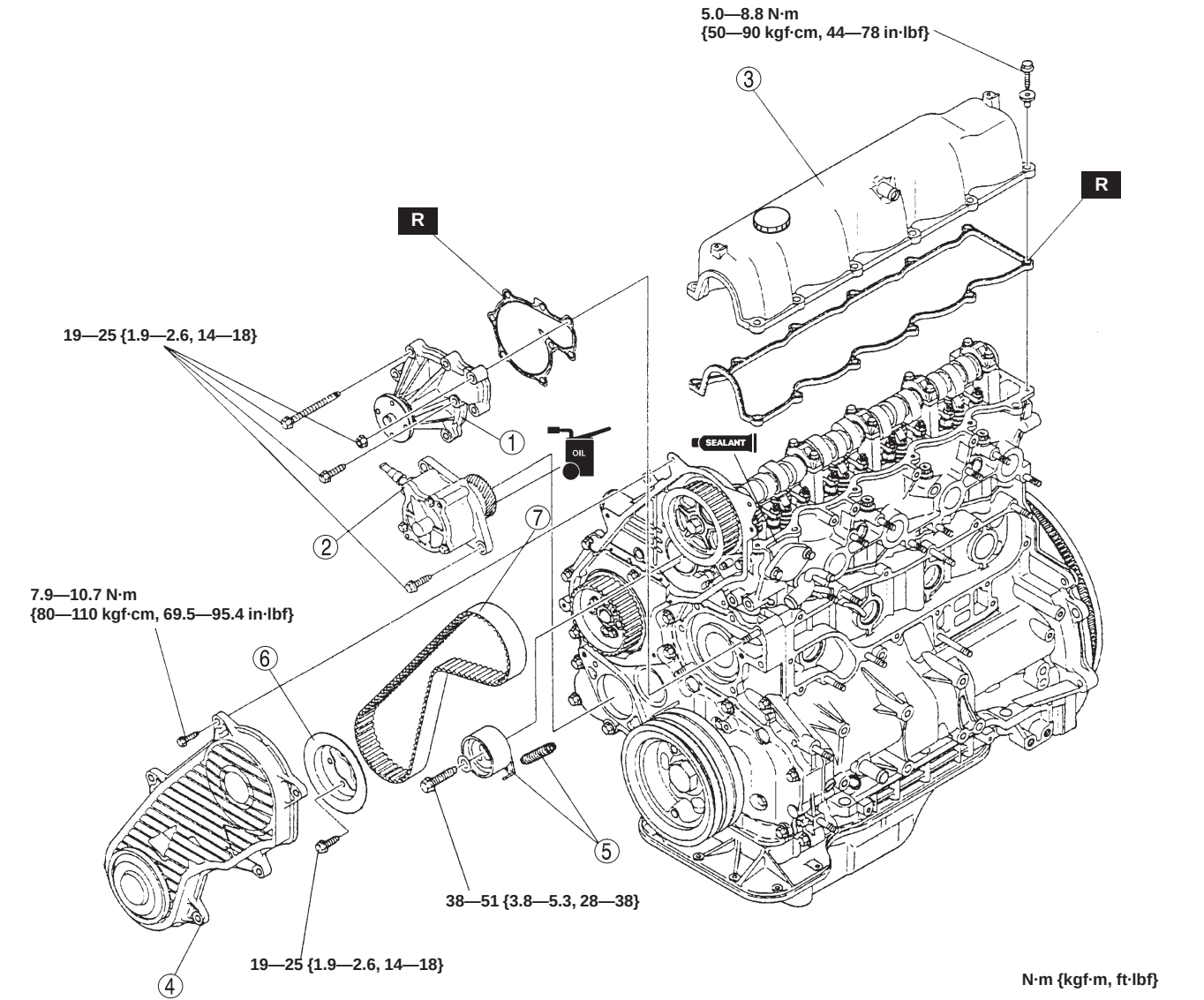


ENGINE DISASSEMBLY/ASSEMBLY

TIMING BELT DISASSEMBLY/ASSEMBLY

- 1. Disassemble in the order shown in the figure.
- 2. Assemble in the reverse order of disassembly.

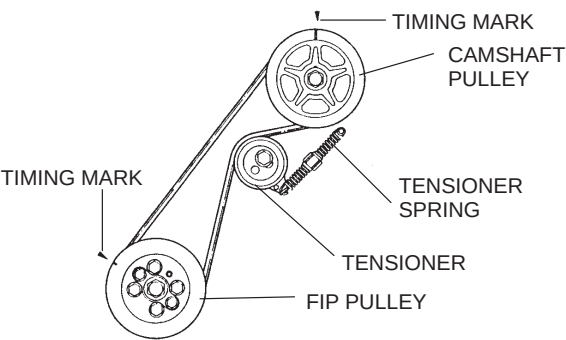


1	Water pump
2	Vacuum pump
3	Cylinder head cover + Assembly Note
4	Timing belt cover + Assembly Note

5	Tensioner, Tensioner spring + Disassembly Note
6	Pulley plate
7	Timing belt + Disassembly Note + Assembly Note

Tensioner, Tensioner Spring Disassembly Note

- 1. Turn the crankshaft clockwise and align the timing marks as shown.

