

Cam Chain Removal and Installation

Removal

NOTE: Keep the cam chain away from magnetic fields.

1. Right Front Wheel - Remove

[Remove the right front wheel.](#)

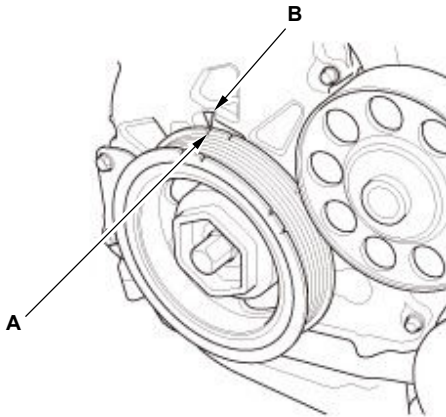
2. Engine Undercover - Remove

[Remove the engine undercover.](#)

3. Cylinder Head Cover - Remove

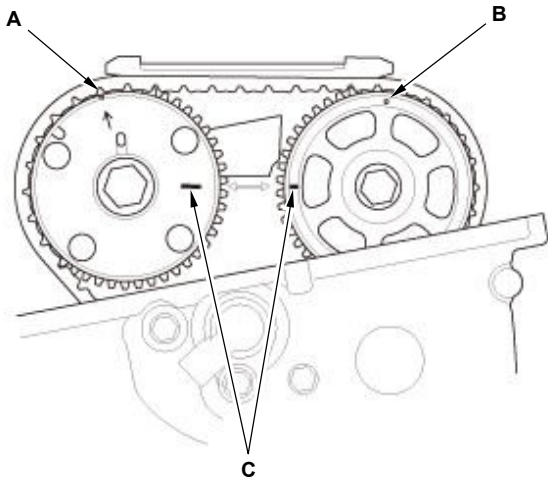
[Remove the cylinder head cover.](#)

4. No. 1 Piston at Top Dead Center - Set (Crank Side)



Turn the crankshaft so its white mark (A) lines up with the pointer (B).

5. No. 1 Piston at Top Dead Center - Set (Cam Side)



Set the No. 1 piston at top dead center (TDC). The punch mark (A) on the VTC actuator and the punch mark (B) on the exhaust camshaft sprocket should be at the top. Align the TDC marks (C) on the VTC actuator and the exhaust camshaft sprocket.

6. VTC Oil Control Solenoid Valve - Remove

[Remove the VTC oil control solenoid valve.](#)

7. Rocker Arm Oil Control Valve - Remove

[Remove the rocker arm oil control valve.](#)

8. Crankshaft Pulley - Remove

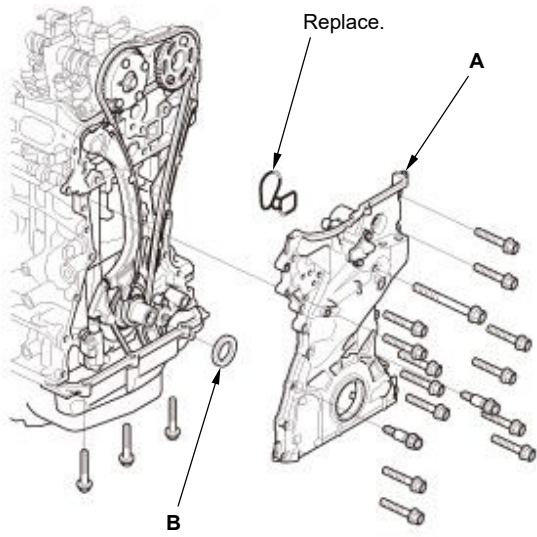
[Remove the crankshaft pulley.](#)

9. Side Engine Mount - Remove

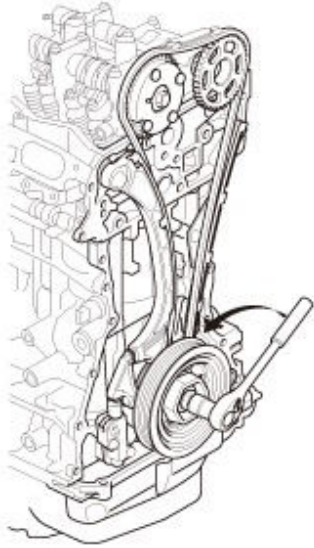
[Remove the side engine mount.](#)

