



POWERHEAD

Section 4C - Lubrication

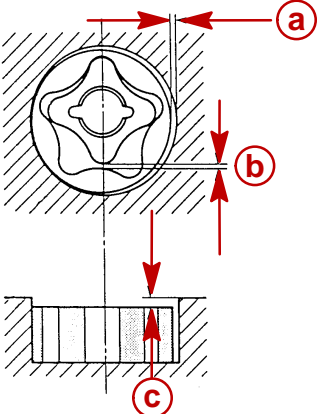
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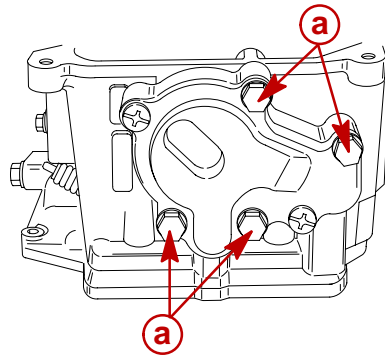


Specifications

LUBRICATION SYSTEM	<p> Pump Type Engine Oil Pressure Engine Oil Pan Capacity Oil Pump: Outer Rotor to Housing "a" Inner Rotor to Outer Rotor "b" Rotor to Housing "c" </p>  <p>The diagram shows a cross-section of a trochoid oil pump. It consists of an outer rotor with four lobes and an inner rotor with two lobes, both mounted on a common shaft. The outer rotor is housed within a housing. Three clearances are indicated with red arrows and labels: 'a' is the clearance between the outer rotor and the housing; 'b' is the clearance between the inner and outer rotors; and 'c' is the clearance between the rotor assembly and the housing at the bottom.</p>	<p style="text-align: center;">Trochoid</p> <p>30-40 PSI at 3000 RPM (Warm Engine) Either 3 Qts. or 3 Liters</p> <p>0.0035 - 0.006 in. (0.09 - 0.15 mm) 0.005 in. (0.12 mm) 0.001 - 0.003 in. (0.03 - 0.08 mm)</p>
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Oil Pump Removal

1. Remove oil pump screws.
2. Separate oil pump from cylinder head.



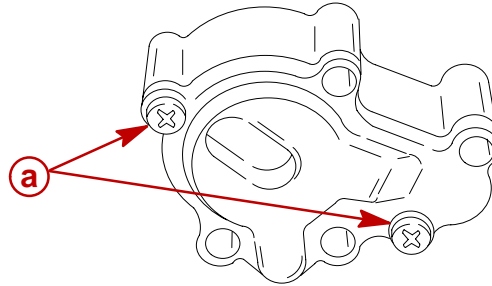
a - Screws (4)

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Oil Pump Disassembly

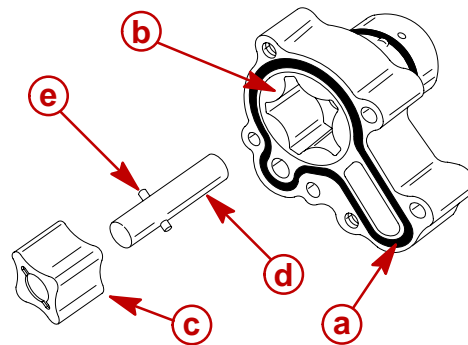
1. Heat screws to loosen Loctite sealant. Remove screws.



a - Screw (2) Heat Screws to Loosen Loctite Sealant

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2. Disassemble Oil Pump.



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

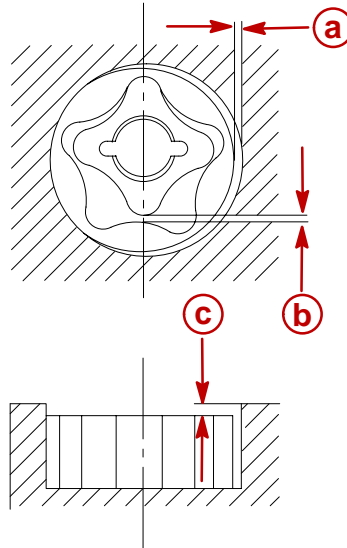
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Cleaning and Inspection

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).



