



## Short Travel Hydraulic Roller Lifters

**Applicable Part Numbers:** 875-16, 877-16, 15850-16, 15853-16, 15854-16, 15956-16, 15853XD-16, 15854XD-16, 15956XD-16, 15820XD-16, 1511-20

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.

The following instructions cover the correct guidelines for installing COMP Cams® Short Travel Hydraulic Roller Lifters. Before beginning installation be sure that your engine's oil system is clean and free of sludge or other contaminants such as silicon fragments. Sludge or contaminants in the oil system can cause premature failure of your new hydraulic lifters. The **recommended** lifter pre-load should be set at zero to 1/4 of a turn of the wrench on the rocker arm adjusting nut for optimal performance.

### Setting Hydraulic Lifter Pre-load

The correct amount of lifter pre-load is important to help efficiently control the valve train. Insufficient pre-load will cause valve train noise, while too much may damage the hydraulics of the lifter or cause low manifold vacuum. By following the five steps listed you will help ensure proper engine performance and reliability.

### Instructions:

- 1. Lifter cleaning:** Remove your new COMP Cams® lifters from the packaging. The lifters need to be cleaned with mineral spirits or parts washing solvent first to remove any debris from shipping or handling. Also check to ensure that the wheel rolls smoothly. **NOTE: Rollers may feel as though the wheels drag more than expected due to the grease packing for assembly and break-in. This is normal. WARNING:** The wheel needle bearings are pre-greased with special OE grease. While cleaning, be careful to **NOT** blow out this grease for this is very vital to initial break-in. Also do **NOT** clean with aerosol cleaners! And do **NOT** allow the wheel to be spun by compressed air.
- 2. Lifter preparation:** It is not necessary to "pre-pump" hydraulic lifters full of engine oil prior to installation and valve adjustment. It is actually undesirable to do so as the "pumped up" lifters will cause the valves to open during the adjustment process, rather than positioning the lifter plunger in its operating position as it is supposed to do. Next, soak the lifters with COMP Cams® Break-In Oil (Part #1590) or equivalent for at least two hours. Doing so ensures that the lifters are adequately lubricated on their outer surfaces prior to installation. It may also result in a quieter engine start-up as the oil in the bath may displace some air from the lifter's plunger reservoir. When you install the lifters, make sure they fit well. Any excess clearance or tight lifters can cause damage to the camshaft, leading to engine failure. Verification of lifter to lifter bore clearance is recommended. **Note: Contact your engine builder or block manufacturer for your specific clearances.**
- 3. Setup:** With your cam installed, simply place the prepped lifters into the lifter bores. If you are using hydraulic rollers with a link bar, pay close attention to which direction the link bar faces. The link bars on retro-fit lifters should face the valley of the block. If the link bar has an arrow on it, make sure the arrow is pointing upward (↑). If your engine block was originally equipped with hydraulic rollers, make sure the lifter roller wheel is positioned to roll along the camshaft lobe. Failure to do so will result in camshaft damage and improper oiling. Now that the lifters are in place, you can begin to install the pushrods and rocker arms.

- 4. Pushrod and rocker arms:** Clean all pushrods thoroughly because most engines oil through the center of them. If the original pushrods are being used, be especially sure that they come clean inside and out. Apply a small amount of COMP Cams® Engine Assembly Lube (Part #102) or an equivalent lube on each end of the pushrods, and install them into the engine. Clean all rocker arms thoroughly. If the original rocker arms are used, examine each one for excessive wear and replace any that are questionable. Apply a small amount of lube on all contact areas of the rocker arm. With a clean rag or towel, wipe the tips of the valves clean and apply lube where the rocker arms will come in contact with them. Also be sure to check the valve stem tips for excessive wear. Next, install the rocker arms. Do not tighten the adjusting nuts down before the proper sequence is performed. On engines with shaft-mounted adjustable rocker arms, back off all adjusters completely before installing the assembly. Make sure the pushrod is in the lifter and the rocker arm seat when making valve adjustments.
- 5. Adjusting pre-load:** Turn the engine in the normal direction of rotation. Start with cylinder number (1) one. When the exhaust valve begins to open, adjust the intake valve to the correct pre-load. To reach zero, take the pushrod between your finger tips and move it up and down while you tighten down the rocker arm adjusting nut. Once you feel no more vertical slack, you are at zero pre-load. Make sure the pushrod is in the lifter and the rocker arm seat when making valve adjustments. Then tighten the adjuster nut zero to 1/4 of a turn of the wrench. Next, you can move on to the exhaust valve on the same cylinder. Now, rotate the engine over again until the intake valve reaches maximum lift and is almost all the way back down. Then set the exhaust valve using the same method as the intake (zero to 1/4 of a turn). Continue adjusting the valves on each cylinder in this manner until all valves are adjusted.
- 6. Engine start-up:** After the lifters are installed, it is **NOT** recommended that the engine sit for a long period of time prior to initial startup, in an effort to help prevent the breakdown of the oil film. If this is a new engine build or your engine has not recently been run, be sure to prime the oil system before initial start-up. This will ensure that your new lifters do not run dry while your oil pump is building pressure. Even with a primed oil system, it is not uncommon to hear slight noise from your new hydraulic lifters during the initial warm-up cycle or after the engine has sat for several days. This noise could last several minutes. During this time the lifters are cycling oil and filling their reservoirs; no damage will occur to the lifters or engine during this time as long as the RPM is kept below 3500 and the engine is not operated under full load. Important: please monitor oil pressure as it should rise into the operating range within the first few seconds of start-up; otherwise, the engine should be stopped and the oiling problem investigated.
- 7.** Please follow the link below for further information regarding the importance of care and cleanliness when installing COMP lifters in your engine. <https://youtu.be/thMhEjniJGg>

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**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.**

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