

Product: EXCAVATOR
Model: 245 EXCAVATOR 95V
Configuration: 245 EXCAVATOR 95V00001-00470 (MACHINE)

Disassembly and Assembly 3406 VEHICULAR ENGINE FOR 245 EXCAVATORS

Media Number -SEN7338-01

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Fuel Injection Pump Housing

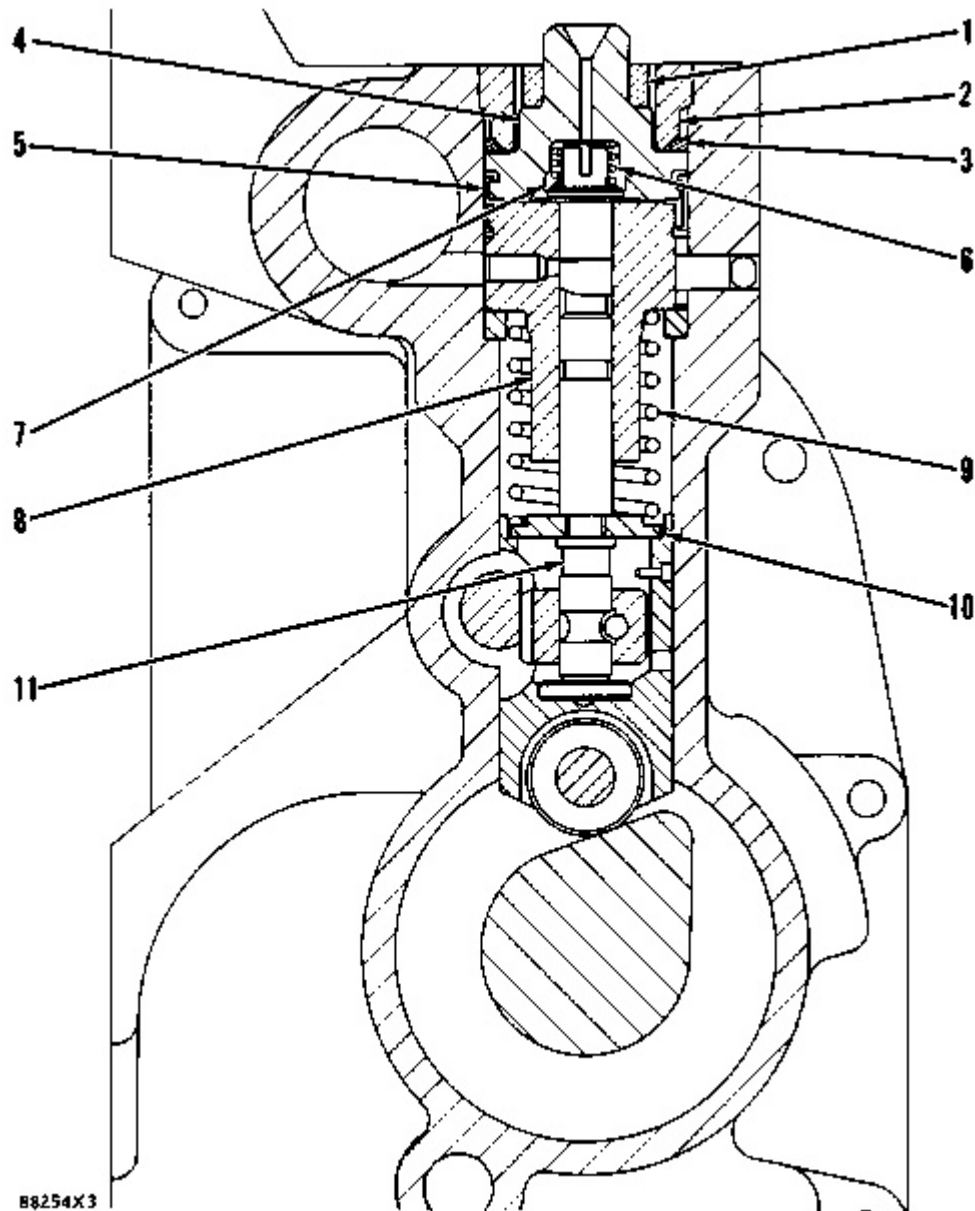
SMCS - 1253-15; 1253-16

Disassemble Fuel Injection Pump Housing

Tools Needed		A	B	C
8S4613	Wrench	1		
8S2244	Extractor		1	
8S2241	Camshaft Bearing Removal & Installation Tool Group			1

start by:

