



Crankshaft Pulley and Pulley Bolt

Replacement

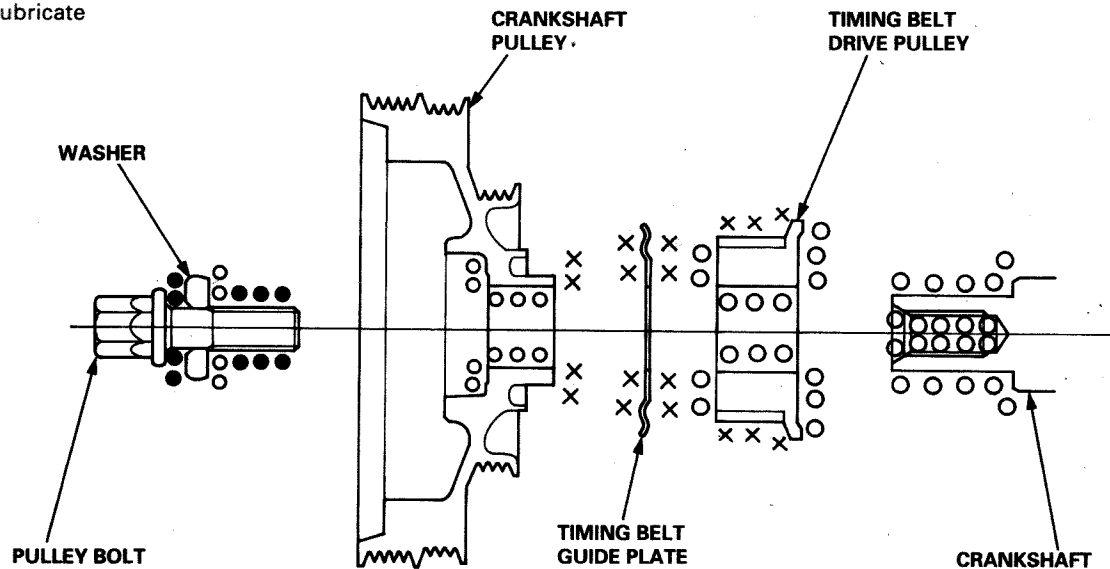
When installing and tightening the pulley, follow the procedure below.

Clean, remove any oil and lubricate points shown below.

○ : Clean

x : Remove any oil

● : Lubricate



Crankshaft pulley bolt size and torque value:

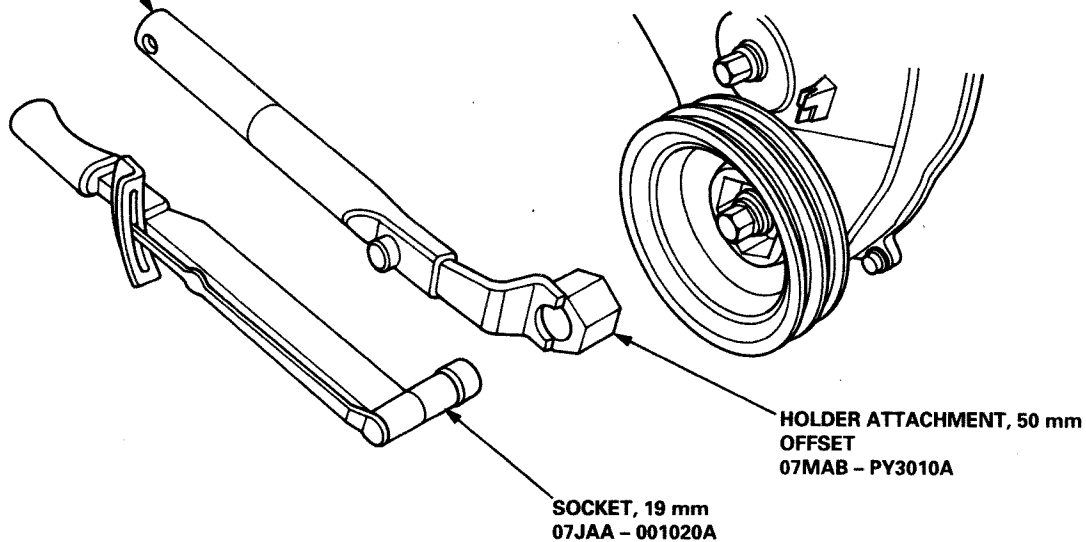
16 x 1.5 mm

245 N-m (25.0 kgf-m, 181 lbf-ft)

NOTE:

- Do not use an impact wrench when installing.
- Make sure the thumb screw in the handle aligns with the hole in the holder attachment.

