

WATER PUMP AND BALANCE SHAFT CHAIN AND TENSIONER INSTALLATION

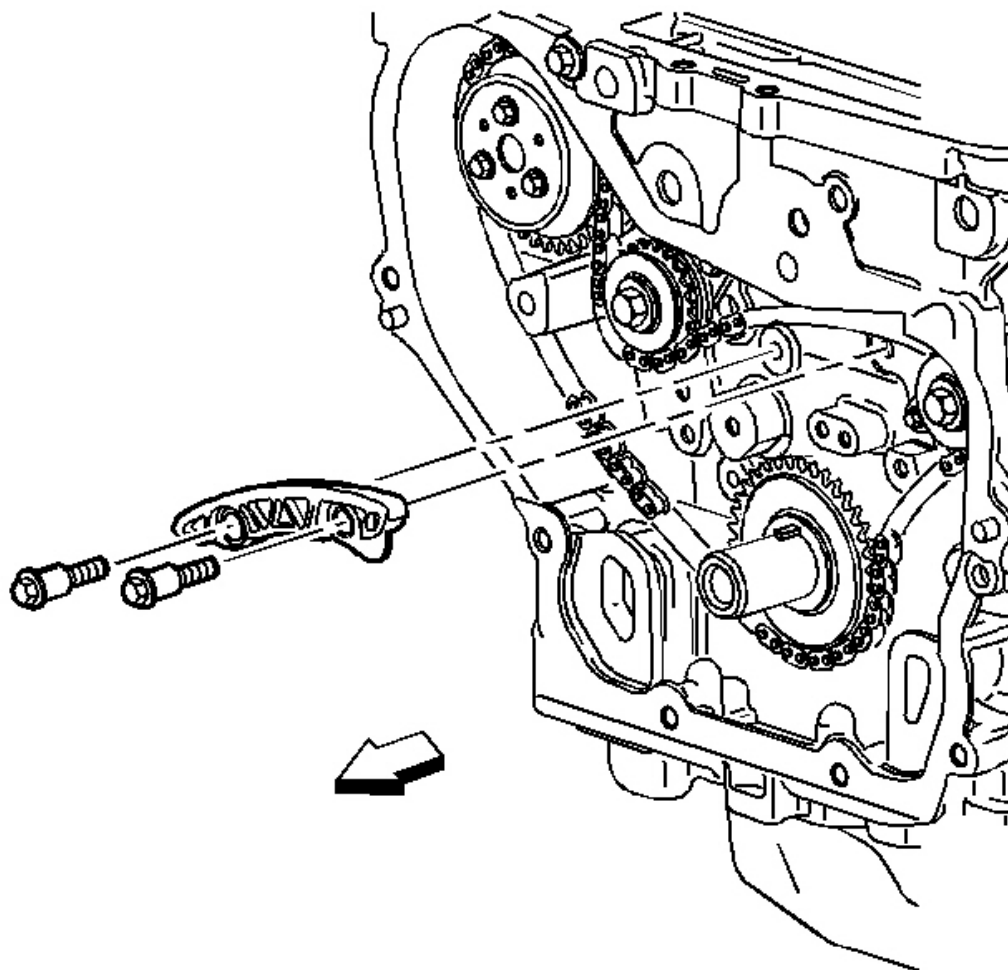


Fig. 627: View Of Upper Balance Shaft Drive Chain Guide
Courtesy of GENERAL MOTORS CORP.

CAUTION: Refer to Fastener Caution .

NOTE: If the balance shafts are not properly timed to the engine, the engine may vibrate and make noise.

1. Install the upper balance shaft chain guide and bolts.

Tighten: Tighten the upper balance shaft chain guide bolts to 12 N.m (106 lb in).

