

Product: WHEEL DOZER
Model: 854G WHEEL DOZER AMP
Configuration: 854G Wheel Tractor AMP00001-UP (MACHINE)

Disassembly and Assembly

3500 and 3500B High Displacement Engines for Caterpillar Built Machines

Media Number -SEN1126-33

Publication Date -01/07/2015

Date Updated -14/09/2018

i02928334

Engine Oil Sequence Valves - Remove and Install

SMCS - 1332-010

Removal Procedure

Start By:

- a. Remove the front drive housing. Refer to Disassembly and Assembly, "Front Drive Housing - Remove and Install" or Disassembly and Assembly, "Drive Housing (Front) - Remove and Install".
- b. Remove the flywheel housing. Refer to Disassembly and Assembly, "Flywheel Housing - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

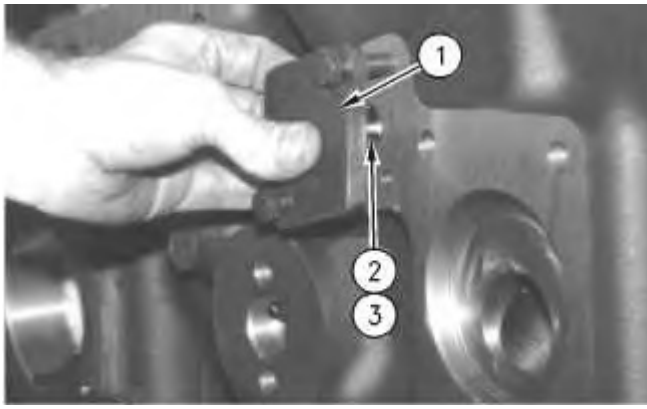


Illustration 1

g00912963



Personal injury can result from parts and/or covers under spring pressure.

Spring force will be released when covers are removed.

Be prepared to hold spring loaded covers as the bolts are loosened.

1. Remove cover (1) from the front of the cylinder block.
2. Remove plunger assembly (2) and spring (3) from the front of the cylinder block.

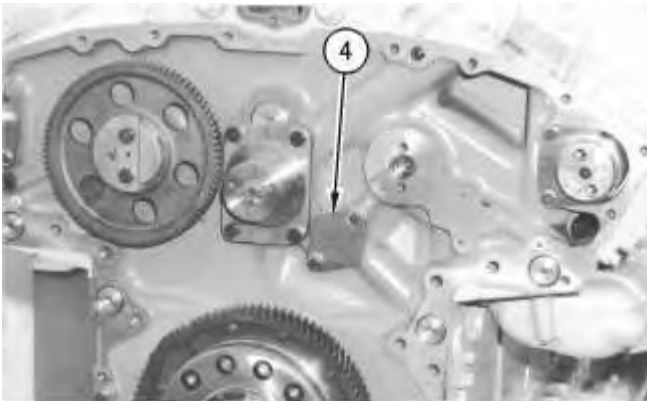


Illustration 2

g00912966



Personal injury can result from parts and/or covers under spring pressure.

Spring force will be released when covers are removed.

Be prepared to hold spring loaded covers as the bolts are loosened.

3. Remove the idler gear and the shaft. Remove cover (4) on the rear of the cylinder block.

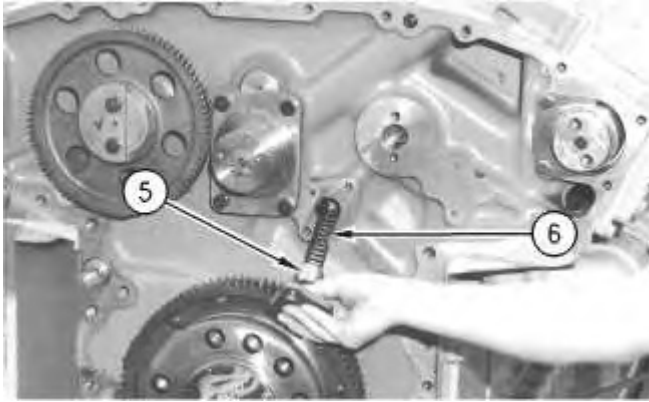


Illustration 3

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4. Remove plunger assembly (5) and spring (6) from the rear of the cylinder block.

