



FEULING® CAMPLATES FOR MILWAUKEE EIGHT ENGINES

Installation Instructions #8017 & 8037



IMPORTANT NOTICE

This installation should be done by an experienced mechanic who has access to a factory service manual and all required tools.

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.

IMPORTANT NOTICE

Measure flywheel pinion shaft run out. Excessive pinion shaft run out will cause damage and or failure. Excessive pinion shaft run out will void manufacturer's warranty. Feuling recommends ideal crankshaft runout below 0.004".

CAUTION

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® DOES NOT RECOMMEND TUNING BEYOND STOCK EMISSIONS STANDARDS.

1. Refer to the proper factory service manual for your model and year of engine, for removal and installation of camchest.
2. Clean and inspect new camplate and related components
3. If using 1 piece pushrods which is highly recommend by FEULING - see #4087. Remove fuel tank, oil/water lines and engine rocker box top covers and rocker arms to access the pushrods.
4. Remove lifters, cam cover, sprockets, cam chain, camplate and cam. Feuling recommends replacing the inner cam bearing see part #2080



5. If installing a high lift cam inspect camshaft for rotating clearance on engine case etc.

6. Install O-rings into engine case using assemble lube on O-rings to aid in installation.



7. use proper engine assemble lube on camplate, camshaft, crankshaft, inner cam bearing, oil pump, scavenge port hole/oil pump o-ring and lifters.



8. Feuling recommends installing the oil pump and camshaft into the camplate while on the bench, fasten oil pump finger tight and slide the complete camplate assembly into the camchest as one unit. Line the oil pump gear flats up with the crankshaft flats, slightly rocking the engine back and forth by hand is helpful to get the assembly onto the crankshaft all the way. Feuling recommends this procedure so the components are always going in towards the camchest, this produces the best seal on the oil pump scavenge port hole.



9. With the oil pump and camplate bolts finger tight rotate the engine over by hand, tighten and torque the camplate bolts first then the oil pump bolts, this process will center the camplate and pump as best as possible to the crankshaft runout.

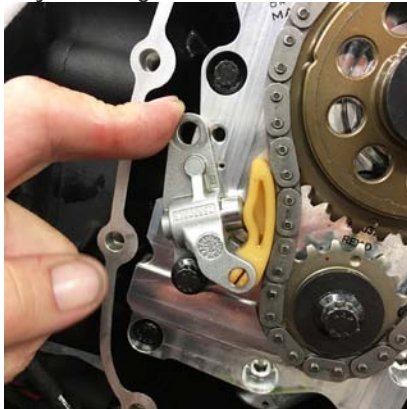
10. It is advisable to have clean fresh oil in the oil tank and while rotating the engine over to center the oil pump and complete the system will prime and you should see oil coming out around the pinion shaft.



11. Install sprockets, lining up timing marks. Check sprocket alignment, use needed thrust washer thickness to achieve correct alignment. See Feuling #8041 for spacer thickness selection



12. Install chain tensioner by installing bottom bolt then rotate tensioner to line up top bolt



13. Install lifters, pushrods and rocker arms, Feuling recommends using an oil squirt can to manually pump up the lifters, pushrods and rockers arms during assembly. This will aid in lubrication for initial start up and should provide a quiet engine on start up.



14. With engine on TDC of adjusting cylinder tighten the rocker arm shaft bolts evenly until they are firmly seated. Wait estimated 15-20 minutes for the lifters to bleed down before rotating the engine to tighten the other cylinder rocker arms. Following this procedure will eliminate any chance of valve/piston interference during installation. Feuling recommends the installation of #3047 rocker arm studs and nuts.



Rocker Stud kit #3047

15. New lifters are recommended by Feuling but not required. See Feuling HP+ series lifters #4000 or RACE SERIES lifters #4017

TECH TIP FOR USING 1 PIECE PUSHRODS:

- 1.) Remove gas tank, spark plug wires from plugs, left side spark plugs, fuel injector plug ins, compression release plug ins etc.
- 2.) Remove voltage regulator bracket bolts qty. 2
- 3.) Remove front top engine mount, from frame first then cylinder heads
- 4.) Remove exhaust
- 5.) Remove oil line 'oil cooled models' small catch tray on top of trans cover, wad of rags in the front to catch oil
- 6.) Remove cam cover, rotate engine to timing marks
- 7.) Remove top rocker covers, rocker arms, pushrods, pushrod tubes, lifter covers

FEULING® CRANK SPROCKET



FEULING® machined steel, stock replacement roller chain drive sprockets fit '17-'18 Milwaukee Eight '07-'17 Twin Cam® engines as direct replacements and work on early '99-'06 engines when upgrading to the hydraulic cam chain tensioners using the roller chain. FEULING® crank sprockets are designed with a tighter tolerance on the ID for better fit to the pinionshaft.

Part # 1091 17 tooth crankshaft sprocket (OEM # 25673-06)

WARRANTY:

All parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twelve (12) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at FOP's option if the parts are returned to FOP by the purchaser within the (12) month warranty period. In the event warranty service is required, the original purchaser must notify FOP of the problem immediately. Some problems may be rectified by a telephone call and need no further action. A part that is suspect of being defective must not be replaced without prior authorization from FOP. If it is deemed necessary for FOP to make an evaluation to determine whether the part was defective, it must be packaged properly to avoid further damage, and be returned prepaid to FOP with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. After an evaluation has been made by FOP and the part was found to be defective, repair, replacement or refund will be granted. Excessive flywheel pinion shaft run out will damage camplate and oil pump and or cause engine damage and or failure. Damage to Feuling oil pump corporation products from excessive pinion shaft run out will void manufacturer's warranty.

ADDITIONAL WARRANTY PROVISIONS:

FOP shall have no obligation in the event an FOP part is modified by any other person or organization, or if another manufacturer's part is substituted for one provided by FOP. FOP shall have no obligation if an FOP part becomes defective in whole or in part as a result of improper installation, improper break-in or maintenance, improper use, abnormal operation, or any other misuse or mistreatment. FOP shall not be liable for any consequential or incidental damages resulting from the failure of an FOP part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or any other breach of contract or duty between FOP and the customer. The installation of parts may void or otherwise adversely affect your factory warranty. In addition, such installation and use may violate certain federal, state and local laws, rules and ordinances as well as other laws when used on motor vehicles operated on public highways, especially in states where pollution laws may apply. Always check with federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his/her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties and risks associated therewith. Our high performance parts, engines and motorcycles are intended for experienced riders only.

Feuling Oil Pump Corporation reserves the right to change prices and/or discounts without notice and to bill at the prevailing prices at the time of shipments. The words Harley®, Harley-Davidson® and H-D® and all H-D® part numbers and model designations are used in reference only. Feuling Oil Pump Corporation is in no way associated with, or authorized by Harley-Davidson Motor Co®. To manufacture and sell any of the engine parts described in this instruction sheet.