



FEULING®

ONE PIECE PUSHROD INSTALLATION INSTRUCTIONS

PART #'S:
4072, 4073, 4074, 4076,
4082, 4083 4086, 4087, 4088



ELIMINATE PUSHROD FLEX, REDUCE VALVE-TRAIN HARMONICS & INCREASE VALVE LIFT!

Maintain Maximum valve lift! Fixed Length 4130 Chrome moly one piece pushrods with swaged formed ends. Heavy duty 7/16" diameter tube with 0.165" wall thickness, precision concentricity, heat treated with a black oxide finish.

Quick install pushrods are said to be easier to use, however they cannot compare to a solid pushrod for strength & durability. Feuling® always recommends running one piece pushrods over quick install adjustable rods to maintain maximum cam/valve lift & reduce valvetrain harmonics & associated hydraulic lifter issues.

IMPORTANT NOTICE

This installation should be done by an experienced mechanic who has access to a factory service manual and all required tools. Measure flywheel pinion shaft run out. Excessive pinion shaft run out will cause camplate and oil pump damage and or failure. Excessive pinion shaft run out will void manufacturer's warranty.

CAUTION

Incorrect installation can cause engine damage not covered under warranty. Failure to install components correctly can cause engine seizure. Engine seizure may result in serious injury to motorcycle, operator, passenger, and/or others. Removal of the rocker arms and or pushrods with the valve train loaded can damage rocker arms, push rods, bushings and or camplate. Rotate engine to TDC of compression stroke on the servicing cylinder.

TWIN CAM (99'-17')

One piece pushrod sets available in various lengths to accommodate majority of engine combinations; stock camshaft base circles, smaller camshaft base circles, full travel lifters and Feuling short travel lifters.

NOTE: Feuling® Twin Cam 525, 543, 574 cam grinds use the factory base circle. Feuling 594 and 630 cams are ground on smaller base circles.

		LENGTHS	LIFTERS	CAMS
PART #4072	DRAG #0928-0101	STOCK REPLACEMENT FOR STOCK DECK HEIGHT & HEAD GASKETS	FULL TRAVEL LIFTERS	525, 543, 574 & STOCK BASE CIRCLES
PART #4073	DRAG #0928-0102	+0.030" LONGER FOR STOCK DECK HEIGHT & HEAD GASKETS	FULL TRAVEL LIFTERS	594, 630 & MOST 580"+ W/ SMALLER BASE CIRCLES
PART #4074		+0.050" LONGER FOR STOCK DECK HEIGHT & HEAD GASKETS	FEULING SHORT TRAVEL LIFTERS	525, 543, 574 & STOCK BASE CIRCLES
PART #4076		+0.075" LONGER FOR STOCK DECK HEIGHT & .030"- .040" HEAD GASKETS	FEULING SHORT TRAVEL LIFTERS	594, 630 & MOST 580"+ W/ SMALLER BASE CIRCLES

MILWAUKEE EIGHT (17'-21')

One piece pushrod sets available in various lengths to accommodate any M-Eight engine combination; stock camshaft base circles, full travel lifters, Feuling short travel lifters & engines with decked heads & thinner head gaskets.

NOTE: Feuling®, Stock & SE® Milwaukee Eight camshafts all use the factory camshaft base circle.

Due to the unstable nature of this 4 valve engine design with 1 rocker arm activating 2 valvesprings Feuling® highly recommends running one piece pushrods over quick install adjustable rods to maintain maximum cam/valve lift and reduce valvetrain harmonics & associated hydraulic lifter issues.

		LENGTHS	LIFTERS	CAMS
PART #4087	DRAG #0928-0091	STOCK REPLACEMENT FOR STOCK DECK HEIGHT & HEAD GASKETS	FULL TRAVEL LIFTERS	FEULING M8 CAMS & ALL CAMS WITH STOCK BASE CIRCLES
PART #4088	DRAG #0928-0114	+0.040" LONGER FOR STOCK DECK HEIGHT & HEAD GASKETS	FEULING SHORT TRAVEL LIFTERS	FEULING M8 CAMS & ALL CAMS WITH STOCK BASE CIRCLES
PART #4086	DRAG #0928-0113	-0.040" SHORTER FOR DECKED HEADS & THIN HEAD GASKETS	FULL TRAVEL LIFTERS	FEULING M8 CAMS & ALL CAMS WITH STOCK BASE CIRCLES

EVO ('85-'99)

		LENGTHS	LIFTERS	CAMS
PART #4082		+0.020" SHORTER FOR LARGER BASE CIRCLE CAMSHAFTS	FULL TRAVEL LIFTERS	FEULING 518 CAM (PART #1390)

Front Intake = 11.050", Rear Intake = 11.100", Front Exhaust = 11.300", Rear Exhaust = 11.200"

PART #4083		+0.020" SHORTER FOR LARGER BASE CIRCLE CAMSHAFTS	FULL TRAVEL LIFTERS	STOCK & FEULING 543 CAM (PART #1391)
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Front Intake = 11.075", Rear Intake = 11.030", Front Exhaust = 11.315", Rear Exhaust = 11.200"

INSTRUCTIONS:



1. Refer to the proper factory service manual for your model and year of engine, for removal of existing pushrods.
 2. Clean and inspect each new Feuling® pushrod including center oil hole.
 3. Feuling® pushrods are marked Intake and Exhaust. The shorter pushrods are Intake and the longer pushrods Exhaust.
 4. Feuling® recommends using new O-rings and gaskets where applicable to prevent oil leaks.
 5. Always pump up hydraulic lifters before installing them. Use an oil squirt can to fill the lifter with oil through the feed hole on the side of the lifter, push oil through the feed hole until the air bubbles are gone. If needed work the oil back and forth through the feed hole and pushrod seat with the squirt can. Light weight oil can be helpful.
 - **M-EIGHT:** Face lifter oil feed holes towards each other.
 - **TWIN CAM:** Face lifter oil feed holes inward towards the crankshaft.
 6. Assemble one cylinder at a time, the servicing cylinder needs to be on TDC of compression stroke so the cam lobes & lifters are at their lowest point.
 7. Install pushrods with pushrods, once pushrods are in place, pump up the pushrods with an oil squirt can to fill the center oil feed hole.
 8. Pump up the rocker arms using an oil can to squirt oil into the pushrod seat until you see oil coming out the exit feed hole(s).
 9. NOTE: It is important to seat the rocker arm supports and or shafts squarely by evenly tightening the bolts.
 - **M-EIGHT:** Tighten rocker shafts to estimated 8-10 Ft. Lbs. then loosen to allow the shafts to settle in, then re-tighten evenly and step to final torque. If using Feuling's rocker arm studs/nuts torque to a final spec of 24-26 Ft.Lbs - See Feuling bolt kits #3037 or 3047.
 - **TWIN CAM/EVO:** Make sure the rocker arm shaft is centered and properly aligned with the bolts/bores and not rotated.
- NOTE:** Use Loctite and factory torque specifications for factory fasteners.
10. All Feuling® Full travel hydraulic lifters run best at .090" - .110" of Pre load. Feuling Short Travel 0.060"-0.070".
 11. Wait for hydraulic lifters to bleed off before rotating engine over, this may take 10 - 15 minutes.
 12. Refer to factory manual for final assembly.

*To aid oil flow and limit damage to parts on initial start up always manually pump up lifters, pushrods and rocker arms this will also produce a quiet start up



* 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.

* 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