

FEULING®

ROCKER ARM SHIM INSTALLATION INSTRUCTIONS FOR M-EIGHT ENGINES

PART #'S: #1227, #1228,
#1229, #1230 #1231 #1232

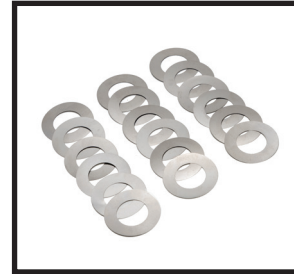


Touring '17-'25
Softail '18-'25

Quiet your M-Eight engine by tightening the rocker arm end play clearance and help prevent further cylinderhead standoff thrust wear.

After having a rocker shaft failure road racing our 2019 Harley-Davidson® Road Glide at Laguna Seca in 2020 we decided to design the best possible rocker arm shafts and create a method to tighten up excessive rocker arm end play to help reduce further cylinder head thrust wear.

Recommended for all M-Eight engines & especially engines running higher lift camshafts with heavier valve spring pressures.



PART #1230

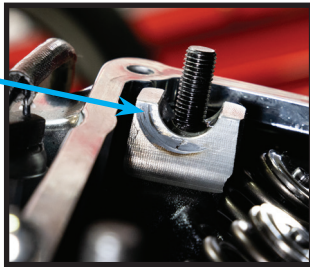


PART #1232

INSTRUCTIONS

1. Refer to proper service manual for your model motorcycle engine. Wash, clean and inspect all new FEULING hardware.
2. FEULING recommends using Rocker Shaft & Stud/Nut Kit (FEULING Part #1232).
3. Inspect cylinder head standoffs for excessive wear. Verify surface is smooth and free of burrs.

Wear from
rocker arm



Install rocker arms
without pushrods to
measure end play

4. With pushrods removed, install rocker arms and shafts. Measure rocker arm to cylinder head standoff end play using feeler gauges.

- A.) Rocker arm to cylinder head end play: FEULING recommends an ideal clearance of **0.0035" - 0.0045"**. The factory calls out 0.004" - 0.015".
- B.) Rocker shaft to bushing clearance: FEULING recommends 0.0005" - 0.0015". The factory calls out 0.0005" - 0.0022".

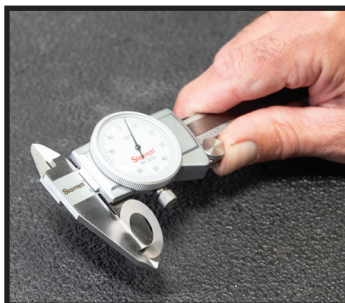
NOTE: Larger clearances produce lower oil pressure and increase noise.



NOTE: It is not recommended to use the 0.003" shim by itself. When pairing the 0.003" shim with other shims, always install the thicker shim closer to the Rocker Arm

5. Measure needed shim thickness. FEULING offers .003", .005" and .010" (FEULING Part #1230)

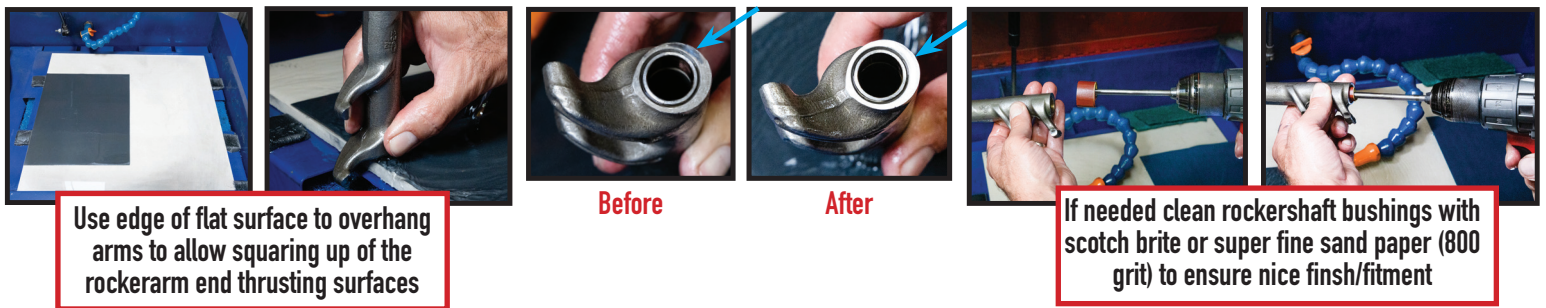
NOTE: Multiple shims can be used to achieve proper end play, end play should be verified with shims installed



