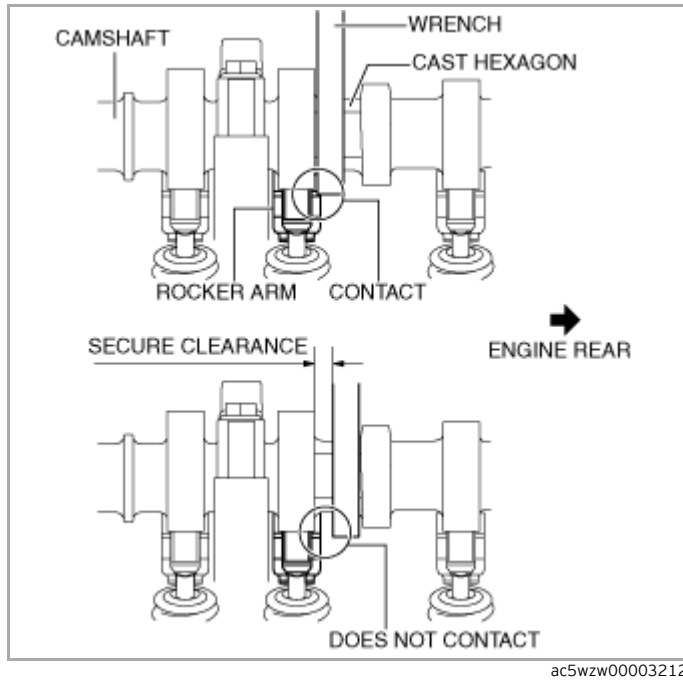


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FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

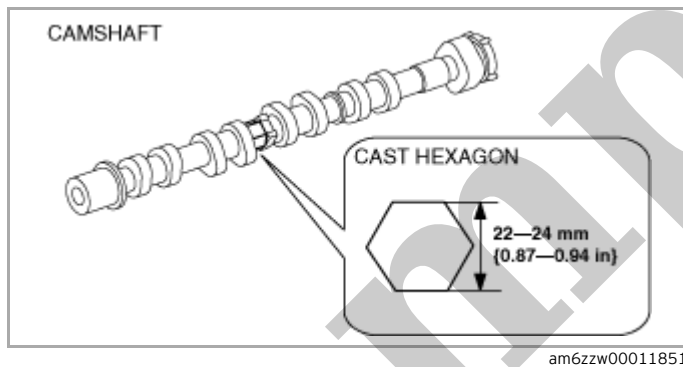
2005 MAZDA B Series / Bravo Freestyle Cab OEM Service and Repair Workshop Manual

[Go to manual page](#)



Note

- Width at the cast hexagon of the camshaft is 22–24 mm {0.87–0.94 in}.



1. Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))
2. Remove the plug hole plate. (See [PLUG HOLE PLATE REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\].](#))
3. Remove the ignition coil/ion sensors. (See [IGNITION COIL/ION SENSOR REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\].](#))
4. Disconnect the connector and wiring harness clip shown in the figure.

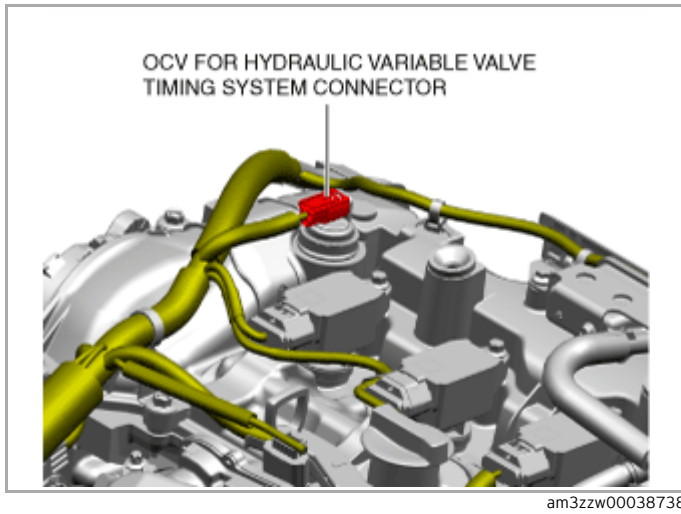
16.Remove in the order indicated in the table.