10. Cam Chain Case - Remove

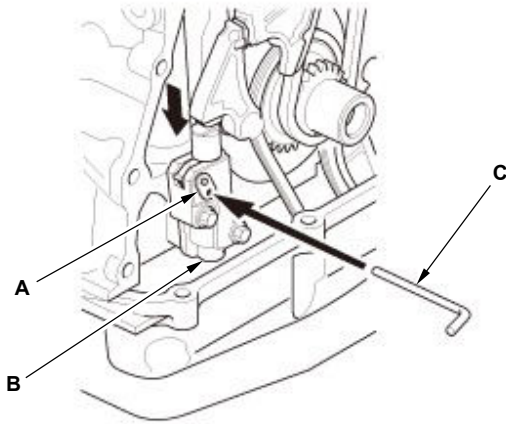
Remove the cam chain case (A) and the spacer (B).



11. Cam Chain Auto-Tensioner - Remove

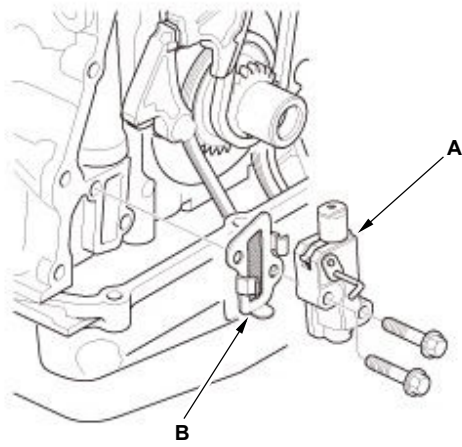


1. Loosely install the crankshaft pulley.
2. Turn the crankshaft counterclockwise to compress the cam chain auto-tensioner.



3. Rotate the crankshaft counterclockwise to align the holes on the lock (A) and the cam chain auto-tensioner (B), then insert a 1.2 mm (3/64 in) diameter pin (C) into the holes. Turn the crankshaft clockwise to secure the pin.

NOTE: If the holes in the lock and the cam chain auto-tensioner do not align, continue to rotating the crankshaft counterclockwise until the holes align, then install the pin.

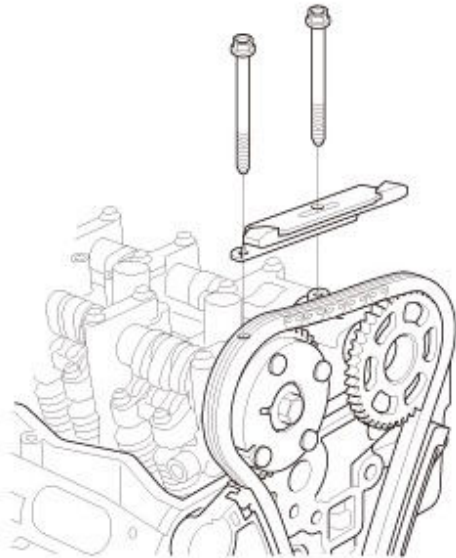


4. Remove the cam chain auto-tensioner (A) and the cam chain auto-tensioner filter (B).

NOTE: Check the cam chain auto-tensioner filter for damage. If filter is damaged, replace it.

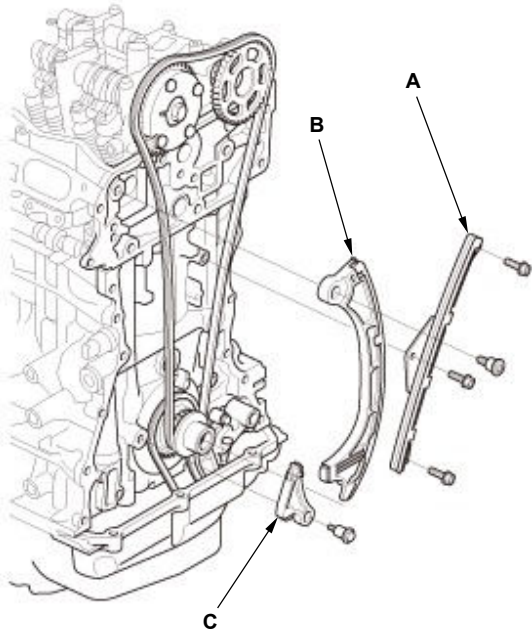
12. Cam Chain Guide B - Remove

Remove cam chain guide B.



