

SERVICE INFORMATION BULLETIN

Bulletin: 98-02-02

Date: 3-98

Subject: CRANKSHAFT BEARING CAP TORQUE CHANGE

Models Affected: ALL 1997 AND 1998 VIN Y AND Z ENGINES BUILT AFTER MARCH 13 1997

BACKGROUND

During the 1997 model year, the engine block for both production and GM long block (Goodwrench) engine assemblies was modified. The crankshaft bearing cap retaining bolt diameter at positions 2, 3, and 4 (outer bolts only) has been changed from 12 mm to 10 mm. This requires the use of a revised torque value and sequence.

Prior to installing the crankshaft in any 6.5 L engine, verify the type of bolts used for the crankshaft bearing caps. For engines built prior to the change (all bolts are 12 mm), use the vehicle model year service manual's existing procedure. For engines built after the change (all inner bolts are 12 mm, outer bolts at position 1 and 5 are 12 mm and outer bolts at positions 2, 3, and 4 are 10 mm), use the information provided in this bulletin.

PROCEDURE (SEE FIGURE 1)

1. Install the number 1, 2, 4 and 5 crankshaft bearing caps and bearings by tapping into place with a brass or leather mallet.
2. Apply engine oil to the crankshaft bearing cap bolt threads and install the inner 12 mm bolts.
3. Tighten the inner 12 mm bolts to 55 lb-ft (75 N.m).
4. Install the number 3 crankshaft bearing cap and bearing (thrust bearing) by tapping into place with a brass or leather mallet.
5. Install the 12 mm inner bolts and tighten to 10 lb-ft (14 N.m).
6. Tap the end of the crankshaft first rearward then forward with a lead hammer to line up the crankshaft bearing and crankshaft thrust surfaces then tighten the inner 12 mm bolts to 55 lb-ft (75 N.m).
7. With the crankshaft forced forward, use a feeler gauge to measure the crankshaft end play at the front end of the number three crankshaft bearing. The proper clearance is 0.004-0.010 in. (0.10-0.25 mm).
8. Lubricate and install the outer 12 mm and 10 mm crankshaft bearing cap bolts.
9. Tighten all crankshaft bearing bolts in the following sequence:
 - Retighten the inner 12 mm bolts to 55 lb-ft (75 N.m).
 - Tighten the inner 12 mm bolts an additional 90 degrees.
 - Tighten the outer 12 mm bolts (crankshaft bearing caps 1 and 5) to 48 lb-ft (65 N.m).
 - Retighten the outer 12 mm bolts (crankshaft bearing caps 1 and 5) to 48 lb-ft (65 N.m).



- Tighten the outer 12 mm (crankshaft bearing caps 1 and 5) an additional 90 degrees.
- Tighten the outer 10 mm bolts (bearing caps 2, 3, and 4) to 30 lb-ft (40 N.m).

CAUTION: DO NOT tighten the outer 10 mm bolts an additional 90 degrees!

10. Check the crankshaft for proper rotation.

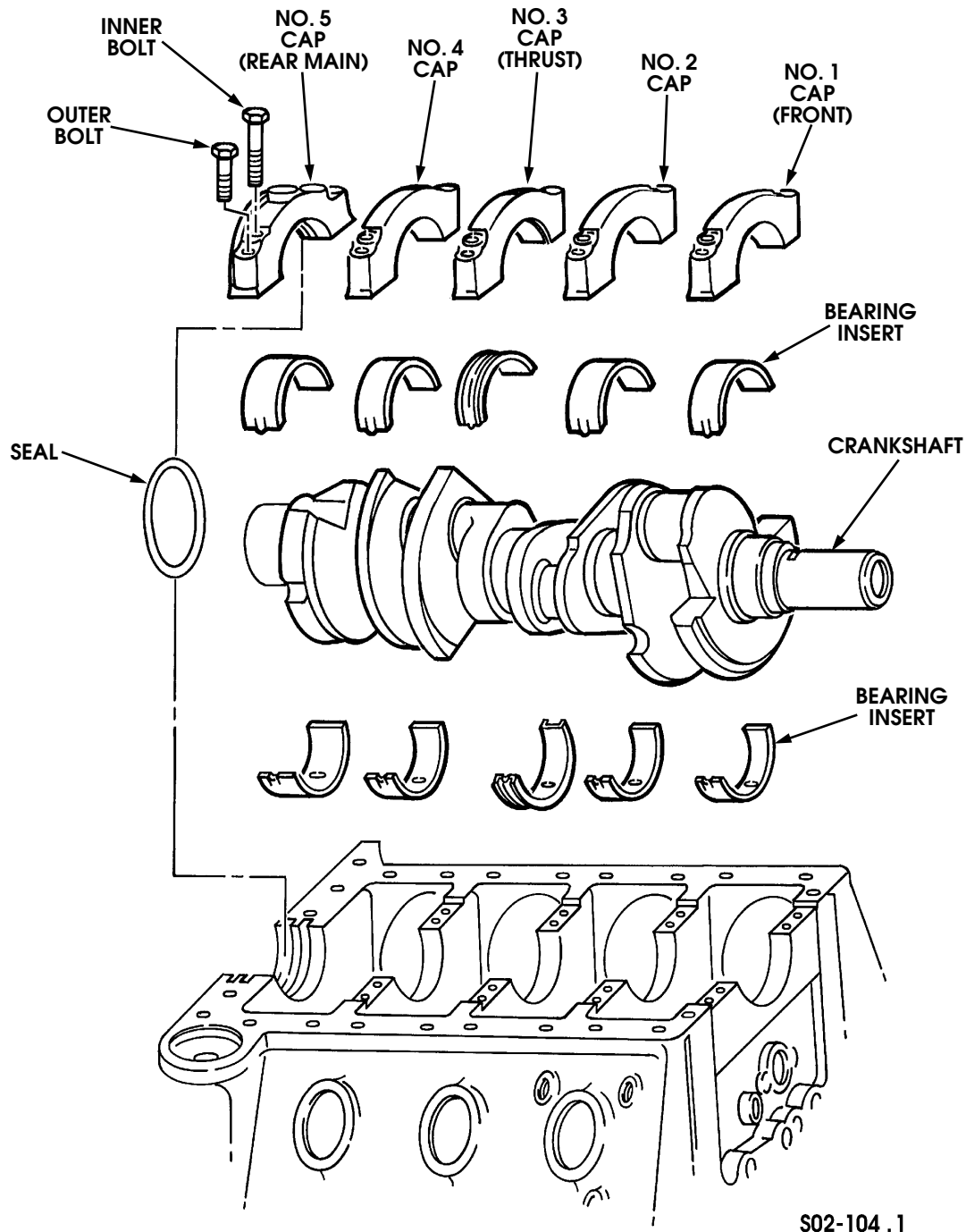


Figure 1: Crankshaft Bearing Cap and Bolt Location.