



POWERHEAD

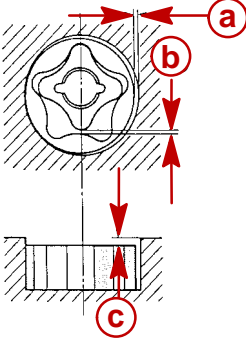
Section 4C - Lubrication

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Specifications

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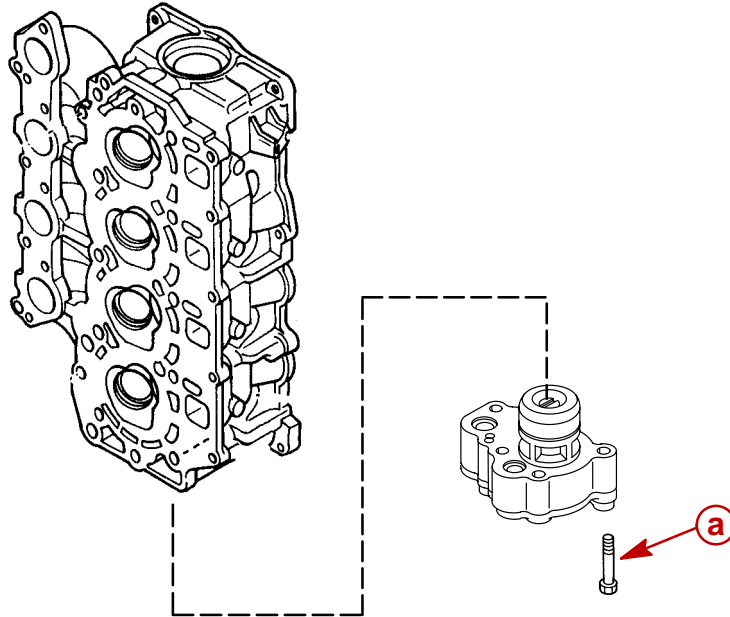
LUBRICATION SYSTEM	<p>Pump Type Engine Oil Pressure (Warm Engine) @ 3000 rpm Engine Oil Pan Capacity Oil Pump: Outer Rotor to Housing "a" Inner Rotor to Outer Rotor "b" Rotor to Housing "c"</p> 	<p style="text-align: center;">Trochoid</p> <p style="text-align: center;">30-40 psi (207-278 kPa) Either 3 Qts. or 3 Liters</p> <p>0.0045 - 0.009 in. (0.11 - 0.23 mm) 0.005 in. (0.12 mm) 0.0015 - 0.003 in. (0.04 - 0.08 mm)</p>
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Oil Pump Removal

IMPORTANT: Do not twist/turn oil pump from side to side while removing it from cylinder head, as oil pump sealing o-rings will be cut. Pull oil pump away from cylinder head by inserting a screwdriver in the pry points on oil pump body.

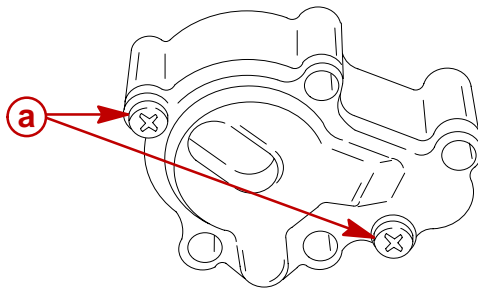
1. Refer to section 4A for Cylinder Head Removal.
2. Remove oil pump mounting screws. Separate oil pump from cylinder head.



a - Mounting Screw (4) M6x40

Oil Pump Disassembly

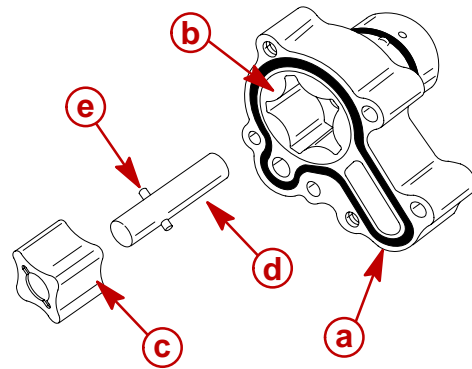
1. If screws cannot be loosened with a screwdriver, heat them with a non-flame type heat source (heat lamp). This will loosen the Loctite sealant on the screw threads. Remove screws.



a - Screw (2)



2. Disassemble Oil Pump.

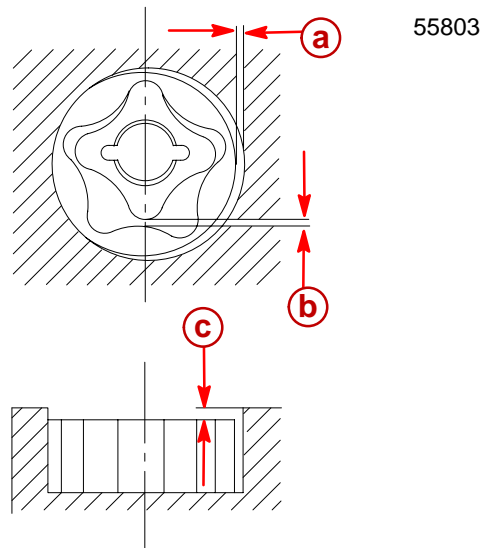


- a** - Cover Seal
- b** - Outer Rotor
- c** - Inner Rotor
- d** - Shaft
- e** - Cross Pin

Cleaning and Inspection

Oil Pump

1. Check oil pump components for pitting, scratches, and for the following measurements. Replace oil pump if worn or out of specification.
2. Using a feeler gauge, measure the following oil pump clearances:
 - a. Between outer rotor and pump housing (a).
 - b. Between the inner rotor and outer rotor (b).
 - c. Between the outer rotor and pump housing (c).