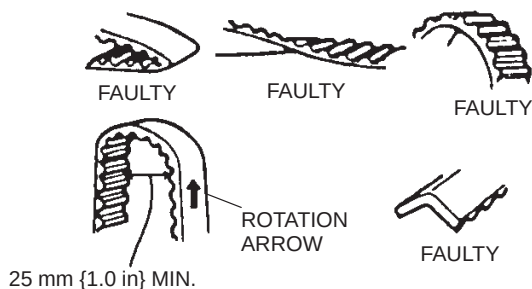


2. Remove the tensioner and tensioner spring.

Timing Belt Disassembly Note

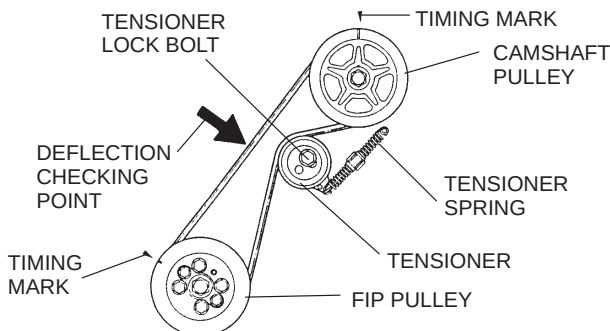
Caution

- The following will damage the belt and shorten its life; Forcefully twisting it, turning it inside out, or allowing oil or grease on it.
- Mark the timing belt rotation on the belt for proper reinstallation.



Timing Belt Assembly Note

1. Turn the crankshaft clockwise and align the timing marks as shown.



Caution

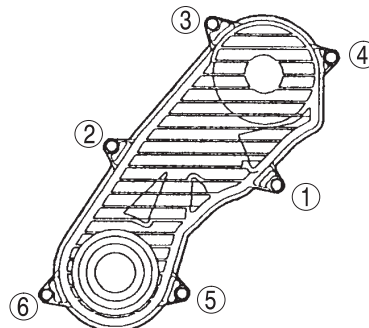
- Overtensioning of the timing belt can cause breakage of the belt and the camshaft.
2. Verify that the FIP attaching bolts and nuts are tightened to the specified torque. This must be done to prevent overtensioning of the timing belt after it has been installed.
 3. Install the timing belt.
 4. Install the tensioner, tensioner spring, and the lock bolt.
 5. Turn the crankshaft clockwise twice, and align the timing marks. If they are not aligned, remove the timing belt and repeat from **Timing Belt Assembly Note** step 1.
 6. Loosen the tensioner lock bolt to apply tension to the belt. Do not apply tension other than that of the tensioner spring.
 7. Tighten the tensioner lock bolt. Be sure the tensioner does not move together with the bolt rotation.
 8. Turn the crankshaft clockwise twice, and check the timing belt deflection as shown. If it is incorrect, repeat from **Tensioner, Tensioner Spring Disassembly Note**.

Timing belt deflection

9.0—10.0 mm {0.36—0.39 in} at
98 N {10 kgf, 22 lbf}

Timing Belt Cover Assembly Note

- Tighten the timing belt cover bolts in the order shown.

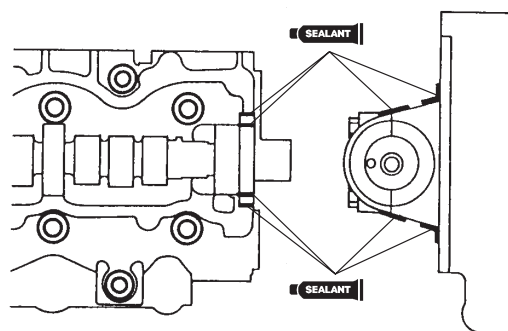


Cylinder Head Cover Assembly Note

1. Before installing the cylinder head cover, inspect the valve clearance. (Refer to ENGINE INSPECTION/REPAIR, VALVE CLEARANCE INSPECTION.)
2. Apply silicone sealant to the cylinder head as shown.

