

Product: MOTOR GRADER

Model: 140G MOTOR GRADER 13W

Configuration: 140G Motor Grader 13W00741-00992 (MACHINE) POWERED BY 3306 Engine

Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i01139602

Fuel Injection Pump Housing - Disassemble

SMCS - 1253-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1860	Retaining Ring Pliers	1

Start By:

- A. Disassemble the governor. Refer to Disassembly and Assembly, "Governor - Disassemble".
- B. Remove the fuel injection pumps. Refer to Disassembly and Assembly, "Fuel Injection Pump - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

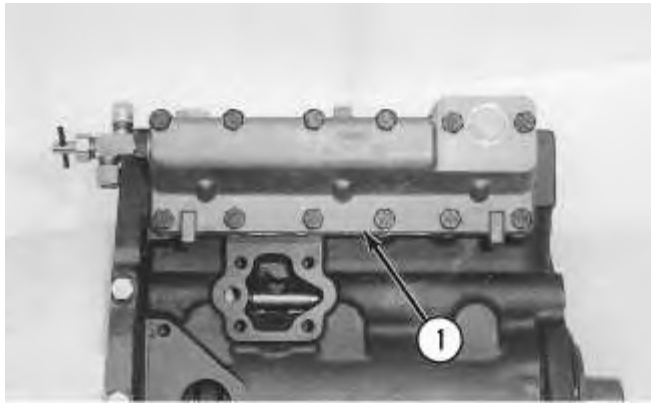


Illustration 1

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1. Remove cover (1) and the gasket.



Illustration 2

g00456923

2. Remove fuel rack (2) from the fuel injection pump housing.

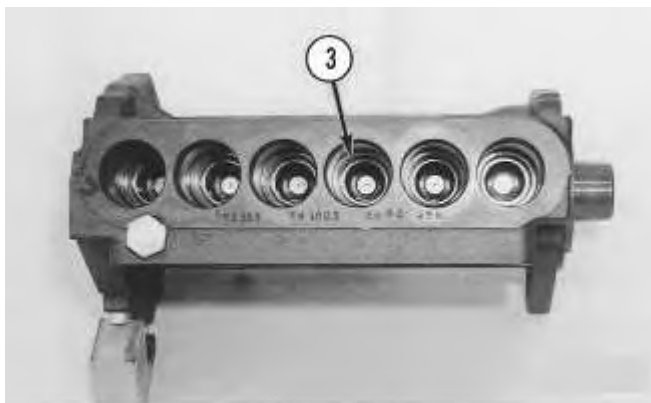


Illustration 3

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Note: If the original lifters are being reused in the fuel injection pump housing, place identification marks on the lifters in order to identify the locations.

3. Remove lifters (3) from the fuel injection pump housing.



Illustration 4

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4. Position the fuel injection pump housing on wood blocks, as shown. Use Tool (A) in order to remove snap ring (4) .

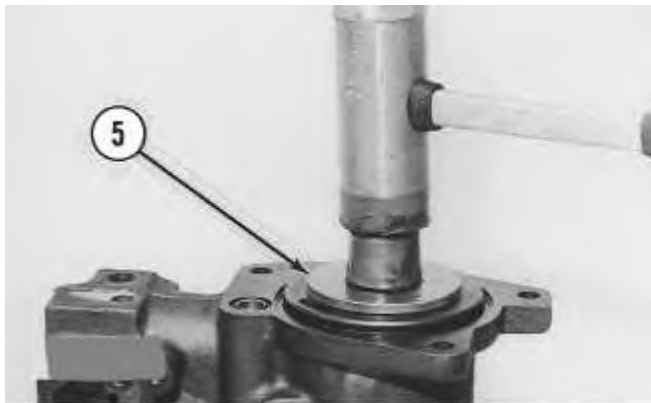


Illustration 5

g00456926

5. Use a soft hammer to push the camshaft toward the governor end of the fuel injection pump housing in order to loosen washer (5). Remove washer (5) .
-

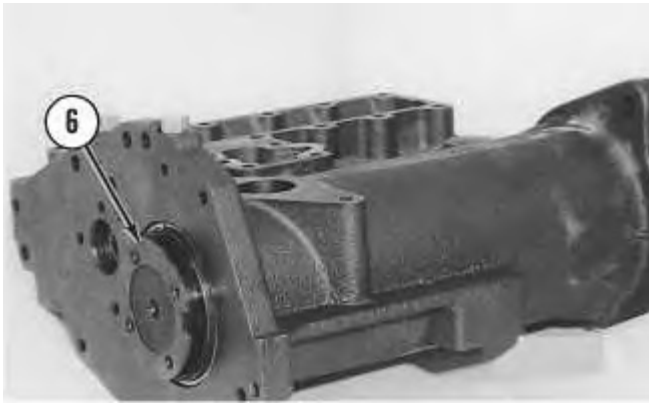


Illustration 6

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6. Remove camshaft (6) .