13. Cam Chain Guide A and Tensioner Arm - Remove

Remove cam chain guide A, the cam chain tensioner arm (B), and the cam chain tensioner sub arm (C).



14. Cam Chain - Remove

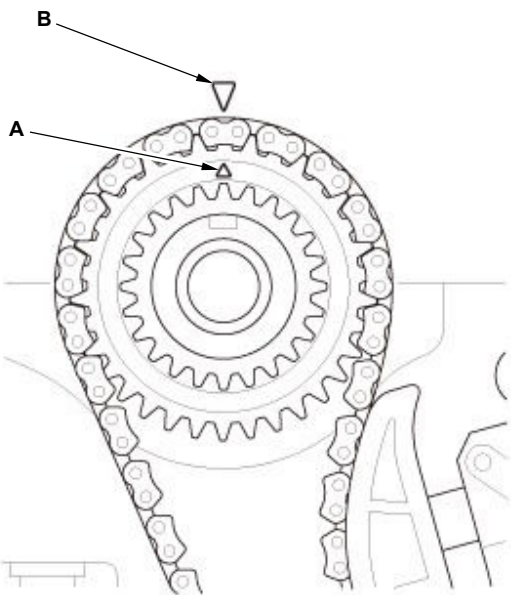
Remove the cam chain.

Installation

NOTE:

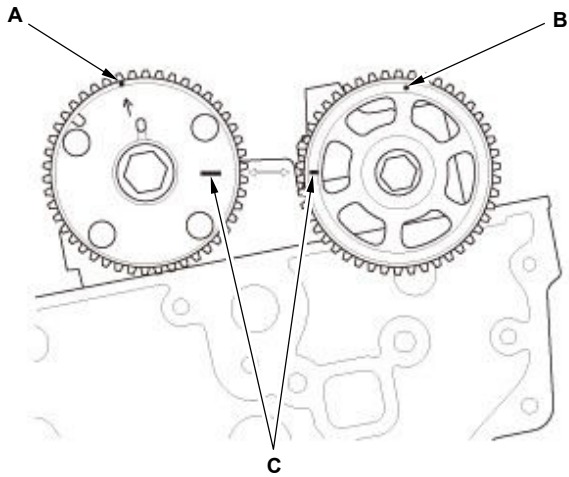
- Keep the cam chain away from magnetic fields.
- Before doing this procedure, check that the VTC actuator is locked by turning the VTC actuator counterclockwise. If not locked, turn the VTC actuator clockwise until it stops, then recheck it. If it is still not locked, replace the VTC actuator.

1. No. 1 Piston at Top Dead Center - Set (Crank Side)



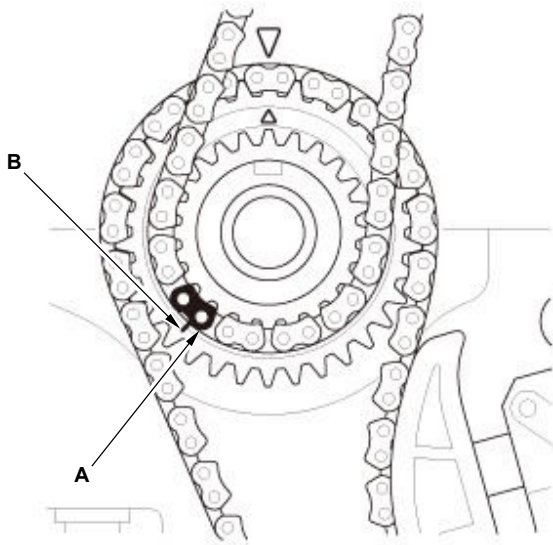
Set the crankshaft to top dead center (TDC). Align the TDC mark (A) on the crankshaft sprocket with the pointer (B) on the engine block.

