



FEULING®

PRESSURE RELIEF PSI TEST TOOLS

PART #'S:
8002, 8003, 8004, 8007, 8018,
8019, 8026, 8027, 9000, 9001,
9006, 9008, 9009, 9010, 9011



PART #9010



PART #9000 & 9001



PART #9006



PART #9008



PART #9009



PART #9011



PART #8018 &
8019, 8026, 8027



PART #8002
& 8007

IMPORTANT NOTICE:

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

CAUTION:

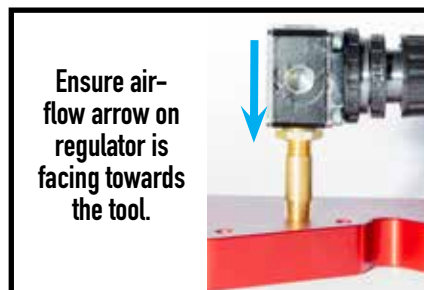
Incorrect installation can cause engine damage not covered under warranty. Failure to install components correctly can cause engine seizure and may result in serious injury to motorcycle, operator, passenger, and/or others. This pressure test tool is a must for any Twin Cam engine builder. Bench test the camplate before installation. Set the relief valve spring pressure to your desired pop off psi.

INSTRUCTIONS PART (PART #9010):

*THIS TOOL FITS BOTH TWIN CAM OIL PUMP BOLT PATTERNS
'99-'06 BOLT PATTERN USES 5 HOLES, LATE '07-'17 STYLE ONLY USE 4 BOLTS

1. Clean all components of the Feuling #9010 test tool.
2. Install gasket.
3. Apply a dab of the included thread sealant to the end of the double ended NPT stand off, then install into the tool plate.
4. Apply a dab of thread sealant to the opposite end of the NPT stand off, install the regulator following the arrow on the regulator for flow direction.
5. Apply a dab of thread sealant to the PSI gauge, install gauge into the regulator.
6. Install YOUR proper air hose nipple into the regulator. We do not include the air hose nipple.
7. To test a camplate, fasten the camplate onto the tool with the oil pump mounting side of the cam plate towards the gasket side of the tool. Using the bolts from your camplate tighten camplate to tool. Feuling tool #9010 fits both '99-'06 & '07-'17 bolt patterns.
8. Clamp tool in a vise where indicated on tool, test by opening the regulator.
9. If adjustments are needed use Feuling tool #9000 to remove the roll pin, spring & plunger.
10. Check oil hole on face of camplate for air leaks, leakage here is a loss of oil psi. If leaking, clean and inspect the plunger and plunger seat as well as the camplate bore & seat. The valve must move back and forth nice and freely within the camplate bore. It is recommended that a light lubricant be sprayed on the plunger valve before installation.
11. You can use a brass punch behind the plunger to hit and re-seat the plunger to the camplate. Make sure the punch is centered before hitting and its advisable to have some air PSI pressure on valve.
12. Make necessary adjustments to the spring length, to eliminate the need to re-install the roll pin each time you pres-sure test the camplate you can insert your 1/8" pin punch through the roll pin hole to hold the spring in place while you test. A spring length of 1.900" should get you close the recommended 50 - 65 PSI pop off.
13. When you reach desired pop off pressure, re-install the roll pin and re-test.

Part# 9010 Includes:
 1 - Anodized tool plate
 1 - Gasket
 1 - Regulator
 1 - PSI gauge
 1 - Connector, Regulator to Tool



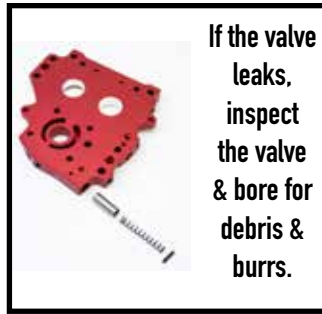
INSPECTION



Check this hole for air leakage. If you feel air the valve is leaking.



FEULING recommends: 50-65 PSI full pop off. Minimum 30 PSI re-seat & seal. The re seat & seal is important, any leakage at the valve will reduce oil psi



If the valve leaks, inspect the valve & bore for debris & burrs.



Use tool #9000 to hold down spring for easy removal of roll pin.



To re seat & seal valve use a hammer & punch to hit back of valve into seat, if needed use reamer (Part #9008) to cut a new seat in complete bore.



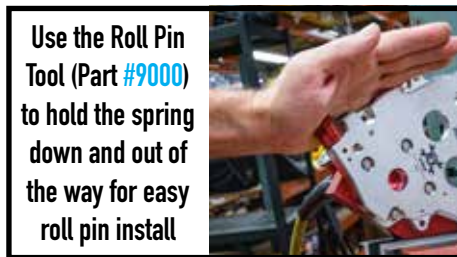
Use a 1/8" pin punch to hold the spring in place for testing.



INSTALL



Start the roll pin into the camplate using pliers to hold the roll pin in place.



Use the Roll Pin Tool (Part #9000) to hold the spring down and out of the way for easy roll pin install



Use pin punch for final roll pin install.

Re test valve

Roll pin tools #9000 & #9001 makes for easy removal & installation of the pressure relief spring, by-pass valve & roll pin in the Twin Cam camplate. The reamer tool #9008 cuts the camplate relief valve bore seat & allows the engine builder to do a 'valve job' on the camplate pressure relief valve.