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

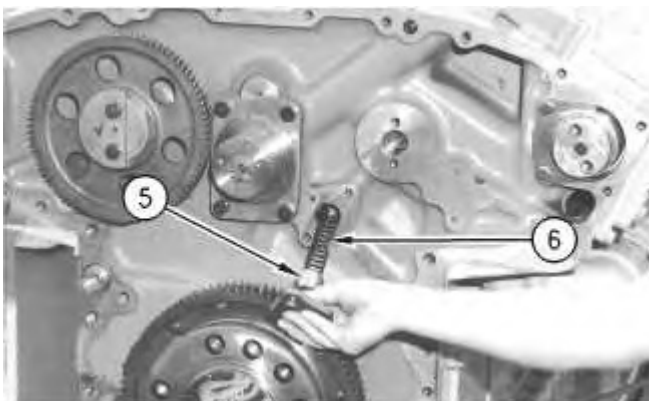


Illustration 4

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1. Place clean engine oil on spring (6) and plunger assembly (5).
2. Install spring (6) and plunger assembly (5).

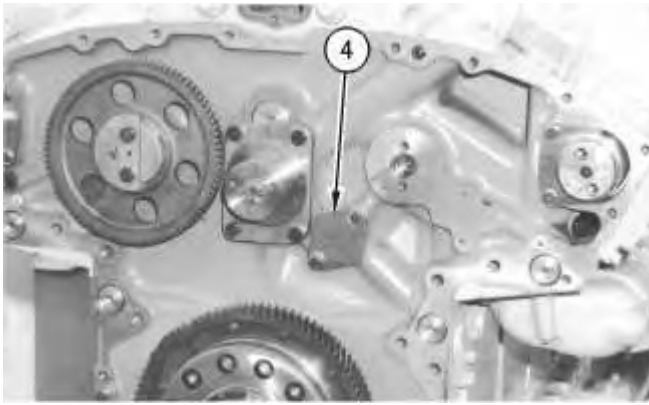


Illustration 5

g00912966



Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

3. Install cover (4) on the rear of the cylinder block. Install the idler gear and the shaft.

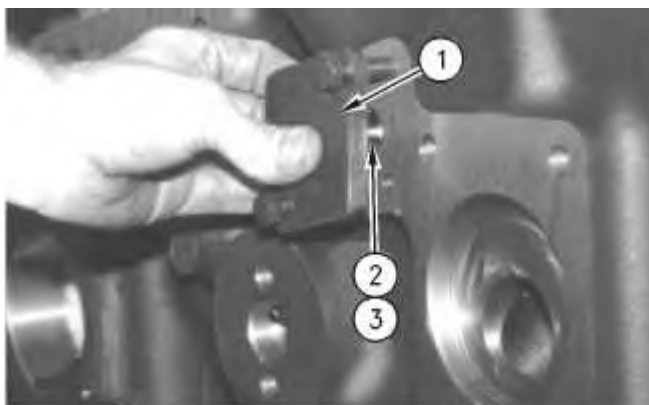


Illustration 6

g00912963



Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

4. Place clean engine oil on spring (3) and plunger assembly (2).
5. Install spring (3) and plunger assembly (2) on the front of the cylinder block.
6. Install cover (1) on the front of the cylinder block.

End By:

- a. Install the flywheel housing. Refer to Disassembly and Assembly, "Flywheel Housing - Install".
 - b. Install the front drive housing. Refer to Disassembly and Assembly, "Front Drive Housing - Remove and Install" or Disassembly and Assembly, "Drive Housing (Front) - Remove and Install".
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i07085932

Gear Group (Rear) - Remove

SMCS - 1206-011; 1212-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0520	Driver Group	1

Start By:

- Remove the flywheel housing. Refer to Disassembly and Assembly, "Flywheel Housing - 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.

