



Quality Workmanship

Rhoads Lifters are made in the USA with the very finest material and workmanship. Proper installation will assure you of thousands of reliable, trouble free miles of driving. Please follow installation instructions carefully. Please Note: Your Rhoads Lifters may not look the same as the picture of the lifter on the front of the box.

HOW TO INSTALL AND ADJUST ORIGINAL RHOADS LIFTERS

Before installation, each Rhoads Lifter should be fully filled with oil. To fill with oil, completely submerge each lifter upright into a container of oil and compress the inner plunger with a pushrod or screwdriver until the plunger is driven to the bottom of the lifter. Hold several seconds and release slowly. Repeat several times until the lifter is fully filled. NOTE: Soaking lifters in oil will not fill them. Also, make sure to apply assembly lube to each cam lobe and lifter bottom.

ADJUSTMENT PROCEDURE FOR ADJUSTABLE ROCKER ARMS

STEP 1

With intake manifold removed and camshaft installed, begin by inserting all lifters (well oiled with assembly lube applied to the bottom of each lifter) into engine block. Keep the intake manifold off so that the lifter can be viewed while adjusting. DO NOT PUT PUSHRODS IN AT THIS POINT.

STEP 2

Bring number one cylinder to top-dead center of the compression stroke. Both intake and exhaust lifters for this cylinder should be riding on the low side (base circle) of the cam at this point. Insert pushrods securely into both intake and exhaust lifters for this cylinder only. Put rocker arms in place and make sure pushrod is securely in the rocker arm socket and ready to adjust.

STEP 3

Tighten rocker arm nuts until all play or looseness is removed and the plunger in the lifter just starts to compress. With the intake manifold off and lifters in sight, it will be easy to see when the plunger starts to compress. At this point, tighten the locknut until the plunger is compressed at least a sixteenth of an inch below the retaining ring (approximately 3/4 turn for a Small Block Chevy). While the amount the plunger is compressed is not critical, the important thing to remember is that the plunger must be compressed below the retaining ring so that there is no clearance or looseness in the valvetrain whatsoever, but not so much that the plunger bottoms out on the lifter shell. Now you can rotate the crankshaft until the next cylinder in the firing order is at top-dead-center of the compression stroke. Adjust this cylinder in the same manner as cylinder 1, and repeat the process until all cylinders are adjusted. No further adjustment will be necessary after the engine is started.

IMPORTANT NOTE: If the intake manifold is installed before adjusting lifters and you cannot visually see the point at which the lifter plunger begins to compress below the retaining ring, it is best to determine this point by moving the pushrod up and down in a vertical movement while tightening the locknut until all looseness is removed and the pushrod can no longer be moved up and down with light pressure. DO NOT DETERMINE THIS POINT BY TWISTING THE PUSHROD IN YOUR FINGERS WHILE TIGHTENING. YOU WILL BOTTOM THE PLUNGER OUT BEFORE YOU FEEL ANY RESISTANCE WHICH WILL RESULT IN AN INCORRECT ADJUSTMENT AND POSSIBLE DAMAGE TO THE ENGINE.

FOR NON ADJUSTABLE ROCKER ARMS.: Install Rhoads Lifters in the same manner as you would standard hydraulic lifters. Check the lifters to see that the plungers are compressed below the retaining ring at least a 32nd of an inch and preferably between 1/16th and 1/8th of an inch when the lifters are riding on the low side of the cam. Longer pushrods are often needed when using larger cams with smaller base circles to get the proper plunger compression. NEVER START OR RUN ENGINE IF THE PLUNGERS ARE NOT COMPRESSED TO THE RECOMMENDED SPECIFICATIONS. ENGINE DAMAGE MAY RESULT.

IMPORTANT NOTE: RHOADS LIFTERS SOUND SIMILAR TO SOLID LIFTERS AT IDLE. THIS MILD TICKING IS GENERALLY NOT HEARD UNTIL THE ENGINE APPROACHES NORMAL OPERATING TEMPERATURE.

THE RHOADS V-MAX VARIABLE DURATION HYDRAULIC LIFTERS ARE ADJUSTED SIMILAR TO SOLID LIFTERS SO READ AND FOLLOW THE INSTRUCTIONS CAREFULLY

STEP 1

With intake manifold removed and camshaft installed, begin by inserting all lifters into engine block. It is best to keep the intake manifold off so that the lifters can be viewed while adjusting, but it is not necessary. The lifters can be properly adjusted with the intake manifold on as well.

