

# **Installation Instructions**

## **9-3108A Hex-A-Just<sup>®</sup> True Roller Timing Set with Adjustable Fuel Pump Eccentric**

**BEFORE YOU BEGIN: READ ALL OF THESE INSTRUCTIONS FIRST !!!**

**Note:** The installation procedures which follow assume that the engine has been disassembled and cleaned as it would be for a normal timing set change.

YOU WILL NEED:

TOOLS:

Torque Wrench  
Degree Wheel (Optional, but Recommended)

SUPPLIES:

Assembly Lube or Camshaft Lube  
Thread Locking Compound (LockTite<sup>®</sup> #271 or equiv.)

1. **Prepare the Engine.** Loosen all rocker arms so that the camshaft can rotate freely.
2. **Clean everything!** Make sure that the engine mounting surfaces and timing set components are as clean as possible. The life of the chain and sprockets depends on it.
3. **Install the Dowel Pin.** If your engine originally used the two-piece fuel pump eccentric and the short dowel pin, remove the old dowel pin. Press the new dowel pin into place, making sure that it is fully seated in the camshaft.

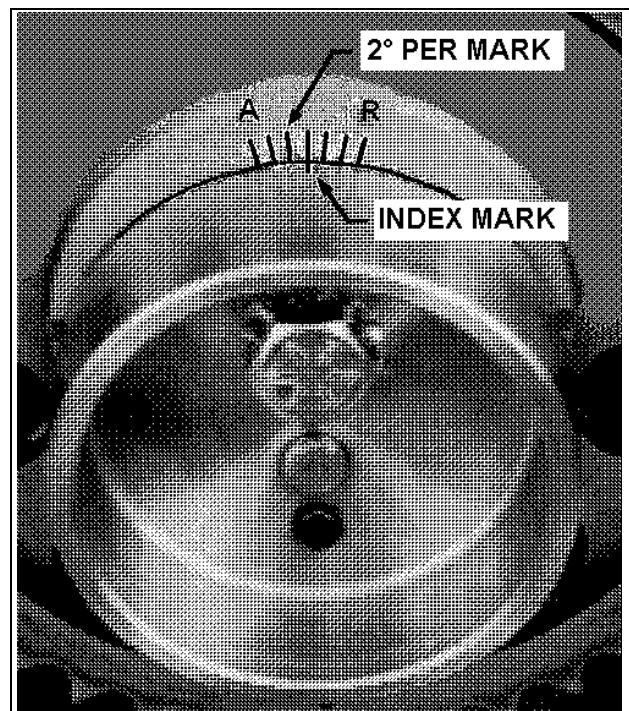
**Note!** Some older engines have a spacer on the camshaft and a camshaft sprocket which is flat on the back. If your engine has one of these spacers, remove and discard it. The new camshaft sprocket has the spacer machined in.

4. **Align the Engine.** Rotate the crankshaft until the number one piston is at top dead center. The crankshaft key should be pointing straight up. Rotate the camshaft until the dowel pin is pointing straight down.
5. **Assemble the Timing Set.** Select the appropriate keyway and timing mark on the crankshaft sprocket for the camshaft timing baseline desired. We recommend the Standard Timing position, which uses the round timing mark and round keyway. Loop the chain over the camshaft sprocket. Align the camshaft and crankshaft timing marks and loop the chain around the crankshaft sprocket. Lift the sprocket and chain assembly into

place on the camshaft and crankshaft. Slide the crankshaft sprocket onto the crankshaft while sliding the camshaft sprocket onto the camshaft. Make sure that the sprockets are fully seated on their shafts.

4. **Install the Hex-A-Just® Fuel Pump Eccentric.** Install the eccentric onto the camshaft sprocket making sure that the dowel pins fully engage the proper holes in the eccentric. Install the proper bolt and washer (supplied) and thread it all the way in, but leave it slightly loose. Check for clearance between the washer and the dowel pin. If the washer touches the pin, remove the pin and grind one end until the pin will no longer protrude through the eccentric, then re-install the dowel pin. The **Hex-A-Just®** Adjustable Fuel Pump Eccentric is infinitely adjustable so you can fine adjust your engine's CAMSHAFT TIMING to **EXACTLY WHERE YOU WANT IT.**

8. **Adjust the Camshaft Timing.** Do NOT try to turn the camshaft with the eccentric unless there is **NO LOAD** on the camshaft. Make sure that the camshaft bolt is **LOOSE**. For a simple installation, adjust the **Hex-A-Just®** Fuel Pump Eccentric to the desired timing setting (Figure 1). For a more accurate installation, use a degree wheel. The degree wheel method is strongly recommended.



9. **Torque Loose Bolt.** Apply a generous amount of Thread Locking Compound to the Camshaft Sprocket Mounting Bolt. Torque the Camshaft Sprocket Mounting Bolt to 40-45 ft-lb.
10. **Lubricate the Timing Set.** Make sure that the engine oil has a clear path to the timing set through the lifter valley oil drain-back holes, or through some other means. A timing set requires plenty of oil to survive. Before installing the timing cover gasket and timing cover, pour plenty of assembly lube over the sprockets and bearings. Assembly lube will stay on the sprockets until the engine is started.
11. **Install the Timing Cover and Gasket.** Install the timing cover gasket using a small amount of gasket sealer if desired. Mount the timing cover and the rest of the engine accessories according to the manufacturer's procedures.