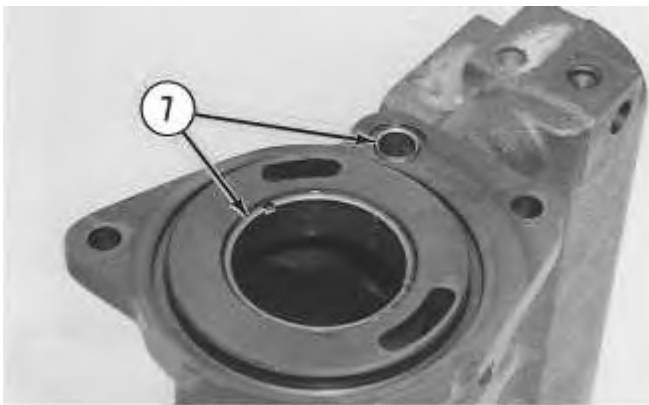


Illustration 7

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7. Remove bearings (7) from the drive end of the fuel injection pump housing.

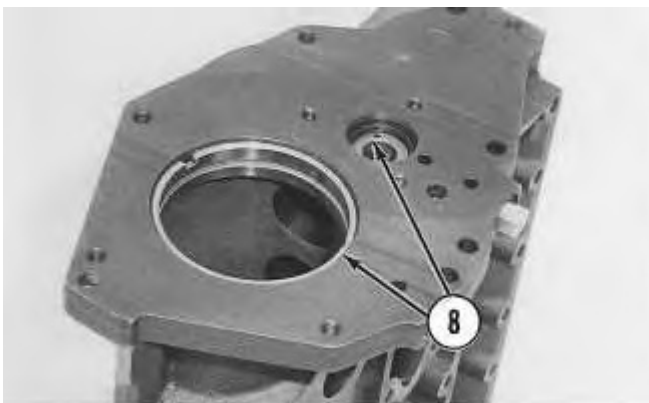


Illustration 8

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8. Remove bearings (8) from the governor end of the fuel injection pump housing.

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Publication Date -01/01/2013

Date Updated -25/01/2013

i01138035

Fuel Injection Pump Housing - Assemble

SMCS - 1253-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1860	Retaining Ring Pliers	1
B	1P-0510	Driver Group	1
C	6V-2016	Plate	1
	0S-1594	Bolt	2
	6V-4818	Driver	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: Put clean engine oil on all parts before assembly. Ensure that all of the oil passages are clear.

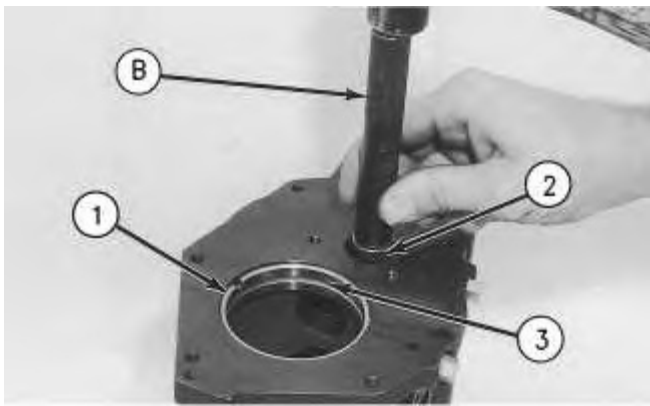


Illustration 1

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1. Use Tool (B) in order to install large bearing (1) in the governor end of the fuel injection pump housing. Bearing joint (3) should be facing toward the top of the fuel injection pump housing. Install the bearing so the bearing is 0.25 ± 0.20 mm ($.010 \pm .008$ inch) below the surface of the fuel injection pump housing.
2. Use Tool (B) in order to install small bearing (2) in the governor end of the fuel injection pump so that Tool (B) is 7.16 ± 0.13 mm ($.282 \pm .005$ inch) below the surface of the fuel injection pump housing.



Illustration 2

g00457492

3. Use Tool (B) in order to install large bearing (4) in the drive end of the fuel injection pump housing. The bearing joint should be facing toward the top of the fuel injection pump housing. Install the bearing so the bearing is 1.00 ± 0.25 mm ($.039 \pm .010$ inch) below the surface of the fuel injection pump housing.

