

Product: COMPACT TRACK LOADER

Model: 299D2 XHP COMPACT TRACK LOADER DX9

Configuration: 299D2 and 299D2XHP Compact Track Loader DX900001-UP (MACHINE) POWERED BY C3.8 Engine

## Disassembly and Assembly C3.8 Engines for Caterpillar Built Machines

Media Number -UENR0129-08

Publication Date -01/09/2015

Date Updated -19/05/2016

i04801361

# Idler Gear - Remove and Install

SMCS - 1206

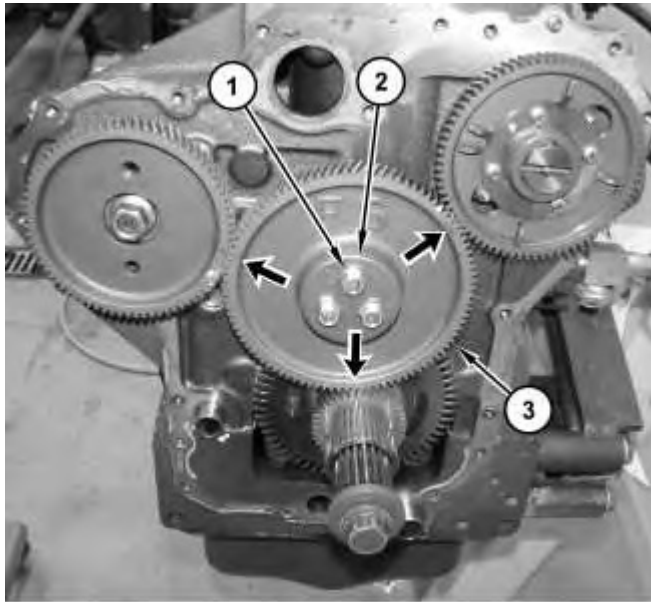
## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	393-2572	Flywheel Stopper	1
B	393-2573	Driver	1

### Start By:

- a. Remove the front housing.
  1. Ensure that number four piston is at the top center position on the compression stroke. Refer to Systems Operation, Testing and Adjusting, "Finding Top Center Position for No. 4 Piston".
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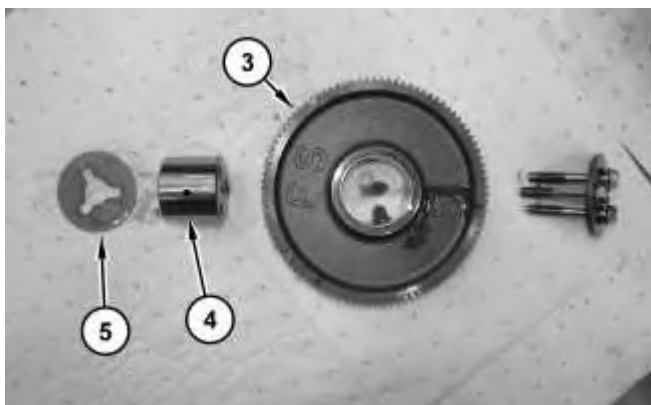
Illustration 1

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2. Ensure that timing marks on the gears are aligned.

Alternatively, make temporary timing marks on the gears in order to show alignment.

3. Install Tooling (A) onto the flywheel. Remove bolts (1) and plate (2).



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Illustration 2

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4. Remove idler gear (3), shaft (4), and plate (5).
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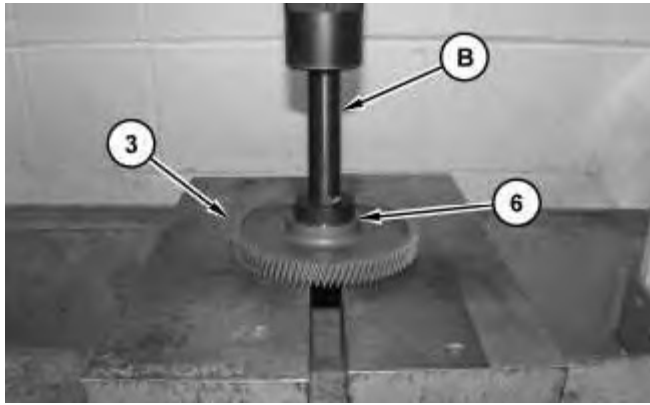


Illustration 3

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5. Use Tooling (B) to remove bushing (6) from idler gear (3).

