

Rocker Geometry Info Sheet



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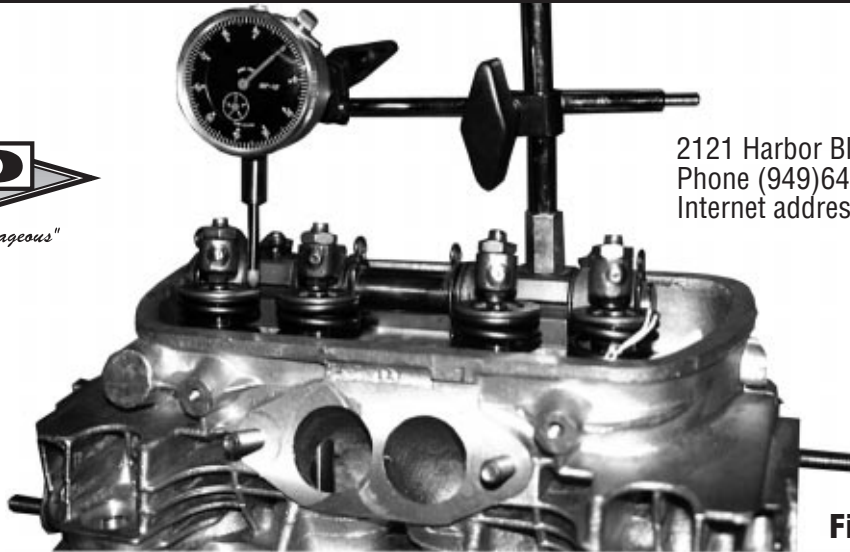


Fig. 1

How to set your rocker geometry: Instructions for using the dial indicator and adjustable pushrod.

The objective to setting your rocker arm geometry is to align the centerline of the valve adjusting screw with the centerline of the valve stem at 50% lift. The benefits of proper rocker geometry are full lift of the cam per the specifications, greatly reduced valve train wear, and higher RPM's before valve float occurs.

Several factors affect the relationship between centerlines such as, head flycutting, valve seat location, valve stem length, cylinder length, lifter dimension, pushrod length, case machine work and more.

STEP 1

To start, check to see if all installed valve stem heights (not length) are within + or - .005". Use the valve cover gasket surface on the cylinder head as a reference point. Either measure each valve individually or lay a straight edge ruler across the top of the valve stems to check the height relationship to one another. If adjustments need to be made, they should be done by a qualified machine shop.

STEP 2

Turn crank until pulley is at TDC for #1 cylinder to fire. Double check to make sure you are on #1 cylinder TDC to fire and not #3 cylinder TDC as this mistake will make your measurements inaccurate. Install adjustable pushrod in number one exhaust position. Install rocker arm assembly using supplied tall 8mm nut on rocker stud furthest from number one exhaust valve. Screw threaded 8mm end of dial indicator tool to the tall 8mm nut. Position dial indicator so the pointer is against number one exhaust valve retainer (See Fig. 1). Position valve adjusting screw in the middle of its adjustment. Adjust pushrod length so there isn't any play, but so pushrod can still be rotated by hand. "Zero" the dial indicator by turning outer ring until needle points to zero.

STEP 3

Rotate engine clockwise until number one exhaust valve reaches "full" lift, per dial indicator. Turn engine counterclockwise until half of the full lift measurement is reached. Check alignment of valve adjusting screw to the valve stem. If at half lift the centerline of the valve adjusting screw is below the centerline of the valve (Fig. 2), you will need to shim the rocker arm assembly away from the head.

STEP 4

Remove dial indicator and rocker arm assembly. Place a .030" shim on each rocker stud and reinstall rocker arm and dial indicator. Repeat STEP 3. If centerline of adjusting screw is still below centerline of valve stem, try a thicker shim on the rocker studs. Shims are available in 3 sizes: .015", .030", .060". It is acceptable to stack shims. Continue checking the centerlines until they are in-line with each other (Fig. 3). A stock rocker stud will accommodate approximately .120" of shims. Be sure all threads of rocker stud nuts are engaged on rocker stud. If needed, .150" longer rocker studs are available.

STEP 5

When proper alignment is achieved (Fig. 3), make sure adjustable pushrod is at proper length and tighten lock nut. Remove rocker arm assembly and pull out adjustable pushrod. This pushrod is the proper length to cut your pushrods.

Incorrect Alignment at Half Lift

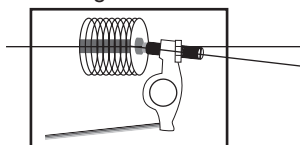
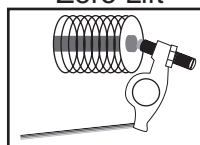
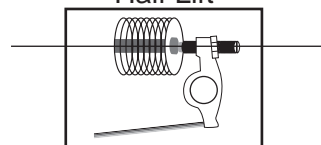


Fig. 2: This shows incorrect alignment at half lift. Centerline of the adjusting screw is below centerline of valve stem. More rocker stud shims are necessary.

Zero Lift



Half Lift



Full Lift

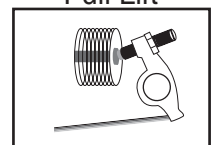


Fig. 3: These diagrams represent the three stages to measure your rocker geometry and correct alignment of the centerline of the valve stem to the centerline of the adjusting screw at half lift.