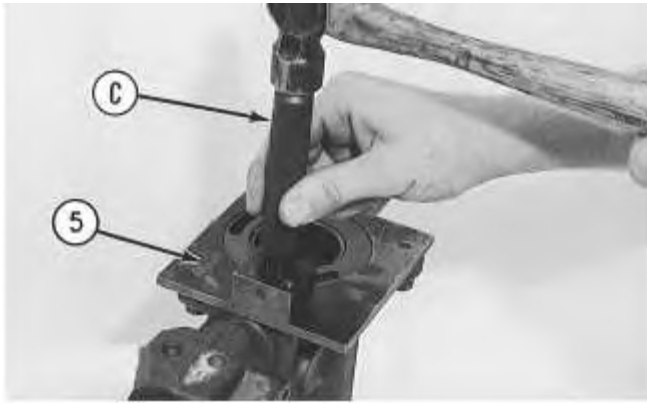


Illustration 3

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4. Install the plate of Tool (C) on the drive end of the fuel injection pump in order to install small bearing (5) for the rack. Use clean grease in order to hold the new driver for the rack bearing of Tool (C). Install the driver and the bearing in the plate. Ensure that the groove in the driver is aligned with the pin in the plate and use a hammer to push the bearing into position. The bearing will be installed to the correct depth when the shoulder of the driver is against the plate.
5. Remove Tool (C) from the fuel injection pump housing. The fuel rack bearing must be installed so that the fuel rack bearing is 0.25 ± 0.25 mm ($.010 \pm .010$ inch) below the surface of the housing.

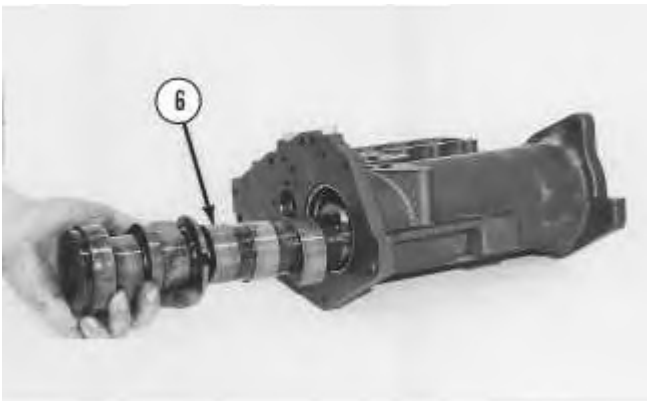


Illustration 4

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6. Install camshaft (6) .

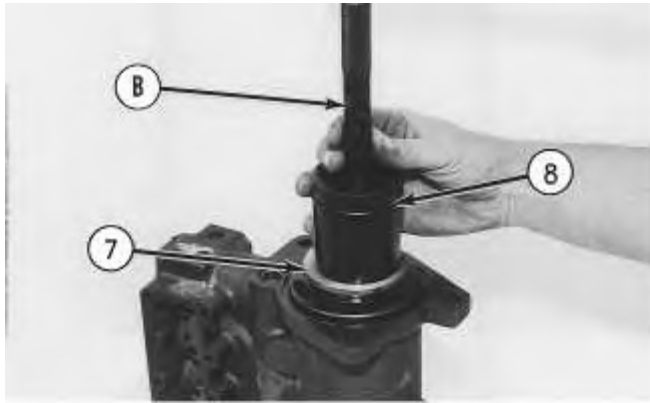


Illustration 5

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7. Put the fuel injection pump housing upright, as shown. Place a wood block under the camshaft.
8. Put washer (7) over the end of the camshaft. Use Tool (B) and spacer (8) in order to push the washer against the seat on the camshaft. Spacer (8) has an inside diameter of 38.1 mm (1.50 inch) and a length of 31.75 mm (1.250 inch). The camshaft must have an end play of 0.18 ± 0.08 mm ($.007 \pm .003$ inch) when the washer is pushed against the shoulder of the camshaft.

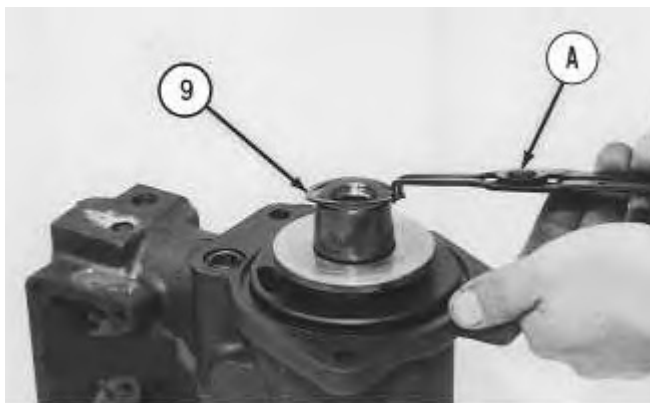


Illustration 6

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9. Use Tool (A) in order to install snap ring (9) .



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