

FEULING® SPROCKETS, SPROCKET SPACERS, CAM CHAINS, TENSIONERS & BEARING


Part # 8062



Part # 1091



Part # 8040

IMPORTANT NOTICE


Part # 8077



Part # 2078

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 premature tensioner pad wear and 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.

CAUTION

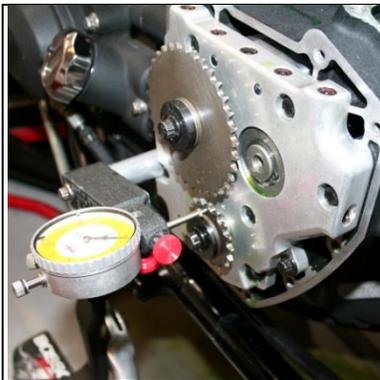
Improperly torqued bolts may result in oil leaks, distortion of components AND ENGINE FAILURE.

CAUTION

Measure Flywheel pinion shaft run out. Excessive pinion shaft (Crankshaft) run out will cause camplate, oil pump, tensioner and cam chain damage and or failure. Excessive run out voids manufacturer's warranty. Feuling recommends running maximum 0.045" pinionshaft runout

INSTALLATION:

1. Refer to the HD® service manual for your model motorcycle for removal/installation of the camchest.
2. Inspect cam chains and make sure they are free of burrs, if needed replace chains or use a stone to remove burrs.
3. Use assembly lube on all moving parts: tensioner pads, inner bore of tensioner housings, chains, cams, oil pump, bearings etc
4. Make sure the tensioner pads and housings are installed square to the chain, especially the inner tensioner. If the housing and pad are not installed square it will cock the pad and create premature pad wear
5. On installation make sure timing marks of sprockets are lined up correctly per your service manual/cam manufacturer
6. Align outer cam and crank sprockets using the correct thickness cam sprocket spacer, use a straight edge to verify alignment and adjust the cam sprocket using the 'needed' spacer thickness
7. Front cam on '07-'17 and conversion camshafts use the 0.100" thick thrust washer held in with the snap ring
8. Assemble the camplate/oil pump/cams on the bench and install into the engine as a complete assembly, with oil pump and camplate bolts finger tight rotate engine over to center the camplate, tighten and torque then rotate engine again to center oil pump then tighten and torque. Both get 90-120 inch Lbs.



Engines that have premature tensioner pad wear should have the sprocket runout inspected. The sprocket registry on the crankshaft may need to be modified to true the sprocket.



Feuling highly recommends dropping the oil pan and performing a full clean and flush on the system prior to installing new camchest components. Install fresh oil and filter before installing the oil pump/camplate, then while performing the install, rotating the engine over by hand to center the oil pump and camplate the oil pump will pull the fresh oil into the system and start to prime it. You should witness oil coming out the pinion hole and tensioner feed hole while rotating the engine over on assembly.



Install new inner cam bearings using the correct tools and press lube





Clean and lube the oil pump and gears



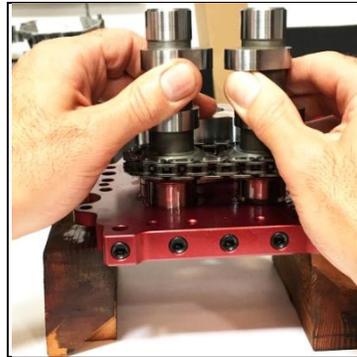
Install oil pump finger tight, do not use loctite on oil pump or camplate bolts, use moly lube or engine oil. Note we have the camplate supported by wood blocks to ease install of pump



Clean and lube the camshafts



Picture showcases '07-'17 cams and or conversion camshafts with inner cam chain installed and timing marks lined up. Make sure chain is free of burrs and well lubed.



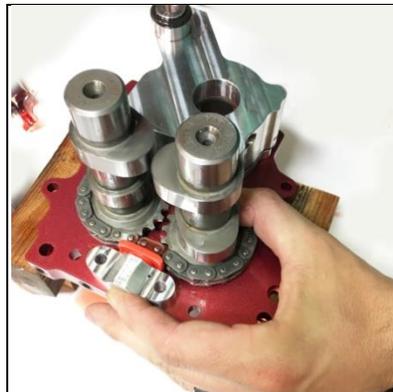
Feuling recommends supporting the camplate to ease installation and allow the camshafts to float freely. Wood blocks are used here. Properly lube camplate bores, cams, chain and always lead with the rear camshaft.



