THANK YOU FOR PURCHASING OUR ROCKERS

We have designed and engineered these rockers specifically for MOPAR wedge engines (not something modified to be 'close enough' to work on a MOPAR). The finish on them is different from what you may be accustomed to and definitely not for the 'tuner transformation' crowd. They are not 'glitzy' or as pretty as the ones you owned before, but they are better! Our goal was to design a very high quality, accurate, and strong rocker with Nascar® and pro-stock type features within a tight price limit (with beauty as our last concern).

We re-located the roller tip and pushrod cup positions, improving the geometry – and, we changed the oil system. These are fully CNC machined and extremely accurate. They're not built in drill fixtures like most other so-called MOPAR rockers. The oil hole to the pushrod is re-positioned and smaller. The proper location requires less oil, leaving more for the shafts and rollers. The roller tip diameter is larger (stronger) and the pin axle is larger (stronger). The ratio is marked on the rocker to eliminate confusion. The shaft bore is not honed, honing shaft lengths is not as accurate as boring.

Now, to the finish! The rocker is not anodized for appearance, for three reasons:

1) It is an additional cost, and
2) It is an additional operation; the anodized material must be honed out of the bores.
3) We do not believe an anodized bore surface is the best bearing surface.

Nascar® and Pro-stock rockers are not anodized. What works for them will work for us.

We are very happy with the accuracy and performance of these rockers and feel confident that with use you will agree they are a quality product. Thanks again for looking to Hughes Engines for your MOPAR performance parts.

P.S. Soak the roller tip end in oil before assembly!

ROCKER ARM SHAFTS

All shafts must be thoroughly cleaned before installing them in your engine. Failure to do so may result in premature engine failure. Be sure the oil holes are pointing down when installed on the heads.

Hughes Engines Inc.
23334 Wiegand Lane
Washington, IL 61571
(309) 745-9558
www.hughesengines.com

ROCKER ARM ASSEMBLY INSTRUCTIONS

The following steps should be used to achieve maximum performance and life from your new rocker arms. Failure to do so may result in rocker arm failure and/or valve train damage.

1. Used rocker shafts are not recommended and generally they are out-of-round, galled, scored, or worn. For best results, use new ones, ours have banana grooves for better lubrication. Prior to installation of used rocker shafts, thoroughly clean the shafts especially the inner bore.

2. Using the attached diagram, assemble the rocker arms/shafts as shown. Be sure and use the enclosed high-pressure prelube (such as cam lube) on the rockers and shafts when assembling them. Install the shafts on the heads according to the diagrams in Illustration #1 and note the oil hole positions. When using our hold-down stud kit use the following torque specs.

Torque: All Small Block shafts: 20 ft-lbs (with 30W oil on the threads)
All Big Block shafts: 30 ft-lbs (with 30W oil on the threads)

3. The rocker tip should be centered left to right over the tip of the valve (Illustration #2). We have included 0.015" and 0.030" shims to be inserted between the rockers, spacers or hold-downs for alignment of the tip (Illustration #3). Total side clearance between a pair of rockers should be 0.005"/0.015".

4. The positioning of the rockers is best accomplished by using our heavy-duty billet steel hold-downs, which can be custom fit for perfect alignment. (P/N: HUG 7440 for Small Blocks, HUG 7442 for Big Blocks).

5. Rocker arm positions on shafts are very critical, especially on Small Blocks where rocker/retainer clearance is close. The rocker to retainer/spring clearance is closest when the valve is closed. It should be a minimum of .020" (Illustration #4, Area A). Shims between the saddle and shaft are generally needed to get this clearance. Our kit, P/N 1710, includes .020" and .040" shims.

6. Also check for pushrod to tunnel clearance on Small Blocks, some intake pushrods will drag in the tunnel (see Illustration #4, Area B). You need a minimum clearance of .030" at this point. Check with valve open and closed. Questions? Call us!

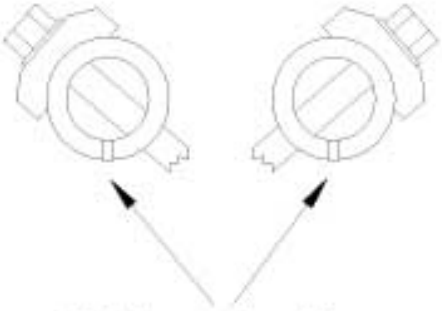
7. The rocker arm tip/roller should wipe across the center of the valve stem tip when the valve is lifted through its entire travel. This wipe pattern is most easily determined by "painting" the top of the valve stem with a felt tip marker and turning the engine over a few revolutions. This will leave a mark in the ink showing the wipe pattern (See Illustration #5). If you find the wipe pattern is not centered as shown or is very biased to the inner or outer edges of the valve stem, it must be corrected. If not corrected, premature stem and valve guide wear will result. Shims between the saddle and shaft will be needed in most cases to correct the geometry.

8. Hydraulic lifter preload (Illustration #6) is very important. The preload is determined by the intended use. See our hydraulic lifter instruction sheet for details. The best way to check for proper hydraulic lifter preload and pushrod length is to use our exclusive adjustable checking lifter (P/N 8100). When setting up the pushrod length and rocker geometry, the rocker arm adjusting screw threads should never go below the top of the locknut. If they do, there will not be enough threads for proper locking (Illustration #6).

