



# Service Repair Manual

## **Models**

323F SA Mobile Hydraulic  
Excavator

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Product: MOBILE HYD POWER UNIT

Model: 323F OEM MOBILE HYD POWER UNIT P7P

Configuration: 323F SA Mobile Hydraulic Power Unit P7P00001-UP (MACHINE) POWERED BY C4.4 Engine

## Disassembly and Assembly C4.4 Engines for Caterpillar Built Machines

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i05820327

# Crankshaft Main Bearings - Remove and Install - Crankshaft in Position

SMCS - 1203-010

## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A <sup>(1)</sup>	9U-6198	Crankshaft Turning Tool	1
A <sup>(2)</sup>	9U-7336	Housing	1
	5P-7305	Engine Turning Tool	1
B	194-3542	5mm Allen Socket	1

<sup>(1)</sup> The Crankshaft Turning Tool is used on the front pulley.

<sup>(2)</sup> This Tool is used in the aperture for the electric starting motor.

### Start By:

- If the engine is equipped with a balancer, remove the balancer. Refer to Disassembly and Assembly, "Balancer - Remove" for the correct procedure.
- If the engine is not equipped with a balancer, remove the engine oil pump. Refer to Disassembly and Assembly, "Engine Oil Pump - Remove" for the correct procedure.
- Remove the crankshaft rear seal. Refer to Disassembly and Assembly, "Crankshaft Rear Seal - Remove" for the correct procedure.

**Note:** Either Tooling (A) can be used. Use the Tooling that is most suitable.

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## NOTICE

**This procedure must only be used to remove and install the main bearing shells with the crankshaft in position.**

**The removal procedure and the installation procedure must be completed for each pair of main bearing shells before the next pair of main bearing shells are removed.**

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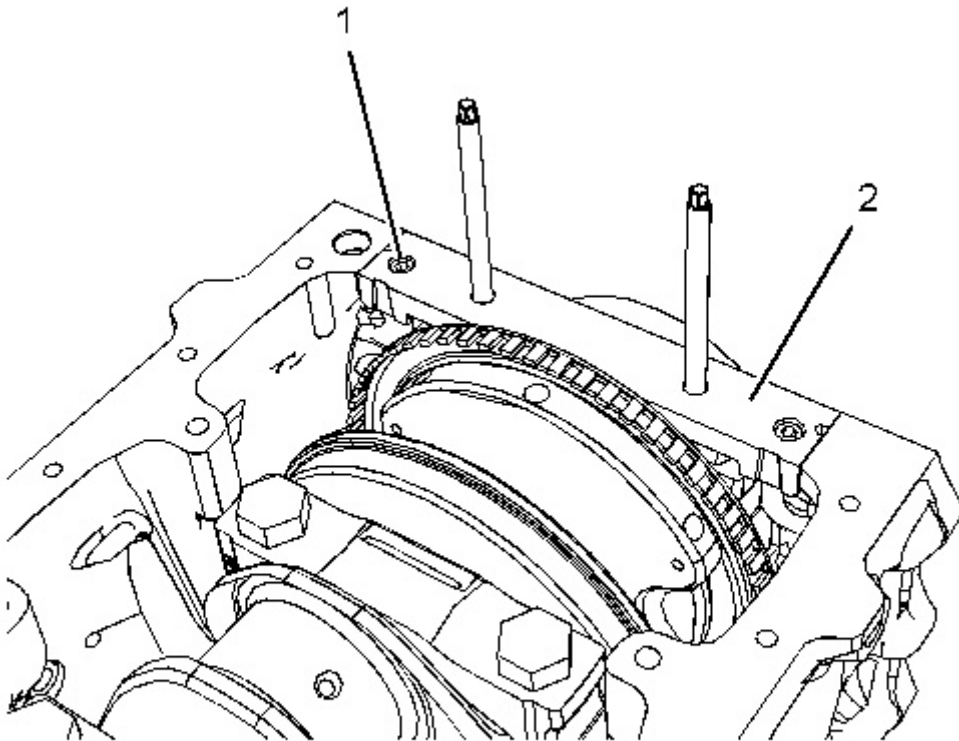
## NOTICE

**Keep all parts clean from contaminants.**

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

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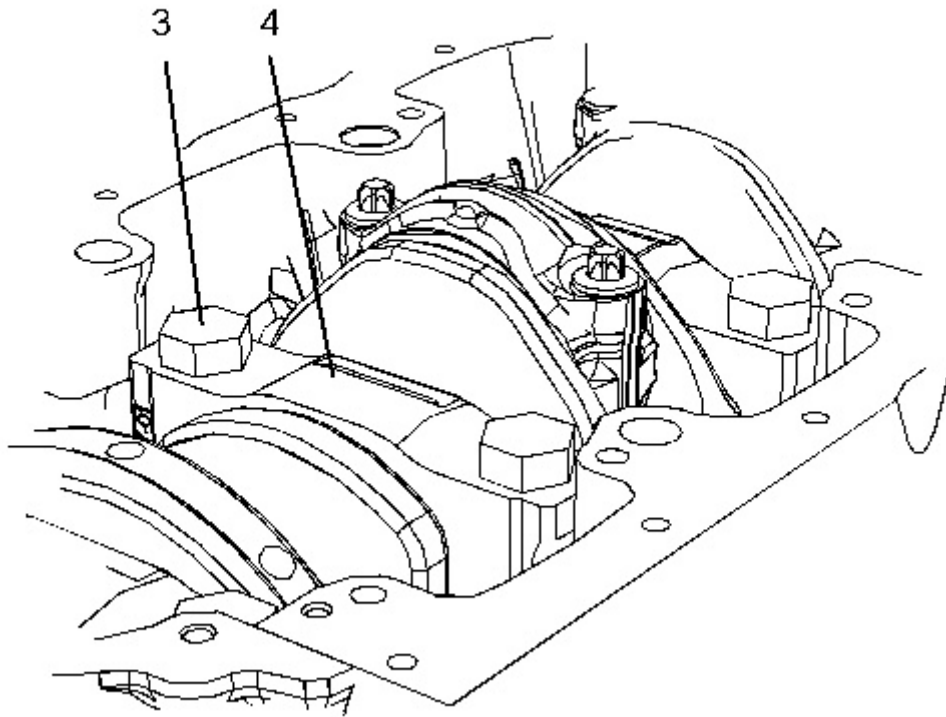


