

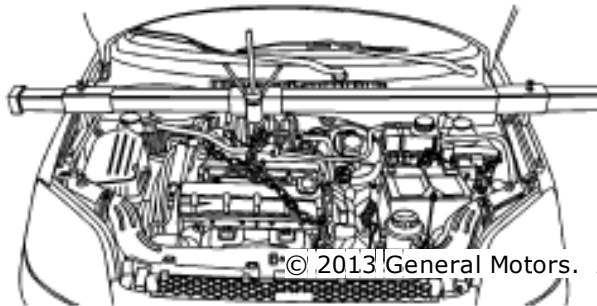
# Camshaft Timing Chain, Sprocket, and Tensioner Replacement

## Special Tools

- EN-48356 Engine Fixture
- EN-49073 Timing Chain Tensioner

## Removal Procedure

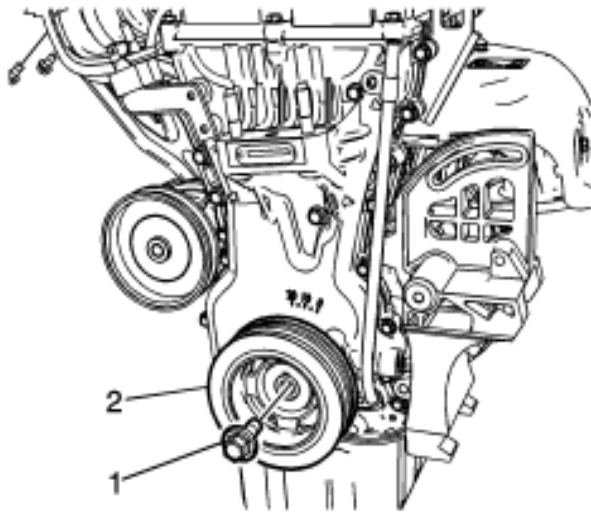
1. Disconnect the battery negative cable. Refer to [Battery Negative Cable Disconnection and Connection](#).
2. Remove the air cleaner assembly. Refer to [Air Cleaner Assembly Replacement](#).
3. Remove the cylinder head cover. Refer to [Valve Rocker Arm Cover Replacement](#).
4. Remove the accessory belt and tensioner. Refer to [Drive Belt Replacement](#) and [Drive Belt Tensioner Replacement](#).



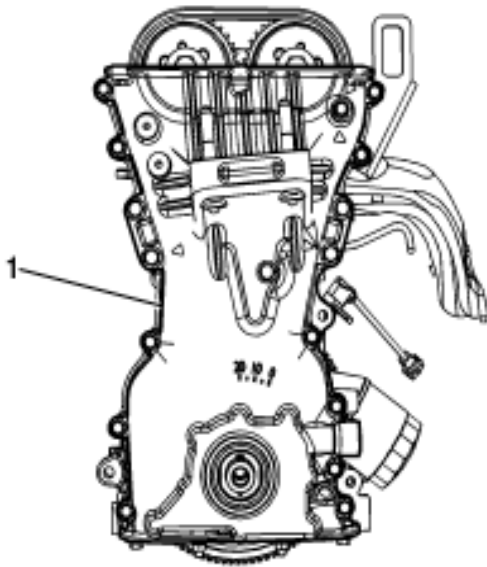
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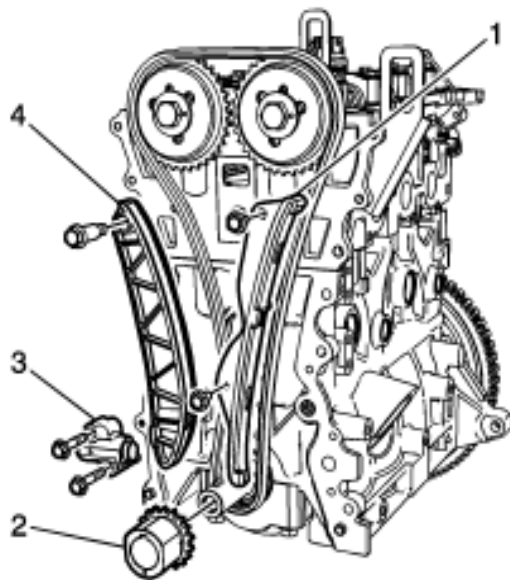
5. Install the EN-48356 fixture .
6. Remove the engine mount. Refer to [Engine Mount Replacement](#).
7. Remove the oil pan. Refer to [Oil Pan Replacement](#).