17.Install in the reverse order of removal.

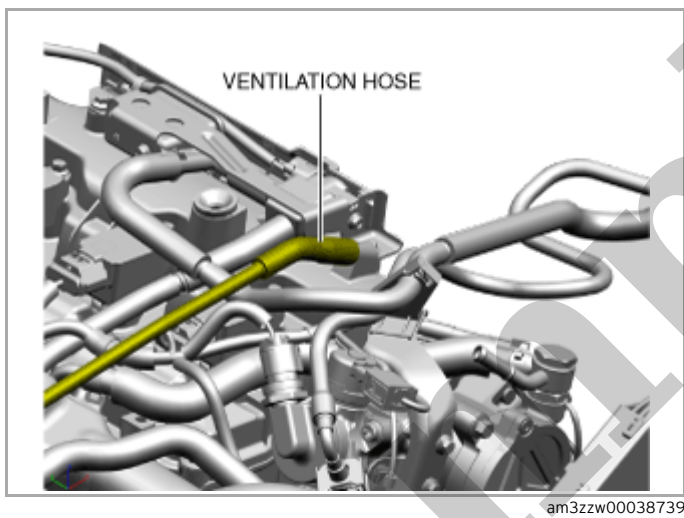
18.Refill with the specified type and amount of the engine oil. (See [ENGINE OIL REPLACEMENT \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)

19.Start the engine and inspect the following:

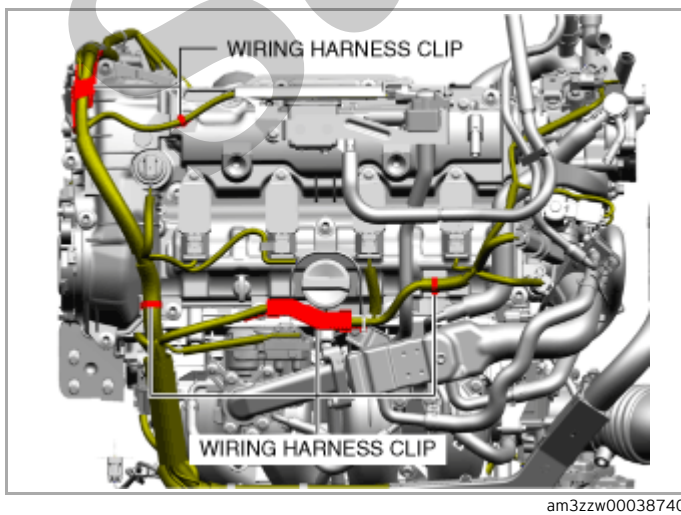
- Leakage of engine oil.
- Runout and contact of pulley and belt.
- Ignition timing, idle speed and idle mixture. (See [ENGINE TUNE-UP \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)



2.Disconnect the ventilation hose.



3.Disconnect the wiring harness clips secured to the cylinder head cover.



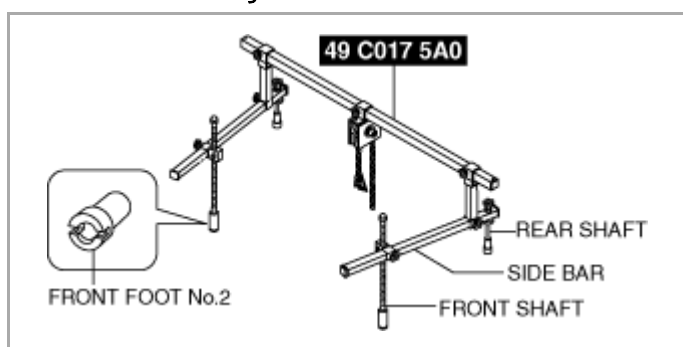
4.Disconnect the vacuum hose from the intake manifold and set it aside.

Caution

- Refer to the SST instruction manual for the basic handling procedure.