STEP 2

Make sure the lifter being adjusted is on the low side (base circle) of the cam when adjusting, just like you would when adjusting any solid lifter cam. In this position, the valve would be in the fully closed position. For street use place a .020" feeler gauge, (use .030" for racing), or for aluminum blocks use a .010" feeler gauge (or .020" for racing) between the valve stem and rocker arm as if adjusting solid lifters, and tighten the lock nut until the lifter plunger bottoms out in the lifter shell and the valve begins to open. Now back off on the lock nut until the valve just closes and the pressure of the valve spring just begins to release on the feeler gauge. When you can just slide the feeler gauge back and forth with slight drag from the spring, the adjustment is correct. Repeat this process until all lifters are adjusted. **After the adjustment, the plunger position should be nearly all the way down to the bottom of the lifter shell, and not up against the retaining ring, with no clearance in the valve train whatsoever.** Please remember to adjust the lifter when the valve is in the closed position, or the adjustment will be wrong. For absolute accuracy, the adjustment can be repeated when the engine is at normal operating temperatures, but the adjustment should be made with a .020" feeler gauge (.030" for race) for both cast iron and aluminum heads when the engine is hot. Also, never adjust the lifters at zero lash or looser so that the plunger is up against the retaining clip as standard anti-pump up lifters are adjusted. This will cause valve train damage.

OTHER SUGGESTIONS

You should never adjust the lifters with more than .030 to .035 thousandths of an inch, but you can use less such as .010"-.025". When checking valve to piston clearances, tighten the lifters to .005" and conduct the test, then readjust them to the proper setting after the test is completed.

By tightening the exhaust valve more, you will get a looper idle, which is preferred by some who like the sound. For higher compression engines, both the valves may be tightened to help reduce pinging. Also, tightening the adjustment will reduce the ticking sound at idle. This may be helpful with sensitive knock sensors that interpret the ticking as pinging. While this will not hinder the rpm potential of the Rhoads Lifter, the reduction in lift and duration at low speeds will be minimized with a tighter adjustment, yielding smaller increases in low-end torque, engine vacuum and producing a rougher idle.

As mentioned above, Rhoads Lifters sound similar to solid lifters at idle and low speeds. Usually this solid lifter sound is not heard until the engine warms up to near operating temperatures.

This product made under at least one of the following patents: 3921609, 4524731, 4913106.

Other patents pending. VMAX is a trademark of Rhoads Lifters, Inc.

Please call us at 520-229-9375 with any questions

HOW TO INSTALL AND ADJUST THE RHOADS V-MAX FLAT TAPPET CAM KIT

THE RHOADS HYDRA-SOLID LIFTERS ARE ADJUSTED SIMILAR TO SOLID LIFTERS SO READ AND FOLLOW INSTRUCTIONS CAREFULLY

STEP 1

With intake manifold removed and camshaft installed, begin by inserting all lifters (well oiled with assembly lube applied to the bottom of each lifter) into engine block. Keep the intake manifold off so that the lifters can be viewed while adjusting.

STEP 2

Make sure the lifter being adjusted is on the low side (base circle) of the cam when adjusting, just like you would when adjusting any solid lifter cam. Place a .040" feeler gauge between the valve stem and rocker arm as if adjusting a solid lifter cam, and tighten lock nut until the plunger bottoms out in the lifter shell and the valve begins to open. Then back off on the lock nut until the valve just closes and

the pressure just releases on the feeler gauge. Use the same feel and precision you would as if you were adjusting a solid lifter cam. Repeat until all lifters are adjusted. After the adjustment, the plunger position should be nearly all the way to the bottom of the lifter shell, well down from the retaining ring. Please remember to adjust the lifter when the valve is in the closed position, or the adjustment will be wrong.

OTHER SUGGESTIONS

You never want to adjust the lifters with more than .040", but you can use less such as .020" to .030". By tightening the exhaust valve more you will begin to get a slightly lopey idle, which is preferred by some who like that sound. For higher compression engines, both valves may be tightened to help reduce pinging. Please feel free to call tech support at 520-229-9375.

202 E. Main St
San Manuel, AZ 85631
Phone: (520) 229-9375
Fax: (520) 385-4596
CustomerCare@rholdslifters.com