

Product: WHEEL LOADER

Model: 924F WHEEL LOADER 5NN

Configuration: 924F Wheel Loader 5NN00001-UP (MACHINE) POWERED BY 3114 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

i03706818

Crankshaft Main Bearings - Remove

SMCS - 1203-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	2P-5518	Bearing Tool	1

Start By:

- Remove the engine balancer shaft on 3114 engines. Refer to Disassembly and Assembly, "Engine Balancer Shaft - Remove and Install".
- Remove the engine oil pump. Refer to Disassembly and Assembly, "Engine Oil Pump - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

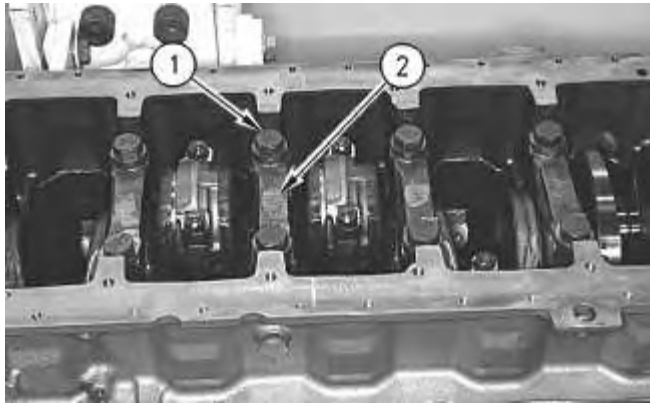


Illustration 1

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1. Remove bolts (1) that hold crankshaft main bearing cap (2). Remove crankshaft main bearing cap (2).
2. Remove the lower half of the crankshaft main bearing from crankshaft main bearing cap (2).

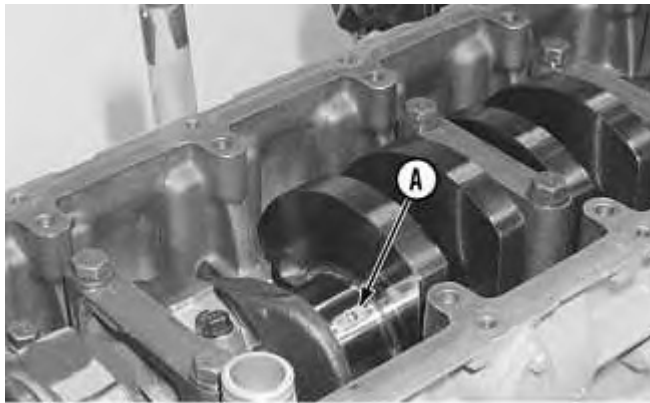


Illustration 2

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NOTICE

If the crankshaft is turned in the wrong direction, the tab of the crankshaft main bearing will be pushed between the crankshaft and the cylinder block. this can cause damage to either or both the crankshaft and the cylinder block.

Note: Some crankshaft main bearing journals do not have an oil hole. Place a thin piece of soft material that will not damage the journal against the end of the bearing. Ensure that the material is on the opposite side of the bearing tab. Hit the bearing with the soft material until the bearing tab is free from the bearing tab groove in the cylinder block.

3. Use the following steps in order to remove the upper half of crankshaft main bearings:

- a. Turn the crankshaft until Tooling (A) can be installed in the crankshaft journal. Install Tooling (A).
 - b. Turn the crankshaft in order to remove the upper half of the crankshaft main bearing. In order to get the tab out first, the crankshaft must be turned in the correct direction.
 - c. Check the condition of the crankshaft main bearings. Refer to the Guideline For Reusable Parts, SEBF8009, "Main and Connecting Rod Bearings" and Guideline For Reusable Parts, SEBV0544, "Engine Bearings and Crankshafts".
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i06542070

Crankshaft Main Bearings - Install

SMCS - 1203-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	2P-5518	Bearing Tool	1
B	8T-5096	Dial Indicator Group	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: For information on the reusability of the crankshaft main bearings, refer to the Guideline For Reusable Parts And Salvage Operations, SEBF8009, "Main and Connecting Rod Bearings".

Note: Place clean engine oil on the crankshaft main bearings prior to assembly. The tabs on the back side of the crankshaft main bearings must fit in the grooves of main bearing caps and the cylinder block.

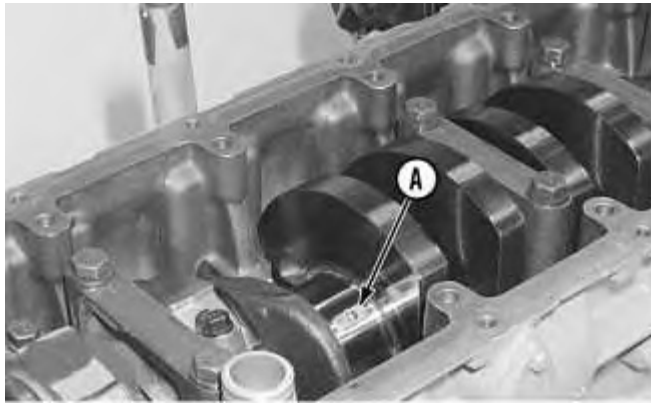


Illustration 1

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1. Use Tooling (A) and install the upper halves of the crankshaft main bearings in the cylinder block. Do not put oil on the back of the crankshaft main bearing.