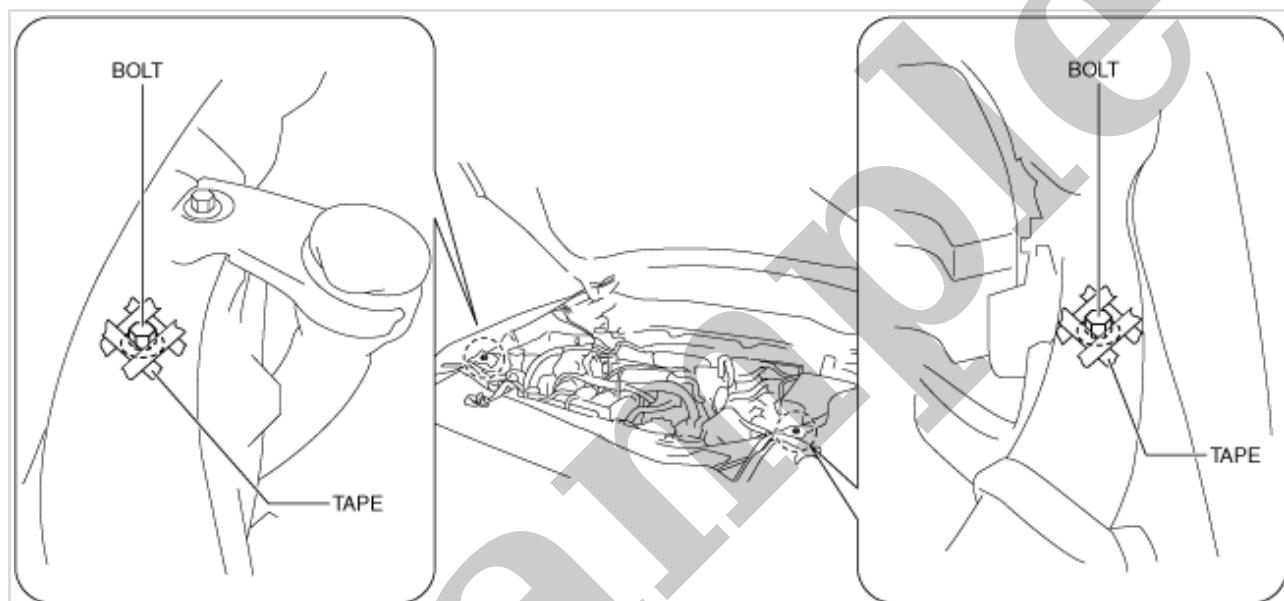
Note

- Install front foot No.2 to the left and right front shafts of the SST.



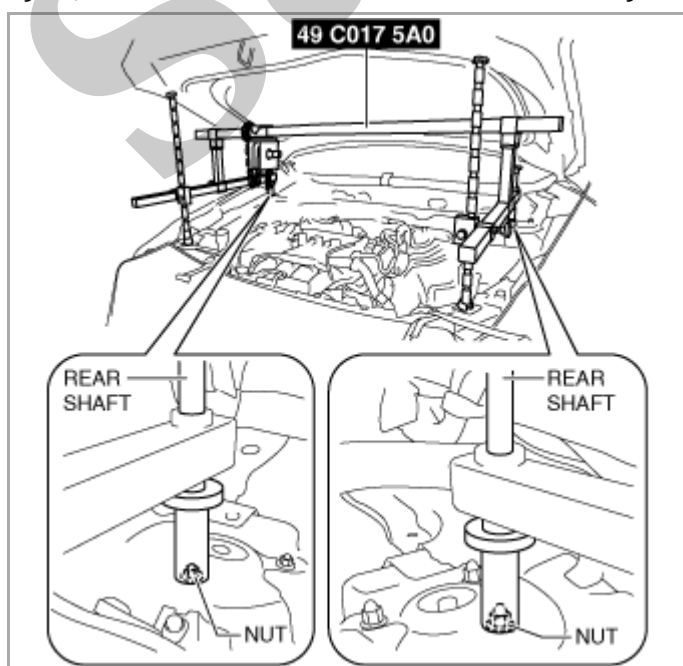
ac5uuw00006979

(1) Protect the positions shown in the figure using tape.



