



# Service Repair Manual

## **Models**

160H ES Motor Grader

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Product: MOTOR GRADER

Model: 160H ES MOTOR GRADER 6WM

Configuration: 160H Motor Grader 6WM00001-UP (MACHINE) POWERED BY 3306 Engine

## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i00987487

# Connecting Rod Bearings - Remove

SMCS - 1219-011

## Removal Procedure

### Start By:

- A. Remove the engine oil pump. Refer to Disassembly and Assembly, "Engine Oil Pump - Remove".
- B. Remove the oil pan plate. Refer to Disassembly and Assembly, "Engine Oil Pan Plate - Remove and Install".

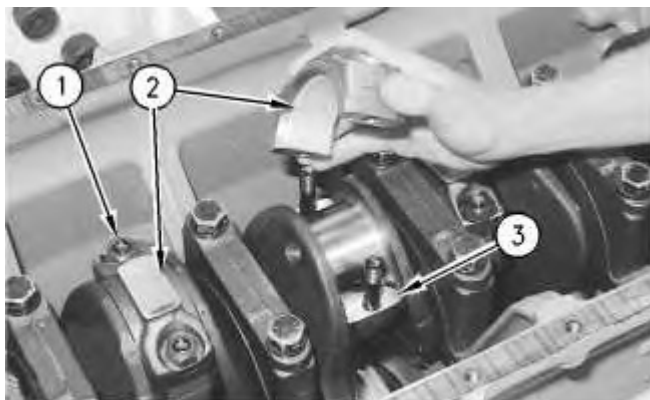
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### NOTICE

**Keep all parts clean from contaminants.**

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

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1. Turn the crankshaft until two of the pistons are at the bottom center. Remove connecting rod nuts (1) from the connecting rod. Remove connecting rod cap (2) for each connecting rod.

**Note:** The connecting rod bolts can fall out of the connecting rods when the connecting rod nuts are removed.

2. Remove the lower half of the connecting rod bearing from connecting rod cap (2) .
3. Carefully push the connecting rod into the cylinder liner for bearing removal. Remove the upper half of the connecting rod bearing from the connecting rod.
4. Repeat Steps 1 through 3 for the remaining connecting rod bearings.

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# Connecting Rod Bearings - Install

SMCS - 1219-012

## Installation Procedure

Table 1

Tool	Part Number	Part Description	Qty
A	-	Plastigage	-

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### NOTICE

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**Note:** Install the connecting rod bearings dry when the clearance checks are made. Put clean engine oil on the connecting rod bearings for final assembly.

1. Install the upper half of the connecting rod bearing in the connecting rod.
2. Install the lower half of the connecting rod bearing in the connecting rod.

**Note:** Align the tabs on the back of the connecting rod bearings with the tab grooves in the connecting rod.

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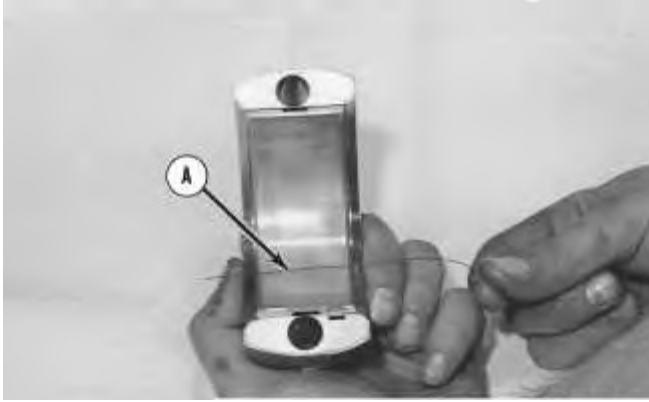


Illustration 1

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3. In order to check the connecting rod bearing clearance, put Tool (A) on the connecting rod bearing, as shown.
4. Put clean engine oil (SAE 30) on the connecting rod bolts.

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### NOTICE

**When the connecting rod caps are installed, ensure that the identification marks are aligned.**

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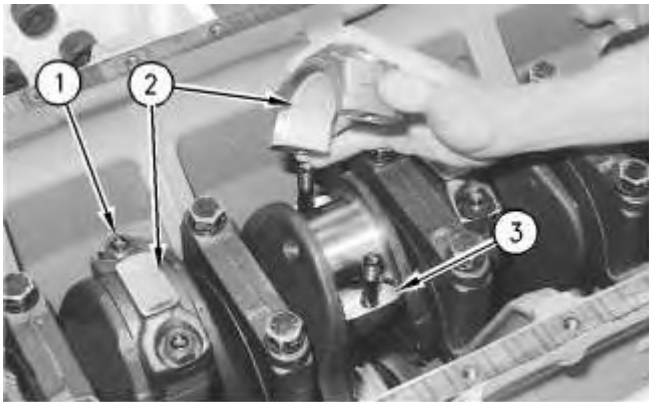


Illustration 2

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- Note:** Do not turn the crankshaft when Tool (A) is positioned.
5. Ensure that connecting rod (3) is in position on the crankshaft. Install connecting rod cap (2) and connecting rod nuts (1) on connecting rod (3) .
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