



# Service Repair Manual

## **Models**

444F Backhoe Loader

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Product: BACKHOE LOADER

Model: 444F BACKHOE LOADER FBN

Configuration: 444F Backhoe Loader FBN00001-UP (MACHINE) POWERED BY C4.4 Engine

## Disassembly and Assembly

### C4.4 (Mech) Engines for Caterpillar Built Machines

Media Number -KENR9210-10

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i02763405

## Fuel Injection Pump - Remove

SMCS - 1251-011

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A <sup>(1)</sup>	9U-6198	Crankshaft Turning Tool	1
A <sup>(2)</sup>	9U-7336	Housing	1
	5P-7305	Engine Turning Tool	1
B	230-6284	Timing Pin (Camshaft)	1
C	230-6283	Timing Pin (Crankshaft)	1

<sup>(1)</sup> The Crankshaft Turning Tool is used on the front pulley.

<sup>(2)</sup> This Tool is used in the aperture for the electric starting motor.

#### Start By:

- Remove the front cover. Refer to Disassembly and Assembly, "Front Cover - Remove and Install".

**Note:** Either Tooling (A) can be used. Use the Tooling that is most suitable.

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### NOTICE

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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## NOTICE

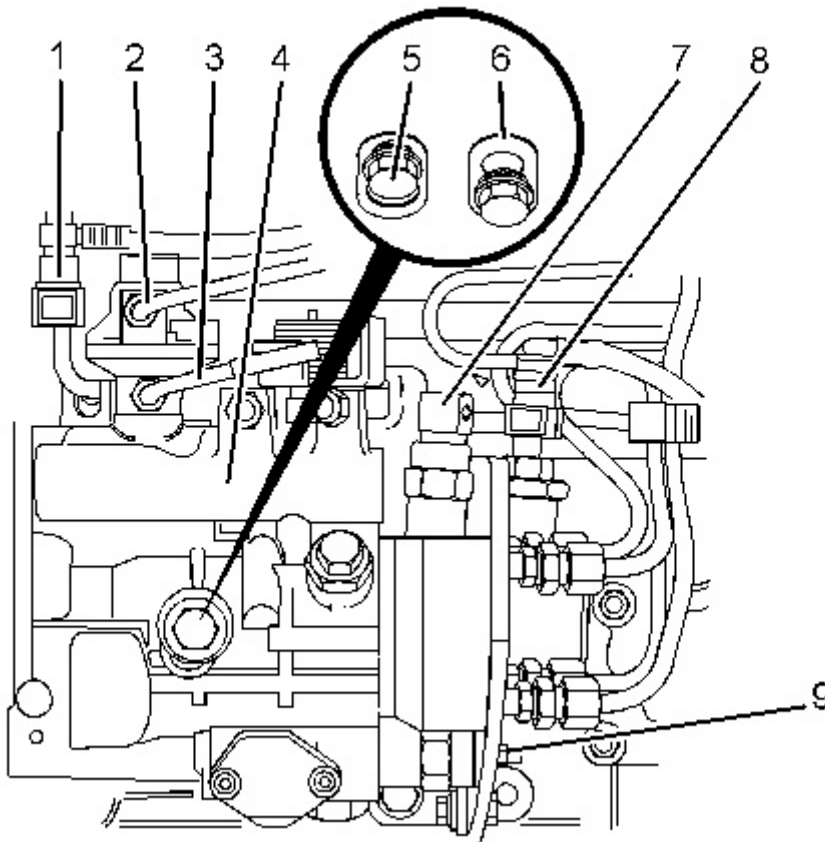
**Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.**

**Dispose of all fluids according to local regulations and mandates.**

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**Note:** Put identification marks on all hoses, on all hose assemblies, on wires and on all tube assemblies for installation purposes. Plug all hose assemblies and tube assemblies. This helps to prevent fluid loss and this helps to keep contaminants from entering the system.