HOLDER HANDLE
07JAB - 001020A

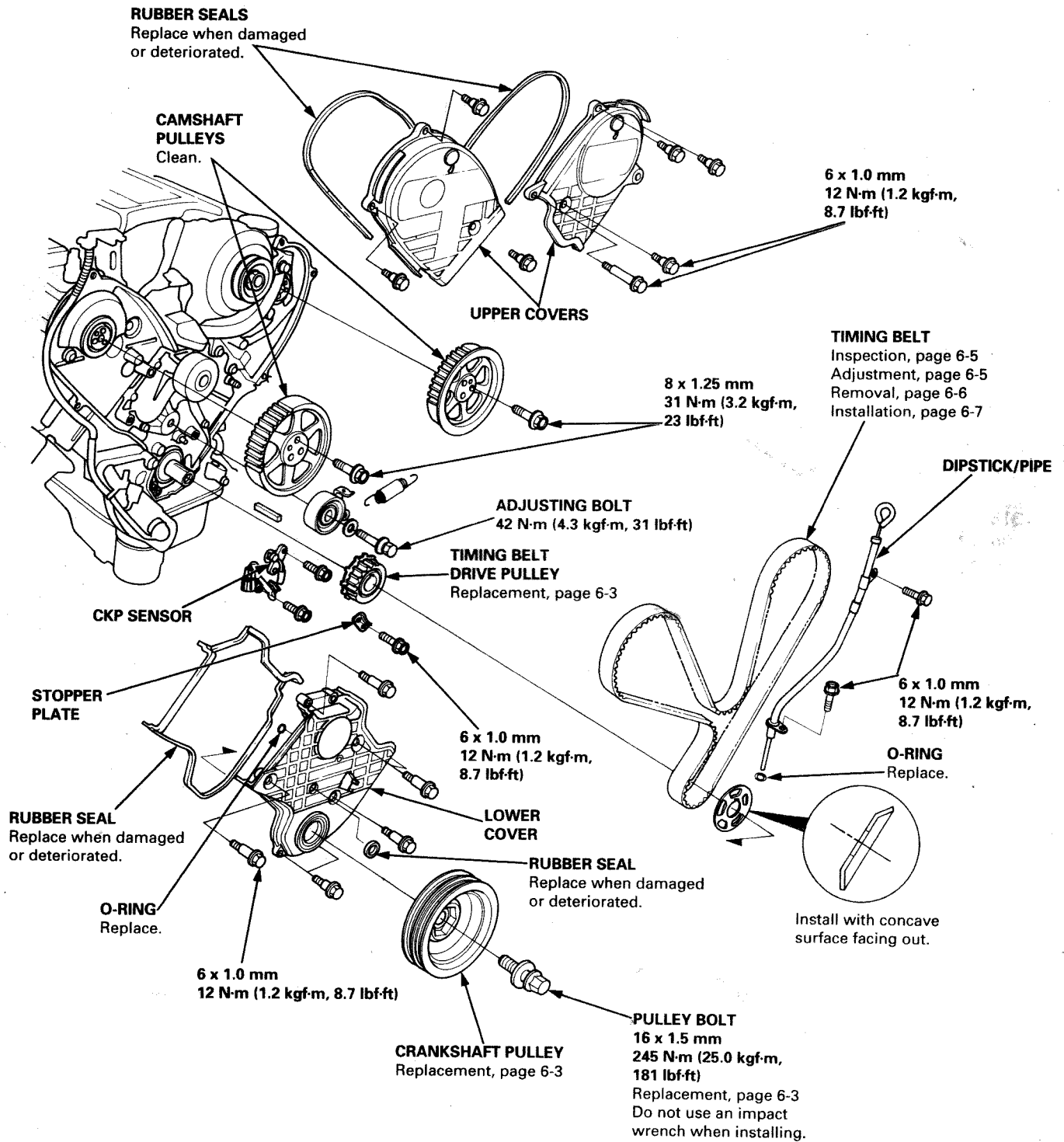


Timing Belt

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NOTE:

- Refer to page 6-7 for positioning crankshaft and pulley before installing the belt.
- Mark the direction of rotation on the belt before removing.
- Do not use the upper covers and lower cover for storing removed items.
- Clean the upper covers and lower cover before installing.
- Replace the camshaft seals and crankshaft seals if there is oil leakage.
- Refer to page 6-3 before installing timing belt.





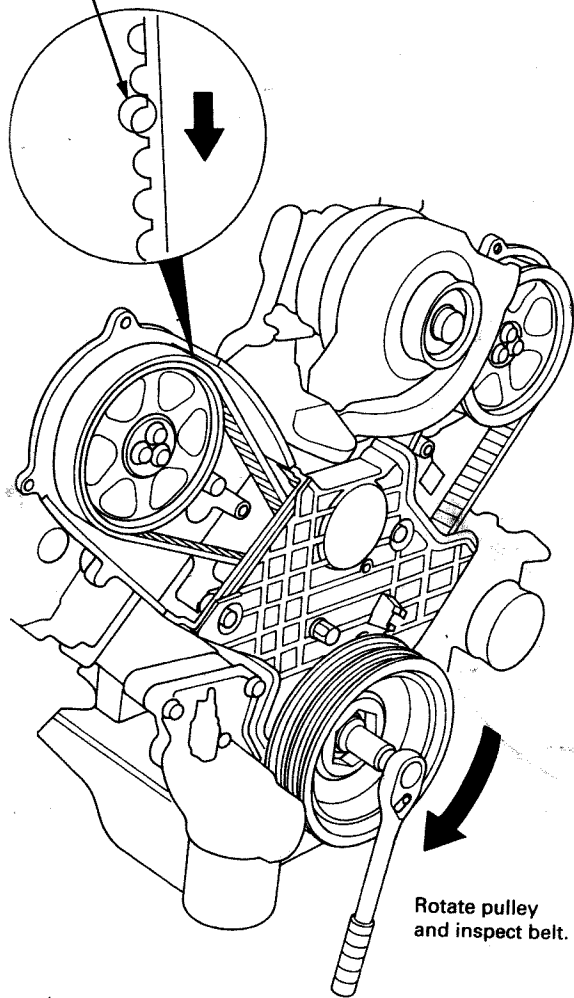
Inspection

1. Remove the upper covers (see page 6-4).
2. Inspect the timing belt for cracks and oil or coolant soaking.

NOTE:

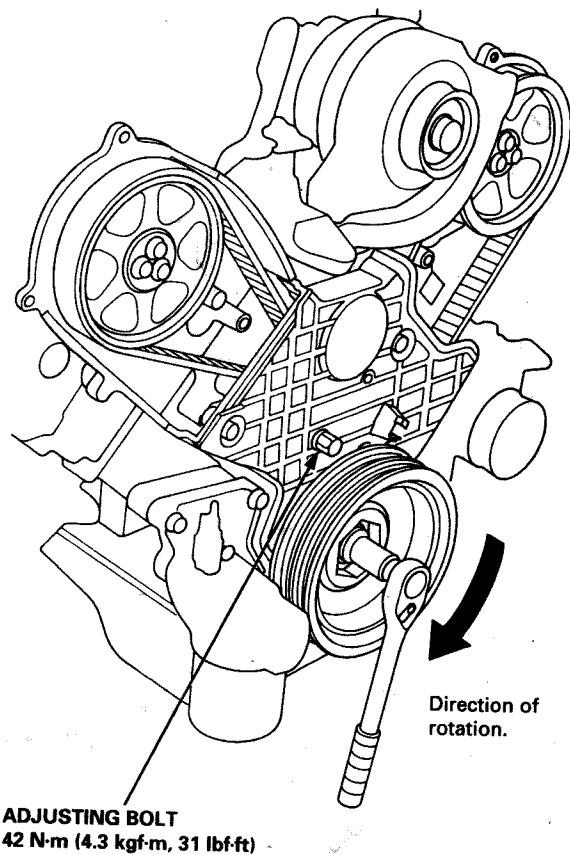
- Replace the belt if oil or coolant soaked.
- Remove any oil or solvent that gets on the belt.