Thickness

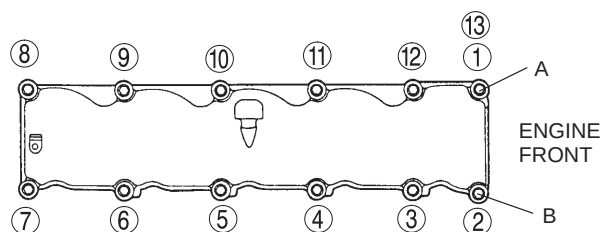
ø 1.5—2.5 mm {0.060—0.098 in}



3. Tighten cylinder head cover bolts A and B.

Tightening torque

1.5—2.9 N·m {15—30 kgf·cm, 14—26 in·lbf}



4. Tighten the cylinder head cover bolts in the order shown.

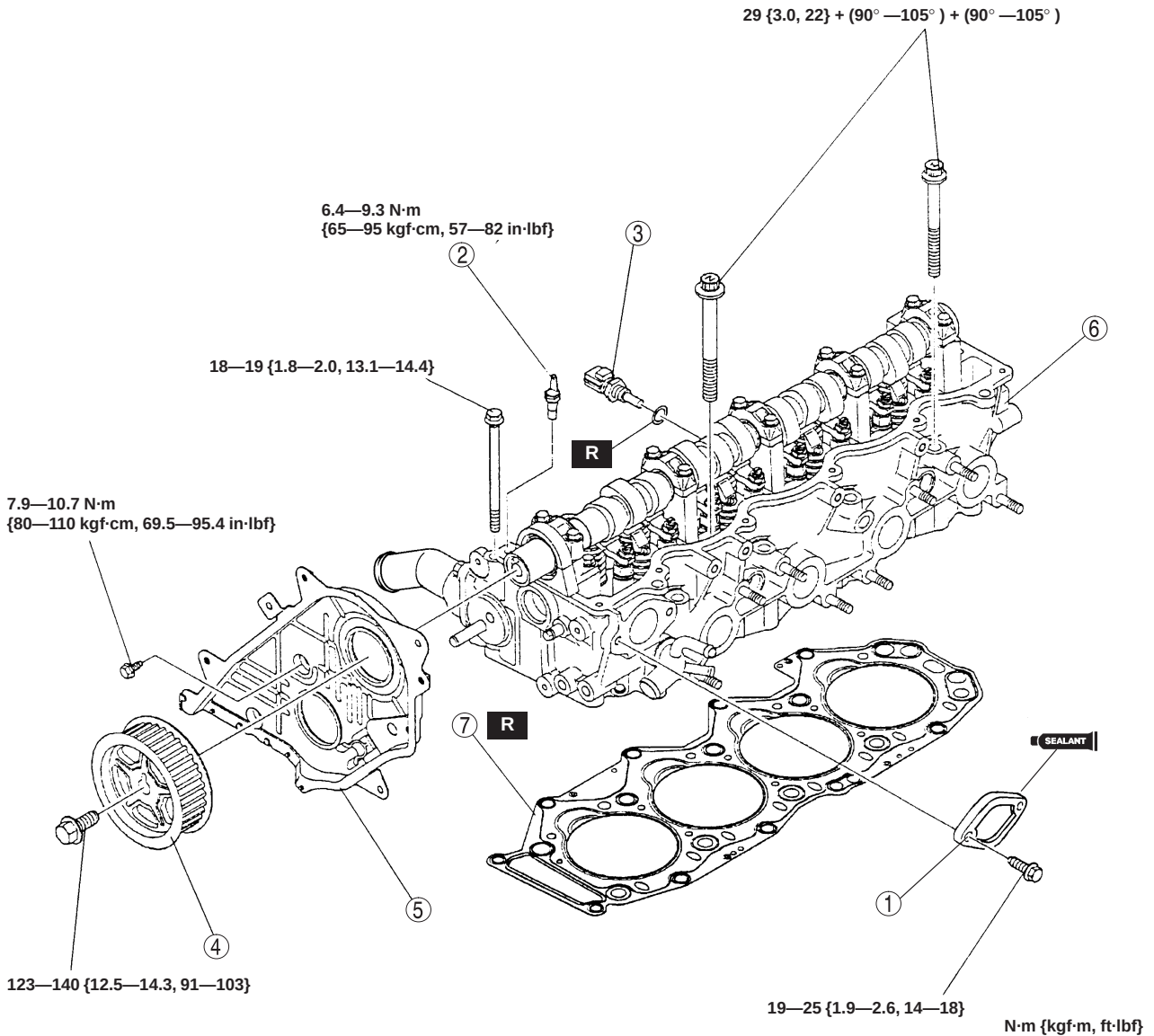
Tightening torque

5.0—8.8 N·m {50—90 kgf·cm, 44—78 in·lbf}

ENGINE DISASSEMBLY/ASSEMBLY

CYLINDER HEAD DISASSEMBLY/ASSEMBLY (I)

