

2. Perform an oil level hot check to verify that the engine oil has not been over-filled or that oil level is low with no apparent signs of leakage. See the service manual.
 - a. Operate the engine at idle for 2 min.
 - b. Stop the engine.
 - c. Check engine oil level immediately.
 - d. Remove excess oil or add oil, if necessary.

NOTE

Sumping is more detectable at warmer oil temperatures.

3. Take the vehicle for a test ride and operate the engine to normal operating temperature (Bulk Oil Tank Temperature).
Temperature: 93–121 °C (200–250 °F)
4. Connect oil pressure gauge. See the service manual.
5. Record oil pressure at:
 - a. 850 rpm (Idle): Ideal pressure is 103.4–172.4 kPa (15–25 psi).
 - b. 3,000 rpm: Ideal pressure is 275.8–344.7 kPa (40–50 psi).
6. Oil pressure is:
 - a. **Within ideal pressures:** Go to Step 7
 - b. **Low oil pressure:** Check for a stuck pressure relief valve or a restriction at oil pump pick up.
 - c. **High oil pressure:** Check for a pinched oil line or a blockage after oil pump.
7. Place vehicle in an upright position.
 - a. With the vehicle at operating temperature, allow vehicle to idle in an upright position for 45–60 s.
8. Stop the engine. Remove the CKP (Crankshaft position) sensor within one minute.
 - a. Inspect the CKP sensor for signs of plastic blistering or sensor head doming by comparing to a known good part.
 - b. Replace as needed.
9. Measure amount of oil drained from the sensor opening.
 - a. **Less than** 177.4 ml (6 fl oz): Go to Step 10.
 - b. **Greater than** 177.4 ml (6 fl oz): Go to Step 11.
10. The condition is not caused by sumping.
 - a. Explore other causes (fuel, timing, intake and so on).

11. The condition is likely caused by sumping.
 - a. Verify that oil lines to cylinder heads are not plugged or restricted.
 - b. Verify the crankcase scavenge O-ring is in place and undamaged.
 - c. Verify there is no obstruction or loose part in the oil pump scavenge passage.
 - d. Verify the oil pump bypass valve can be moved and is not stuck closed or sticking partially down the bore.

NOTE

Use caution with the addition of thread sealant on breather bolts. Excess sealant added during service or P&A install can lead to a plugged passage.

- e. Remove breather bolts and breather lines to verify they are free and clear without blockages. This includes both the hoses inside the air cleaner as well as the breather bolts.
- f. Verify breather umbrella valve is sealing properly. Should allow air to exit the engine but not allow air back into the engine. If it is not sealing, replace the breather assembly.
- g. Verify cylinder and piston integrity (scuffing, scoring, oil rings present) and check that ring end gaps are not aligned.
- h. Verify operation of the flywheel and connecting rods. Connecting rod bearings that require more than light force to separate may require additional service. Refer to TA0023.
- i. A reduction in piston jet assembly screw torque is expected after operation due to gasket compression. Unless piston jet assembly is visibly loose, the piston jet assembly gasket is mis-installed or the gasket or a screw is missing, the piston jet assembly joint will not cause sumping. Tighten piston jet assembly.
Torque: 3.1–3.7 N·m (27–33 in-lbs)
- j. See Figure 1. Verify that the protrusion (4) of the dowel pin (3) on the cam support plate (1) is equal to or less than 3.3 mm (0.130 in).