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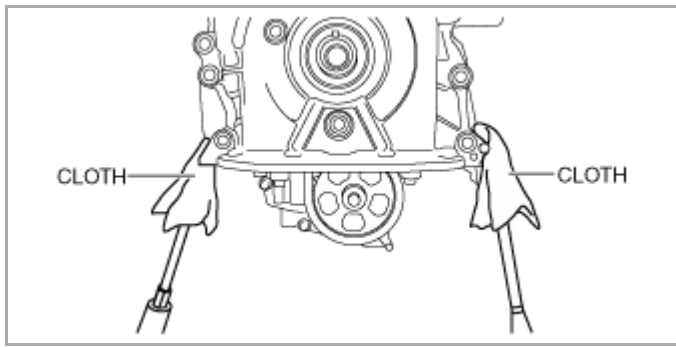
(2) As shown in the figure, set the rear shafts of the SST to the left and right shock absorber nuts.



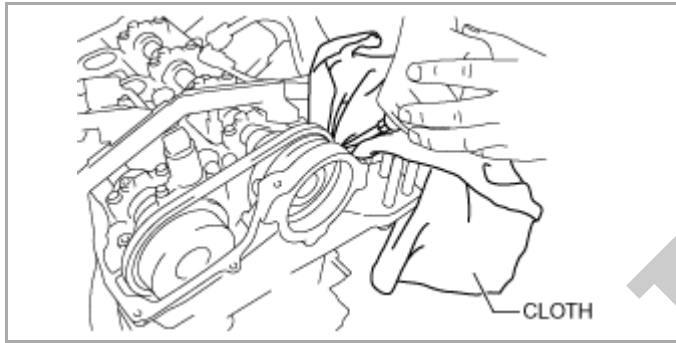
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(3) As shown in the figure, set the front shafts of the SST to the left and right bolts.

- Do not apply excessive force to the screwdriver. Otherwise, the engine front cover could be damaged.
- Be careful not to scratch or damage the seal surface. Otherwise, it could cause oil leakage.



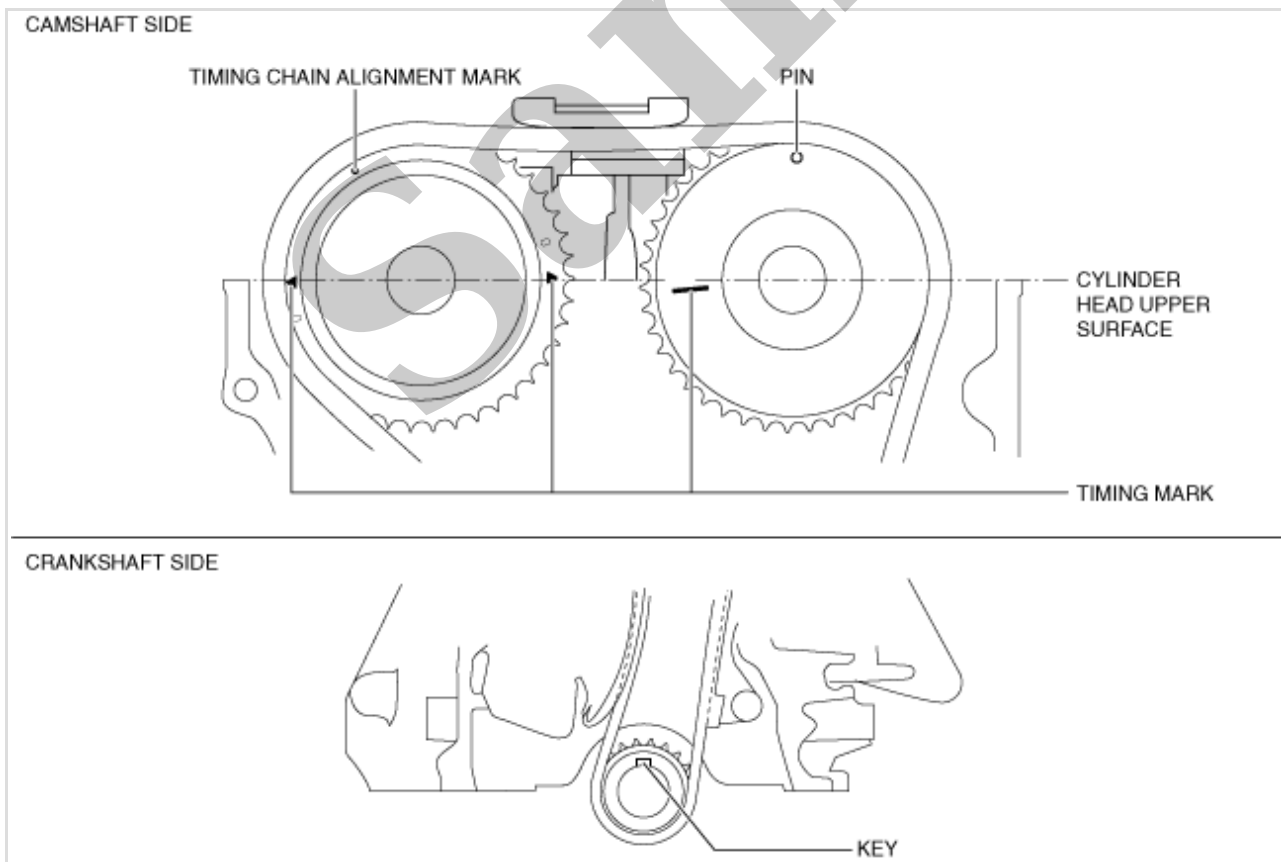
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Timing Chain Removal Note