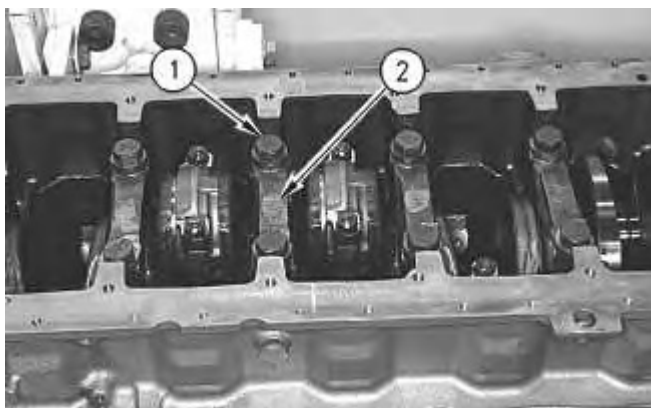
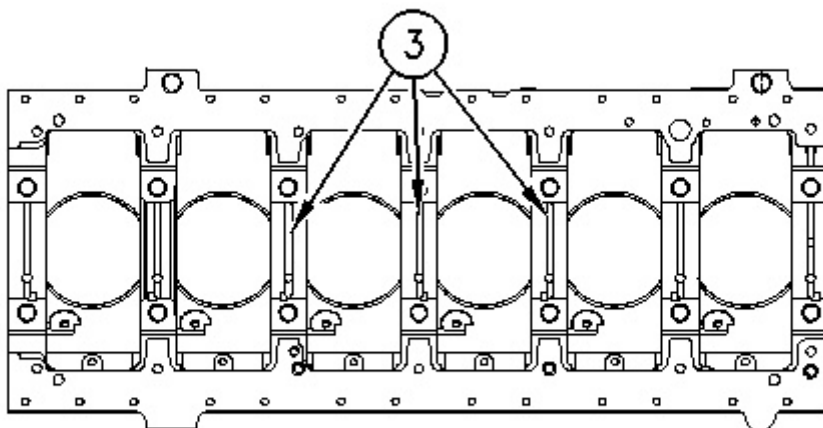


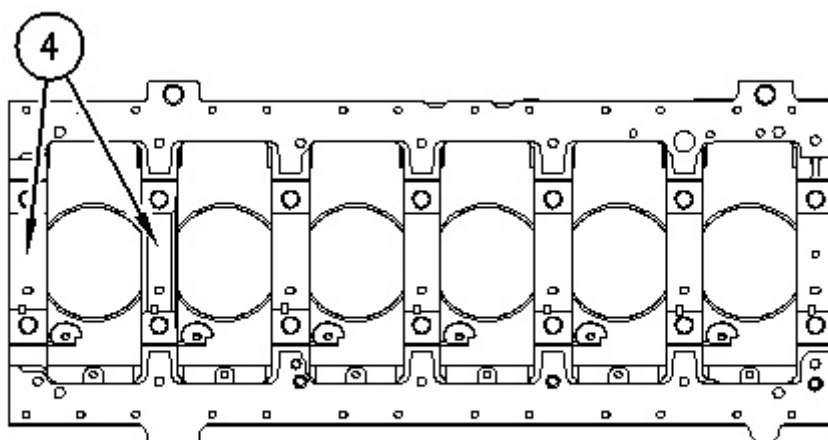
Illustration 2

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2. Install the lower halves of the crankshaft main bearings in crankshaft main bearing caps (2). Do not put oil on the back of the crankshaft main bearing.



Six-cylinder engine with oil grooves in the cylinder block



Six-cylinder engine with no oil grooves in the cylinder block

NOTICE

Crankshaft main bearing caps should be installed with the part number toward the right side of the engine. Crankshaft main bearing caps are to be identified by stamped numbers 1 through 7 located on the bottom surface. The thrust plate is to be installed in the original position on the crankshaft main bearing.

- Oil grooves are machined in the saddles of the cylinder blocks of all 3114 engines and earlier 3116 engines. No oil grooves are machined in the saddles of the cylinder block on later 3116 engines and all 3126 engines.
 - Install the bearing caps with the bearing tabs on the same side. A six cylinder engine has an order of 1 through 7 (front to rear). A four cylinder engine has an order of 1 through 5 (front to rear). Place crankshaft main bearing caps (2) in position on the cylinder block. Place clean engine oil or Molylube on the bolt threads and the washer face. Install bolts (1).
 - Tighten bolts (1) to a torque of 54 ± 7 N·m (40 ± 5 lb ft). Tighten each bolt (1) for an additional 90 ± 5 degrees ($1/4$ turn).
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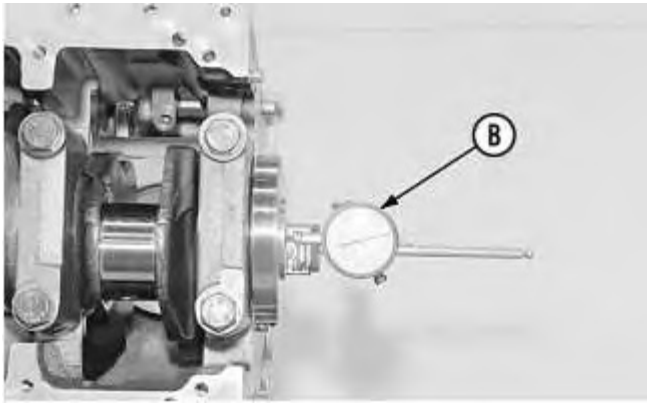


Illustration 5

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6. Check the end play of the crankshaft with Tooling (B). The end play must be 0.07 mm (0.003 inch) to 0.32 mm (0.013 inch).

End By:

- a. Install the engine oil pump. Refer to Disassembly and Assembly, "Engine Oil Pump - Install".
 - b. Install the engine balancer shaft on 3114 engines. Refer to Disassembly and Assembly, "Engine Balancer Shaft - Remove and Install".
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