# **CATERPILLAR®**

# Service Repair Manual

# **Models**

430F Backhoe Loader

Model: 430F BACKHOE LOADER LNH

Configuration: 430F Backhoe Loader LNH00001-UP (MACHINE) POWERED BY C4.4 Engine

### **Disassembly and Assembly**

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

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i02764060

## Gear Group (Front) - Remove and Install

**SMCS - 1206-010** 

### **Removal Procedure**

Table 1

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

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

#### Start By:

- a. If the engine is equipped with an air compressor, remove the air compressor. Refer to Disassembly and Assembly, "Air Compressor Remove and Install".
- b. If the engine is equipped with a vacuum pump, remove the vacuum pump. Refer to Disassembly and Assembly, "Vacuum Pump Remove and Install".
- c. If the engine is equipped with an accessory drive, remove the accessory drive. Refer to Disassembly and Assembly, "Accessory Drive Remove and Install".
- d. Remove the front cover. Refer to Disassembly and Assembly, "Front Cover Remove and Install".

<sup>(2)</sup> 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

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

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.

e. Remove the valve mechanism cover. Refer to Disassembly and Assembly, "Valve

Note: Care must be taken in order to ensure that the fuel injection pump timing is not lost during the removal of the front gear group. Carefully follow the procedure in order to remove the gear group.

1. 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".

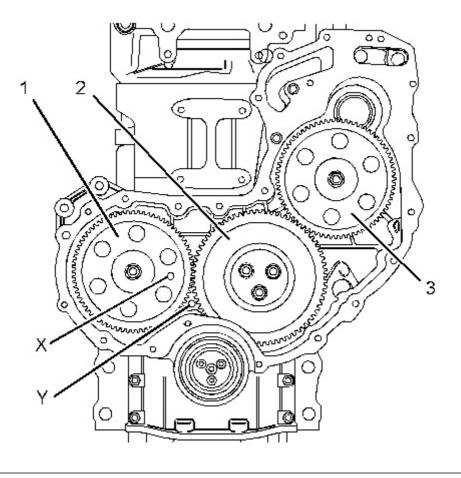


Illustration 1 g01247433

Typical example

2. Install Tooling (B) through hole (X) in camshaft gear (1) into the front housing. Use Tooling (B) in order to lock the camshaft in the correct position. Install Tooling (C) into hole (Y) in the front housing. Use Tooling (C) in order to lock the crankshaft in the correct position. Refer to Systems Operation, Testing and Adjusting, "Finding Top Centre Position for No.1 Piston".

**Note:** Do not use excessive force to install Tooling (C). Do not use Tooling (C) to hold the crankshaft during repairs.

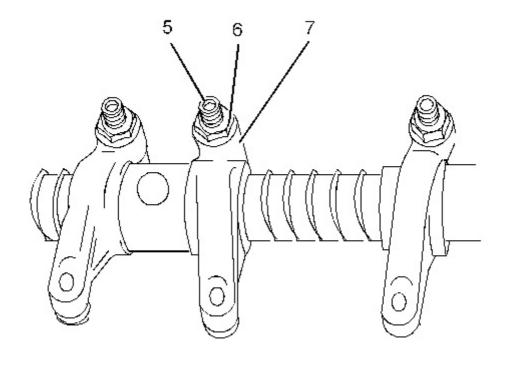


Illustration 2 g01322693

Typical example

3. Loosen nuts (6) on all rocker arms (7). Unscrew adjusters (5) on all rocker arms (7) until all valves are fully closed.

**Note:** Failure to ensure that ALL adjusters are fully unscrewed can result in contact between the valves and pistons.

4. Apply sufficient pressure to fuel injection pump gear (3) in a counterclockwise direction in order to remove the backlash. Lock the fuel injection pump in this position. Refer to Disassembly and Assembly, "Fuel Pump Gear - Remove" for the correct procedure.

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