| | |
|-----------------|--------|
| Example: | |
| Clearance | 0.010" |
| Ideal Clearance | 0.004" |
| | - |
| Needed Shim | 0.006" |
| Shim Used | 0.005" |
| Final Clearance | 0.005" |

| | | |
|-----------------|-------|----|
| Clearance | RI | RE |
| Ideal Clearance | - | - |
| Needed Shim | _____ | |
| Shim Used | = | = |
| Final Clearance | _____ | |
| Clearance | FI | FE |
| Ideal Clearance | - | - |
| Needed Shim | _____ | |
| Shim Used | = | = |
| Final Clearance | _____ | |

6. Clean rocker arm thrusting surfaces using fine grit sand paper or scotch brite to remove any imperfections in surface finish.



Use edge of flat surface to overhang arms to allow squaring up of the rockerarm end thrusting surfaces

If needed clean rockershaft bushings with scotch brite or super fine sand paper (800 grit) to ensure nice finish/fitment

7. Lube rocker shafts, rocker arm bushings, standoffs, shims & rocker arms. Install shafts into rocker arms.



8. Pump up rocker arms with an oil squirt can. Slide required shims over shaft on the non-thrusting side of rocker arm. Slide rocker arm assembly into head, lead with shim side first.



Install **INTAKE** rocker arm shim(s) on primary drive side
Install **EXHAUST** rocker arm shim(s) on air cleaner side

9. Tighten and torque fasteners evenly, see tech tip

- A.) If using the factory bolts, final torque to **23-27 ft.lbs.**
- B.) If using FEULING bolt kit #3037, final torque to **24-26 ft.lbs**

NOTE: Be careful not to not hit the shims while tightening fasteners. Shims bend and damage easily.



NOTE: Choose proper wrench to provide enough clearance between wrench and rocker arm.

TECH TIP: It is important to seat the rocker arm shafts by evenly tightening the nuts to estimated **10 Ft. Lbs.** then loosening to allow the shafts to settle in, then re-tighten evenly and step the torque to a final **24 - 26 ft/lbs.**

*** STANDARD 1 YEAR WARRANTY:**

- WARRANTY COVERS MANUFACTURE DEFECTS.
- DOES NOT COVER PARTS THAT HAVE FAILED DUE TO IMPROPER INSTALLATION, MAINTENANCE, EXCESSIVE CRANKSHAFT RUNOUT, OR MISUSE.
- DOES NOT COVER ANY CONSEQUENTIAL DAMAGE RESULTING FROM A FAILURE OF A FEULING PRODUCT.
- CRANKSHAFT RUNOUT MUST BE BELOW 0.005"

*** OPTIONAL 2 YEAR WARRANTY:**

- ADDITIONAL YEAR WARRANTY IS ONLY AVAILABLE IF PARTS ARE INSTALLED BY A PROFESSIONAL INSTALLER.
- THE ONLINE WARRANTY FORM MUST BE COMPLETED BY THE DEALER PRIOR TO BIKE DELIVERY.
- OIL TANK MUST BE DROPPED & CLEANED.
- CRANKSHAFT RUNOUT MUST BE BELOW 0.005"

NOTE: FOR FULL WARRANTY INFORMATION VISIT WWW.FEULINGPARTS.COM/WARRANTY