- a) separation of governor from fuel injection pump housing



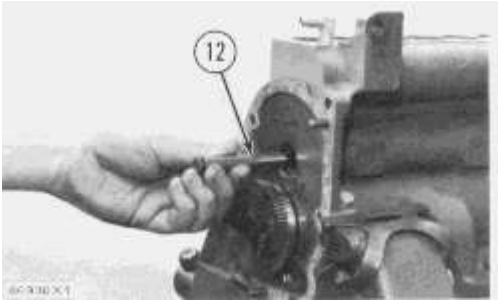
1. Remove protection caps and felt washers (1) from pumps.
2. Use wrench (A) to remove the bushings (2) that hold fuel injection pumps into housing. Remove the seals (3).
3. Use extractor (B) to remove pumps from the pump housing.

NOTE: Fuel injection pumps for direct injection and precombustion chamber engines are similar. See Illustration A96047X1 on Page 38.

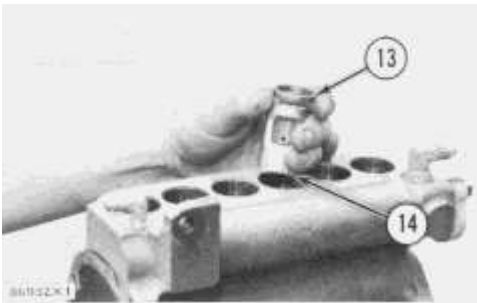
4. Remove the bonnet (4), ring (5), spring (6), and check valve (7) from barrel (8).
5. Remove the plunger assembly (11), washer (10), and spring (9) from barrel.

NOTICE

Be careful not to cause damage to plunger assemblies. Keep same cylinder pump and plunger together, the plunger from one pump cannot be installed in another pump.

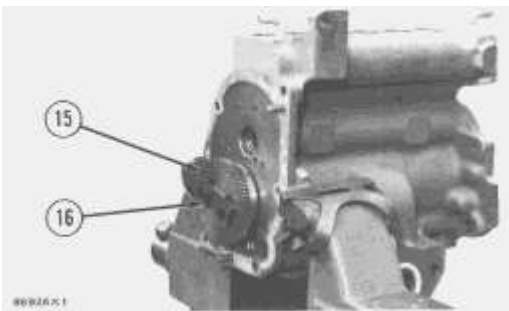


6. Remove the rack (12) from the housing.



7. Remove the spacers (13) and the lifters (14) from the housing.

NOTE: Keep the spacers and lifters together with identification as to their location in the pump housing.

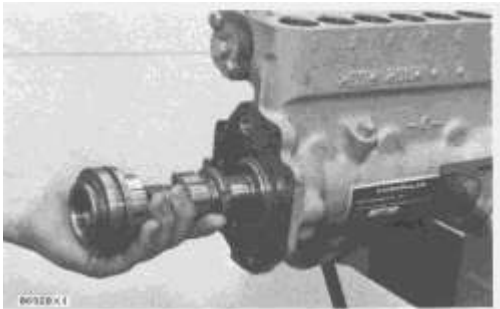


8. Remove two bolts (16), lock, and two sleeves from the gear assembly.

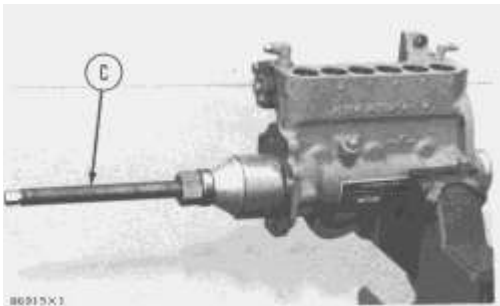
9. Remove the gear assembly (15) from camshaft.