1. Disassemble in the order shown in the figure.
2. Assemble in the reverse order of disassembly.

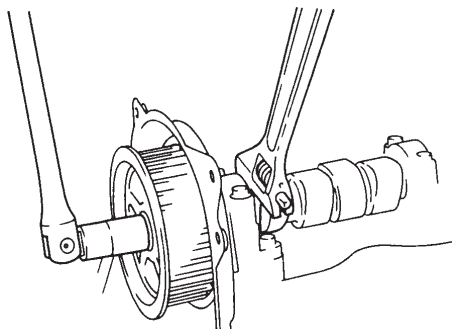


1	Blind cover + Assembly Note
2	Water temperature sender unit + Assembly Note
3	Water temperature sensor
4	Camshaft pulley + Disassembly Note + Assembly Note

5	Seal plate + Assembly Note
6	Cylinder head + Disassembly Note + Assembly Note
7	Cylinder head gasket + Assembly Note

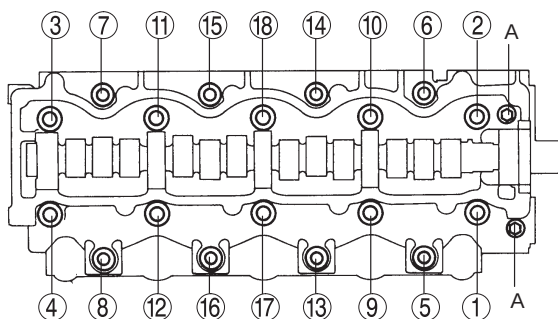
Camshaft Pulley Disassembly Note

- Hold the camshaft by using a wrench on the cast hexagon.



Cylinder Head Disassembly Note

- Remove bolts A.
- Loosen the cylinder head bolts in two or three steps in the order shown.

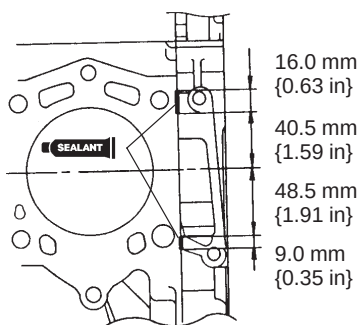


Cylinder Head Gasket Assembly Note

- Apply silicone sealant to the cylinder head as shown.

Thickness

ø 2.0–3.0 mm {0.08–0.11 in}



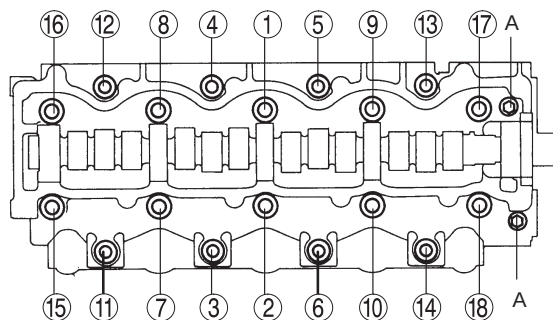
ENGINE
FRONT

Cylinder Head Assembly Note

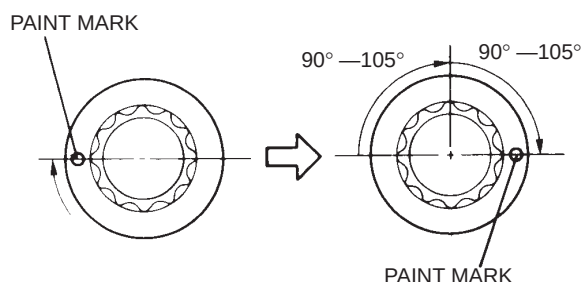
- Apply clean engine oil to the threads and the seat face of each bolt and install them.
- Tighten the bolts in two or three steps in the order shown in the figure.

Tightening torque

29 N·m {3.0 kgf·m, 22 ft·lbf}



- Put a paint mark on each bolt head.
- Using the marks as a reference, tighten the bolts by turning each 90° — 105° in the sequence shown.
- Further tighten each bolt by turning another 90° — 105° .



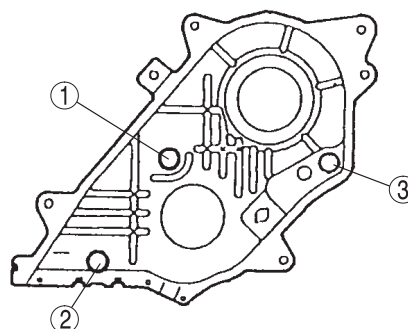
- Tighten bolts A.