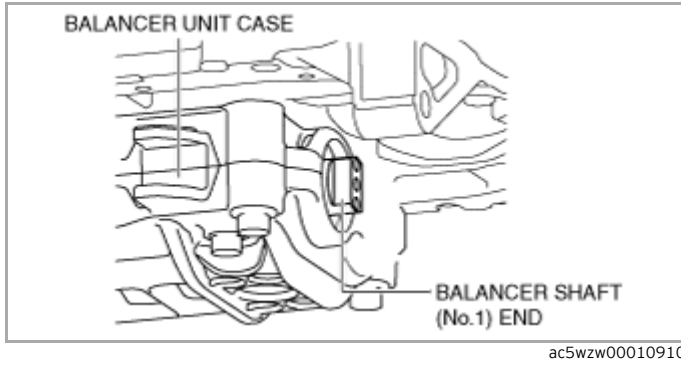
1. Rotate the crankshaft clockwise to align the timing marks and the key position as shown in the figure, and set cylinder No.1 at top dead center (TDC).



ac5wzw00010907

Note

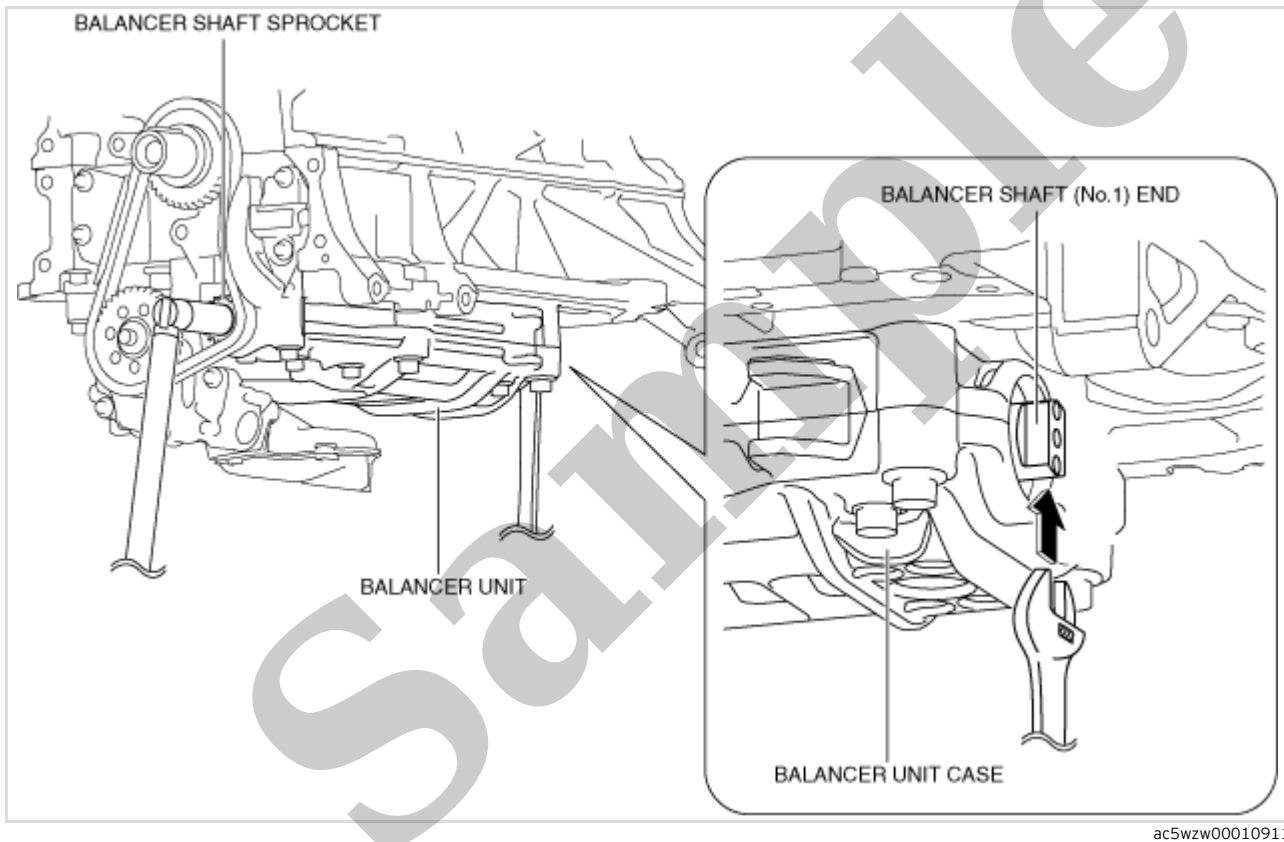
- At this stage, only loosen the installation bolt, do not remove it. Remove the bolt after removing the oil pump chain tensioner.
- The balancer unit is constructed such that the end of the balancer shaft (No.1) protrudes from the balancer unit case. The balancer shaft (No.1) can be locked against rotation by holding the end using a wrench.



(1) Lock the balancer shaft (No.1) against rotation as shown in the figure.

