Instructions for
Summit Timing Chain with Torrington Bearing
SME-7000-TS, SME-7010-TS

You have purchased one of the finest timing component sets available today. This set will provide you with the ultimate in performance, durability and low friction ratio.

This part is designed to prevent the camshaft sprocket from galling or seizing against the front face of the engine block. Included in this kit is one Summit True Roller Timing Set, one Roller Bearing Assembly consisting of one roller thrust bearing and two bearing race washers. To complete the installation, one camshaft thrust button spacer and one camshaft sprocket bolt locking plate need to be purchased separately. The roller thrust bearing goes between the two bearing race washers, which in turn, goes between the camshaft sprocket and block face.

When using this kit, it is important that the camshaft endplay be controlled. If the camshaft is allowed to move forward .015” it could allow one of the bearing race washers to be unseated from the locator step on the camshaft sprocket and would cause damage to the engine block. The camshaft thrust button spacer is placed between the camshaft sprocket and the front timing cover to prevent the camshaft from walking. The locking plate will hold the camshaft thrust button spacer in place and prevent the sprocket retaining bolts from loosening.

**Additional parts required:**

Small Block applications:
- SUM-G001- Camshaft Thrust Button Spacer
- SUM-G1792- Camshaft Sprocket Bolt Locking Plate

Big Block applications:
- SUM-G002- Camshaft Thrust Button Spacer
- SUM-G1792- Camshaft Sprocket Bolt Locking Plate

**Before installation:** Be sure to check for proper clearance between the timing chain and the engine block. Should the chain scrape the block anywhere corrective measures must be taken. The chain may scrape the block as a result of:

1. Slight manufacturing variations from block to block.
2. Excessive wear on the cam thrust surface on the block.
3. Oil galley plugs not fully tightened.
4. A combination of the above.

Check that the crankshaft and camshaft sprockets are in-line by placing a straight edge on the face of the two sprockets mounted without the chain. If they are not in-line corrective measures must be taken. With the camshaft sprocket installed, place the camshaft thrust button in the sprocket. Measure the distance from the front of the camshaft button spacer to the timing cover mounting surface of the block. Then measure the depth of the timing cover at the point where the camshaft button spacer will make contact, and add the thickness of the timing cover gasket. You will want the distance from the front of the camshaft button spacer to the timing cover mounting surface to be .008” to .012” less than the measurement for the depth of the timing cover and gasket. Depending on the type and manufacturer of the timing cover, it may be necessary to grind the button to get the desired clearance.
It would be a good idea to degree the camshaft and test piston to valve clearance. Camshafts are ground close to the specifications but may not be exact. Degreeing the camshaft is a double check and assures its actual location. Sometimes, the piston and valve are so close that advancing or retarding the camshaft may cause piston to valve clearance problems. We suggest using our Camshaft Degreeing Kit (SUM-G1056) for best results.

**OPTIONS**

- **“O”** "Straight-Up” position, matches cam manufacturer’s valve timing specifications per cam card (provides 0° camshaft advance/retard)
- **“A”** Camshaft advance, for earlier valve timing (provides 2° camshaft advance)
- **“R”** Camshaft retard, for later valve timing (provides 2° camshaft advance)

**INSTALLATION**

- **“O”** Align “O” mark at tooth rim with camshaft sprocket “O” timing mark.
- **“A”** Align “A” mark at tooth rim with camshaft sprocket “O” timing mark.
- **“R”** Align “R” mark at tooth rim with camshaft sprocket “O” timing mark.

**Three keyway choices for maximum performance**

**Final engine assembly:** Clean and lubricate the roller bearing assembly with motor oil or grease. Install the camshaft thrust button and locking plate and torque the (3) camshaft sprocket retaining bolts to 20 ft. lbs. Bend the tabs of the locking plate against the heads of the bolts to prevent them from coming loose.

**Summit Racing Limited Warranty**

Summit Racing Equipment warrants this product for 90 days from date of purchase. If used for racing or competition, this warranty is limited to manufacturer defects only—wear and breakage are not covered under any circumstances. If the product shows, in our opinion, evidence of being used or installed contrary to the instructions and/or subjected to improper handling, packaging, or shipping by the customer, it will not be covered by our limited warranty. Summit Racing Equipment’s liability for losses or damages, arising out of any cause whatsoever, is limited to full refund of the purchase price or, at our option, repair or replacement of the product(s). Summit Racing Equipment shall not be liable for any consequential or incidental damages. Some states do not allow exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you.

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