2. No. 1 Piston at Top Dead Center - Set (Cam Side)



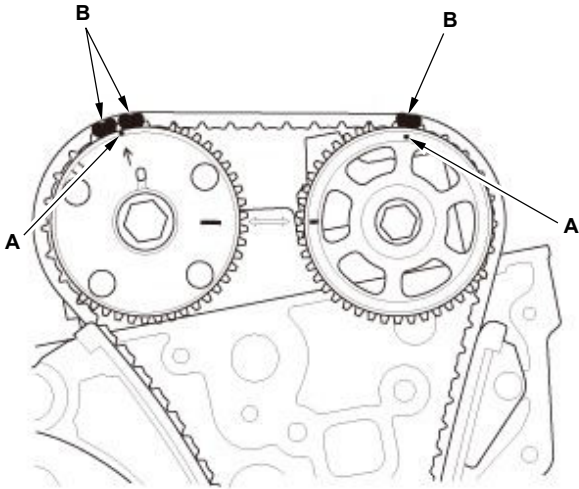
Set the camshafts to TDC. The punch mark (A) on the VTC actuator and the punch mark (B) on the exhaust camshaft sprocket should be at the top. Align the TDC marks (C) on the VTC actuator and the exhaust camshaft sprocket.

3. Cam Chain - Install



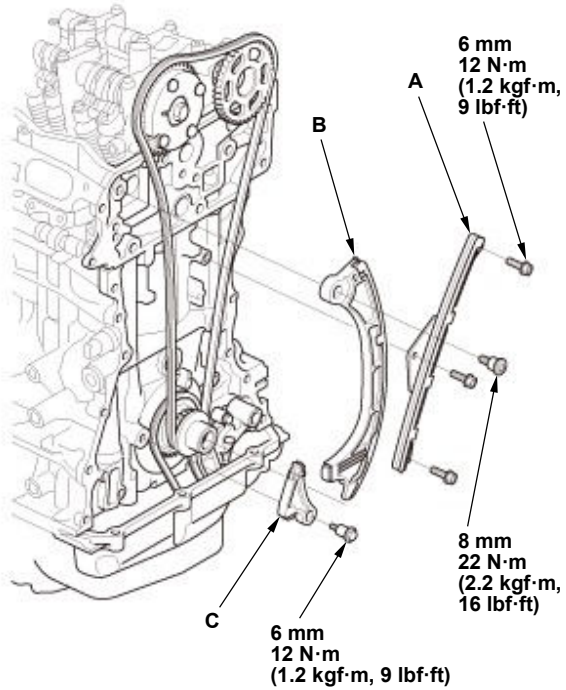
1. Install the cam chain on the crankshaft sprocket with the colored link plate (A) aligned with the mark (B) on the crankshaft sprocket.

2. Install the cam chain on the VTC actuator and the exhaust camshaft sprocket with the punch marks (A) aligned with the center of the two colored link plates (B).



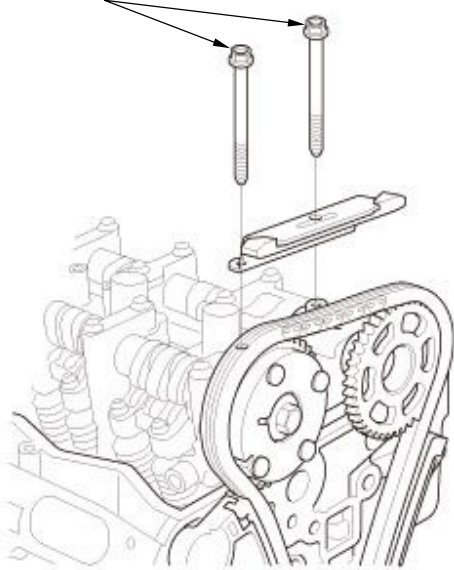
4. Cam Chain Guide A and Tensioner Arm - Install

Install cam chain guide A, the cam chain tensioner arm (B), and the cam chain tensioner sub arm (C).