Inspect this area for wear.



Tension Adjustment

1. Set the No. 1 piston is at TDC (see page 6-8).
2. Rotate the crankshaft 5-6 revolutions clockwise to set the belt.
3. Set the No. 1 piston at TDC (see page 6-8).
4. Loosen the adjusting bolt 180° and retighten the adjusting bolt.



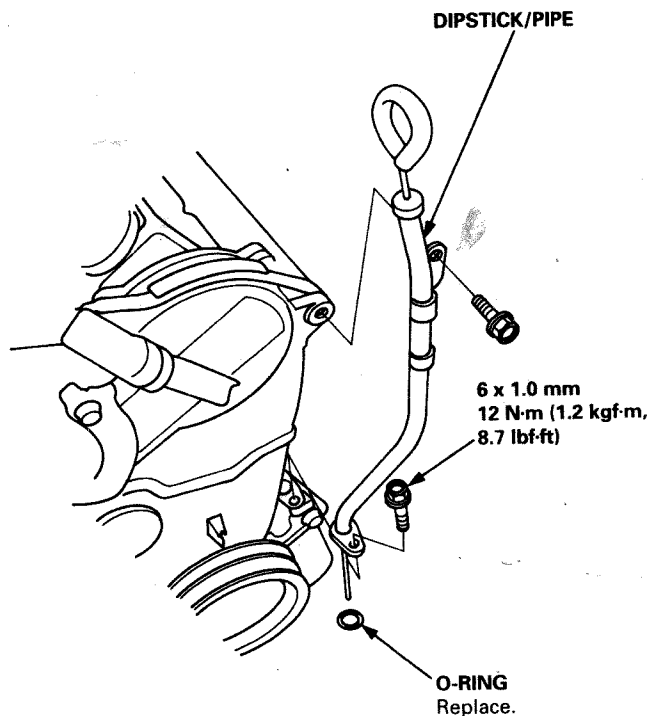
Timing Belt

Removal

NOTE:

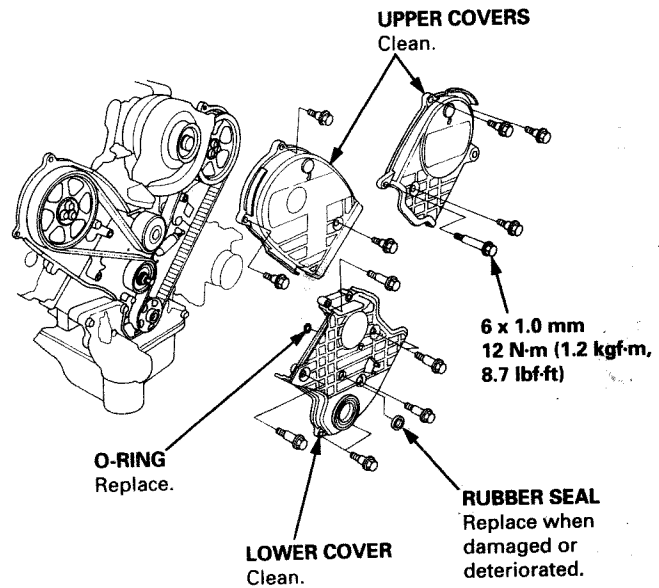
- Turn the crankshaft pulley so the No. 1 piston is at top dead center (TDC) before removing the belt (see page 6-8).
- Inspect the water pump after removing the timing belt (see page 10-10).