## Installation Procedure

1. Install idler gear (3) in the reverse order of removal.
  - a. Apply clean engine oil onto the bore of idler gear (3) and bushing (6).
  - b. Ensure that edge of bushing (6) is flush with the edge of the bore that is in idler gear (3).
  - c. Tighten bolts (1) to a torque of  $25.5 \pm 1.5 \text{ N}\cdot\text{m}$  ( $18.8 \pm 1.1 \text{ lb ft}$ ).



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i06662240

### Idler Gear - Remove and Install

SMCS - 1206

S/N - BL21-UP

S/N - BL71-UP

S/N - BY41-UP

S/N - DX21-UP

S/N - DX91-UP

S/N - FD21-UP

S/N - HP21-UP

S/N - MD21-UP

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	393-2572	Flywheel Stopper	1

#### Start By:

- a. Remove the front housing.
1. Ensure that number four piston is at the top center position on the compression stroke. Refer to Systems Operation, Testing and Adjusting, "Finding Top Center Position for No. 4 Piston".

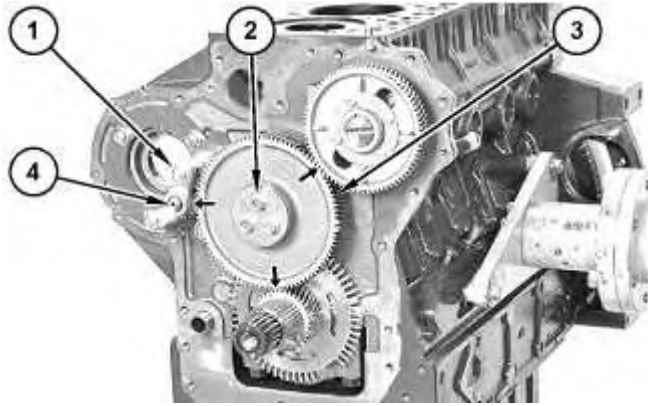


Illustration 1

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2. Ensure that timing marks on the gears are aligned.

Alternatively, make temporary timing marks on the gears to show alignment.

3. Install Tooling (A) onto the flywheel. Remove bolts (2) and idler gear (3).
4. Remove nuts (1) and idler gear (4).

## Installation Procedure

1. Install the idler gears in the reverse order of removal.
  - a. Tighten nuts (1) to a torque of 24 N·m to 27 N·m (212 lb in to 239 lb in).
  - b. Tighten bolts (2) to a torque of 24 N·m to 27 N·m (212 lb in to 239 lb in).

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Date Updated -19/05/2016

i06618977

# Housing (Front) - Remove and Install

SMCS - 1151-010

## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	393-2572	Flywheel Stopper	1
B	-	Three Bond 1217H	-

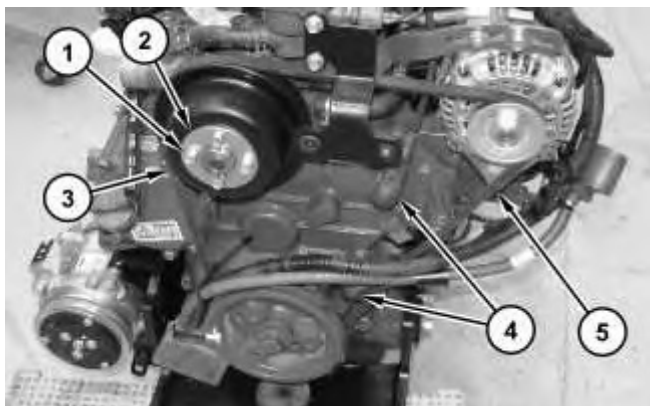
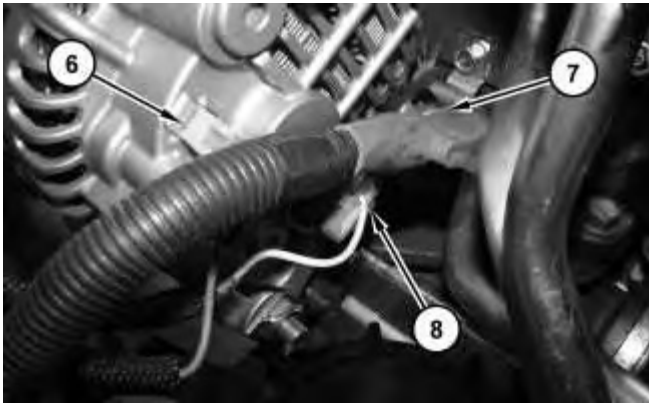


