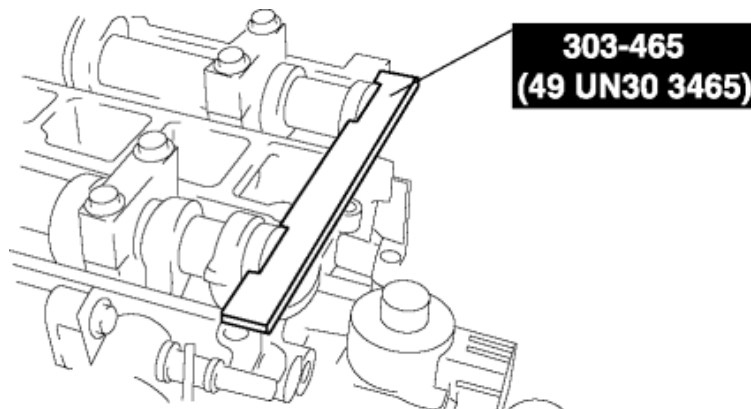


Front oil seal press-in amount

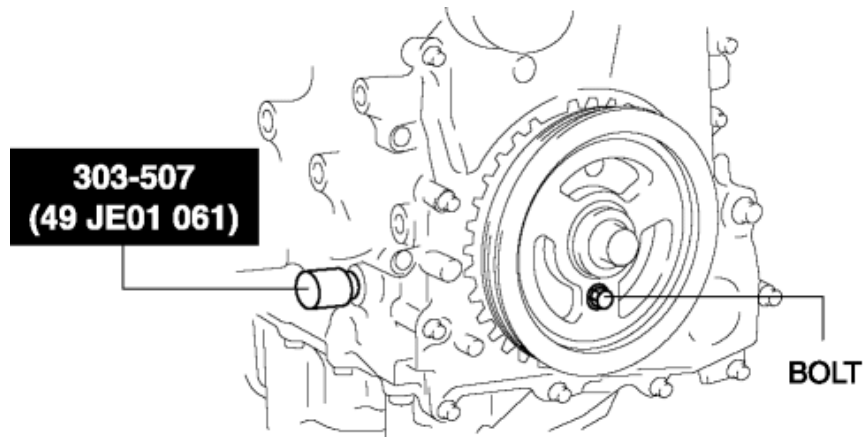
- 0—0.5 mm {0—0.019 in}

Crankshaft Pulley Lock Bolt Installation Note

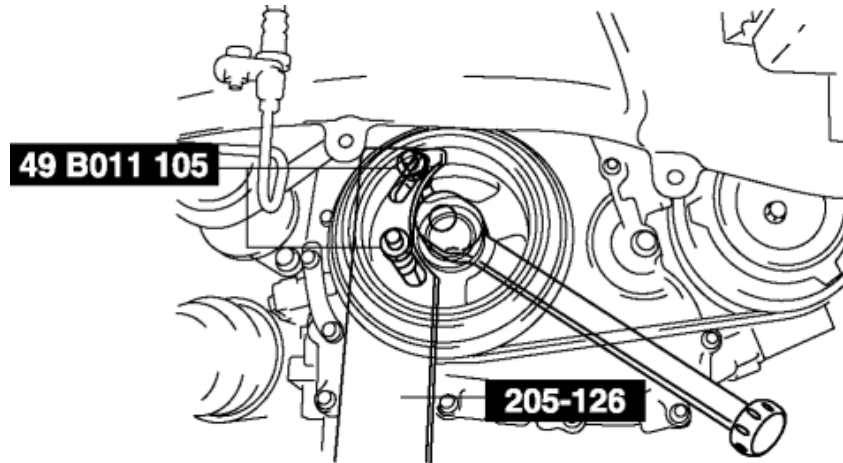
1. Install the **SST** on the camshaft as shown in the figure.



2. Verify that No.1 cylinder is at TDC of the compression stroke. (Position counterweight contacts **SST**.)
3. To position the crankshaft pulley, temporarily tighten it and, using a suitable bolt (**M6 X 1.0**), fix the crankshaft pulley to the engine front cover.



4. Hold the crankshaft pulley using the **SSTs**.



5. Tighten the crankshaft pulley lock bolt in the order shown in the following two steps using the **SST (49 D032 316)**.

Tightening torque

- 96—104 N·m {9.8—10 kgf·m, 71—76 ft·lbf}
- 87—93°

6. Remove the **M6 x 1.0** bolt.

7. Remove the **SST** from the camshaft.

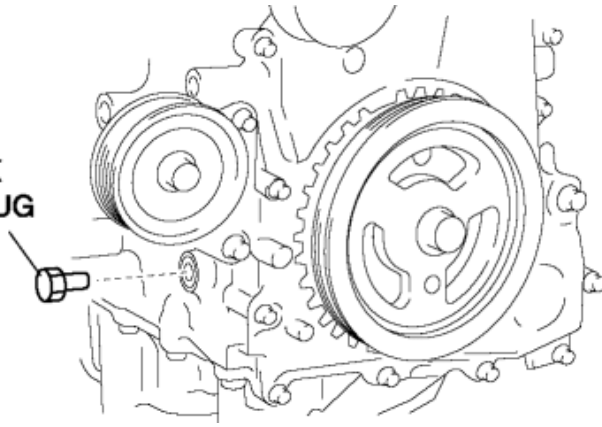
8. Remove the **SST** from the cylinder block lower blind plug hole.

9. Rotate the crankshaft clockwise 2 turns until the TDC position.

- If not aligned, loosen the crankshaft pulley lock bolt and repeat from Step 1.

10. Install the cylinder block lower blind plug.

**CYLINDER BLOCK
LOWER BLIND PLUG**



Tightening torque 18—22 N·m {1.9—2.2 kgf·m, 14—16 ft·lbf}

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