



Service Repair Manual

Models

320D2 Excavator

Product: EXCAVATOR

Model: 320D2 EXCAVATOR MDJ

Configuration: 320D2 Excavators MDJ00001-UP (MACHINE) POWERED BY C7.1 Engine

Disassembly and Assembly C7.1 (Mech) Engines for Caterpillar Built Machines

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i04780453

Fuel Injection Pump - Install - With Electronic Governor

SMCS - 1251-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A ⁽¹⁾	9U-6198	Crankshaft Turning Tool	1
A ⁽²⁾	5P-7306	Housing	1
	5P-7305	Engine Turning Tool	1
B	136-4632	Timing Pin (Crankshaft)	1
	268-1966	Adapter	1
C	230-6284	Timing Pin (Camshaft)	1

⁽¹⁾ The Crankshaft Turning Tool is used on the front pulley.

⁽²⁾ This Tool is used in the aperture for the electric starting motor.

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

NOTICE

Ensure that all adjustments and repairs that are carried out to the fuel system are performed by authorized personnel that have the correct training.

Before beginning ANY work on the fuel system, refer to Operation and Maintenance Manual, "General Hazard Information and High Pressure Fuel Lines" for safety information.

Refer to System Operation, Testing and Adjusting, "Cleanliness of Fuel System Components" for detailed information on the standards of cleanliness that must be observed during ALL work on the fuel system.

1. Inspect the bore in the front housing for damage. If the bore is damaged, replace the front housing. Refer to Disassembly and Assembly, "Housing (Front) - Remove" for the correct procedure.

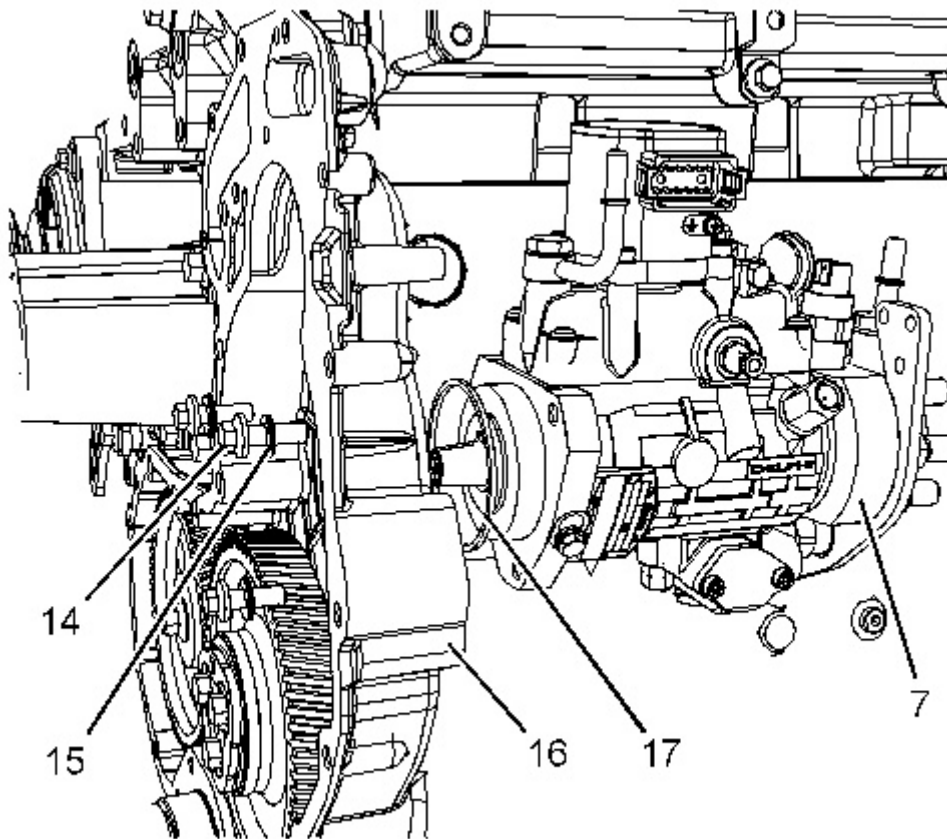


Illustration 1

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2. Install a new O-ring seal (17) to fuel injection pump (7).
3. Install new sealing washers (15) to bolts (14).
4. Carefully install fuel injection pump (7) to front housing (16).