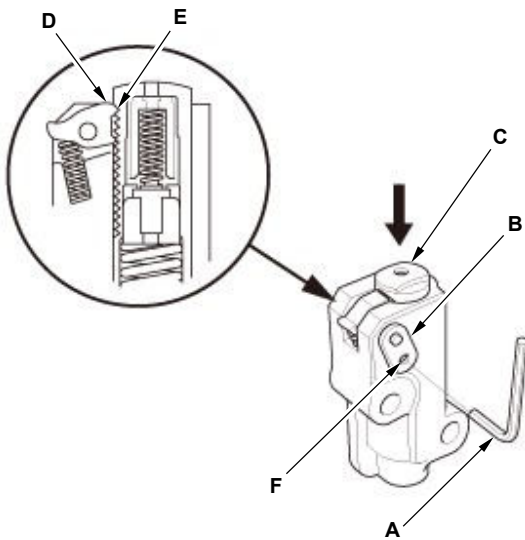
5. Cam Chain Guide B - Install

18 N·m
(1.8 kgf·m, 13 lbf·ft)



Install cam chain guide B.

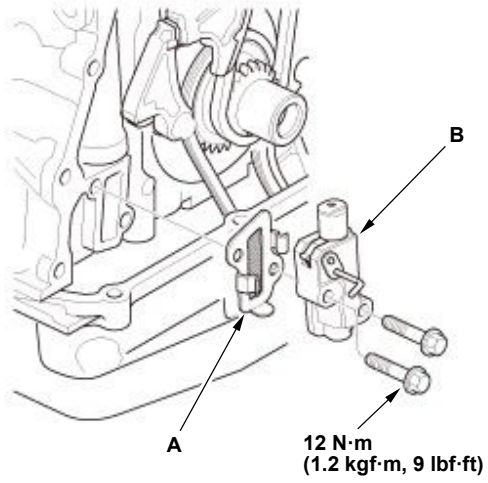
6. Cam Chain Auto-Tensioner - Install



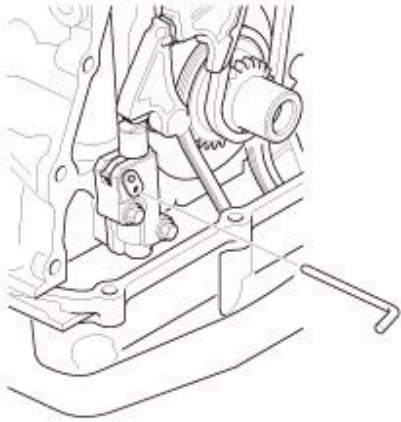
1. Compress the cam chain auto-tensioner when replacing the cam chain. Remove the pin (A) from the cam chain auto-tensioner that was installed during removal. Turn the plate (B) counterclockwise, to release the lock, then press the rod (C), and set the first cam (D) to the first edge of the rack (E). Insert the 1.2 mm (3/64 in) diameter pin back into the holes (F).

NOTE: If the cam chain auto-tensioner is not set up as described, the cam chain auto-tensioner will be damaged.

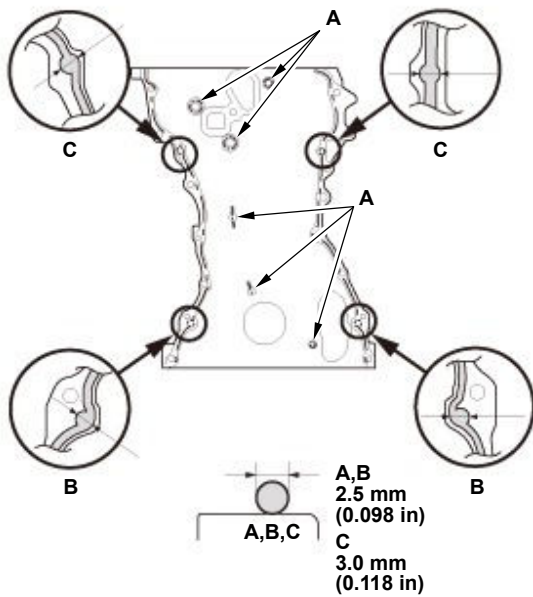
2. Install the cam chain auto-tensioner filter (A) and the cam chain auto-tensioner (B).