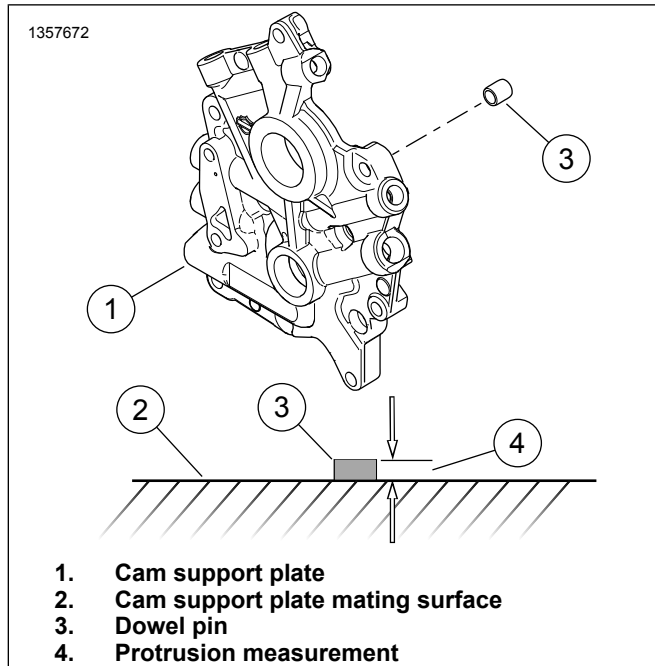


Figure 1. Cam Support Plate Dowel Pin Measurement

If engine damage is observed: Contact regional Technical Service.

If engine damage is not observed: Install **new** oil pump and oil pump cover (Refer to Table 2.) then assemble engine and file the appropriate warranty claim. Refer to the applicable table, Table 3, Table 4, Table 5 or Table 6.

Install

1. Install cam support plate. See the service manual.

Dealer Inventory Instructions

Use oil pump (Part No. 62400247 or 62400248) for engines that are exhibiting sumping.

Extra information

1. When installing a Screamin' Eagle Stage III or Stage IV kit on a 2017 - 2019 Milwaukee-Eight equipped motorcycle, a new pump assembly is required, which can be ordered through the regular part ordering process.
2. New oil pumps installed for new Stage III and Stage IV kit installations are reimbursed at cost. Refer to Table 4.
3. When performing an oil pump repair on an OE (Original equipment) 2017 - 2019 Milwaukee-Eight equipped motorcycle, a new pump assembly is recommended. Order the new pump through the regular part ordering process.
4. For OE applications exhibiting this condition where an oil pump has been installed. Refer to Table 5.
5. New oil pumps installed for OE installations are reimbursed at cost. Refer to Table 5.

Credit Procedure: Reimbursement of Oil Pump Replacement

Reference this bulletin in the Event Notes/Comments of claim.

Table 3. Kits Registered to SWR

ITEM	DATA
Claim Type	PNA / Standard claim
Problem Part Number	Screamin' Eagle Stage III or IV Kit registered to VIN
Quantity	Leave Blank
Primary Labor Code	8865
Time	12.8 h
Customer Concern Code	3102
Condition Code	9106
Replacement part number	New oil pump and necessary miscellaneous parts. Refer to Table 2.

Submit a warranty claim for the new oil pump required for the installation of Stage III and Stage IV kits. Refer to Table 4.

Table 4. Oil Pump Required for Installation of Kits

ITEM	DATA
Claim Type	DFS / PAM Sold
Problem Part No.	Part number of the oil pump removed from vehicle.
Quantity	Leave blank
Customer Concern Code	9901
Condition Code	9110
Replacement part number	62400247 or 62400248
Quantity	1 each

Table 5. OEM Credit Table - Diagnostics, Replace Oil Pump, Reassemble

ITEM	DATA
Claim Type	MC / Standard Claim
Problem Part Number	Part number that caused failure.
Quantity	Leave Blank
Labor Code ⁽¹⁾	3348
Time	12.8 h
Customer Concern Code	3102
Condition Code	9106
Replacement part number	62400247 or 62400248 and necessary miscellaneous parts. Refer to Table 2.
<i>(1) Download may be required.</i>	

After receiving an authorization from Technical Services to replace the Shortblock. Refer to Table 6.

Table 6. Shortblock Replacement Credit Table

ITEM	DATA
Claim Type	PNA / Standard Claim
Problem Part Number	Stage 3 or Stage 4 kit registered to the VIN (Vehicle identification number)
Quantity	1
Primary Labor Code	Leave Blank
Event Detail Labor Code	8888
Time	11.2 h
Customer Concern Code	3102
Condition Code	9106
Additional Parts	New oil pump, shortblock, gaskets and fluids

Bulletin number M1450 must be entered into the comments section of the claim.

Return Parts

Hold all claimed parts for 60 d from date of credit issued for possible field inspection and/or request to return to factory. After 60 d, destroy and discard the parts.