Note: The fuel injection pump should be supported by hand as the bolts are installed.

5. Install bolts (14) to fuel injection pump (7) hand tight.
6. Tighten bolts (14) to a torque of 22 N·m (195 lb in).

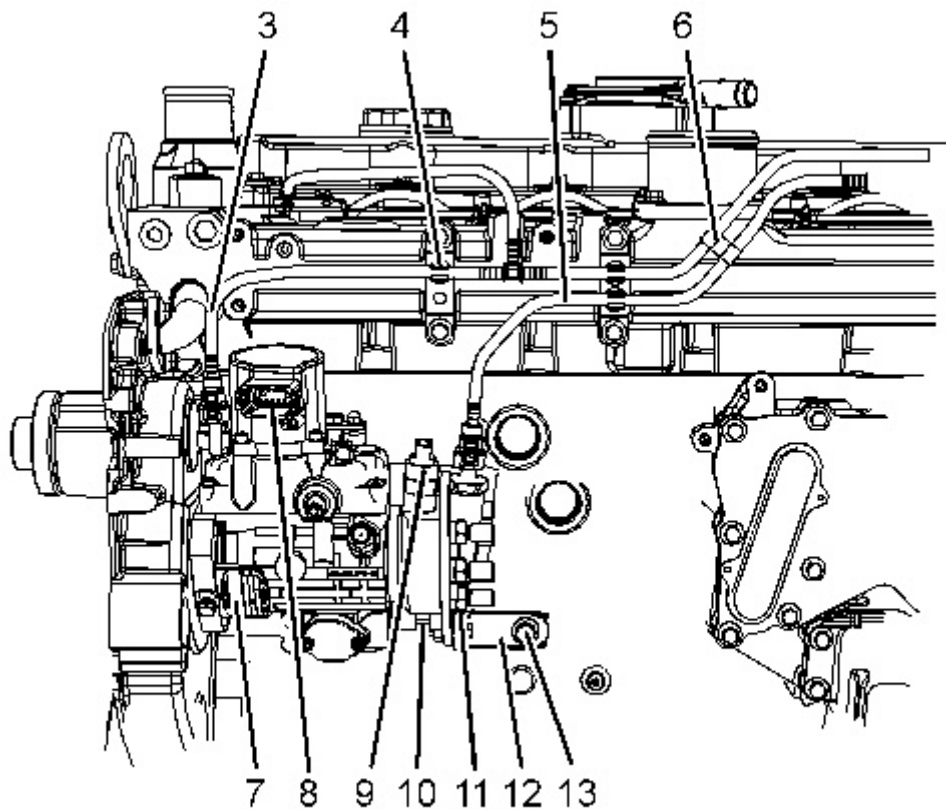


Illustration 2

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7. Position bracket (12) onto the cylinder block and the fuel injection pump. Install bolt (13) to the cylinder block finger tight.
 8. Install the nut and bolt (11) to fuel injection pump (7) finger tight.
 9. Tighten bolts (13) to a torque of 44 N·m (32 lb ft). Tighten the nut and bolt (11) to a torque of 22 N·m (195 lb in).
- Note:** Ensure that the fuel injection pump is not stressed as the bolts for the bracket are tightened.
10. Ensure that the No. 1 cylinder is at top dead center on the compression stroke. Refer to Systems Operation, Testing and Adjusting, "Fuel Injection Timing - Check". If necessary, 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 Center Position for No.1 Piston" for the correct procedure.
 11. Use Tooling (C) in order to lock the camshaft in the correct position. Use Tooling (B) in order to lock the crankshaft in the correct position.
 12. Install the fuel injection pump gear to fuel injection pump (7). Refer to Disassembly and Assembly, "Fuel Injection Pump Gear - Install".
 13. Remove Tooling (C) and Tooling (B).

