



Service Repair Manual

Models

312D and 312D L Excavator

Product: EXCAVATOR

Model: 312D EXCAVATOR RHL

Configuration: 312D & 312D L Excavators RHL00001-UP (MACHINE) POWERED BY C4.2 Engine

Disassembly and Assembly C4.2 Engine for Caterpillar Built Machines

Media Number -KENR8105-04

Publication Date -01/06/2013

Date Updated -12/06/2013

i02742863

Gear Group (Front) - Remove - Idler Gear Only

SMCS - 1206-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-6148	Idler Shaft Puller	1
B	1P-0510	Driver Group	1

Start By:

- Remove the front housing. Refer to Disassembly and Assembly, "Housing (Front) - Remove".

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.

Refer to Special Publication, NENG2500, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

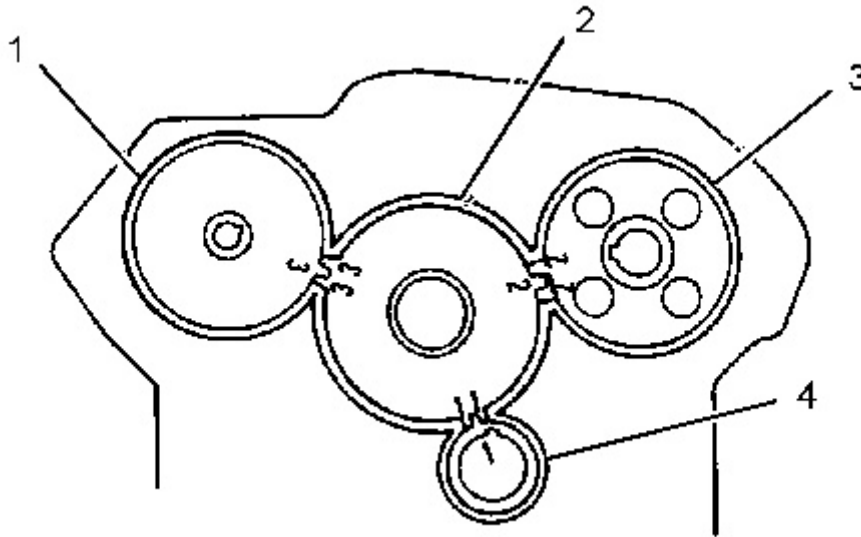


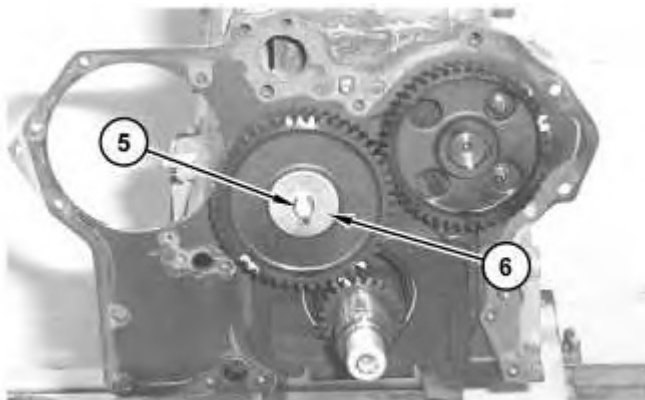
Illustration 1

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- (1) Fuel injection pump drive gear
- (2) Idler gear
- (3) Camshaft gear
- (4) Crankshaft gear

Note: The No. 1 cylinder is at the top center position when these marks are in alignment.

Note: Ensure that the marks on the timing gears are in alignment.



1. Remove idler gear bolt (5) and the washer from the idler gear shaft .
 2. Remove thrust plate (6) from the idler gear shaft.
-



Illustration 3

3. Remove idler gear (2) from the idler gear shaft.
-

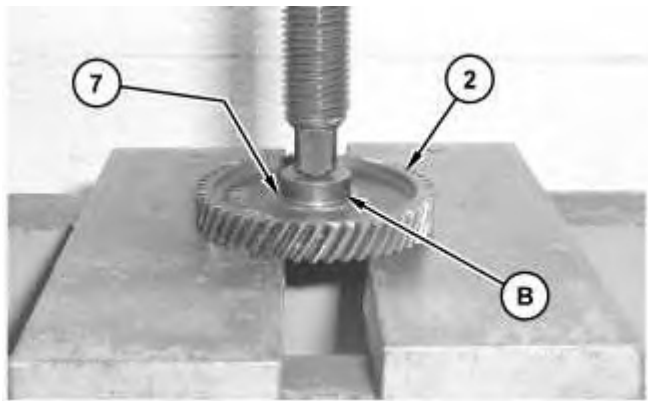
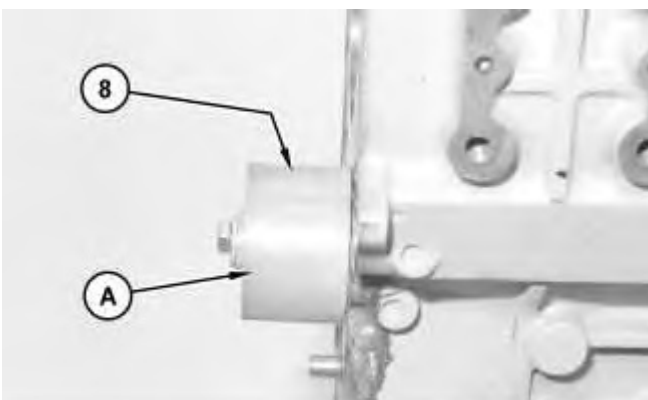