Tightening torque

18–19 N·m {1.8–2.0 kgf·m, 13.1–14.4 ft·lbf}

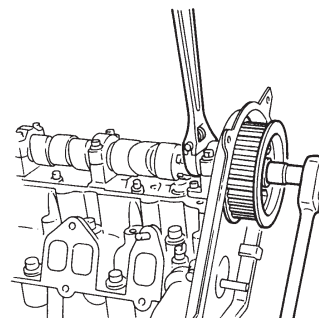
Seal Plate Assembly Note

- Tighten the seal plate bolts in the order shown.



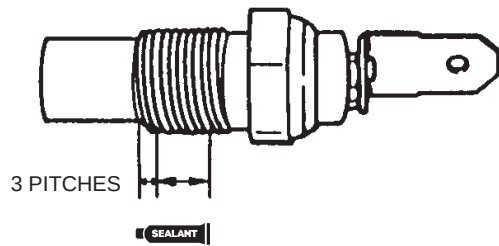
Camshaft Pulley Assembly Note

- Hold the camshaft by using a wrench on the cast hexagon and tighten the pulley lock bolt.



Water Temperature Sender Unit Assembly Note

- Apply silicone sealant to the thread of the water temperature sender unit as shown.

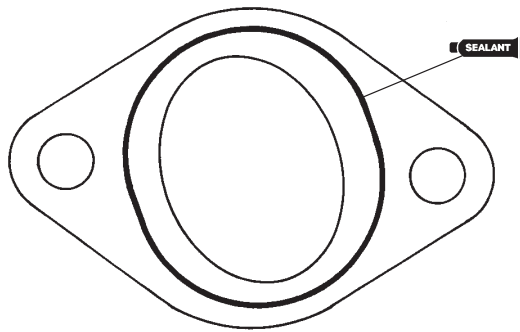


Blind Cover Assembly Note

- Apply silicone sealant to the blind cove as shown.

