



Service Repair Manual

Models

329E L EXCAVATOR

Product: EXCAVATOR

Model: 329E L EXCAVATOR TST

Configuration: 329E L & 329E LN Excavators TST00001-UP (MACHINE) POWERED BY C7.1 Engine

Disassembly and Assembly C7.1 Engines for Caterpillar Built Machines

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Gear Group (Front) - Remove and Install - Heavy Duty Gear Group (Front)

SMCS - 1206-010

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A ⁽¹⁾	9U-6198	Crankshaft Turning Tool	1
A ⁽²⁾	9U-7336	Housing	1
	5P-7305	Engine Turning Tool	1
B	230-6284	Timing Pin (Camshaft)	1
C	364-9107	Fuel Injection Pump Timing Pin	1
D	136-4632	Timing Pin (Crankshaft)	1
	268-1966	Adapter	1

⁽¹⁾ The Crankshaft Turning Tool is used on the front pulley.

⁽²⁾ This Tool is used in the aperture for the electric starting motor.

Start By:

- a. Remove the front cover. Refer to Disassembly and Assembly, "Front Cover - Remove and Install" for the correct procedure.
 - b. Remove the valve mechanism cover. Refer to Disassembly and Assembly, "Valve Mechanism Cover - Remove and Install" for the correct procedure.
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NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Dispose of all fluids according to local regulations and mandates.

Note: Either Tooling (A) can be used. Use the Tooling that is most suitable. Care must be taken in order to ensure that the fuel injection pump timing is not lost during the removal of the front gear group. Carefully follow the procedure in order to remove the gear group.

1. If the air compressor is equipped with a hydraulic pump, remove the hydraulic pump. Refer to Original Equipment Manufactures (OEM) for the correct procedure.
2. If the engine is equipped, with an air compressor remove the air compressor. Refer to Disassembly and Assembly, "Air Compressor - Remove" for the correct procedure.
3. If the engine is equipped with only a hydraulic pump, remove the hydraulic pump. Refer to the OEM for the correct procedure.
4. Use Tooling (A) in order to rotate the crankshaft so that number one piston is at top dead center on the compression stroke. Refer to System Operation, Testing and Adjusting, "Finding Top Center Position for No.1 Piston" for the correct procedure.

Note: Do not use excessive force to install Tooling (D). Do not use Tooling (D) to hold the crankshaft during repairs.

