SERVICE BULLETIN



M1450 2019-03-28

M1450: MILWAUKEE-EIGHT EQUIPPED VEHICLES - LOSS OF POWER OR HIGH ENGINE BRAKING

Reason for Revision

Refer to Table 1.

Table 1. Document History

Dete	Davidson Danawintian
Date	Revision Description
2017-07-05	Initial release
2017-07-07	Updated Purpose for Service Bulletin
2017-07-21	Updated Required Dealer Action, Dealer In-
	ventory Instructions and Extra information
2017-07-25	Added Credit Procedure and Return Parts
2017-10-18	Updated Required Dealer Action
	Change Title
2017-10-24	Updated Purpose for Service Bulletin, Re-
2017 10 24	quired Dealer Action and Extra Information
	Added Required Dealer Action > Install
	Change Title
	Updated Purpose for Service Bulletin, Mo-
	torcycles Affected, Part numbers: Table 2,
2017-11-15	Dealer Inventory Instructions, Extra Inform-
	ation, Credit Procedure: Table 3, Credit
	Procedure: Table 4
	Added Credit Procedure: Table 5
	Updated Part Numbers: Table 2, Required
	Dealer Action, Required Dealer Action > If
2018 -08-21	engine damage is not observed, Extra in-
2010-00-21	formation
	Added Credit Procedure: Table 6 and Table
	6
	Updated Section Purpose for Service Bulletin,
2019-03-28	Section Motorcycles Affected, Section Re-
	quired Dealer Action, Section Extra informa-
	tion, Section Credit Procedure: Reimbursement
	of Oil Pump Replacement : Table 3, Table 4
	and Table 5
	Removed Section Credit Procedure: Reim-
	bursement of Oil Pump Replacement : Old
	Table 6

Purpose for Service Bulletin

2017 - 2019 model motorcycles equipped with a Milwaukee-Eight™ engine can experience a condition known as sumping during extended periods at high rpm or under heavy engine load.

Sumping is when an excessive amount of oil is suspended in the engine crankcase and the flywheel must travel through the

oil, resulting in loss of power or a high degree of engine braking and potential engine component damage with extended use under these conditions.

This bulletin provides the diagnostic procedure for determining if sumping is occurring.

Motorcycles Affected

This information applies to all 2017 - 2019 Touring, CVO, Trike, Touring Police and 2018 - 2019 Softail model motorcycles with a Milwaukee-Eight engine.

Markets Affected

All markets are affected.

Part Numbers

Refer to Table 2.

Table 2. Part Numbers

Current Part No.	Item Description	New Part No.
62400121, 62400143,	OIL PUMP ASSY, OIL	62400178
62400178 ⁽¹⁾		02400176
62400124, 62400146,	OIL PUMP ASSY,	62400182
62400182 ⁽¹⁾	WATER	02400102
62400125	OIL PUMP COVER ASSY	62400206

(1) Built or Packaged prior to 10/10/2017

Required Dealer Action

Verify that sumping symptoms are present:

- Confirm that the customer is experiencing loss of power or high intensity engine braking during extended high rpm (Revolutions per minute) use.
- 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.

In the interest of preserving customer safety and satisfaction, always check for outstanding recalls whenever any motorcycle is brought into your dealership for either maintenance or service

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	WARRANTY PROCESS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	RETURN THIS TO
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Remove excess oil or add oil, if necessary.

NOTE

Sumping is more detectable at warmer oil temperatures.

- 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:
 - 850 rpm (Idle): Ideal pressure is 103.4–172.4 kPa (15–25 psi).
 - 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.
 - High oil pressure: Check for a pinched oil line or a blockage after oil pump.
- 7. Place vehicle in an upright position.
 - 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.
 - 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.
 - 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.
 - Explore other causes (fuel, timing, intake and so on).
- 11. The condition is likely caused by sumping.
 - Verify that oil lines to cylinder heads are not plugged or restricted.
 - Verify the crankcase scavenge O-ring is in place and undamaged.
 - Verify there is no obstruction or loose part in the oil pump scavenge passage.

 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.

- 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.
- 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)

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. 62400182 or 62400178) with a package date of 10/10/2017 or later for engines that are exhibiting sumping.

Extra information

- When installing a Screamin' Eagle Stage III or Stage IV kit on a 2017 - 2019 Milwaukee-Eight equipped motorcycle built prior to 10/10/2017, 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.
- When performing an oil pump repair on an OE (Original equipment) 2017 - 2019 Milwaukee-Eight equipped motorcycle built prior to 10/10/17, a new pump assembly is recommended. Order the new pump through the regular part ordering process.

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- 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, cover 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 and Cover Required for Installation of Kits

ITEM	DATA
Claim Type	DFS / PAM Sold
	62400121, 62400124,
Problem Part No. ⁽¹⁾	62400143, 62400146,
	62400178, 62400182
Quantity	Leave blank
Customer Concern Code	9901
Condition Code	9110
Replacement part number	62400178 or 62400182 and
Replacement part number	62400206
Quantity	1 each

(1) Built or packaged prior to 10/10/17

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

ITEM	DATA		
Claim Type	MC / Standard Claim		
Problem Part Number ⁽¹⁾	OEM oil pumps (62400121, 62400124, 62400143, 62400178.		
	62400182)		
Quantity	Leave Blank		
Labor Code ⁽²⁾	3348		
Time	12.8 h		
Customer Concern Code	3102		
Condition Code	9106		
Replacement part number	New oil pump, cover and necessary miscellaneous parts. Refer to Table 2.		

⁽¹⁾ Built or packaged prior to 10/10/17

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

Table 6. Shortblock Replacement Credit Table

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ITEM	DATA		
Claim Type	PNA / Standard Claim		
	Stage 3 or Stage 4 kit re-		
Problem Part Number	gistered 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.

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⁽²⁾ Download may be required.