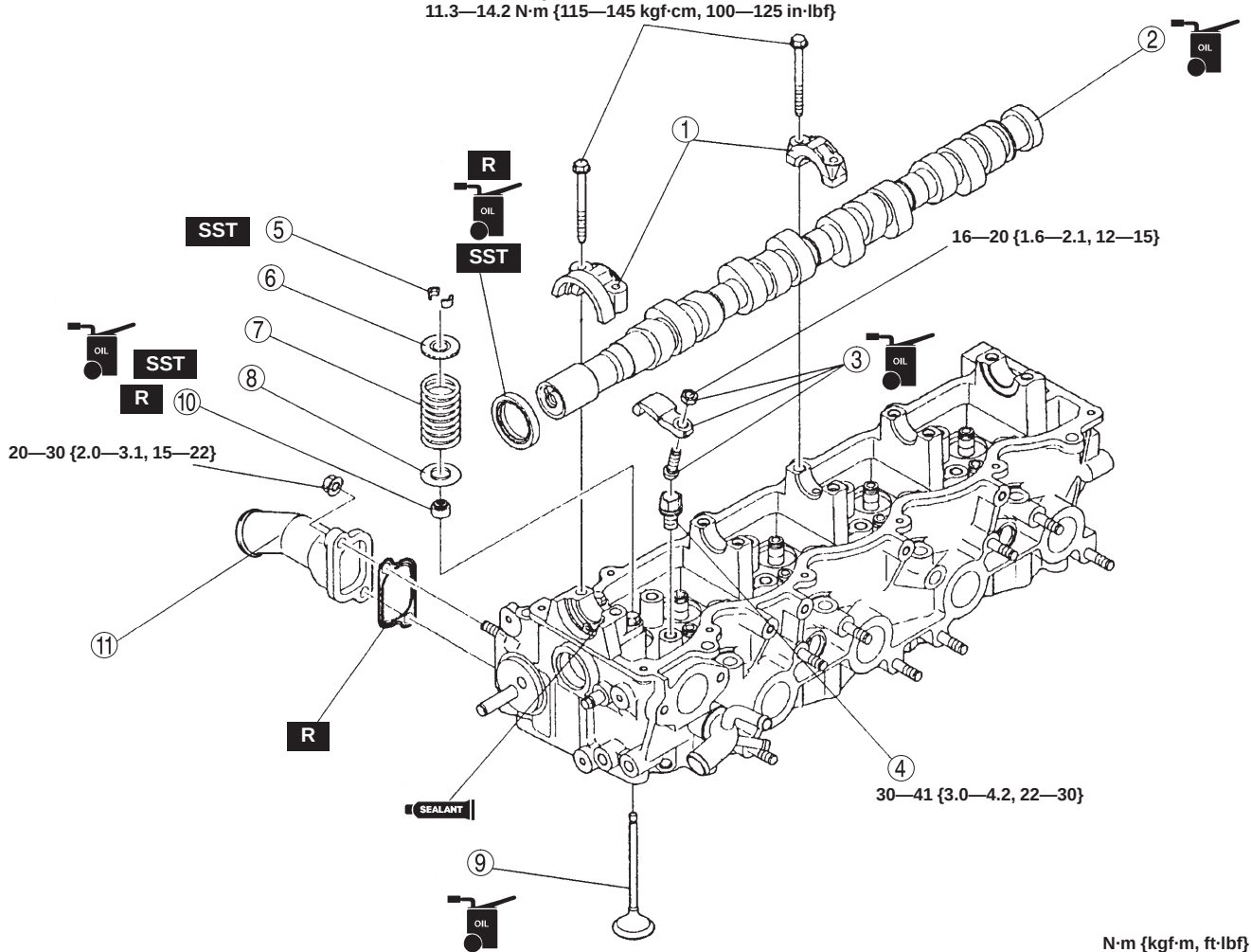
Thickness

ø 1.5—2.5 mm {0.060—0.098 in}



CYLINDER HEAD DISASSEMBLY/ASSEMBLY (II)

- 1. Disassemble in the order shown in the figure.
- 2. Assemble in the reverse order of disassembly.

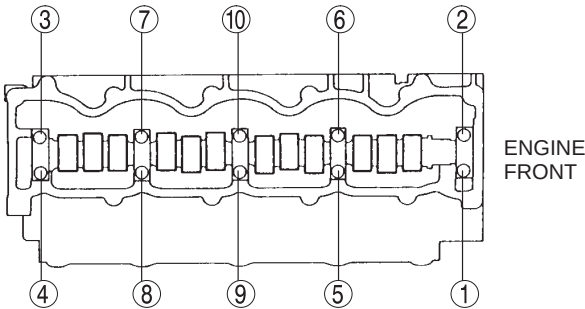


1	Camshaft cap + Disassembly Note + Assembly Note
2	Camshaft + Disassembly Note
3	Rocker arm + Assembly Note
4	Pivot
5	Valve keeper + Disassembly Note + Assembly Note

6	Valve spring seat, upper
7	Valve spring + Assembly Note
8	Valve spring seat, lower
9	Valve
10	Valve seal + Disassembly Note + Assembly Note
11	Water outlet pipe

Camshaft Cap Disassembly Note

- 1. Measure the camshaft end play.
(Refer to ENGINE INSPECTION/REPAIR, CAMSHAFT END PLAY INSPECTION.)
- 2. Loosen the camshaft cap bolts in three or four steps in the order shown.

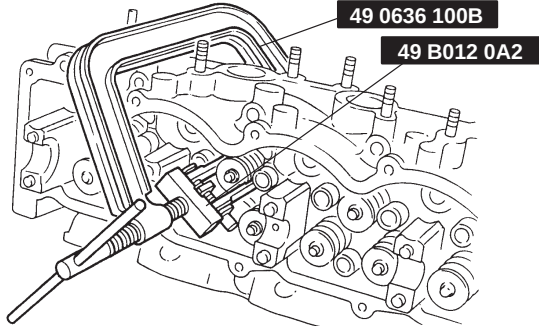


Camshaft Disassembly Note

- Measure the camshaft oil clearance.
(Refer to ENGINE INSPECTION/REPAIR,
CAMSHAFT OIL CLEARANCE INSPECTION.)

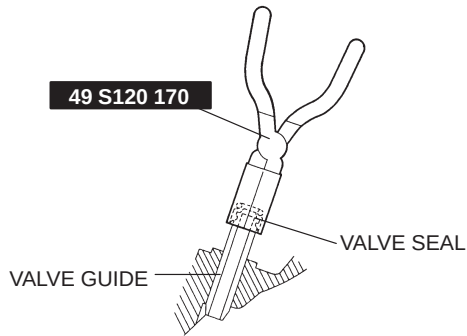
Valve Keeper Disassembly Note

- Remove the valve keeper by using the SST.



Valve Seal Disassembly Note

- Remove the valve seal by using the SST.

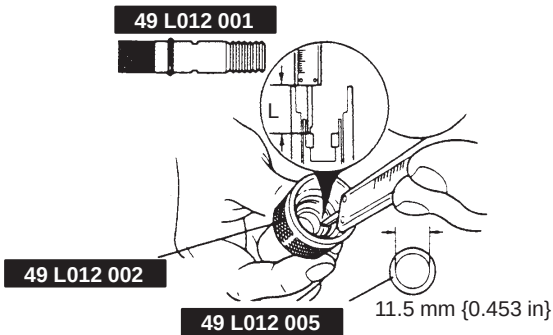


Valve Seal Assembly Note

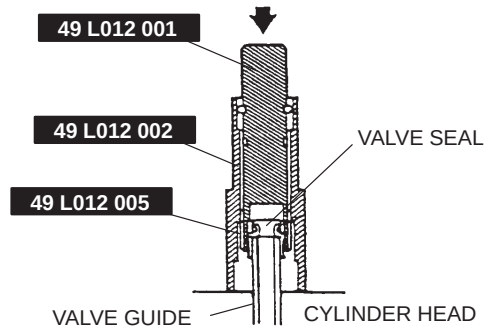
1. Assemble the SST so that depth L is as specified.