10. Remove two bolts, plate (17), and spacer that hold camshaft in position in pump housing.



11. Remove the camshaft from the pump housing.

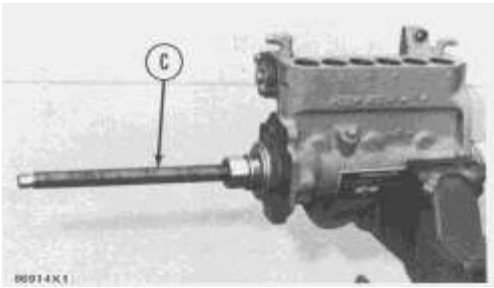


12. Use tool group (C) to remove the camshaft bearings from the pump housing.

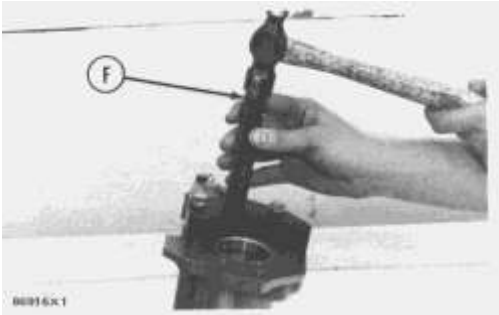
13. Remove the bearings for fuel rack from the pump housing.

Assemble Fuel Injection Pump Housing

Tools Needed		A	B	C	D	E	F
8S4613	Wrench	1					
8S2244	Extractor		1				
8S2241	Camshaft Bearing Removal & Installation Group			1			
5P1768	Pointer Group				1		
1P529	Handle					1	
1P455	Drive Plate					1	
5P1664	Adapter Plate						1
1P463	Drive Plate					1	
9S6329	Driver						1

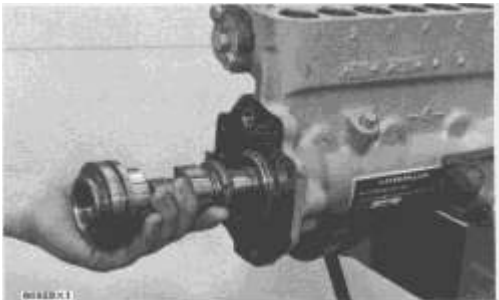


1. Use tool group (C) to install the camshaft bearings in fuel injection pump housing. Install bearing in governor end of housing so oil hole in bearing is in alignment with oil hole in housing.



2. Use tooling (F) to install bearing with a groove for the rack.

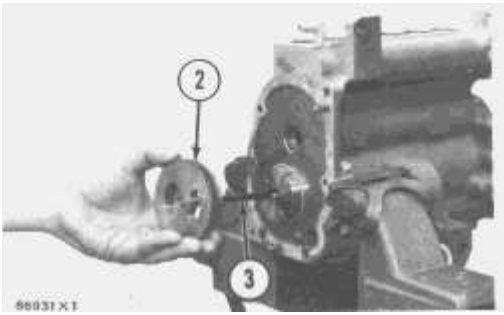
3. Use tooling (E) to install the other bearing for the rack.



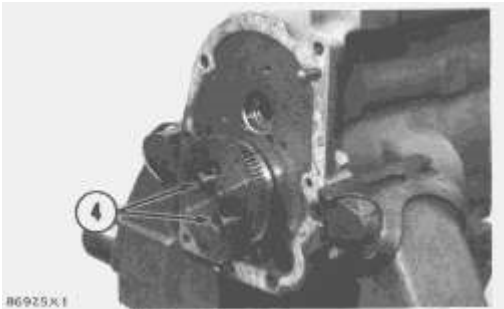
4. Put clean engine oil on the camshaft. Install the camshaft in the pump housing.



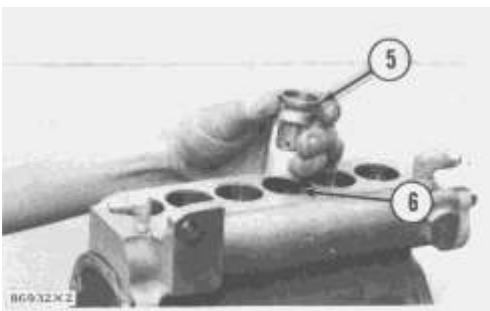
5. Install the spacer, plate (1), and two bolts that hold camshaft in place in pump housing.



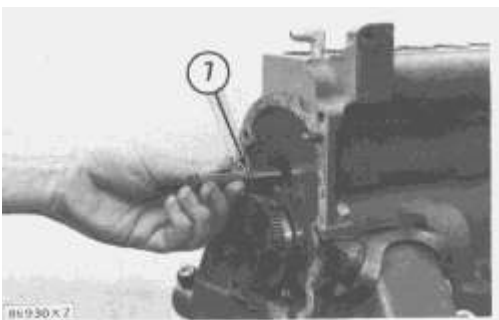
6. Put the gear assembly (2) in position on end of camshaft. Be sure the rod (3) is in the groove of camshaft.