1. Remove the front wheels and splash shield (see page 5-7).
2. Remove the bolts, then loosen the mount bolt and pivot the side engine mount out of the way (see page 6-15).
3. Loosen the idler pulley center nut and adjusting bolt, then remove the air conditioning (A/C) compressor belt (see page 5-6).
4. Loosen the alternator mounting bolt, nut and adjusting bolt, then remove the alternator belt (see page 5-6).
5. Loosen the mounting nuts and adjusting nut, then remove the power steering (P/S) pump belt (see page 5-6).
6. Remove the dipstick and pipe.

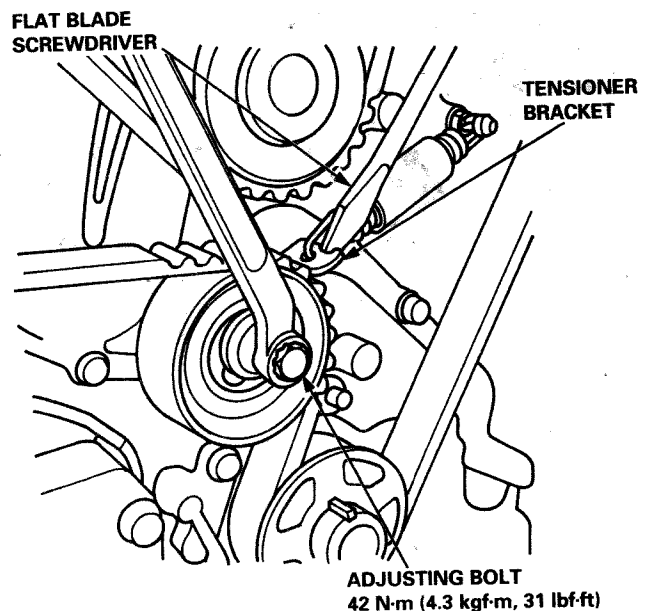


7. Remove the crankshaft pulley (see page 6-3).
8. Remove the upper covers and lower cover.

NOTE: Do not use the upper and lower covers for storing removed items.



9. Loosen the adjusting bolt 180°. Push the tensioner to remove tension from the timing belt, then retighten the adjusting bolt.



10. Remove the timing belt.

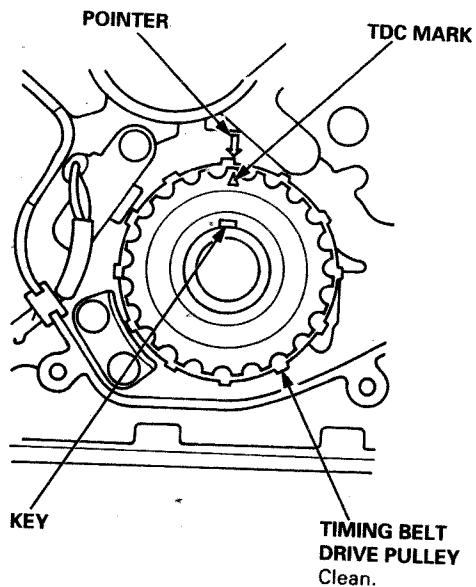


Installation

Install the timing belt in the reverse order of removal; Only key points are described here.

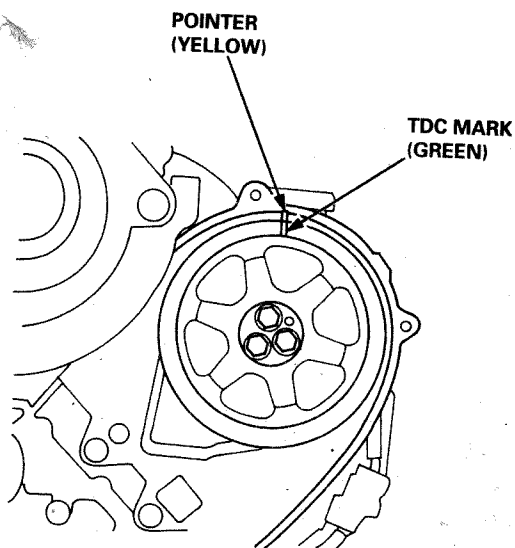
NOTE: Clean the upper and lower covers before installation.