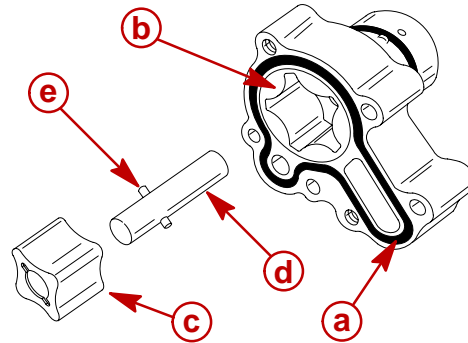
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Oil Pump Clearances	
a	0.0035 - 0.006 in. (0.09 - 0.15 mm)
b	0.005 in. (0.12 mm)
c	0.001 - 0.003 in. (0.03 - 0.08 mm)



Oil Pump Assembly

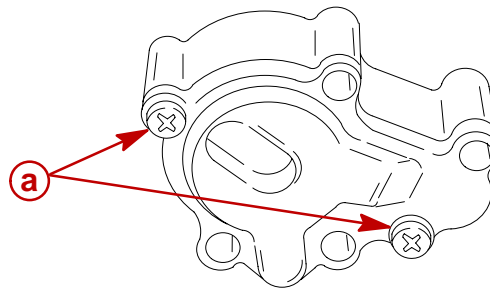
1. Reassemble the oil pump assembly.
2. Lubricate the outer and inner rotors thoroughly with engine oil.



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- 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.



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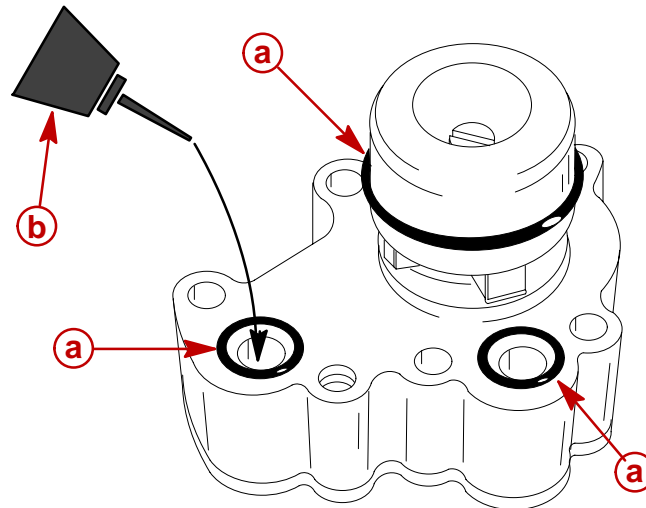
- a** - Screws (2) Apply Loctite 222 to Threads

Oil Pump Cover Screw Torque
70 lb. in. (8 N·m)



Oil Pump Installation

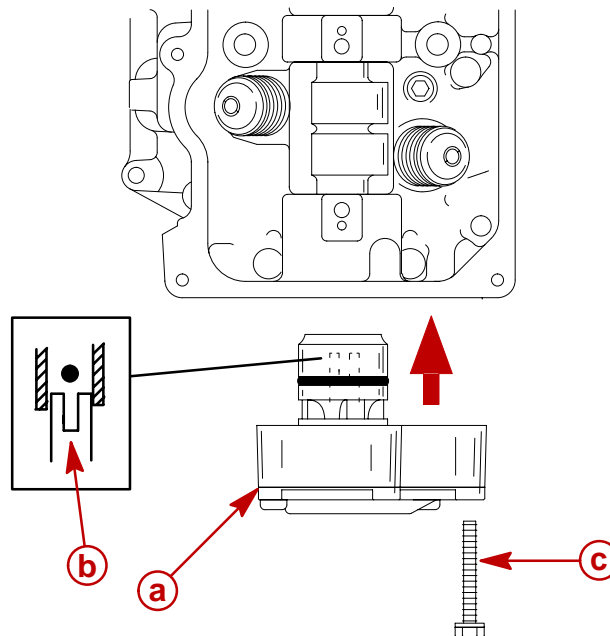
1. Place O-ring seals on the oil pump. Lubricate the O-rings with oil.
2. Prime the oil pump by pouring approximately 1 fl. oz. (30 ml) of engine oil into the oil pump body.



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- a** - O-Ring Seals
- b** - Pour Approximately 1 fl. oz. (30 ml) of Engine Oil into the Oil Pump Body

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



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- a** - Oil Pump Assembly
- b** - Align Slot with Camshaft Projection
- c** - Screw (4)

Oil Pump Mounting Screw Torque

70 lb. in. (8 N·m)