



Service Repair Manual

Models

M318 Excavator

Product: EXCAVATOR

Model: M318 EXCAVATOR 8SS

Configuration: M318 Excavator 8SS00001-UP (MACHINE) POWERED BY 3116 Engine

Disassembly and Assembly

446 and 446B Backhoe Loaders, Lexion 450 Combine, 3114 and 3116 Engines, IT18F Integrated Toolcarrier, D6M Track-Type Tractor and 928F, 950F and 950G Wheel Loaders

Media Number -SEN3611-18

Publication Date -01/05/2009

Date Updated -27/05/2009

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Pistons and Connecting Rods - Install

SMCS - 1225-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	187-1462	Piston Ring Compressor ⁽¹⁾	1
	173-5529	Piston Ring Compressor ⁽²⁾	1
B	4C-5593	Anti-Seize Compound	1

⁽¹⁾ Used for 3114 and 3116 Engines

⁽²⁾ Used for 3126 Engines

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: For information on reusability of the pistons, refer to the following list.

- Guideline For Reusable Parts And Salvage Operations, SEBF8049, "Pistons"

- Guideline For Reusable Parts And Salvage Operations, SEBF8290, "Visual Inspection of Two-Piece Pistons"
- Tool Operating Manual, NEHS0775, "Using the 186-0190 Piston Ring Gauge on Steel Crown, Two-Piece Pistons used in 3126 and 3126B Engines"

Note: For information on reusability of the connecting rods, refer to the following list.

- Guideline For Reusable Parts And Salvage Operations, SEBF8063, "Visual Inspection of Connecting Rods"
- Guideline For Reusable Parts And Salvage Operations, SEBF8064, "Salvage of Non-Serrated Connecting Rods"

Note: For information on reusability of the piston pins, refer to the following list.

- Guideline For Reusable Parts And Salvage Operations, SEBF8051, "Piston Pins and Retaining Rings"
- Guideline For Reusable Parts And Salvage Operations, SEBF8303, "Procedure to Inspect Piston Pins"

Note: For information on reusability of the rod eye bushing, refer to the following list.

- Guideline For Reusable Parts And Salvage Operations, SEBF8242, "Verification of Connecting Rod Eye Bushing Retention Using 5P-8639 Connecting Rod Bushing Press Group"
- Guideline For Reusable Parts And Salvage Operations, SEBF8274, "Using Rod Eye Bushing Installation and Removal Tools"



Illustration 1

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1. Install the bolts (5) and the upper half of connecting rod bearing (4) . Ensure that the bearing tab engages with the slot in connecting rod (3) .
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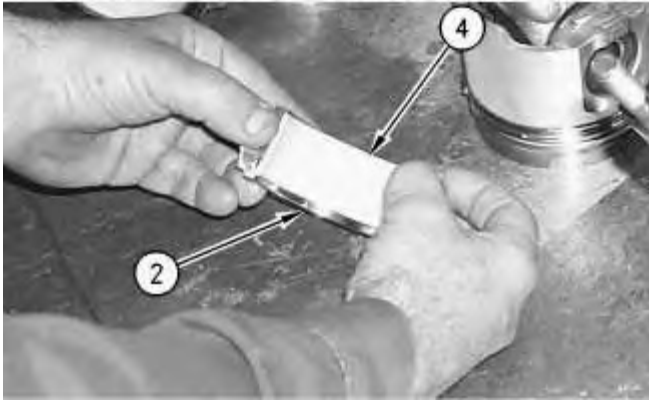


Illustration 2

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2. Install the lower half of connecting rod bearing (4) . Ensure that the bearing tab engages with the slot in connecting rod cap (2) .
3. Place clean engine oil on the following items: the pistons, the piston rings, the cylinder bore, the upper half of the connecting rod bearing and the lower half of the connecting rod bearing.

NOTICE

Install short pieces of rubber hose over both connecting rod bolts in order to protect the crankshaft from the threaded portion of the connecting rod bolts.



Illustration 3

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4. Install short pieces of rubber hose (6) over both connecting rod bolts.
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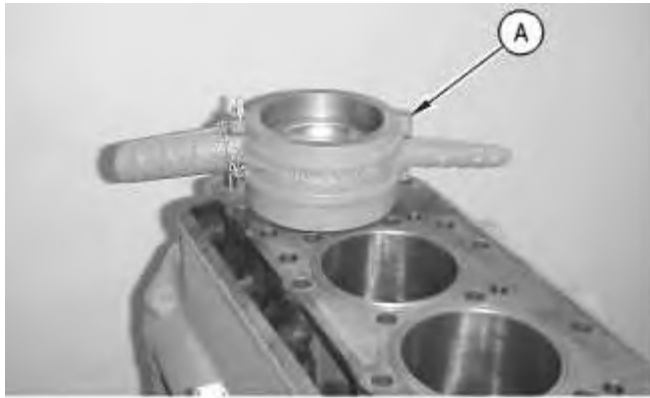


Illustration 4

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Note: Each piston ring end gap must be positioned 120 degrees from each other.

5. Install Tooling (A) in order to compress the piston rings.
6. With the number one crankshaft throw at the bottom center, install the piston and connecting rod in the engine. Ensure that the proper piston and connecting rod are in the corresponding cylinder with the bearing retainer notch toward the right side of the engine.

Note: The etched number on the connecting rod must be on the right side of the engine in the corresponding cylinder.

7. Line up the piston and the connecting rod with the crankshaft. Use a soft hammer and tap the piston into the cylinder bore until Tooling (A) comes off of the piston.
8. Use a soft hammer in order to tap the piston into the cylinder bore while you guide the connecting rod onto the crankshaft.
9. Remove the hoses that were installed in Step 4 from the connecting rod bolts.

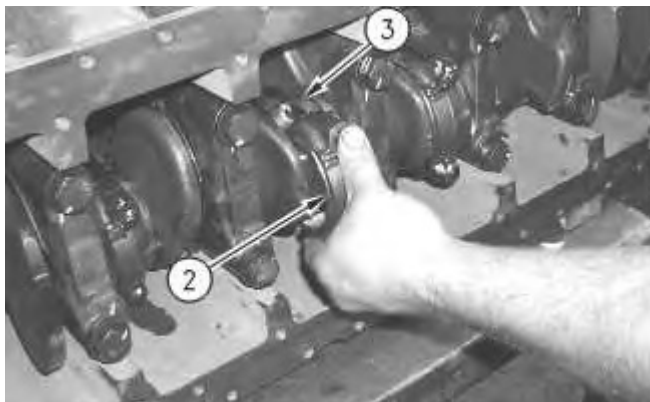


Illustration 5

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10. Install connecting rod bearing cap (2) on the connecting rod (3) . Ensure that the number on connecting rod bearing cap (2) matches the number on the connecting rod (3) . Ensure that the numbers are on the same side.

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