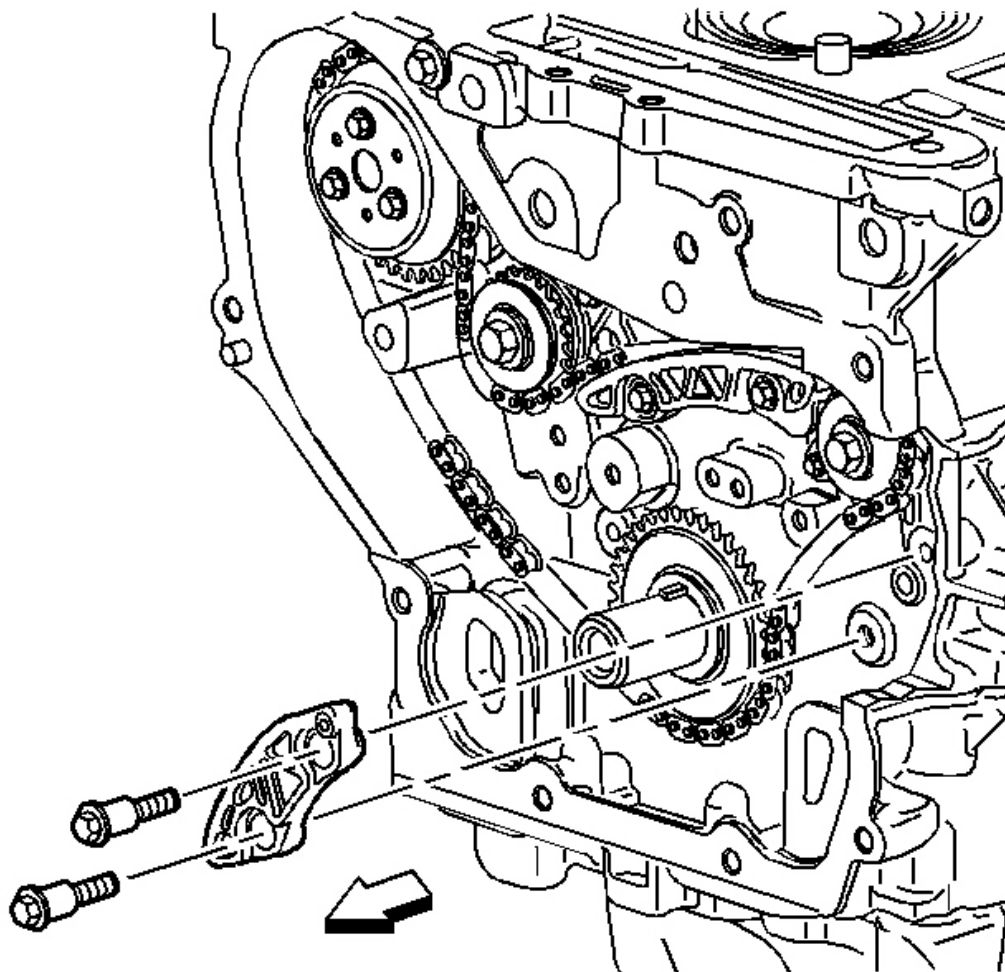


Fig. 628: View Of Small Balance Shaft Drive Chain Guide
Courtesy of GENERAL MOTORS CORP.

2. Install the small balance shaft chain guide.
3. Install the balance shaft chain guide bolts.

Tighten: Tighten the chain guide bolts to 12 N.m (106 lb in).

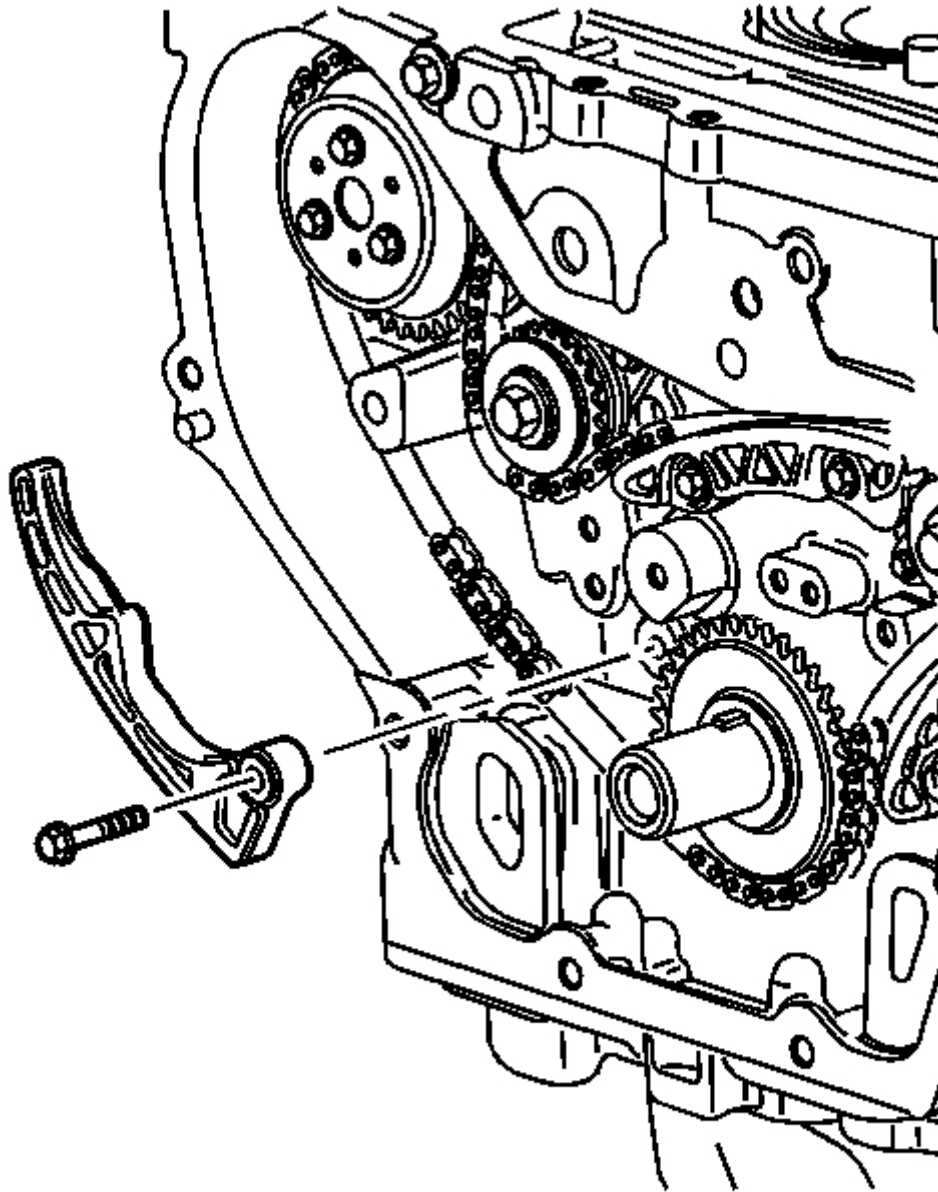


Fig. 629: View Of Adjustable Balance Shaft Chain Guide
Courtesy of GENERAL MOTORS CORP.

