

Product: EXCAVATOR

Model: 311D LRR EXCAVATOR DWR

Configuration: 311D LRR Excavator DWR00001-UP (MACHINE) POWERED BY C4.2 Engine

Disassembly and Assembly C4.2 Engine for Caterpillar Built Machines

Media Number -KENR8105-04

Publication Date -01/06/2013

Date Updated -12/06/2013

i02510046

Pistons and Connecting Rods - Install

SMCS - 1225-012

Installation Procedure

Table 1

| Required Tools | | | |
|----------------|-------------|------------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 1U-6684 | Piston Ring Compressor | 1 |
| B | 6V-9120 | Socket ⁽¹⁾ | 1 |

⁽¹⁾ Tool (B) is a 46 mm socket.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: Refer to Disassembly and Assembly, "Connecting Rod Bearings - Install" for the inspection procedure of the connecting rod bearings and the crankshaft connecting rod journals.

1. Put clean engine oil on the crankshaft journals and on the inside of the cylinder bores. Put clean engine oil on the piston rings and the connecting rod bearings.
 2. Use Tooling (B) to rotate the crankshaft until the bearing journals are at the bottom center. The bearing journals that are at the bottom center are for the piston installation.
-

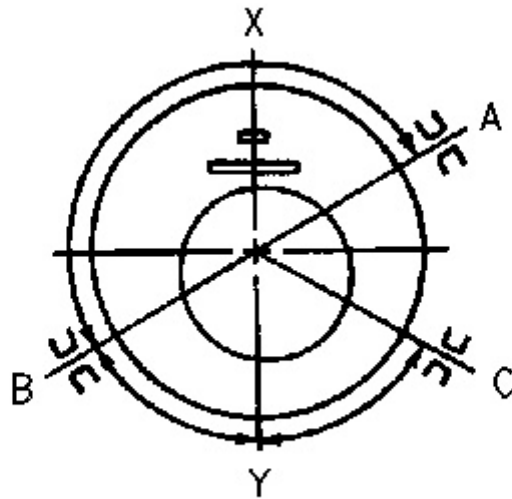


Illustration 1

g00524492

- (A) End gap for No. 1 ring (top compression ring)
- (B) End gap for No. 2 ring (intermediate compression ring)
- (C) End gap for oil control ring
- (X) Camshaft side of engine block
- (Y) Side of engine with combustion chamber

3. Move the piston rings on the pistons until the ring openings are separated by approximately 120 degrees.

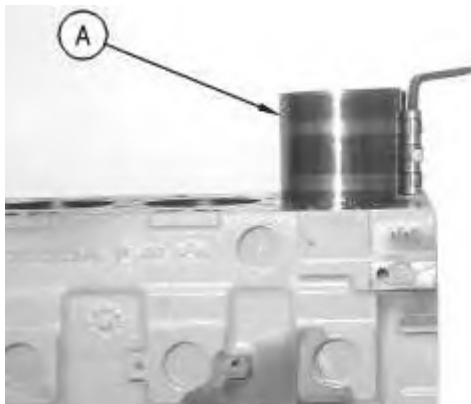


Illustration 2

g00534944

4. Put the piston in the cylinder liner. Align the identification marks on the top of the piston to the camshaft side of the cylinder block. Put Tooling (A) in position on the cylinder block and compress the piston rings.
5. Align the piston and connecting rod with the crankshaft. Use a soft faced hammer to tap the piston into the cylinder bore until Tool (A) comes off the piston.

Note: Ensure that Tooling (A) is installed correctly in order to allow the piston and the connecting rod to easily slip into the cylinder block.

Note: Use tape or rubber tubing on connecting rod bolts to protect the crankshaft journals. The sharp edges of the connecting rod bolts could damage the surface of the connecting rod journal.

6. Before the connecting rod contacts the crankshaft, install the rod bearing upper half in the respective connecting rod. Make sure that the bearing tab properly engages with the slot in the connecting rod.
7. Place clean engine oil on the surface of the upper half of the connecting rod bearing. Guide the connecting rod into position on the crankshaft.
8. Install the lower half of the connecting rod bearing in the correspondingly marked connecting rod cap. Put clean engine oil on the surface of the lower half of the connecting rod bearing and on the connecting rod bolts.

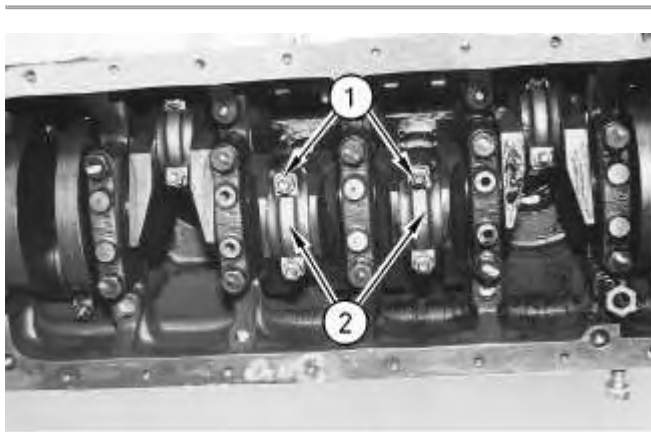


Illustration 3

g00534937

9. Install connecting rod cap (2) and connecting rod nuts (1). Tighten both of the nuts to a torque of $103 \pm 5 \text{ N}\cdot\text{m}$ ($76 \pm 4 \text{ lb ft}$).
10. Repeat Steps 1 through 9 for the remainder of the piston and connecting rods.

End By:

- a. Install the oil supply tube. Refer to Disassembly and Assembly, "Crankshaft - Install".
 - b. Install the engine oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".
 - c. Install the cylinder head. Refer to Disassembly and Assembly, "Cylinder Head - Install".
-

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com