INSTRUCTIONS:

1. Remove PSI spring, valve and roll pin. Insert tool #9000 into pressure relief bore of camplate, aligning the cut out of the tool over the roll pin.
2. Use the #9000 tool to push down on the spring holding the spring down and out of the way while you use a 1/8" pin punch to push the roll pin from the camplate. Note a burr can be created when removing the roll pin, remove if present.
3. Remove the pressure relief spring and valve (plunger). A magnet may be needed to remove the valve.
4. Clean & inspect the pressure relief valve & seat of camplate for burrs and debris, fine grit sand paper & or a scotchbrite pad may be used to clean any problem areas.
5. The valve must move back and forth nice and freely within the camplate bore. It is recommended that a light lubricant be sprayed on the plunger valve & bore before installation.
6. Reinstall the pressure relief valve and spring using the tool to hold the spring down for easy install of the roll pin.

With the use of a Feuling high volume oil pump the recommended setting for the pop off pressure is 55 - 60 PSI. A pressure relief spring length of +/- 1.900" is a good starting point. Use Feuling pressure relief PSI tool Part #9010 to measure the pop off PSI of the pressure relief valve.

Part #9008 - Reamer Tool - Engine builders can use this reamer to perform a 'valve job' on the pressure relief valve seat of all T/C engine camplates, factory & aftermarket. Best used in conjunction with Feuling pressure test tool #9010, lightly machine (clean) the camplate relief valve seat and re-seat the plunger valve. Feuling recommends installing a new relief plunger valve - See Feuling #8002 or #8004.



OIL PUMP PRESSURE TEST TOOL FOR FEULING M-EIGHT OIL PUMPS (PART #9006)

FEULING oil pump pressure test tool for FEULING M8 oil pumps.
ONLY fits FEULING oil pumps, does not fit factory HD oil pumps.

Oil cooled pumps #7018 & 7020 use the 'long' standoff plug.
Water cooled pumps #7019 & 7021 use the 'short' standoff plug.



PART #9006



OIL COOLED

WATER COOLED



Install correct standoff plug for your model oil pump (oil or water cooled).
NOTE: Use the supplied counter sunk allen head to fasten plug to tool plate.



2 Gaskets: Install plate gasket, then plug gasket inside oil pump housing.



Use oil pump bolts to fasten pump housing to tool plate.



Pressure test oil pump housing.

Bench test the FEULING Milwaukee Eight oil pumps, cycle the pressure relief valve, testing operation & assuring the valve moves freely, seats & seals each time, any leakage at the relief valve will reduce oil pressure.

This tool allows the engine builder to know what PSI the relief valve opens; the spring tension can be adjusted to achieve the desired pop off PSI. Tool includes: air regulator, 0 – 100 psi pressure gauge, plugs for water & oil cooled oil pumps, gasket & needed hardware. Feuling recommends the oil pump relief valve be seated & sealed from 0-30 psi with full pop off at 50-65 psi. Made in the U.S.A.

Proper relief valve seal will insure good hot idle oil psi & reduce oiling system cavitation & related pressure issues.

Fits: Feuling oil & water cooled oil pumps 7018, 7019, 7020, 7021. Does not fit Factory HD oil pumps

PRESSURE RELIEF SPRINGS

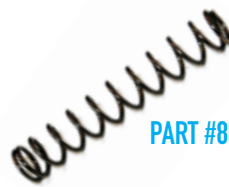
Increase the camplate pressure relief pop off pressure with a FEULING spring. Our springs have the proper spring rate to control the pop off pressure & oil flow in bypass port. Bench testing is recommended with the FEULING Camplate Pressure Test Tool (Part #9010). Set your pop off pressure to your preference. For use with all Twin Cam and M-Eight Camplates.

PART #8018: TWIN CAM '99-'17 (QTY. 1)

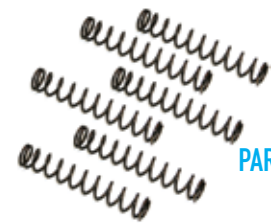
PART #8019: TWIN CAM '99-'17 (QTY. 6)

PART #8026: M-EIGHT '17-'20 (QTY. 1)

PART #8027: M-EIGHT '17-'20 (QTY. 6)



PART #8018 & 8026



PART #8019 & 8027

INSTRUCTIONS:

1. Refer to the proper service manual for your model motorcycle & engine for removal of the camplate and pressure relief valve & spring.
2. Remove the pressure relief spring and valve (plunger). A magnet may be needed to remove the valve. Use of the Feuling Tool #9000 makes for easy removal & install of the valve, spring & roll pin.
3. Clean & inspect pressure relief valve & seat of camplate for burrs & debris, emery cloth or scotchbrite pad may be used to clean any problem areas.
4. If the plunger needs to be re-seated use a brass punch to hit the back side of the plunger.
5. The valve must move back and forth nice and freely within the camplate bore. It is recommended that a light lubricant be sprayed on the plunger valve before installation.
6. Reinstall the pressure relief valve using the new spring. Once again tool #9000 helps hold the spring down for easy install of the roll pin. Be careful if using a screw driver as to not bend the spring.
7. Testing the plunger pop off PSI is recommended, Feuling tool #9010 can be used. The Feuling spring installed in a Feuling camplate gives an estimated pop PSI of 55 - 60 PSI.

SPRING & PLUNGER KIT

PART #8002



FEULING camplate pressure relief valve plunger, spring & roll pin. Increase the pressure relief valve pop off PSI with the Feuling spring, bench testing recommended with FEULING camplate pressure test tool #9010 to ensure proper valve seal & valve operation.

Part #8002: Fits: '99 - '17 T/C camplates 'All models'

Part #8004: Relief valve plunger ONLY - Fits: '99 - '17 T/C camplates 'All models', M8 Oil Pumps '17-'20

Part #8007: Fits: '17-'20 M-Eight Engine oil pumps 'All models'



REPLACEMENT PARTS



PART #9011



PART #9009



PART #9040



PART #9041



PART #9042



PART #9043



PART #9018

PART #9019



* 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