Caution

- To prevent damage to the balancer unit, protect the end of the balancer shaft (No.1) with a clean cloth.



(2) Slightly loosen the balancer shaft sprocket installation bolt.

3. Slightly loosen the oil pump driven sprocket installation bolt using the following procedure:

Note

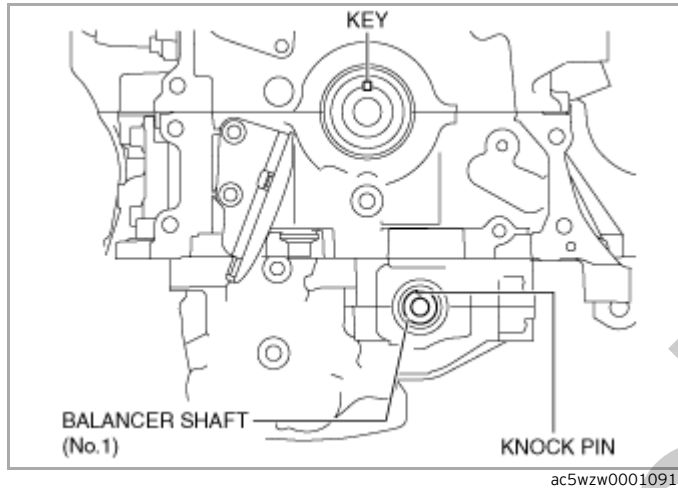
- At this stage, only loosen the installation bolt, do not remove it. Remove the bolt after removing the oil pump chain tensioner.

(1) Temporarily assemble the crankshaft pulley lock bolt, and lock the oil pump against rotation as shown in the figure.

9.Remove the oil pump driven sprocket.