Depth L

15.6 mm {0.614 in}

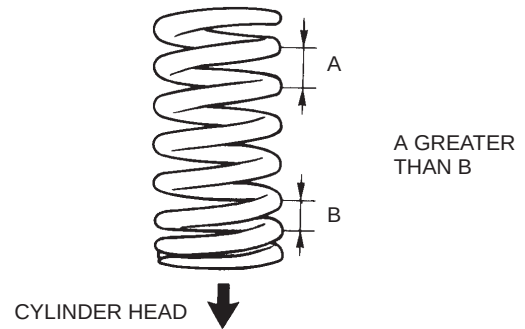


2. Press the valve seal onto the valve guide by hand.
3. Tap the SST by using a plastic hammer until its lower end touches the cylinder head.



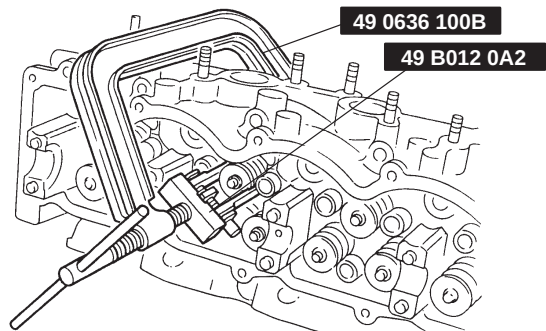
Valve Spring Assembly Note

- Install the valve spring with the closer pitch toward the cylinder head.



Valve Keeper Assembly Note

- Install the valve keeper by using the SST.

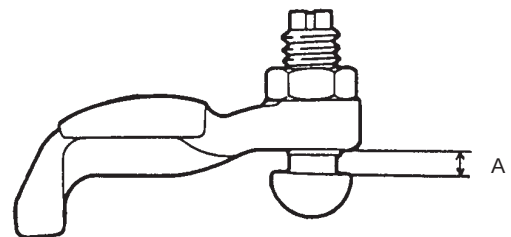


Rocker Arm Assembly Note

- If new locker arm is used, set dimension A as follows.

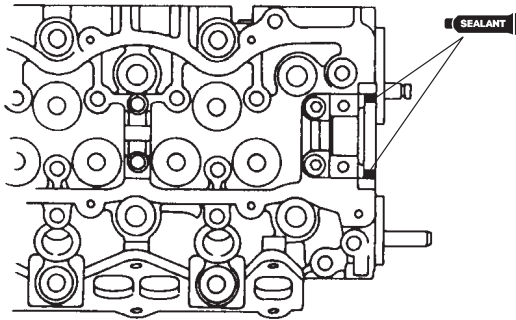
Dimension A

0—4 mm {0—0.1 in}



Camshaft Cap Assembly Note

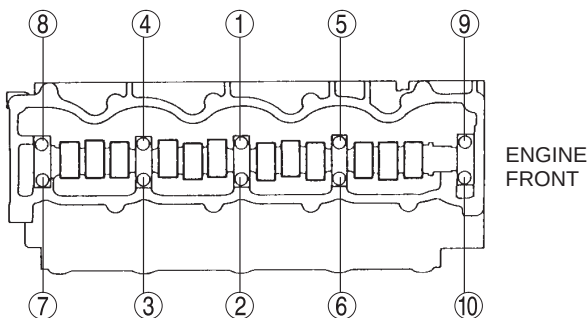
1. Apply silicone sealant to the front camshaft cap mounting surfaces as shown. Avoid sealant from projected onto the camshaft journal, oil seal surface, and camshaft thrust surface.



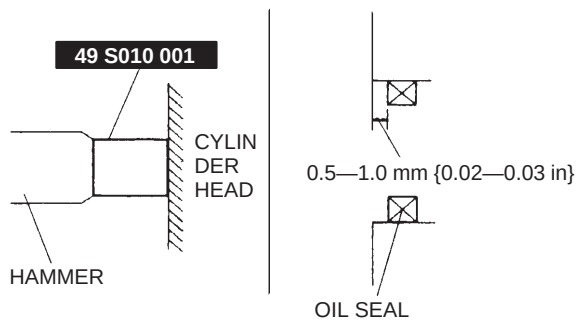
Caution

- Because there is little camshaft thrust clearance, the camshaft must be held horizontally while it is installed. Otherwise, excessive force will be applied to the thrust area, causing burr on the thrust receiving area of the cylinder head journal. To avoid this, the following procedure must be observed.