1. Set the timing belt drive pulley so that the No. 1 piston is at top dead center (TDC). Align the TDC mark on the tooth of the timing belt drive pulley with the pointer on the oil pump.

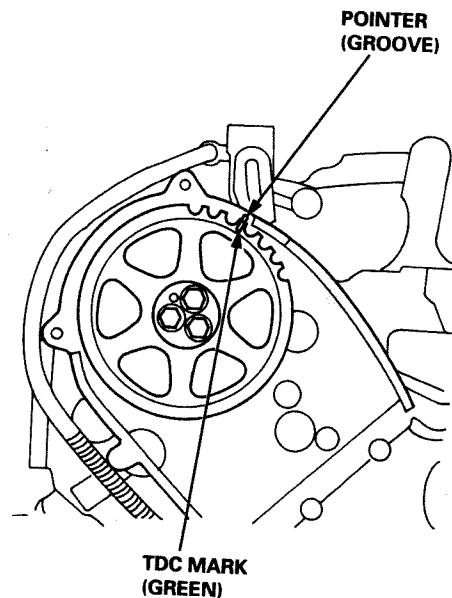


2. Set the camshaft pulleys so that the No. 1 piston is at TDC. Align the TDC marks on the camshaft pulleys to the pointers on the back covers.

FRONT:

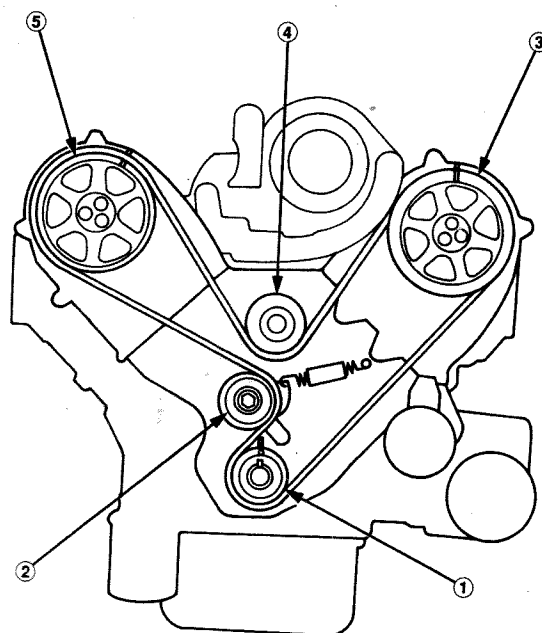


REAR:



3. Install the timing belt tightly in the sequence shown.
 ① Timing belt drive pulley (crankshaft) → ② Adjusting pulley → ③ Front camshaft pulley → ④ Water pump pulley → ⑤ Rear camshaft pulley.

NOTE: Make sure the timing belt drive pulley and camshaft pulleys are at TDC.



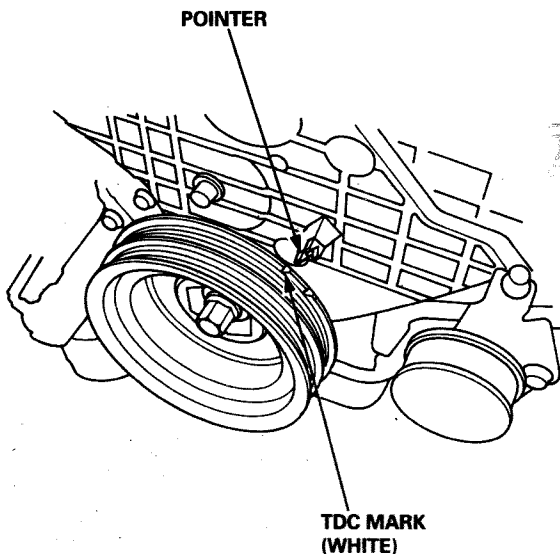
(cont'd)