Illustration 1

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1. Remove bolts (1), retainer (2), and crankshaft pulley (3).
2. Disconnect speed sensors (4). Remove belt (5).



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Illustration 2

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3. Disconnect wire assembly (6), cable assembly (7), and harness assembly (8).



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Illustration 3

g02866018

4. Remove bolts (9) to remove alternator (10).



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Illustration 4

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5. Remove bolts (11) to remove cover (12) and the gasket.
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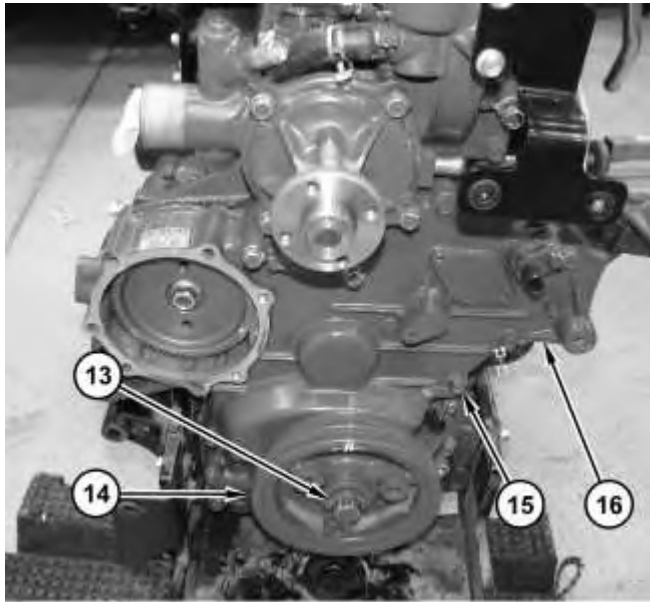


Illustration 5

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6. Install Tooling (A) onto the flywheel. Remove bolt (13) to remove crankshaft pulley (14).
7. Remove bolts (15) to remove front housing (16).

## Installation Procedure

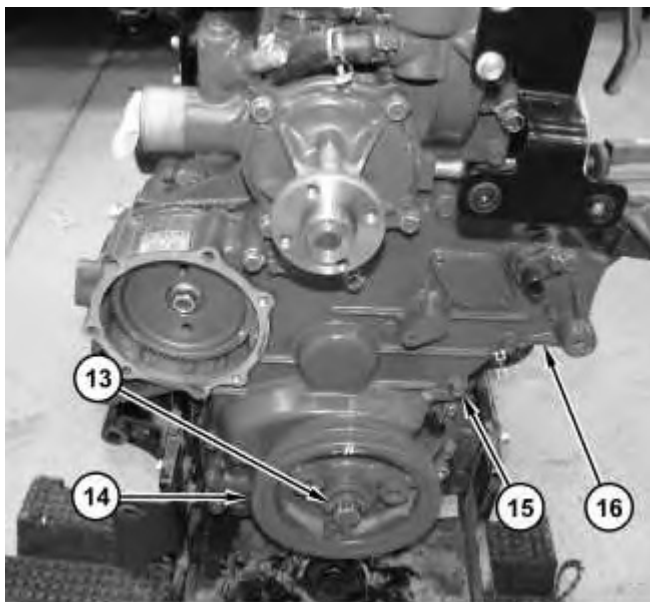


Illustration 6

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