8. Remove the crankshaft pulley (2).
9. Remove the oil level gauge tube.

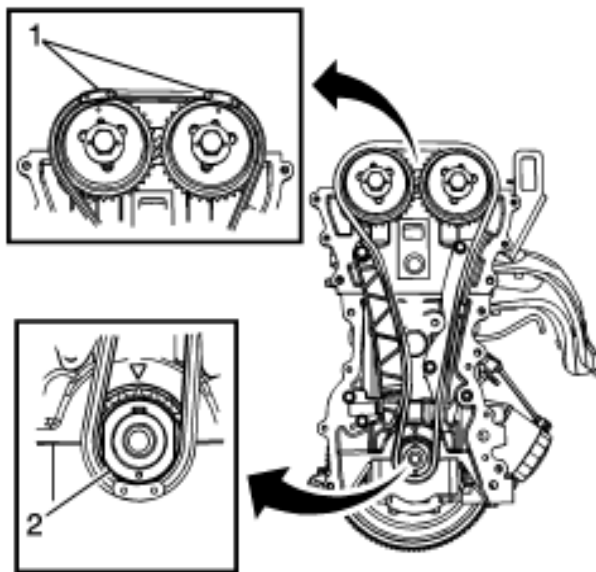


10. Remove the timing chain cover (1).

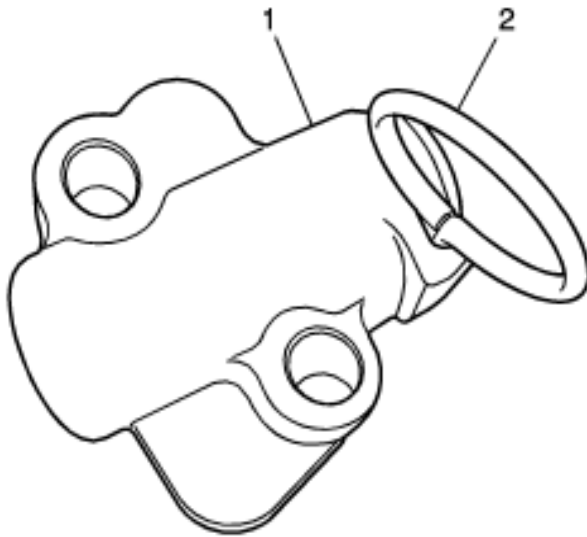


11. Remove the timing chain tensioner (3).
12. Remove the left timing chain lever (4).
13. Remove the right timing chain guide (1).
14. Remove the timing chain.

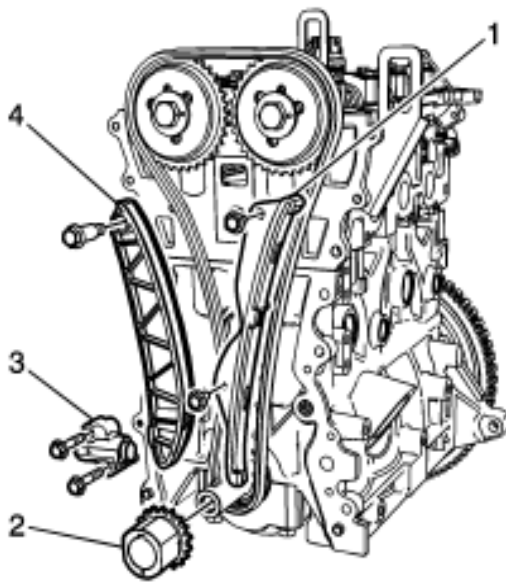
### Installation Procedure



1. Install the timing chain after aligning both the mark (1) on the camshaft sprocket and on the timing chain.
2. Align both the timing mark (2) on the crankshaft sprocket and on the timing chain.