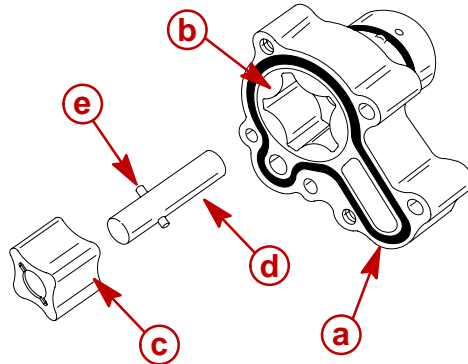


Oil Pump Clearances	
a	0.0045 - 0.009 in. (0.03 - 0.15 mm)
b	0.005 in. (0.12 mm)
c	0.0015 - 0.003 in. (0.03 - 0.08 mm)



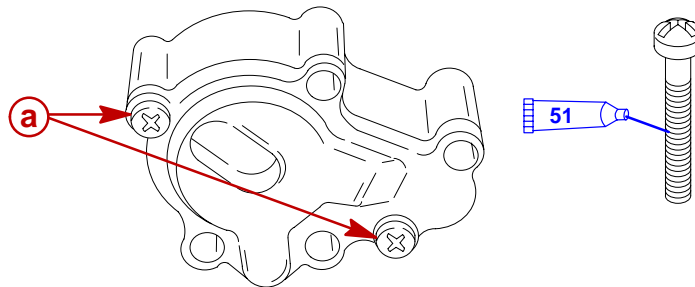
Oil Pump Reassembly

1. Reassemble the oil pump assembly.
2. Lubricate the outer and inner rotors thoroughly with engine oil.



- a** - Cover Seal
- b** - Outer Rotor
- c** - Inner Rotor
- d** - Shaft
- e** - Cross Pin

3. Fasten cover with two screws. Apply Loctite 222 to threads. Tighten screws to the specified torque.



 **51** Loctite "222" (92-809818)

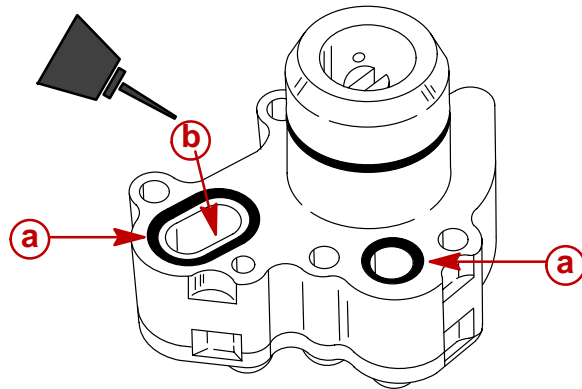
- a** - Screw (2) M6 X 16

Oil Pump Cover Screw Torque
70 lb-in. (8 Nm)



Oil Pump Installation

1. Place O-ring seals on the oil pump. Lubricate the O-rings with oil.
2. Prime the oil pump by pouring approximately 1 fl oz (30 ml) of engine oil into the oil pump body.

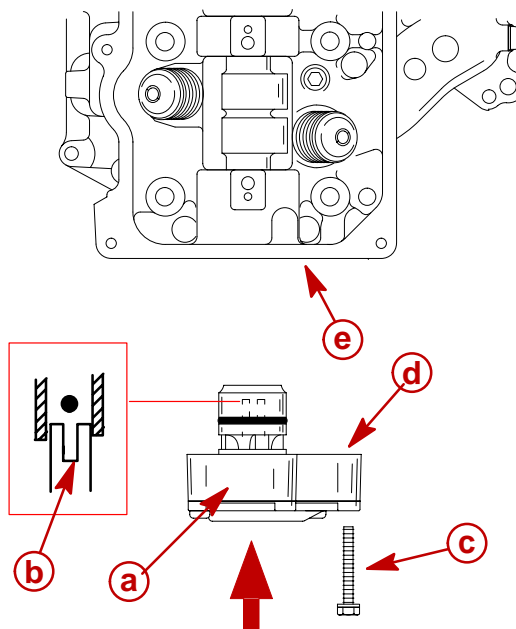


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- a** - O-Ring Seals
b - 30 ml of Engine Oil

IMPORTANT: When the oil pump mounting surface gets close to the mating surface of the cylinder head, do not twist/turn oil pump from side to side. The sharp edges on the cylinder head will cut the oil pump sealing o-rings.

3. Align oil pump shaft with the camshaft and install the oil pump.
4. Fasten with 4 screws. Tighten screws to the specified torque.



- a** - Oil Pump Assembly
b - Align Slot with Camshaft Projection
c - Screw (4)-M6x40
d - Oil Pump Mounting Surface
e - Cylinder Head/Oil Pump Mating Surface

Oil Pump Mounting Screw Torque

70 lb-in. (8 Nm)