1. Turn the fuel supply to the OFF position.
  2. Turn the battery disconnect switch to the OFF position.
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Illustration 1  
Typical example

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3. Disconnect plastic tube assemblies (1) and (8) from fuel injection pump (4).
4. Disconnect tube assembly (3) from fuel injection pump (4).
5. Remove the fuel injection lines. Refer to Disassembly and Assembly, "Fuel Injection Lines - Remove".
6. Remove tube assembly (2).
7. Disconnect the harness assembly from solenoid (7).
8. Disconnect the harness assembly from solenoid (9).
9. Use Tooling (A) in order to rotate the crankshaft so that number one piston is at the top center position on the compression stroke. Refer to Systems Operation, Testing and Adjusting, "Finding Top Centre Position for No.1 Piston".
10. Use Tooling (B) in order to lock the camshaft in the correct position. Use Tooling (C) in order to lock the crankshaft in the correct position. Refer to Disassembly and Assembly, "Gear Group (Front) - Remove" for the correct procedure.
11. Remove the backlash from the fuel pump gear. Lock the fuel injection pump in the correct position and remove the fuel pump gear. Refer to Disassembly and Assembly, "Fuel Pump Gear - Remove and Install" for the correct procedure.
12. Loosen locking screw (5). Rotate spacer (6) in order to allow locking screw (5) to tighten against the shaft of the fuel injection pump. Rotate the fuel injection pump gear in a counterclockwise direction in order to remove the backlash. Tighten locking screw (5) to a torque of 17 N·m (13 lb ft).

**Note:** Locking screw (5) must be tightened in order to prevent the shaft of the fuel injection pump from rotating. The shaft of the fuel injection pump must not be rotated after the fuel injection pump has been removed from the engine.

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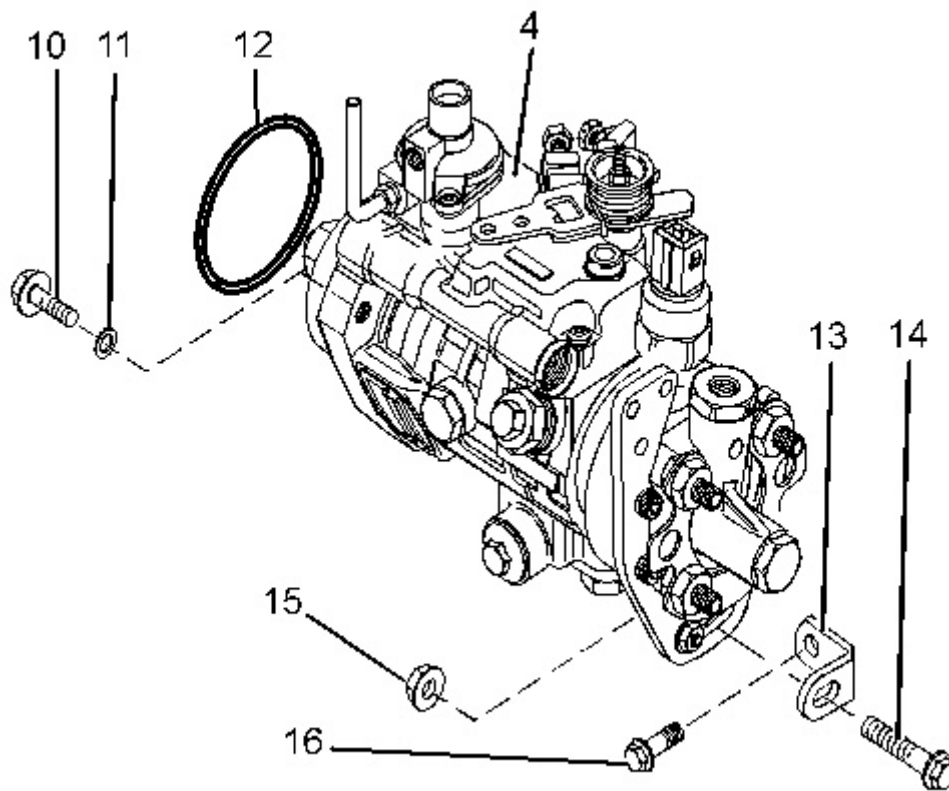


Illustration 2

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13. Remove nut (15). Remove bolt (14).
  14. Remove bolt (16) and bracket (13) from the cylinder block.
  15. Remove bolts (10) and washers (11) in order to remove fuel injection pump (4).
- Note:** The fuel injection pump should be supported by hand as the bolts are removed.
16. Remove the fuel injection pump from the front housing. Remove O-ring seal (12).

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