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FEULING BEEHIVE VALVE SPRINGS

BEEHIVE VALVE SPRING INSTALLATION INSTRUCTIONS

PART #'S 1100, 1101, 1105, 1120, 1121, 1200, 1201, 1205, 1206, 1212, 1213, 1214

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 alves & 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.

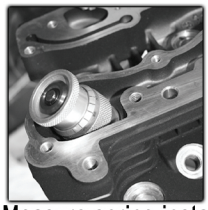
5. Measure installed spring height - proper clearance is critical! Too little clearance will cause valve-train damage while too much can cause spring surge. Ideal coil bind clearance is achieved at open height see included spring chart. Do not go below open height and with Feuling springs only increase by 0.020".

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.

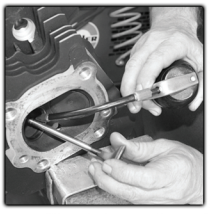
6. If machining is required, make modification then wash cylinder heads and re-measure all clearances before installation.

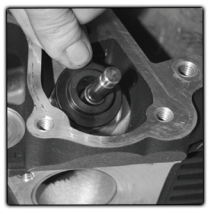
Clean & Inspect new springs & hardware

Remove original valve springs & hardware



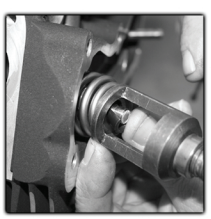
Measure spring installed height and seal to retainer clearance. Proper clearance from coil bind is critical.



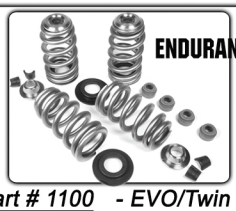


Pre-lube valves, install seat shims if needed, then install spring seats.

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.



ENDURANCE

Part # 1100 - EVO/Twin Cam '84-'04 Big Twin, 86-'03 XL, '92-'02 Buell ,Standard 5/16" valve stem and keeper groove

Parts # 1101 - SE heads with 0.530" guide O.D.

Part # 1105 - Twin Cam '05-'17, 7mm valve stem with stock triple keeper groove

Part # 1213 - Steel valve locks '05-'17, 7mm stock triple groove

HIGH LOAD

Part # 1200 - EVO, T/C '84-'04 Big Twin, 86-'03 XL, Std 5/16" valve stem and keeper groove

Part # 1201 - SE heads with 0.530" guide O.D.

Part # 1205 - T/C '05-'17, 7mm valve stem with stock triple keeper groove

Part # 1206 - 0.050" off set 10°, 5/16" steel valve locks ,raises the valve spring retainer to gain 0.050"installed height without machining the cylinder head valve seat.

Part # 1214 - Ti – valve locks, 10°, 5/16" fit FEULING® High Load BeeHive valve spring set up

ECONO SPRINGS

Part # 1120 - EVO/Twin Cam '84-'04 Big Twin, 86-'03 XL, '92-'02 Buell ,Standard 5/16" valve stem and keeper groove

Part # 1121 - Twin Cam '05-'17, 7mm valve stem with stock triple keeper groove