



Adjustable Timing Sets Part #3100KT, 3110KT, 3146KT and 3149KT

Thank you for choosing COMP Cams® products; we are proud to be your manufacturer of choice. Please read this instruction sheet carefully before beginning installation, and also take a moment to review the included limited warranty information.

Tools and Supplies Needed:

- 1/4" Hex bit socket or hex wrench
- Torque wrench
- Hammer
- Sleeve to fit over crankshaft for installing crankshaft sprocket
- Degree wheel (optional but recommended)
- Assembly lube or camshaft lube
- Thread locking compound (Loctite)
- Timing cover

- 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 depend on it.
- 3. Mount the crankshaft sprocket.** Select the appropriate keyway for the camshaft timing baseline desired. We recommend the Standard Timing position, which uses the round timing mark and round keyway mark. Carefully tap the sprocket onto the crankshaft using a sleeve to protect the sprocket. Make sure that the sprocket is fully seated on the crankshaft. Rotate the crankshaft until the appropriate crankshaft sprocket timing mark is in the 12:00 position. Make sure that the number one piston is at Top Dead Center. (See COMP Cams® tool Part #s 4789 and 4920).
- 4. Insert the adjustable timing bushing.** Insert the offset bushing (with the hex hole) into the slot in the camshaft sprocket hub. Rotate it with a 1/4" hex wrench so that the timing mark on the bushing points away from the center of the hub. The adjustable bushing is infinitely adjustable so you can fine adjust your engine's CAMSHAFT TIMING to **EXACTLY WHERE YOU WANT IT**.
- 5. Mount the camshaft sprocket.** Loop the chain over the camshaft sprocket. Align the camshaft and crankshaft timing marks, and loop the chain around the crankshaft sprocket. Lift the camshaft sprocket into place on the camshaft with the *thrust bearing and adjustable bushing in place. Be sure that the timing mark aligns with the crankshaft timing mark and that the thrust bearing race has not slipped off of the shoulder on the sprocket hub. Bolt it in place using the three (3) 5/16"-18 x 3/4" hex socket head cap screws supplied. Install these bolts slightly loose.

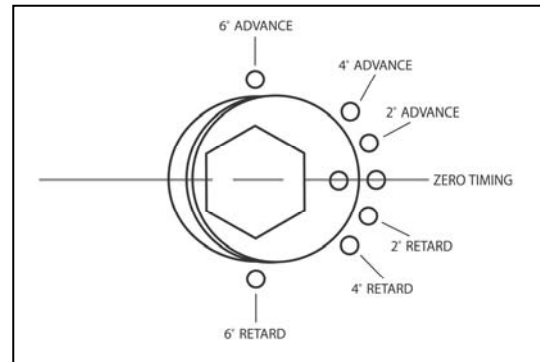
*Not used in all kits.



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6. Adjust the camshaft timing. Do NOT try to turn the camshaft with the bushing unless there is **NO LOAD** on the camshaft. There must be **NO VALVE SPRING PRESSURE** against the camshaft or the adjustable bushing will **SPLIT**. Make sure that the three camshaft bolts are **LOOSE**. For a simple installation, adjust the adjustable bushing to the desired timing setting. For a more accurate installation, use a degree wheel. The degree wheel method is strongly recommended.



7. Torque loose bolts. Torque the three (3) cam sprocket mounting bolts one at a time, and apply the **THREAD LOCKING COMPOUND**, then torque each bolt to 300 in lbs (25 ft lbs).

8. 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.

9. Install timing cover and gasket. Install the timing cover gasket using a small amount of gasket sealer if desired. Mount the timing cover, and install the 10 mounting bolts. Torque these bolts to 160 in lbs (13 ft lbs).

Limited Warranty

Competition Cams, Inc. warrants that all of its products are free from defects in material and workmanship, and against excessive wear for a period of (1) one year from the date of purchase. This **limited warranty** shall cover the original purchaser.

Competition Cams, Inc.'s obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned within (1) one year of purchase to the address listed below, freight prepaid. Items covered under warranty will be returned to you freight collect.

It is the responsibility of the installer to ensure that all of the components are correct before installation. We assume no liability for any errors made in tolerances, component selection, or installation.

There is absolutely no warranty on the following:

- A) Any parts used in racing applications;**
- B) Any product that has been physically altered, improperly installed or maintained;**
- C) Any product used in improper applications, abused, or not used in conjunction with the proper parts.**

There are no implied warranties of merchantability or fitness for a particular purpose. There are no warranties, which extend beyond the description of the face hereof. Competition Cams, Inc. will not be responsible for incidental and consequential damages, property damage or personal injury damages to the extent permitted by law. Where required by law, implied warranties or merchantability and fitness are limited for a term of (1) one year from the date of original purchase.

This warranty gives you specific legal rights and you may also have other legal rights, which vary from state to state.