Oil Pump Chain Installation Note

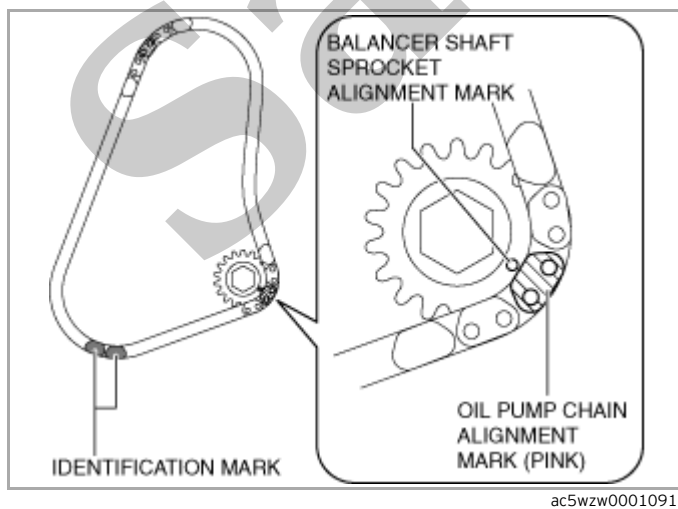
1.Verify that the key and knock pin are aligned to the positions shown in the figure.



2.Temporarily assemble the oil pump driven sprocket.

3.Temporarily tighten the oil pump driven sprocket installation bolt.

4.Align the oil pump chain alignment mark with the balancer shaft sprocket alignment mark.

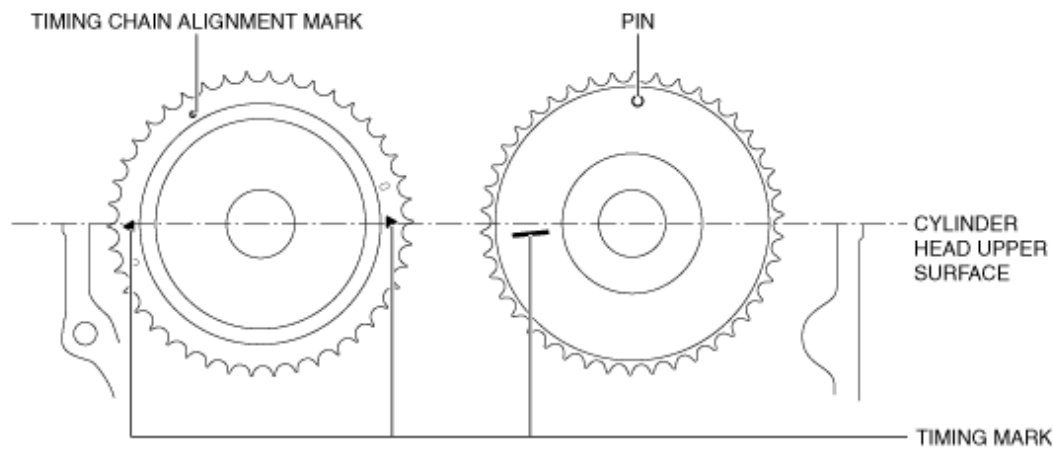


Note

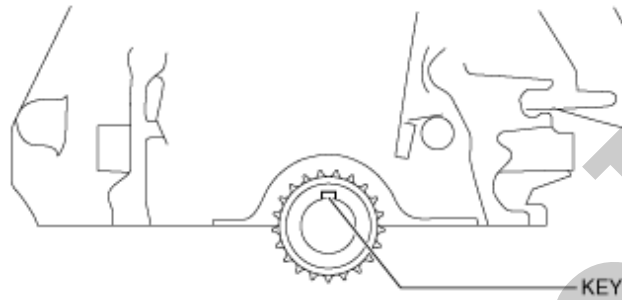
- The oil pump chain has an alignment mark in addition to two identification marks.

5.Install the oil pump chain and balancer shaft sprocket as a single unit while aligning the alignment marks on each sprocket and oil pump chain as shown in the figure.