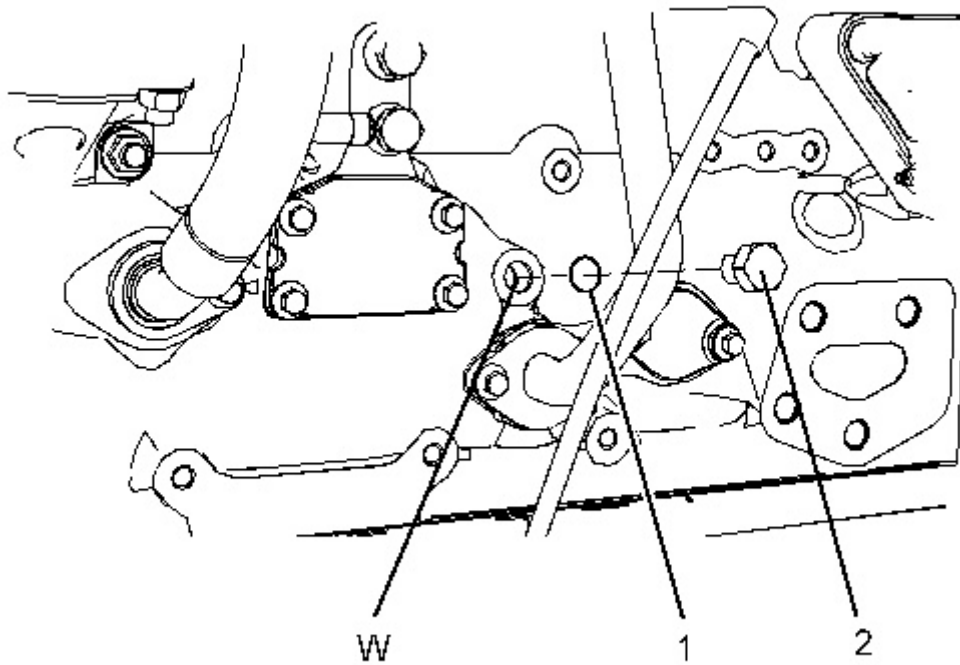


Illustration 1

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5. Remove plug (2) from the cylinder block. Remove O-ring seal (1) from the plug.
 6. Use Tooling (A) in order to rotate the crankshaft so that number one piston is at top dead center on the compression stroke. Refer to System Operation, Testing and Adjusting, "Finding Top Center Position for No.1 Piston" for the correct procedure. Install Tooling (D) through Hole (W) in order to lock the crankshaft.
 7. Remove Tooling (D).
 8. Use Tooling (A) in order to rotate the crankshaft in a clockwise direction and position the crankshaft at 60 degrees after top dead center.
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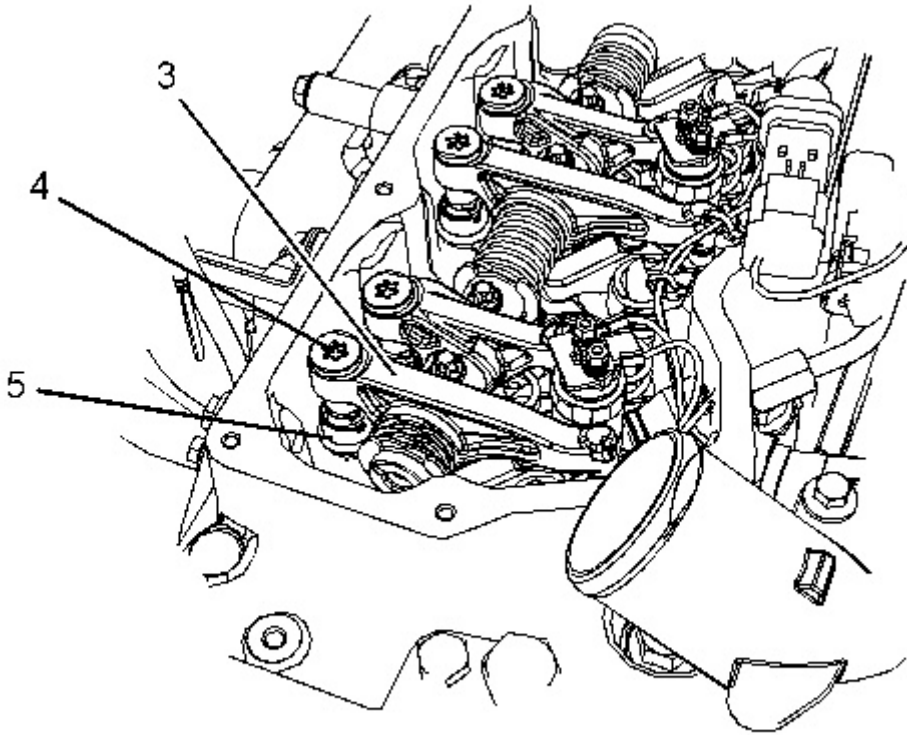


Illustration 2

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9. Loosen threaded inserts (4) on all rocker arms (3). Unscrew threaded inserts (4) on all rocker arms (3) until all valves are fully closed. Ensure that guides (5) for the pushrods are left in position on threaded inserts (4).

Note: Ensure that ALL threaded inserts are fully unscrewed.

10. Use Tooling (A) in order to rotate the crankshaft so that number one piston is at top dead center on the compression stroke. Refer to System Operation, Testing and Adjusting, "Finding Top Center Position for No.1 Piston" for the correct procedure. Install Tooling (D) through Hole (W) in order to lock the crankshaft. Refer to Illustration 1.
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