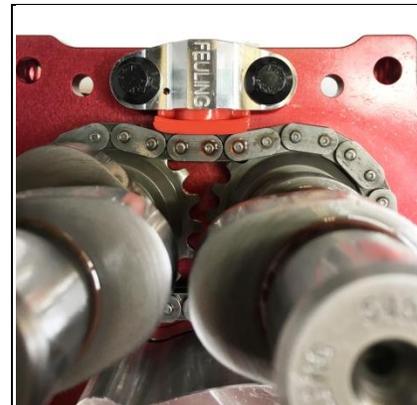
Install 0.100" thick thrust washer and retaining ring on front camshaft. Note the retaining ring installs with taper/bevel ID towards the camplate and the square ID towards the outside of the cam



Lube tensioner pads, chains and inner bore of housings



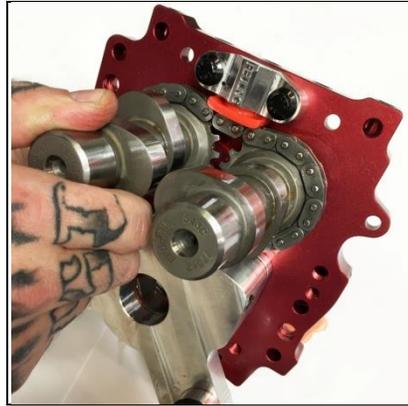
Install tensioner pads and housings squarely. Do not install 1 bolt then rotate tensioner housing into place as this can cock the pad.



Make sure tensioner pad is square to the chain and the pad moves up and down.



Assemble camplate, cams, inner tensioner and oil pump on the bench as a complete assembly. Oil pump should be finger tight, scavenge port O-ring should be installed on back of pump and well lubed.



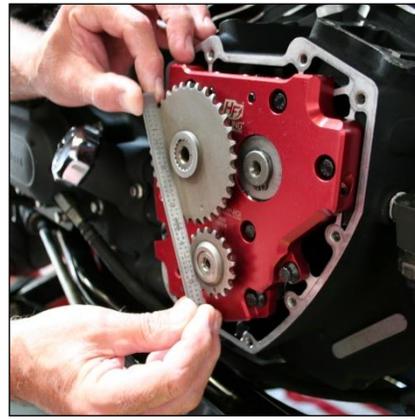
Rotate cams and verify the assembly rotates freely and the tensioner pad is true and not cocked.



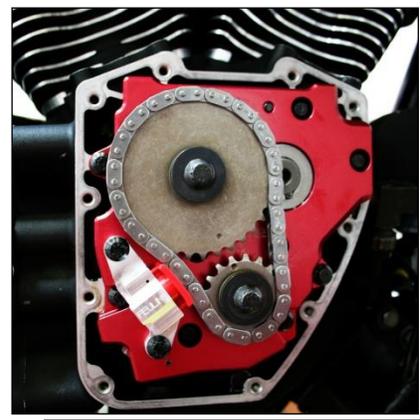
Align oil pump gear flats horizontally



Rotate crankshaft so flats are horizontal. Install 2 camplate O-rings, put assembly lube on scavenge port hole of the case, O-rings, pinsionshaft and inner cam bearings.



Align sprockets using a straight edge to verify sprockets are in line. Use the selection of different thickness thrust washer to adjust cam sprocket to match crank sprocket.



Install outer sprockets, cam and crank bolt and outer tensioner, use assembly lube on tensioner pad. Verify pad is square to chain



FEULING® #2078 REAR CAM ROLLER BEARING WITH RACE INSTALL



#2078



Set camplate into proper fixture to press roller bearing into camplate, verify bearing is pressed square and flush with camplate



*Always install new matching bearing race onto rear camshaft

1.) Install O-ring and thrust washer onto rear cam, 2.) Press new bearing race onto camshaft using proper tools

IMPORTANT NOTICE:

Damage to Feuling® products from incorrect installation, calibration and or from excessive pinion shaft run out and or valve spring coil bind will void manufacturer's warranty.

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.

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.

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