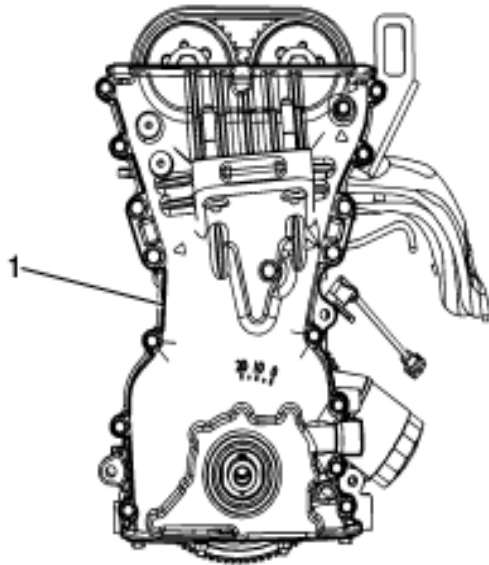


3. Push the timing chain tensioner lever and fix the lever by installing the *EN-49073* tensioner (2).



**Caution:** Refer to [Fastener Caution](#).

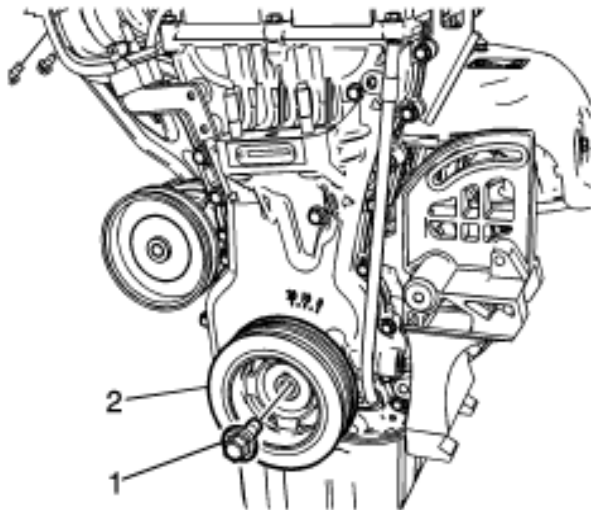
4. Assemble the timing chain guide (1).  
**Tighten**  
Tighten the timing chain guide retaining bolts to 10 X (7.4 lb in).
5. Assemble the timing chain lever (4).  
**Tighten**  
Tighten the timing chain lever retaining bolts to 10 X (7.4 lb in).
6. Assemble the timing chain tensioner (3).  
**Tighten**  
Tighten the timing chain tensioner retaining bolts to 12 X (8.8 lb in).



7. Install the timing chain cover (1).

**Tighten**

- Tighten the timing chain cover retaining bolts (M6 x 1.0) to 10.5 X (7.7 lb in).
- Tighten the timing chain cover retaining bolts (M8 x 1.25) to 20 X (14.7 lb ft).



8. Install the crankshaft pulley (2).

**Tighten**

Tighten the crankshaft pulley bolt to 85 X (62.7 lb ft).

9. Install the oil level gauge tube.

**Tighten**

Tighten the oil level gauge tube retaining bolt to 10.5 X (7.7 lb in).

10. Install the oil pan. Refer to [Oil Pan Replacement](#).

11. Install the engine mount. Refer to [Engine Mount Replacement](#).

12. Install the accessory belt and tensioner. Refer to [Drive Belt Replacement](#) and [Drive Belt Tensioner Replacement](#).