4. Install the adjustable balance shaft drive chain guide.
5. Install the adjustable balance shaft drive chain guide bolts.

Tighten: Tighten the chain guide bolts to 10 N.m (89 lb in).

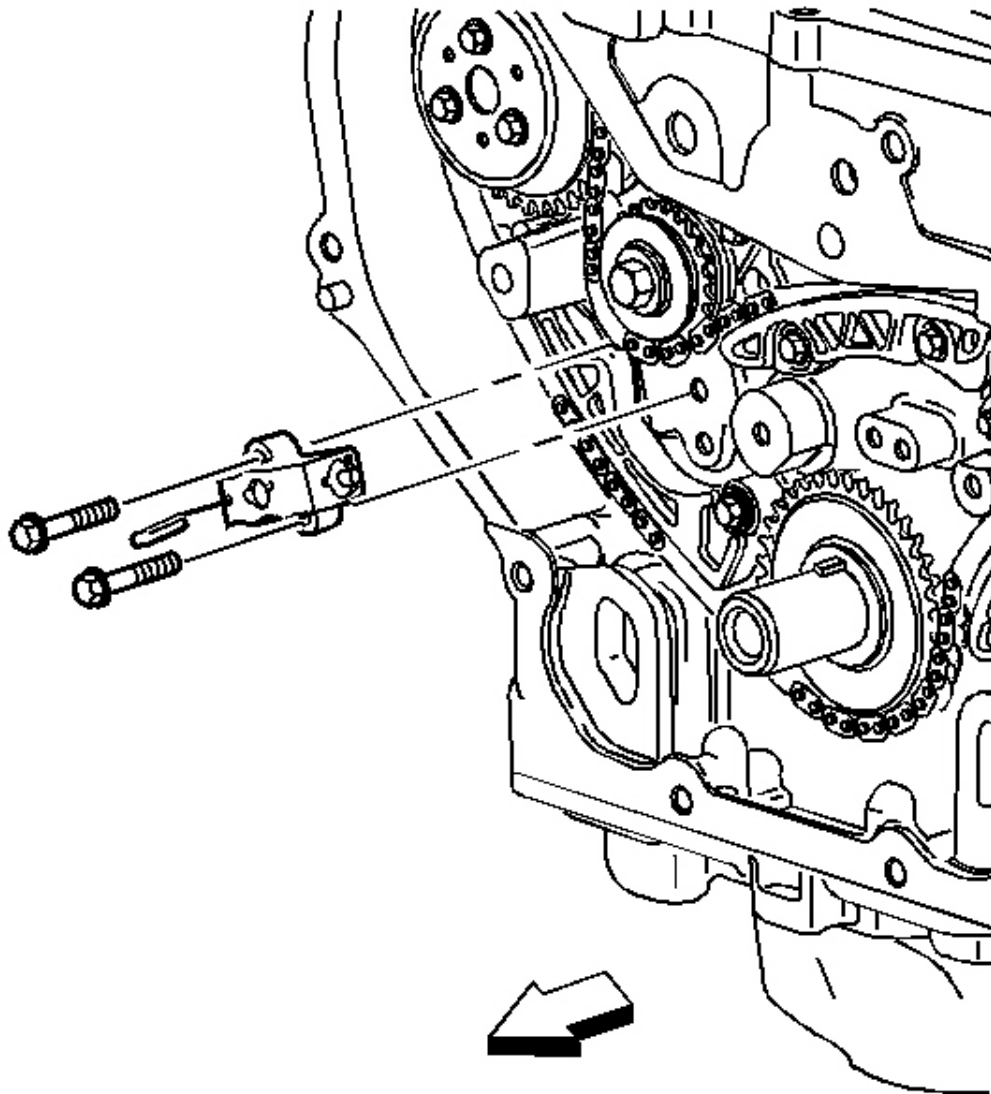


Fig. 630: View Of Timing Chain Tensioner
Courtesy of GENERAL MOTORS CORP.

6. Reset the timing chain tensioner by performing the following steps:
 1. Turn the tensioner plunger 90 degrees in its bore and compress the plunger.
 2. Turn the tensioner back to the original 12 o'clock position and insert a paper clip through the hole in the plunger body and into the hole in the tensioner plunger.
7. Install the timing chain tensioner.
8. Install the chain tensioner bolts.

Tighten: Tighten the chain tensioner bolts to 10 N.m (89 lb in).
9. Remove the paper clip from the balance shaft drive chain tensioner.