Timing Belt

Installation (cont'd)

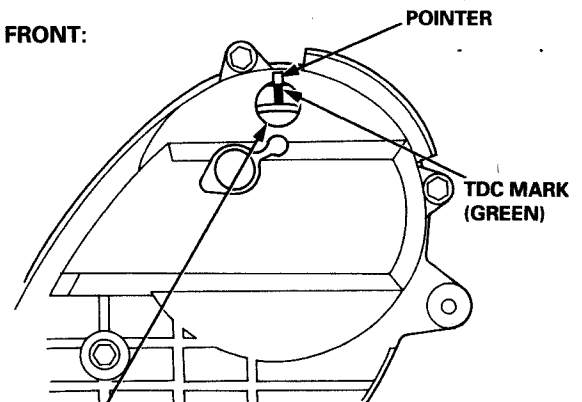
- Loosen and retighten the adjusting nut to tension the timing belt.
- Install the lower cover and upper covers.
- Install the crankshaft pulley, then tighten the pulley bolt (see page 6-3).
- Rotate the crankshaft pulley about 5 or 6 turns clockwise so that the timing belt positions on the pulleys.
- Adjust the timing belt tension (see page 6-5).
- Check that the crankshaft pulley and camshaft pulleys are at TDC.

CRANKSHAFT PULLEY:



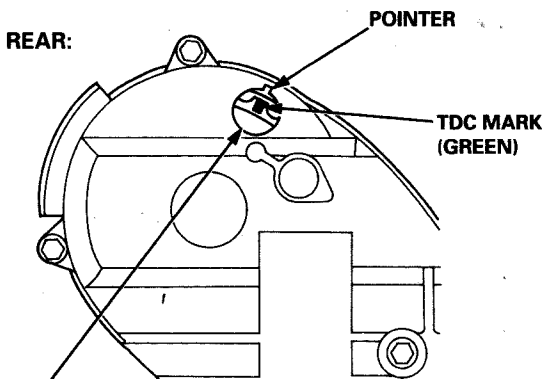
CAMSHAFT PULLEY:

FRONT:



INSPECTION HOLE
After checking, install the rubber cap.

REAR:



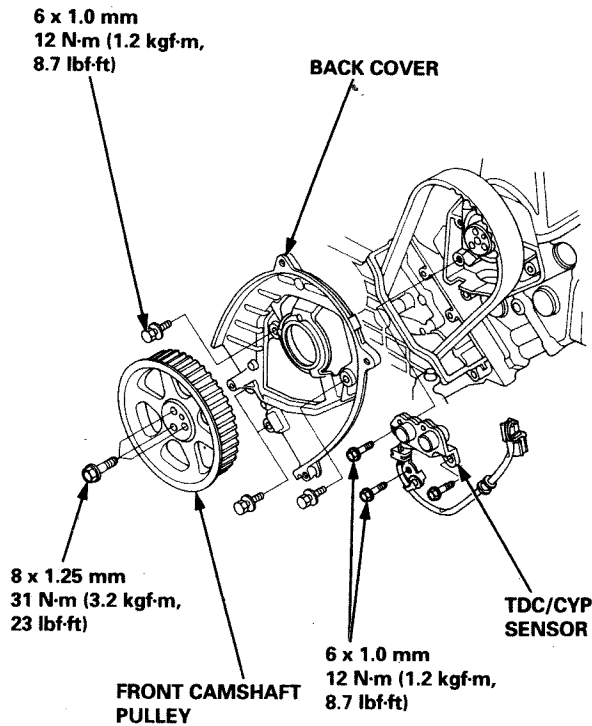
INSPECTION HOLE
After checking, install the rubber cap.

- If the camshaft or crankshaft pulley is not positioned at TDC, remove the timing belt and adjust the positioning following the procedure on page 6-7, then reinstall the timing belt.
- After installation, adjust the tension of each belt.
 - See section 23 for alternator belt tension adjustment.
 - See section 22 for air conditioning (A/C) compressor belt tension adjustment.
 - See section 17 for P/S pump belt tension adjustment.

