



Service Repair Manual

Models

436C BACKHOE LOADER

Product: BACKHOE LOADER

Model: 436C BACKHOE LOADER 8TN

Configuration: 436C Backhoe Loader Center Pivot, Single Tilt 8TN00925-01315 (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly 3054 Engine for Caterpillar Built Machines

Media Number -SEN6241-13

Publication Date -01/08/2008

Date Updated -04/08/2008

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Pistons and Connecting Rods - Install

SMCS - 1225-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
B	1U-6684	Piston Ring Compressor	1
C	8T-0455	Liner Projection Tool Group	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Thoroughly clean all of the components.
2. Lubricate the piston and the cylinder liner with clean engine oil.
3. Rotate the crankshaft until the connecting rod journal is at the bottom center. Lubricate the connecting rod journal with clean engine oil.
4. Install the upper connecting rod bearing cap in the connecting rod. Ensure that the locating tab is correctly installed in the connecting rod.
5. Lubricate the bearing for the upper connecting rod journal with clean engine oil.

- Align the piston rings on the piston so that the distance between the gaps is 120 degrees.

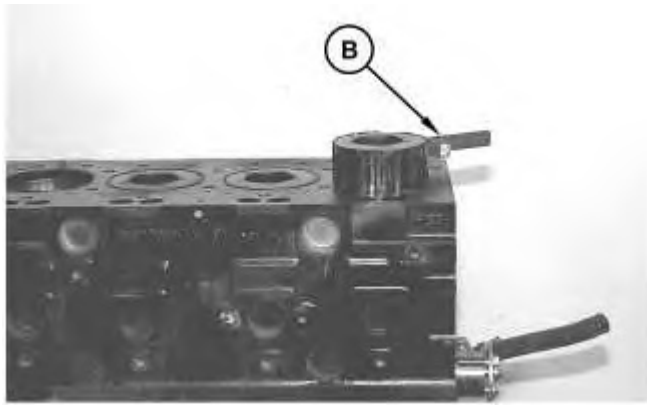


Illustration 1

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- Install Tooling (B) on the piston.

Note: Ensure that Tooling (B) is installed correctly and that the piston can easily slide out of the Tooling.

Note: The arrow or "FRONT" Mark that is on the top of the piston must be toward the front of the engine.

- Push the piston and the connecting rod assembly into the cylinder liner and onto the connecting rod journal.
- Install the lower connecting rod bearing in the connecting rod cap. Ensure that the locating tab is correctly installed in the connecting rod cap.
- Lubricate the lower connecting rod bearing with clean engine oil.

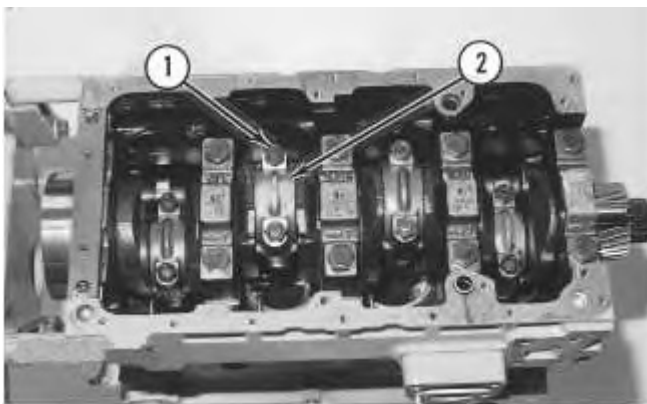


Illustration 2

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- Install connecting rod caps (2) with the bolts and nuts (1) .

12. Use the following procedure with serrated connecting rods and flat connecting rods:
 - a. If the connecting rod cap is held in position with bolts and nuts, tighten the nuts to a torque of 125 N·m (92 lb ft).
 - b. If the connecting rod cap is held in position with bolts, tighten the bolts to a torque of 155 N·m (114 lb ft).
13. Use the following procedure with hydraulically fractured connecting rods:

Note: Do not reuse the bolts. New bolts should be used.

 - a. Tighten the bolts to a torque of 70 N·m (52 lb ft).
 - b. Tighten the bolts for an additional 120 degrees.
14. Rotate the crankshaft in order to ensure that there is no binding.
15. Use Tooling (C) in order to check the height of the piston above the cylinder block. Refer to Testing and Adjusting, "Piston Height - Inspect".

End By:

- a. Install the piston cooling jets. Refer to Disassembly and Assembly, "Piston Cooling Jets - Remove and Install".
- b. Install the engine oil pump. Refer to Disassembly and Assembly, "Engine Oil Pump - Install".
- c. Install the cylinder head. Refer to Disassembly and Assembly, "Cylinder Head - Install".

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Connecting Rod Bearings - Remove

SMCS - 1219-011

Removal Procedure

Start By:

- A. Remove the engine oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".

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.

Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

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