



# FEULING

**PART #'S:**  
4065, 4077  
4070, 4080

## ADJUSTABLE PUSHROD INSTALLATION INSTRUCTIONS



TWIN CAM '99-'17  
Part #4065: HP+® 0.120" Wall Thickness  
EVOLUTION BIG TWINS '84-'99  
Part #4077: HP+® 0.120" Wall Thickness



TWIN CAM '99-'17  
Part #4070: RS® 0.145" Wall Thickness  
EVOLUTION BIG TWINS '84-'99  
Part #4080: RS® 0.145" Wall Thickness

### 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.

**NOTE:** HP+® & RACE SERIES® pushrods can be adjusted 0.225" longer than stock to accommodate longer cylinders and smaller base circle camshafts.

### 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.

FEULING® HP+® & RACE SERIES® pushrods can be used with factory pushrod tubes, if more clearance is desired for adjusting pushrods use an aftermarket lower pushrod tube kit – see Part #4095.

## INSTRUCTIONS:

1. Refer to the proper factory service manual for your model and year of engine, for removal of existing pushrods.
2. The Feuling® pushrods are designed with a small adjustment parameter for rigidity creating maximum lift – These are not quick install pushrods and may require the removal of the lifter blocks and or loosening of the breathers/rocker arms supports. When loosening the rocker arm supports always remove the breather bolts first and have the servicing cylinder on TDC.
3. Clean and inspect each new Feuling® pushrod including the center oil hole.
4. Feuling® pushrods are marked Intake and Exhaust. The shorter pushrods are Intake and the longer pushrods Exhaust.
5. Feuling® recommends using new O-rings and gaskets where applicable to prevent oil leaks.
6. 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.
7. Assemble and adjust one cylinder at a time, the servicing cylinder needs to be on TDC of compression stroke so the cam lobes and lifters are at their lowest point.
8. Install pushrods into proper locations with the adjusting side of the pushrod down, towards the lifter. Slide the pushrods through the pushrod covers up into the rocker housing and set the pushrod on the seat of the lifter. We recommend filling the pushrods with oil then maneuver the pushrod up into the rocker arm seat.
9. Torque rocker arm housings and breathers to factory torque spec's.
10. See the instructions for your lifters for the proper adjustment. All Feuling® hydraulic lifters run best at .090" – .110" of Pre load.
11. Feuling® HP+® & RACE SERIES® pushrods have 24 threads per inch and 1 full turn equals .0417" of adjustment. When adjusting Feuling Pushrods on Feuling lifters from zero lash, 2.15 – 2.63 turns will put .090" – .110" of crush on the lifter. The loose jam nut tightens to the bottom.
  - DISTANCE PER TURN = .0417"
  - 2 1/8 – 2 5/8 TURNS = .090"-.110"
12. We recommend starting from zero lash with a fully pumped up lifter and adjusting the pushrod longer crushing the lifter. We DO NOT recommend bottoming the lifter and adjusting backwards. To find zero lash it is best to have the rocker arm in hand to feel and verify zero lash position.
13. Wait for hydraulic lifters to bleed off before rotating engine over, this may take 10 – 25 minutes.



# FEULING HP+ AND RACE SERIES PUSHRODS HAVE 24 THREADS PER INCH

**\*CORRECT ADJUSTMENT  
REQUIRES STARTING WITH  
FULLY PUMPED UP LIFTERS  
& FINDING ZERO LASH**

## LIFTER CHART FOR ADJUSTABLE PUSHRODS

THREADS PER INCH	DISTANCE PER 1 FULL TURN	FEULING FULL TRAVEL TURNS TO .100"	FEULING SHORT TRAVEL TURNS TO .065"
24	0.0417"	2.39	1.55

- DISTANCE PER TURN = .0417"
- 2 1/8 - 2 5/8 TURNS = .090"-.110"

# TECH

Pump up each lifter prior to installation.



# TIP

THE STUD IS MACHINED INTO THE PUSHROD, THE JAM NUT TIGHTENS TO THE BOTTOM AGAINST THE BASE, TOWARDS THE LIFTER.



### \* 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](http://WWW.FEULINGPARTS.COM/WARRANTY)



FOR MORE INFO  
& TECH VIDEOS VISIT:  
[www.youtube.com/feulingparts](http://www.youtube.com/feulingparts)