TDC/CYP Sensor

Replacement

1. Set the No. 1 piston at TDC (see page 6-8).
2. Remove the front upper cover (see page 6-4).
3. Remove the timing belt from the front camshaft pulley (see page 6-6).
4. Remove the front camshaft pulley, back cover and TDC/CYP sensor.



5. Install the TDC/CYP sensor in reverse order of removal.
 - Refer to page 6-7 when installing the timing belt.

CKP Sensor

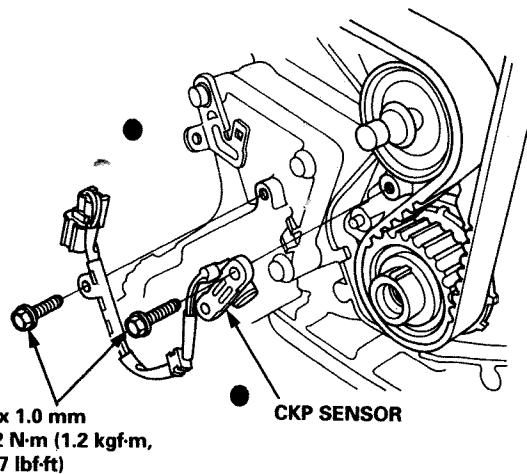


Replacement

1. Remove the tire/wheel and splash shield (see page 5-7).
2. Remove the bolts, then loosen the mount bolt and pivot the side engine mount out of the way (see page 6-15).
3. Loosen the idler pulley center nut and adjusting bolt, then remove the A/C compressor belt (see page 5-6).
4. Loosen the alternator mounting bolt, nut and adjusting bolt, then remove the alternator belt (see page 5-6).
5. Loosen the mounting nuts and adjusting nut, then remove the P/S pump belt (see page 5-6).
6. Remove the dipstick and pipe (see page 6-6).
7. Remove the crankshaft pulley (see page 6-3).
8. Remove the upper covers and lower cover (see page 6-6).

NOTE: Do not use the upper and lower covers for storing removed items.

9. Remove the CKP sensor from the cylinder block.



10. Install the CKP sensor in reverse order of removal.

Cylinder Heads

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CAUTION: To avoid damage wait until the engine coolant temperature drops below 100°F (38°C) before removing the cylinder head.

NOTE: Use new O-rings and gaskets when reassembling.

HEAD COVER GASKETS
Replace when leaking, damaged or deteriorated.
Apply liquid gasket at the four corners of the recesses, page 6-33.

RUBBER SEAL
Replace when damaged or deteriorated.

WASHER
Replace when damaged or deteriorated.

8 x 1.25 mm
15 N-m (1.5 kgf-m, 11 lbf-ft)
Apply soapsuds to threads and cylinder head contact surface when replacing the rubber seal, then remove any soapsuds after installing rubber seal.

CYLINDER HEAD COVER
Refer to page 6-33 when installing.

8 x 1.25 mm
22 N-m (2.2 kgf-m, 16 lbf-ft)

ENGINE OIL TEMPERATURE SENSOR
27 N-m (2.8 kgf-m, 20 lbf-ft)

O-RINGS
Replace.

IGNITION COIL
See section 23

6 x 1.0 mm
12 N-m (1.2 kgf-m, 8.7 lbf-ft)

DISTRIBUTOR
See section 23

TDC/CYP SENSOR

6 x 1.0 mm
12 N-m (1.2 kgf-m, 8.7 lbf-ft)

CYLINDER HEAD SIDE COVER

BACK COVER

RUBBER SEALS
Replace when damaged or deteriorated.

8 x 1.25 mm
31 N-m (3.2 kgf-m, 23 lbf-ft)

6 x 1.0 mm
12 N-m (1.2 kgf-m, 8.7 lbf-ft)

CAMSHAFT PULLEYS
Clean.