14. Install the fuel injection lines. Refer to Disassembly and Assembly, "Fuel Injection Lines - Install" for the correct procedure.
 15. Remove the plugs from fuel injection pump (7).
 16. Remove the caps from plastic tube assembly (3), and plastic tube assembly (5).
 17. Connect plastic tube assembly (3), and plastic tube assembly (5) to fuel injection pump (7).
 18. Install plastic tube assembly (3), and plastic tube assembly (5) to clips (4) and clip (6).
 19. Connect the OEM harness assembly to governor (8).
 20. Connect the OEM harness assemblies to solenoid (9) and solenoid (10).
 21. If necessary, connect the OEM harness assemblies to solenoid (10).
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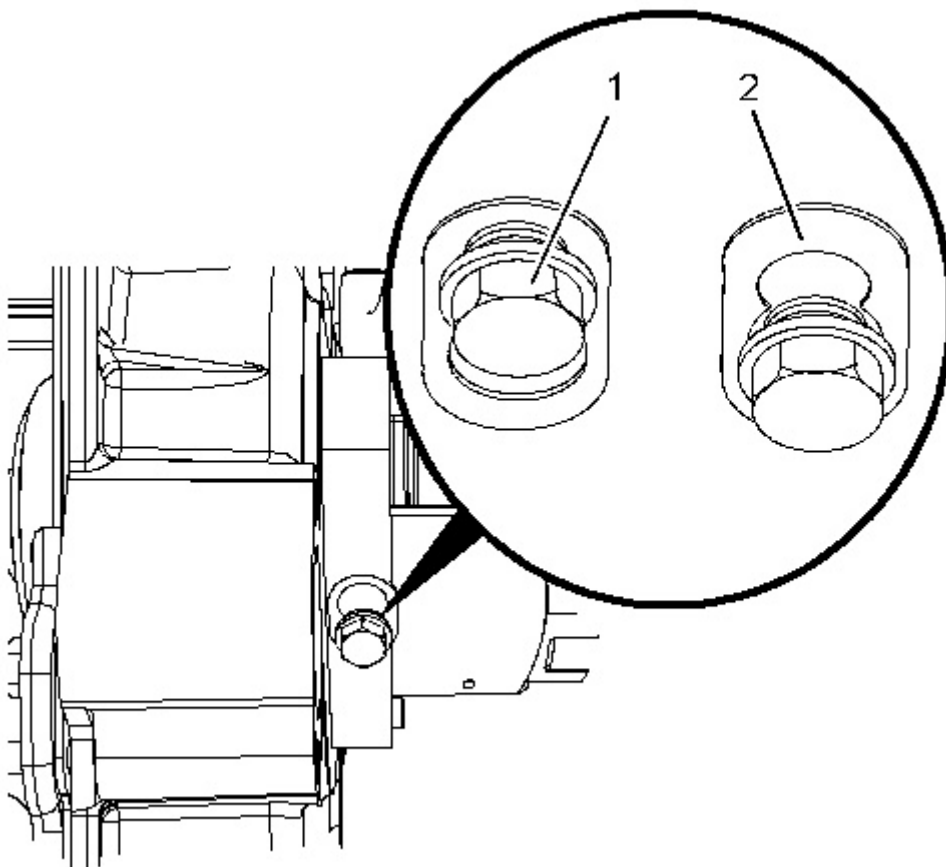


Illustration 3

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22. Loosen locking screw (1). Rotate spacer (2) in order to allow locking screw (1) to tighten against spacer (2). Tighten locking screw (1) to a torque of 12 N·m (106 lb in).

Note: Ensure that the fuel injection pump is in the unlocked position.

23. Turn the fuel supply to the OFF position.
24. Turn the battery disconnect switch to the ON position.

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