



FEULING BEEHIVE
VALVE SPRINGS

BEEHIVE VALVE SPRING INSTALLATION INSTRUCTIONS

PART #'S 1107, 1108, 1109, 1207, 1215, 1218, 9023, 9024

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.

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.

SPECIAL HANDLING INSTRUCTIONS

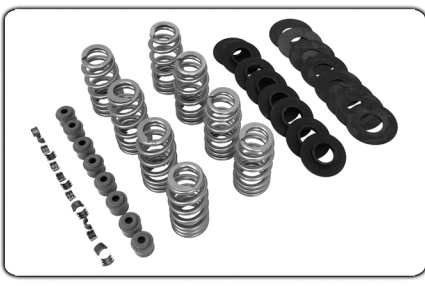
FEULING ENDURANCE SPRINGS REQUIRE THE USE OF THE PROVIDED GLOVES TO AVOID DEPOSITING CORROSIVE HAND OILS ON VALVE SPRING FINISH

1. Clean & Inspect new springs, seats, retainers and locks, remove all burrs. Chamfer spring I.D. to obtain good retainer to spring clearance.
2. Refer to the correct service manual for your model engine for removal of the valves & valve springs.
3. Measure: Installed spring height and valve seal to bottom of retainer clearance.
4. FEULING recommends a minimum of 0.030" clearance from top of valve seal to bottom of retainer.
5. Measure installed spring height - See included spring chart - proper clearance is critical! Too little clearance will put the valvespring into coil bind & cause valve-train damage while too much can cause spring surge. Ideal coil bind clearance is achieved at open height do not go below open height. If needed only increase by 0.020" on M8.

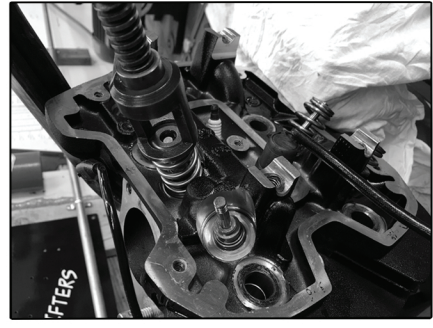
NOTE: If using a conventional spring height gauge the smaller beehive retainer can rest down in the tool recess - subtract this amount from your calculations.

6. If machining is required, make modification then wash cylinder heads and re-measure all clearances before installation. See cutter and pilot #9023/9024. Use seat shims to pack springs when a shorter installed height is needed.

SEE INCLUDED SPRING CHART FOR PROPER SETUP



MILWAUKEE EIGHT ENGINE '17-'20



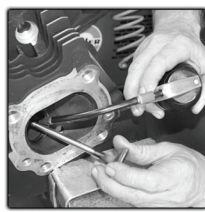
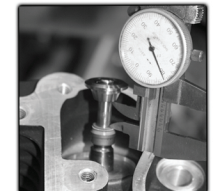
Clean & Inspect new springs & hardware



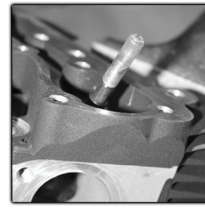
Remove original valve springs & hardware



Measure spring installed height and seal to retainer clearance. Proper clearance from coil bind is critical.



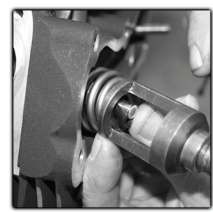
Pre-lube valves, install seat shims if needed, then install spring seats.



Install valve seals. Use protective sleeve on valve to protect seal during installation. Pre-lube seals with engine oil prior to installation



FEULING recommends the use a seal installer to prevent seal damage. Install spring, retainer & locks.



- #1107 Endurance spring kit W/Out Ti Retainers for M8 6mm valves W/triple groove, kit uses factor retainers
- #1108 Endurance spring kit With Ti Retainers for M8 6mm valves W/triple groove
- #1109 Ti retainers fit Feuling spring kit #1107 and the factory and SE M8 valvesprings-Qty. 8
- #1207 HIGHLOAD/HIGHLIFT spring kit W/Ti retainers for M8 6mm valves W/Triple groove
- #1215 M8 Steel valve locks STD. height stock replacement 6mm valve stem triple groove