CAMSHAFT SIDE



CRANKSHAFT SIDE



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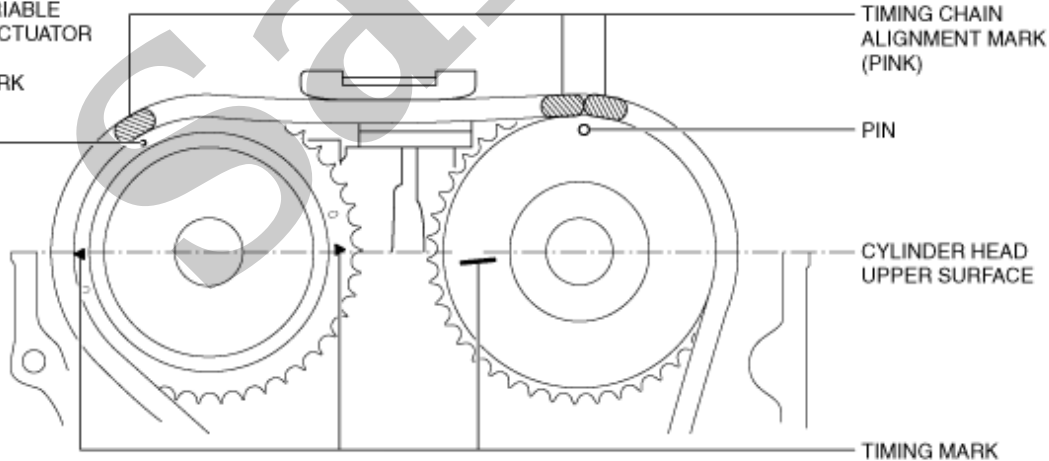
Note

- The timing mark is not parallel with the upper surface of the cylinder head.

2. Install the timing chain while aligning the marks on each sprocket and the timing chain as shown in the figure.

CAMSHAFT SIDE

HYDRAULIC VARIABLE
VALVE TIMING ACTUATOR
TIMING CHAIN
ALIGNMENT MARK

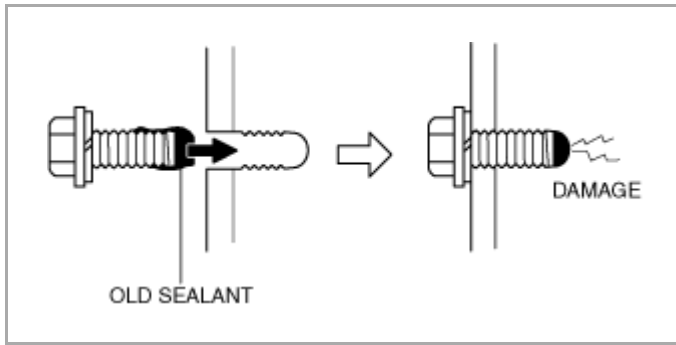


CRANKSHAFT SIDE

CRANKSHAFT SPROCKET
TIMING CHAIN ALIGNMENT MARK

TIMING CHAIN ALIGNMENT
MARK (YELLOW)

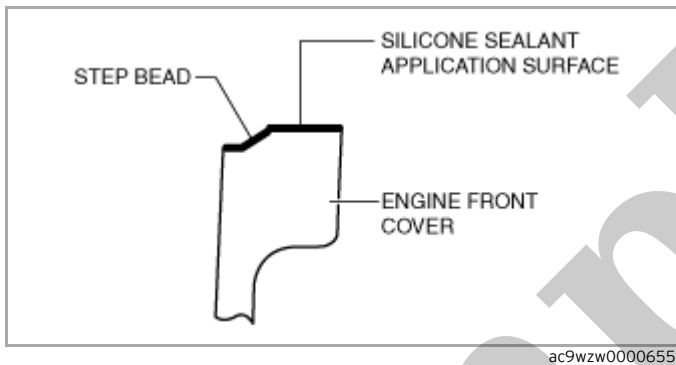
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2. When reusing an engine front cover installation bolts, remove silicone sealant adhering to the bolts.

Caution

- If oil, dirt, and sealant remain on the silicone sealant application surface and the step bead, the silicone sealant will not seal which will cause oil leakage.



3. Completely clean and remove oil, dirt, silicone sealant or other foreign matter that may be adhering to the engine front cover, cylinder head, and cylinder block.

4. Degrease the silicone sealant application surface and the step bead.

Caution

- Apply the silicon sealant in a single, unbroken line.
- To prevent silicone sealant from hardening, adhere the engine front cover and the cylinder block firmly within 10 min. after applying silicone sealant. After adhering them, tighten the installation bolts immediately.
- Do not apply silicone sealant to the step bead.

5. Install new O-rings to the engine front cover.