2. Tighten the camshaft cap bolts gradually in three or four steps in the order shown.



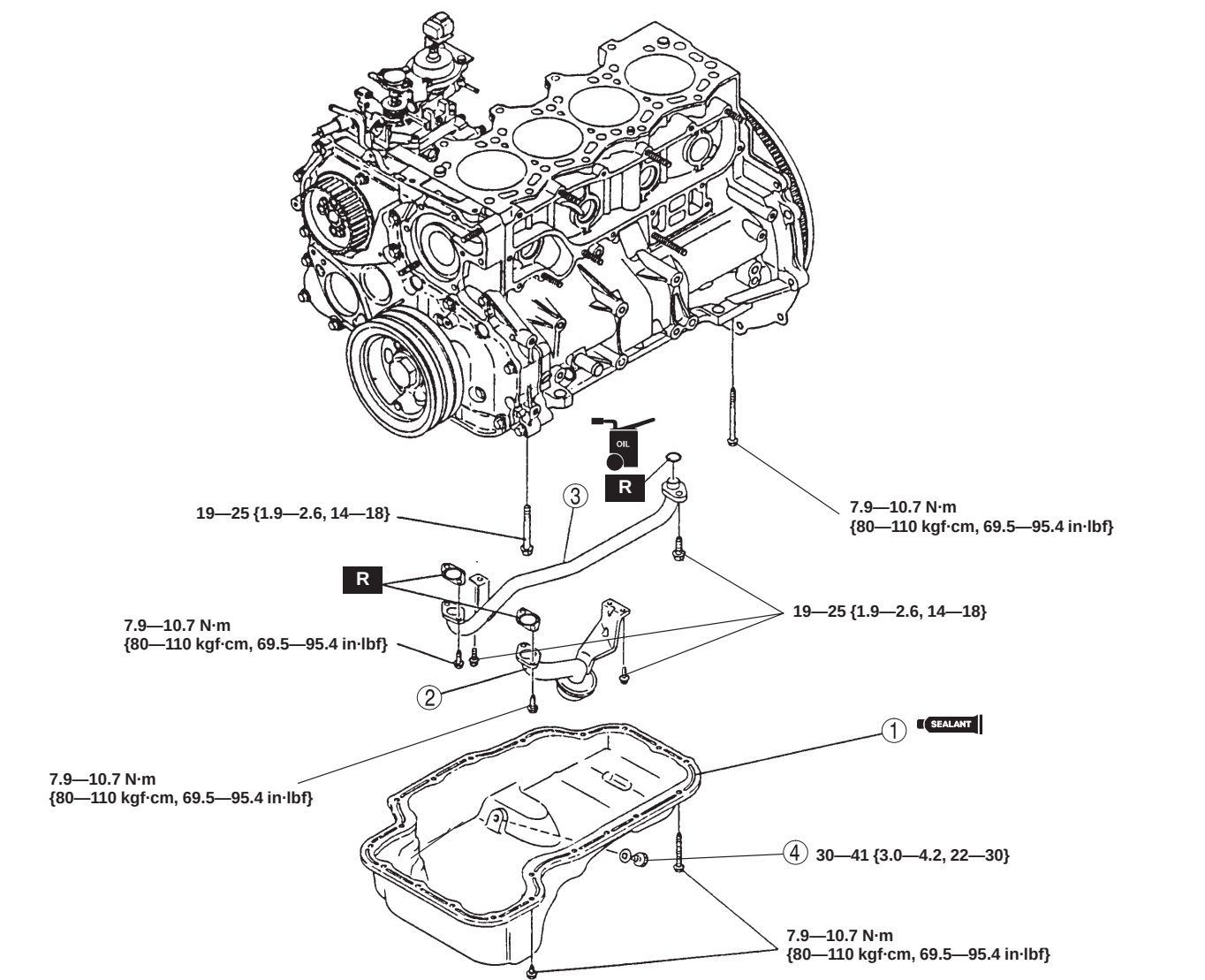
3. Apply clean engine oil to the new oil seal.
4. Push the oil seal slightly in by hand.
5. Tap the oil seal into the cylinder head by using the **SST** and a hammer.



ENGINE DISASSEMBLY/ASSEMBLY

CYLINDER BLOCK DISASSEMBLY/ASSEMBLY (I)

- 1. Disassemble in the order shown in the figure.
- 2. Assemble in the reverse order of disassembly.



N·m {kgf·m, ft·lbf}

1	Oil pan + Disassembly Note + Assembly Note
2	Oil strainer

3	Oil pipe
4	Oil drain plug