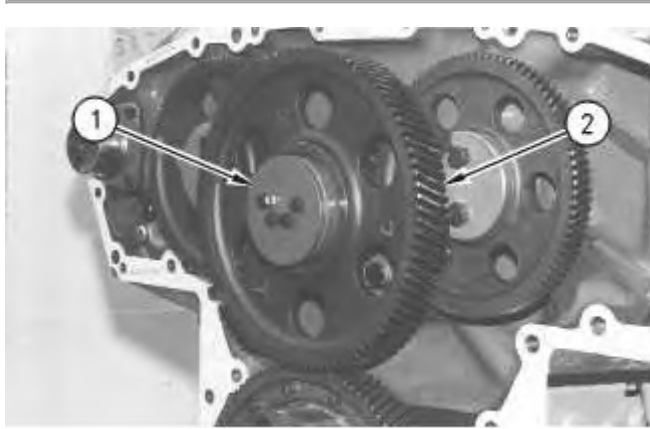


Illustration 1

g00913045

1. Remove plate (1) and gear (2).
-



Illustration 2

g00913049

2. Use Tooling (A) and a suitable press to remove bearing (3) from gear (2).
-

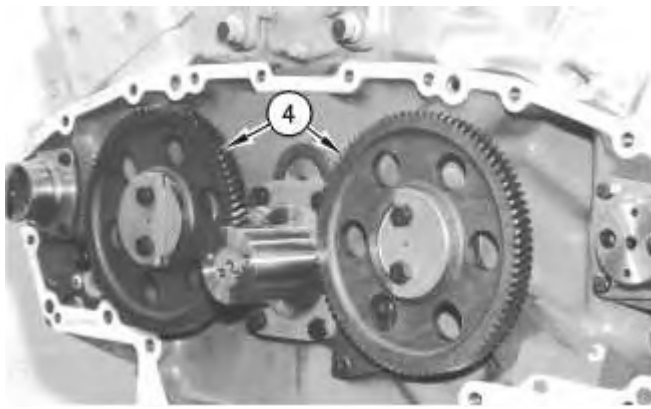


Illustration 3

g00913054

3. Remove the bolts, the washers, and camshaft idler gears (4).

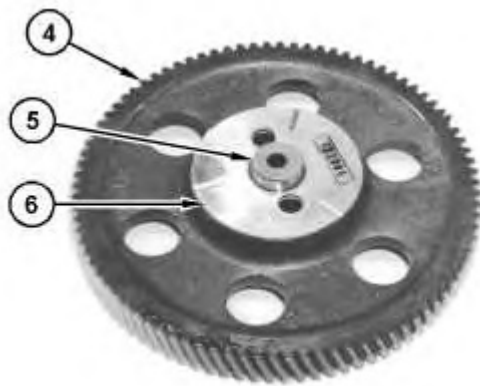


Illustration 4

g01051669

4. Remove washers (6) and shafts (5) from camshaft idler gears (4).
5. Use Tooling (A) and a suitable press to remove bearings from camshaft idler gears (4).



Illustration 5

g00913136

6. Remove the bolts from shaft (7) and remove shaft (7).

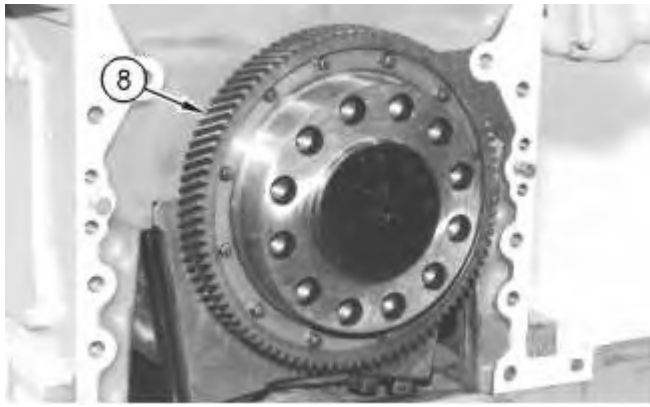


Illustration 6

g00913137

7. Remove the bolts and crankshaft gear (8) from the end of the crankshaft.
-

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i04014109

Gear Group (Rear) - Install

SMCS - 1206-012; 1212-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0520	Driver Gp	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