9. For initial cold start-up with solid flat tappet cams and cast iron heads reduce the lash .002-.003"; with aluminum heads reduce them .007-.008". Recheck lash with the engine hot (not warm...Hot!). If necessary, correct the cold lash to give you the proper hot lash setting. On a new camshaft break-in always recheck the lash after the engine is broken in. Follow the enclosed valve adjustment procedure.

HUGHES Engines inc. Racing WASHINGTON, IL

Call if you have any questions or problems
Hughes Engines Inc.
Phone (309) 745-9558



Oil holes as viewed from
the front on the engine

Illustration #1

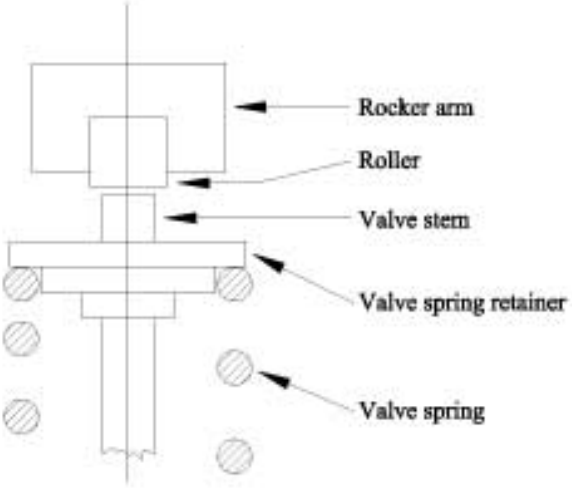


Illustration #2

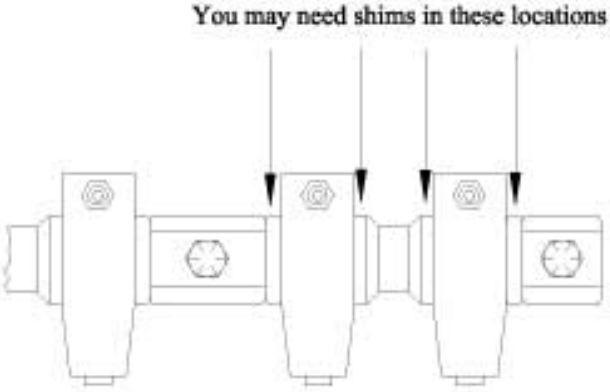


Illustration #3

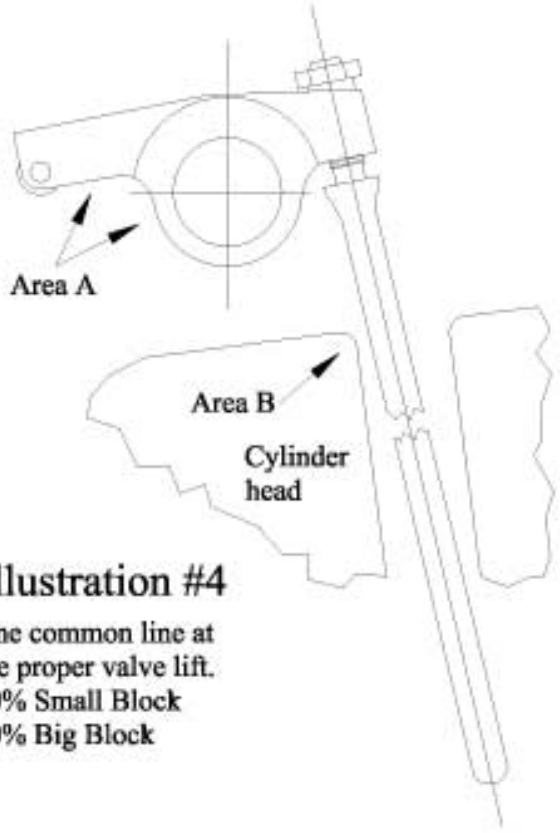


Illustration #4

One common line at
the proper valve lift.
60% Small Block
50% Big Block

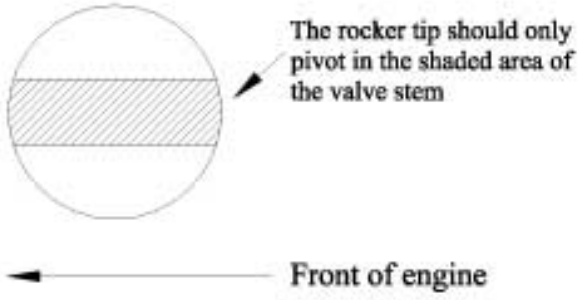


Illustration #5

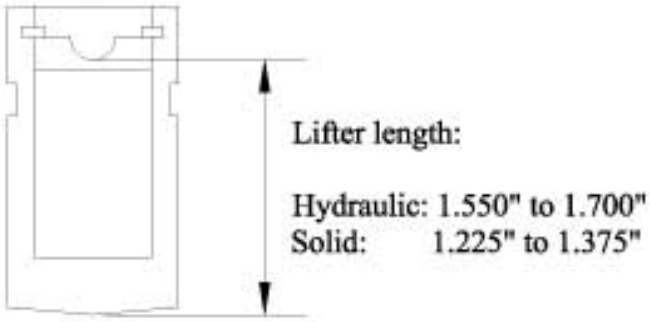


Illustration #6