CLOYES® Gear and Products, Inc.

January 13, 2021

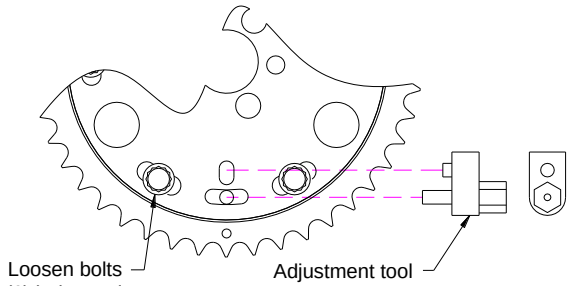
Installation Instructions
Cloyes® Quick Adjust™ Timing System

Notes: If you are using the 3-keyway crank sprocket and using the advanced keyway, the maximum camshaft advance will be 8º and maximum retard will be 4º. If using the retard keyway, the maximum advance will be 4º and maximum retard will be 8º. Remember that the camshaft angle is half of the crankshaft angle (Refer to the 3-keyway crank sprocket installation instructions).

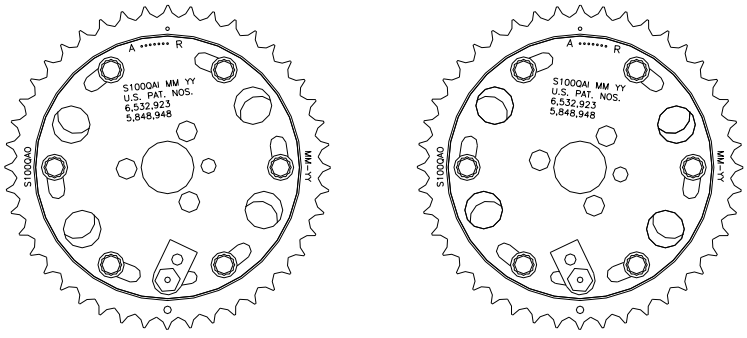
If Supplied: Install the Camshaft Thrust Bearing: The bearing has two races, an inner indexing race and an outer rotating race. You must install the bearing with the inner race indexed against the machined surface of the sprocket. **Failure to install correctly will cause a severe wear issue!** When installed correctly the outer race will rotate freely.

The Cloyes® Patented Quick Adjust™ Timing System allows the installer to adjust the camshaft timing up to 12°. Some camshaft manufacturers instruct the user to advance or retard camshaft timing to enhance the characteristics of their camshaft. By loosening six bolts and using the adjusting tool provided, the user can infinitely adjust the camshaft timing up to 6° advance or 6° retard.

To adjust the timing, loosen the six bolts that clamp the inner member of the camshaft sprocket to the outer member about 1/4 turn counterclockwise. Insert adjustment tool into the slots provided. The short shaft of the adjustment tool will be inserted into the short slot. The long shaft will be inserted into the long slot and hole (Refer to illustration below).



After the tool is inserted into the slots, use a 3/8 wrench to rotate the tool. There are seven timing marks indicated with an A and an R on the ends. Each timing mark is approximately 2° and is lined up with a single alignment mark on the outer camshaft sprocket member (Refer to illustration below).



At 6° retard

At 6° advance

After the timing has been adjusted, remove the adjusting tool from the cam sprocket. Tighten the six bolts to 13-15 ft-lb.

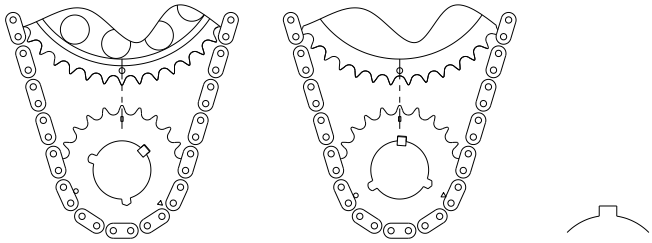
Note: The above illustrations are GM camshaft sprockets. However, the adjustments are the same for a Ford or Chrysler applications.

CLOYES® Gear and Products, Inc.

April 24, 2014

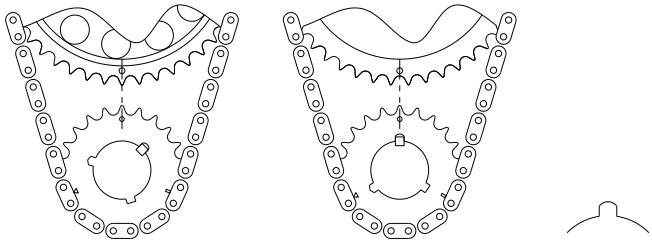
Installation Instructions Cloyes® 3-Keyway Crank Sprockets

The Cloyes® 3-Keyway crank sprocket allows adjustment of the crankshaft timing by ± 4°. **Remember: The camshaft angle is half of the crankshaft angle, therefore the camshaft will correspondingly advance or retard by ± 2°.** By changing the cam timing, enhancements to the camshaft characteristics can be achieved. For example, retarding the cam timing will increase high RPM horsepower, and advancing the cam timing will increase low-end torque. The following examples illustrate which timing mark is used with its corresponding keyway:



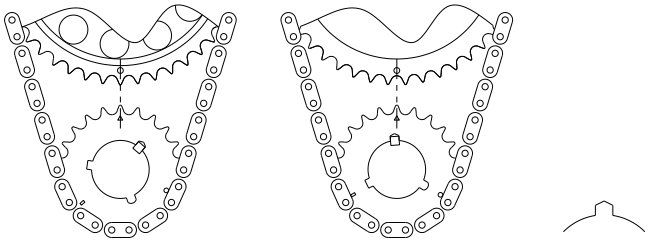
GM and Chrysler Ford Retard keyway

To retard the camshaft timing, use the □ timing mark on the crank sprocket and the retard keyway shown above.



GM and Chrysler Ford Factory keyway

For factory specified timing, use the O timing mark on the crank sprocket and the factory keyway shown above.



GM and Chrysler Ford Advance keyway

To advance the camshaft timing, use the Δ timing mark on the crank sprocket and the advance keyway shown above.

Notes:

If Supplied: Install the Camshaft Thrust Bearing: The bearing has two races, an inner indexing race and an outer rotating race. You must install the bearing with the inner race indexed against the machined surface of the sprocket. Failure to install correctly will cause a severe wear issue! When installed correctly the outer race will rotate freely.

After determining which setting to use, we advise marking (with white marker or similar) the corresponding timing mark and keyway. This will make them easier to identify during installation.

Some high performance camshafts are ground with advance or retard built in. In this case the cam manufacturer intends the cam to be set at the factory specified timing.

Also, during and after installation, observe for any interference between the timing set and engine block. If interference is found, remove or grind that area of the block so adequate clearance is obtained. When removing a press fit crank sprocket, a proper pulling tool should be used.