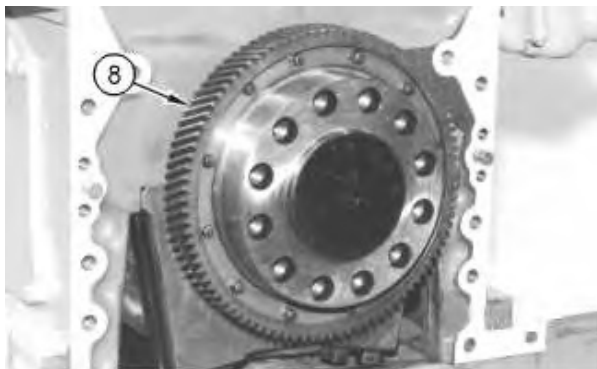


Illustration 1

g00913137

1. Install crankshaft gear (8) and the bolts.



Illustration 2

g00913136

2. Install shaft (7) and the bolts. The torque for the bolts is $140 \pm 10 \text{ N}\cdot\text{m}$ ($105 \pm 5 \text{ lb ft}$).

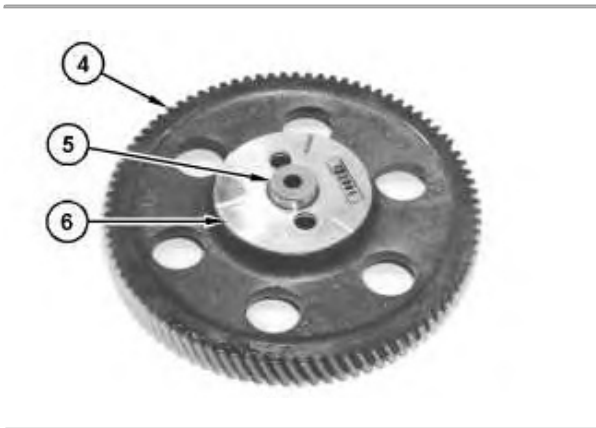


Illustration 3

g01051669

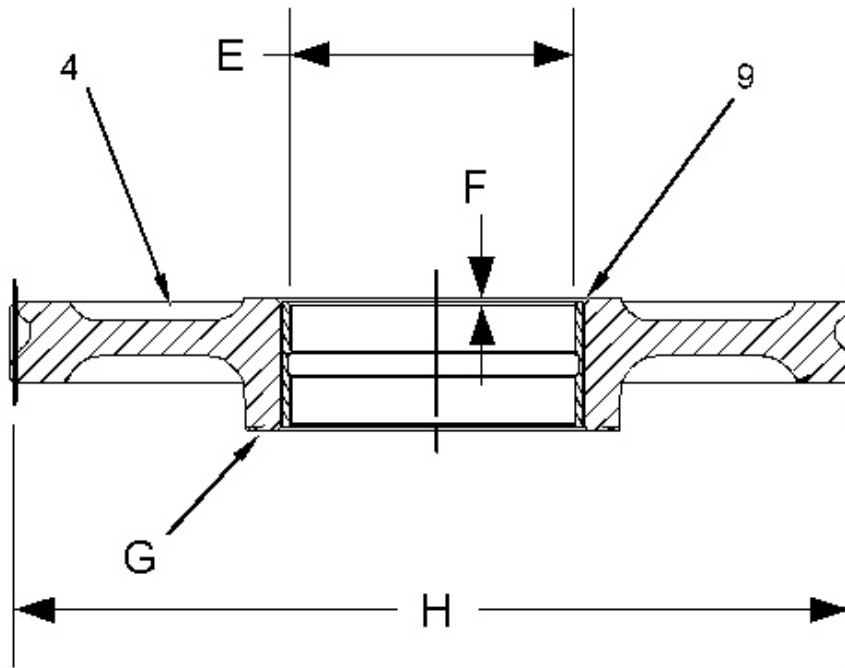


Illustration 4

g01068502

(4) Camshaft Idler Gear. (9) Bearing. (E) 81.060 ± 0.010 mm (3.1913 ± 0.0004 inch). (F) 1.00 ± 0.25 mm (0.040 ± 0.010 inch).

3. Use Tooling (A) and a suitable press to install the bearings in camshaft idler gears (4) . Install bearing (9) into gear (4) to Depth (F) , as shown.

4. Machine the inside diameter of bearing (9) to Dimension (E) , as shown.

Note: The surface finish of Bore (E) must be 0.8 micrometers. Pitch Diameter (H) must be concentric with a total indicator reading of 0.12 mm (0.005 inch). Surface (G) of gear (4) must be square with Bore (E) within 0.05 mm (0.002 inch).