Illustration 4

4. If necessary, use Tooling (A) and a suitable press in order to remove bushing (7) (not shown) from idler gear (2).
-



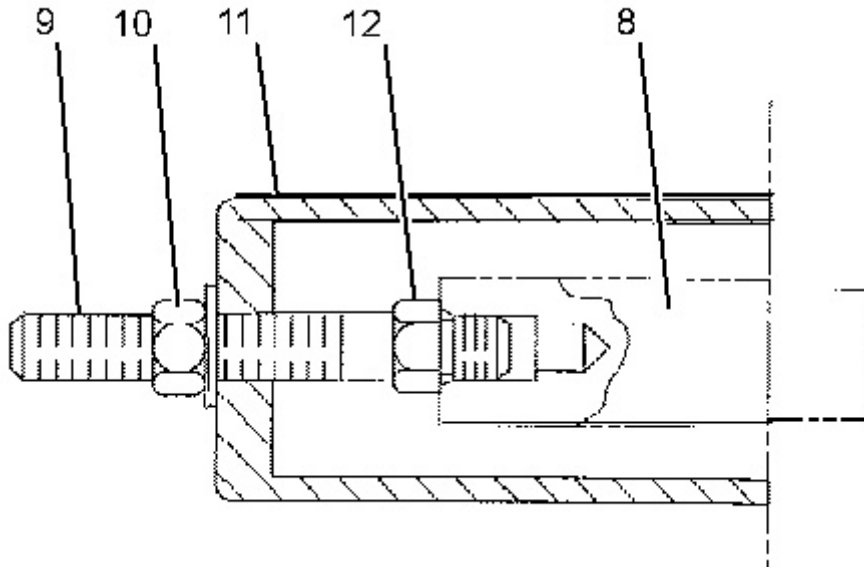


Illustration 6

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5. The following items are components of Tooling (A).

- **9U-6147** Stud (9)
- **6V-8231** Nut (10)
- **9U-6146** Sleeve Assembly (11)
- **8T-4244** Nut (12)

6. Use Tooling (A) in order to remove idler shaft (8) (not shown) from the cylinder block. Check idler shaft (8) for wear and damage. Replace idler shaft (8), if necessary.

Note: See the following list for the removal of the other gears in the front gear group.

- In order to remove camshaft gear (3), refer to Disassembly and Assembly, "Camshaft - Remove".
- In order to remove fuel injection pump gear (1), refer to Disassembly and Assembly, "Fuel Injection Pump - Remove".
- In order to remove the gear from the engine oil pump, refer to Disassembly and Assembly, "Engine Oil Pump - Remove".
- In order to remove crankshaft gear (4), refer to Disassembly and Assembly, "Crankshaft Gear - Remove and Install".

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i02879402

Gear Group (Front) - Install - Idler Gear Only

SMCS - 1206-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
a	1p-0510	Driver Gp	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

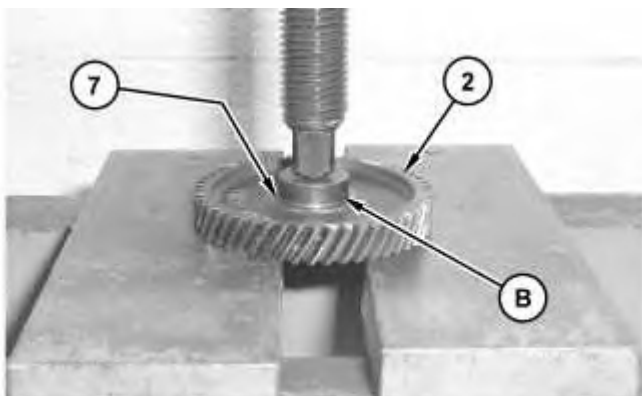


Illustration 1

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1. Use Tooling (A) and a suitable press in order to install a new bushing (7) (not shown), if the bushing was removed.

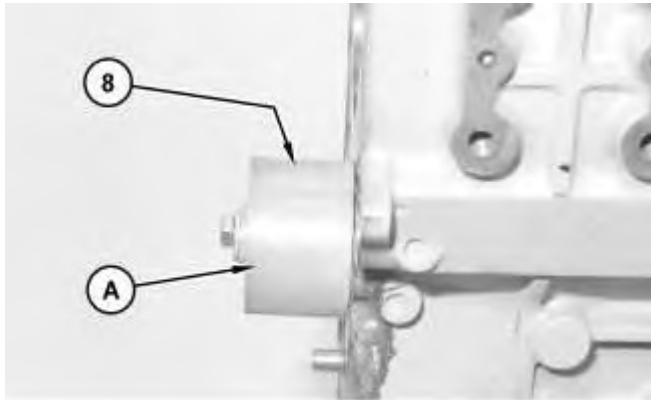


Illustration 2

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2. Lower the temperature of idler shaft (8) . Install idler shaft (8) (not shown) onto the cylinder block.

Note: When idler shaft (8) is installed, ensure that the oil hole of idler shaft (8) is up.

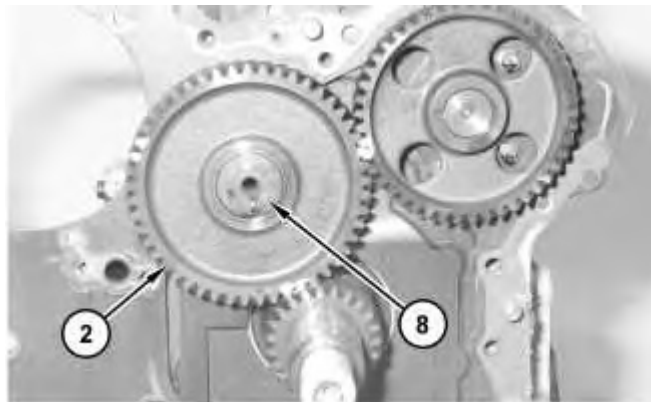


Illustration 3

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3. Install idler gear (2) onto idler shaft (8) .
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