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Illustration 1

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1. Use Tooling (B) in order to remove allen head screws (1). Remove bridge piece (2).
2. Ensure that the main bearing cap is marked for the correct location and orientation.

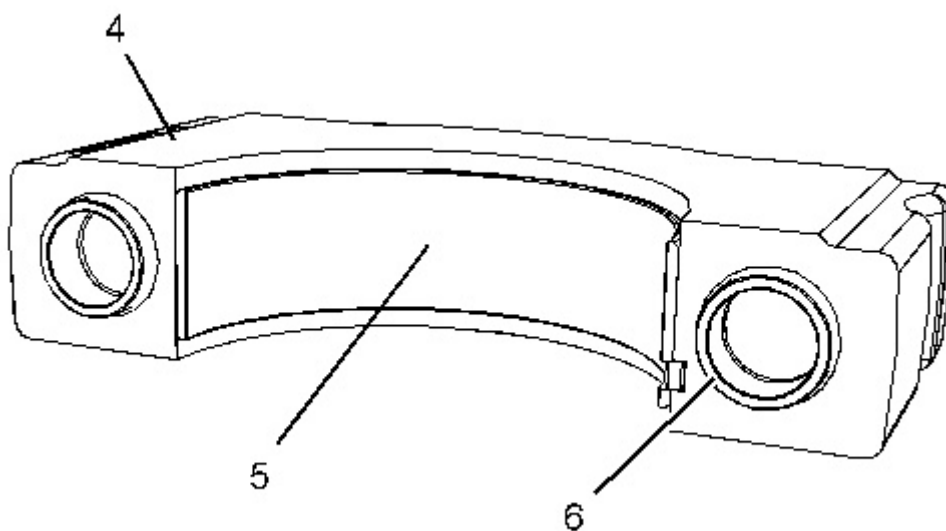


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Illustration 2

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3. Remove bolts (3) and main bearing cap (4) from the cylinder block.



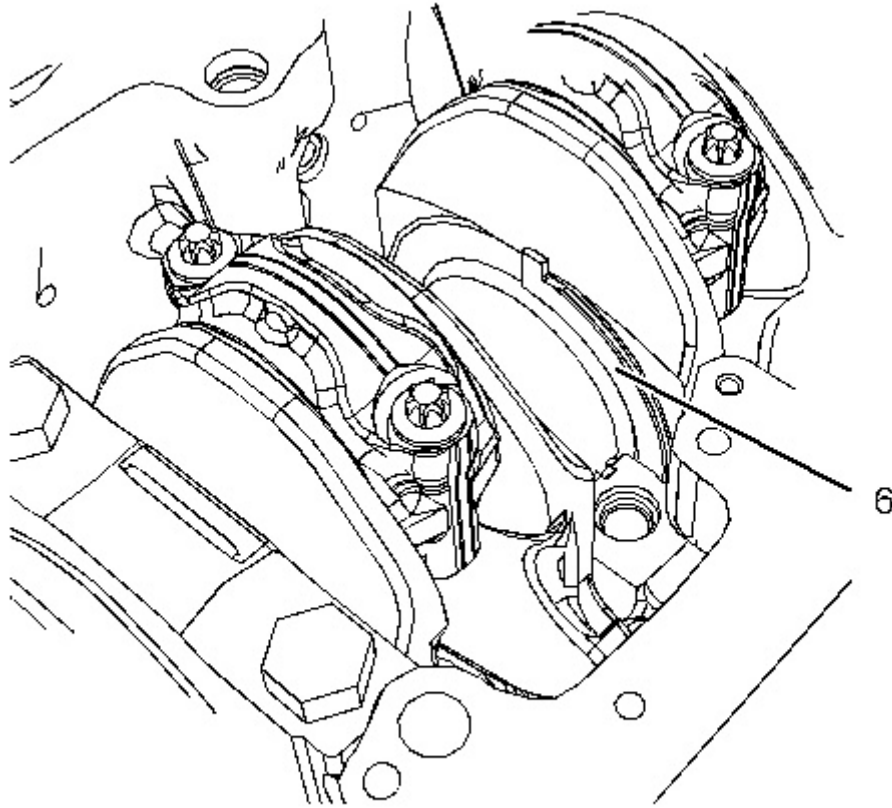
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Illustration 3

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4. Remove lower main bearing shell (5) from main bearing cap (4). Keep the main bearing shell and the main bearing cap together. Take care not to displace dowels (6).

**Note:** The lower main bearing shell is a plain bearing that has no oil holes.



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Illustration 4

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5. For number No. 3 main bearing, remove two thrust washers (7) from the cylinder block. In order to remove thrust washers (7), use Tooling (A) to rotate the crankshaft in the correct direction. If necessary, push the crankshaft toward the front of the engine or push the crankshaft toward the rear of the engine while you rotate the crankshaft, in order to aid removal.

**Note:** The thrust washers have a locating tab at one end.

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