3. Remove the pin from the cam chain auto-tensioner.



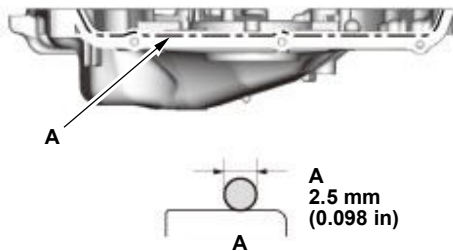
7. Cam Chain Case - Install



1. Check the chain case oil seal for damage. If the oil seal is damaged, replace the chain case oil seal.
2. Remove the old liquid gasket from the chain case mating surfaces, the bolts, and the bolt holes.
3. Clean and dry the chain case mating surfaces.
4. Apply liquid gasket (P/N 08717-0004, 08718-0003, or 08718-0009) to the engine block mating surface of the chain case and to the inside edge of the threaded bolt holes. Install the component within 5 minutes of applying the liquid gasket.

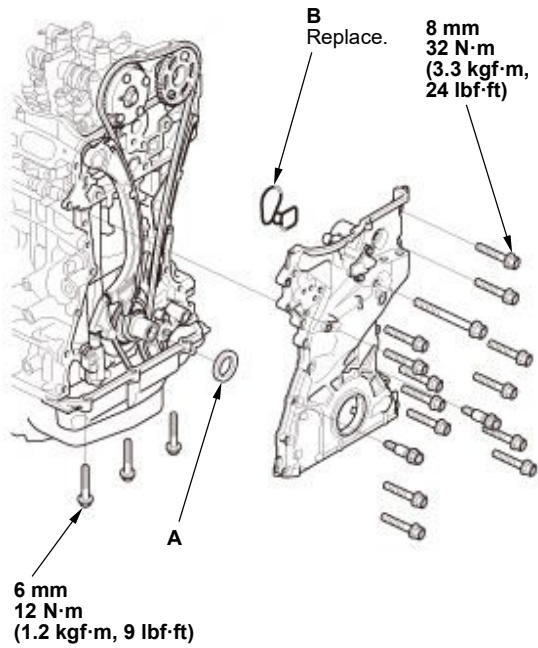
- Apply a 2.5 mm (0.098 in) diameter bead of liquid gasket along the broken line (A) and (B).
- Apply a 3.0 mm (0.118 in) diameter bead of liquid gasket along the broken line (C).
- If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.

5. Apply liquid gasket (P/N 08717-0004, 08718-0003, or 08718-0009) to the oil pan mating surface of the chain case, and to the inside edge of the threaded bolt holes. Install the component within 5 minutes of applying the liquid gasket.



NOTE:

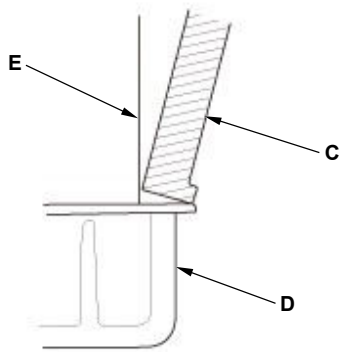
- Apply a 2.5 mm (0.098 in) diameter bead of liquid gasket along the broken line (A).
- If too much time has passed after applying the liquid gasket, remove the old liquid gasket and residue, then reapply new liquid gasket.



6. Install the spacer (A), then install a new O-ring (B) on the chain case. Set the edge of the chain case (C) to the edge of the oil pan (D), then install the chain case on the engine block (E). Wipe off the excess liquid gasket on the oil pan and the chain case mating area.

NOTE:

- When installing the chain case, do not slide the bottom surface onto the oil pan mounting surface.
- Wait at least 30 minutes before filling the engine with oil.
- Do not run the engine for at least 3 hours after installing the chain case.



8. Side Engine Mount - Install

[Install the side engine mount.](#)

9. Crankshaft Pulley - Install

[Install the crankshaft pulley.](#)

10. Rocker Arm Oil Control Valve - Install

[Install the rocker arm oil control valve.](#)

11. VTC Oil Control Solenoid Valve - Install

[Install the VTC oil control solenoid valve.](#)

12. Cylinder Head Cover - Install

[Install the cylinder head cover.](#)

13.Engine Undercover - Install

[Install the engine undercover.](#)

14.Right Front Wheel - Install

[Install the right front wheel.](#)