7. Install the sleeves (4), lock, and two bolts on the gear assembly.



8. Install the spacers (5) with their respective lifters (6) in pump housing. If new lifters and/or pumps are to be installed, make adjustment of fuel pump timing dimension. See **SETTING THE INJECTION PUMP TIMING DIMENSION: OFF ENGINE** in 3406 VEHICLE ENGINE, TESTING AND ADJUSTING.



9. Install the rack (7) in the pump housing.

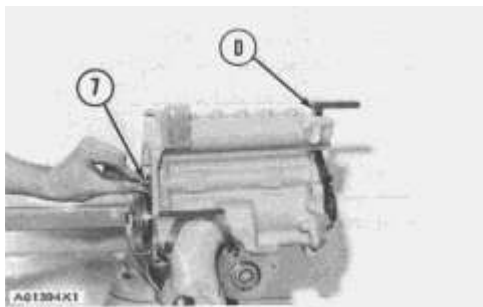
10. Assemble the fuel injection pumps as follows:

a) Put clean fuel on all parts.

- b) Install spring, washers, and plunger in the barrel.
- c) Install the spring, check valve, bonnet, and ring on the barrel.

NOTICE

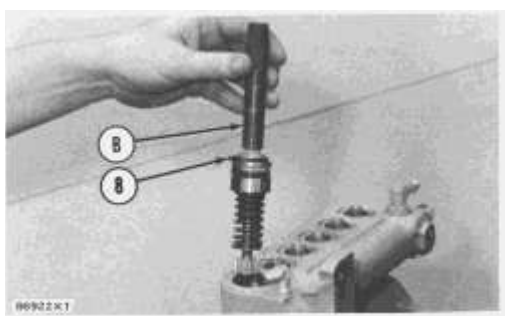
The plunger from one pump can not be installed in another pump. Do not install the pumps until rack (7) is in center position (centered).



11. Use pointer group (D) to put rack (7) in center position. Push the rack into pointer (D) to get the center position.

NOTE: The rack will be extended .156 in. (3.963 mm) from the end of pump housing (opposite the governor) when rack is in center position.

12. Install fuel injection pumps with extractor (B). Turn the camshaft until lobe of camshaft is down on pump to be installed. Look down the pump and make grooves in bonnet and barrel in alignment with groove (slot) in the pump gear. The groove (slot) of gear must be in line with center of these grooves. Put the pump so grooves are in alignment with guide pins in housing bores. Install the pump in its respective bore in housing.

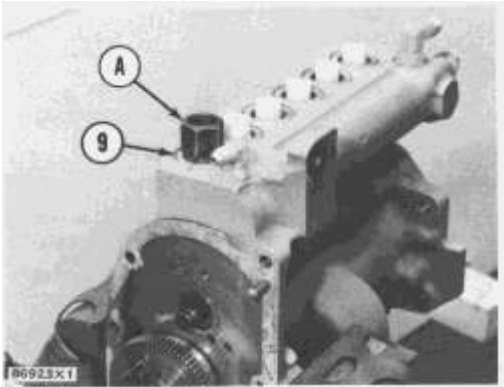


13. Install seal (8) and bushing (9). Put pressure by hand to extractor (B). Tighten bushing by hand (finger tight only) until bushing is even with top of housing. If bushing can not be installed by hand, remove bushing and pump. Make grooves in alignment and install again.

NOTICE

Do not put force on bushings by installation with a wrench to make it even with pump housing. Pump is not installed correctly if force has to be used to install bushing.

14. Check the rack movement (travel) after each pump is installed. Total rack movement (travel) must be .800 in. (20.32 mm). See INSTALLATION OF INJECTION PUMPS in 3406 VEHICLE ENGINE, TESTING AND ADJUSTING.



15. Tighten the bushing with wrench (A) to a torque of 150 ± 10 lb.ft. (205 ± 14 N·m). Remove wrench (A) and install felt seals and protection caps.

end by:

a) connection of governor to fuel injection pump housing.



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