5. Place clean engine oil on the bearings and install shafts (5) with washers (6) on camshaft idler gears (4) .



6. Install camshaft idler gears (4) and the bolts.

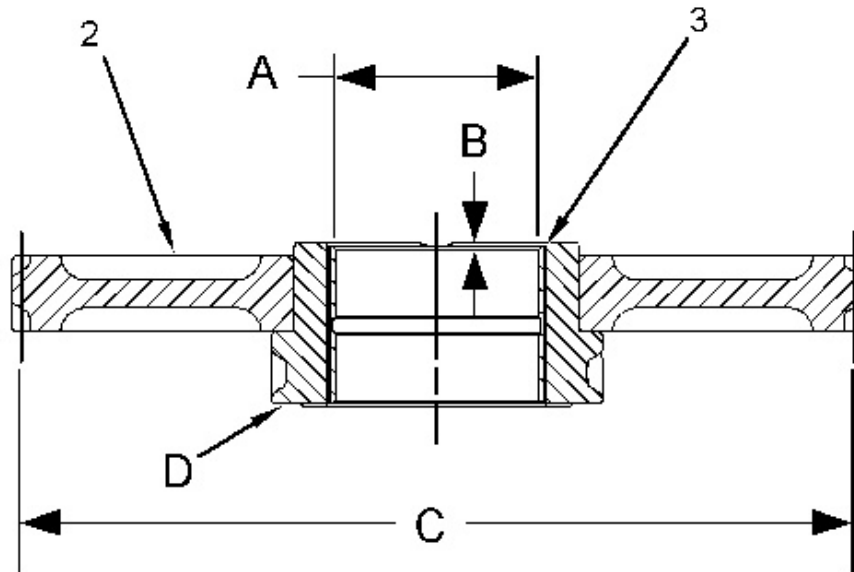


Illustration 6

g01068516

(2) Cluster Idler Gear. (3) Bearing. (A) 75.060 ± 0.010 mm (2.9551 ± 0.0004 inch). (B) 1.5 ± 0.5 mm (0.06 ± 0.02 inch).

7. Use Tooling (A) and a suitable press to install bearing (3) in gear (2) . Install bearing (3) to Depth (B) , as shown.
8. Machine the inside diameter of the bearing to Dimension (A) , as shown.

Note: The surface finish of Bore (A) must be 0.8 micrometers. Pitch Diameter (C) must be concentric with a total indicator reading of 0.15 mm (0.006 inch). Surface (D) of gear (2) must be square with Bore (A) within 0.05 mm (0.002 inch).

Note: The following Step is for 3508 and G3508 Engines.

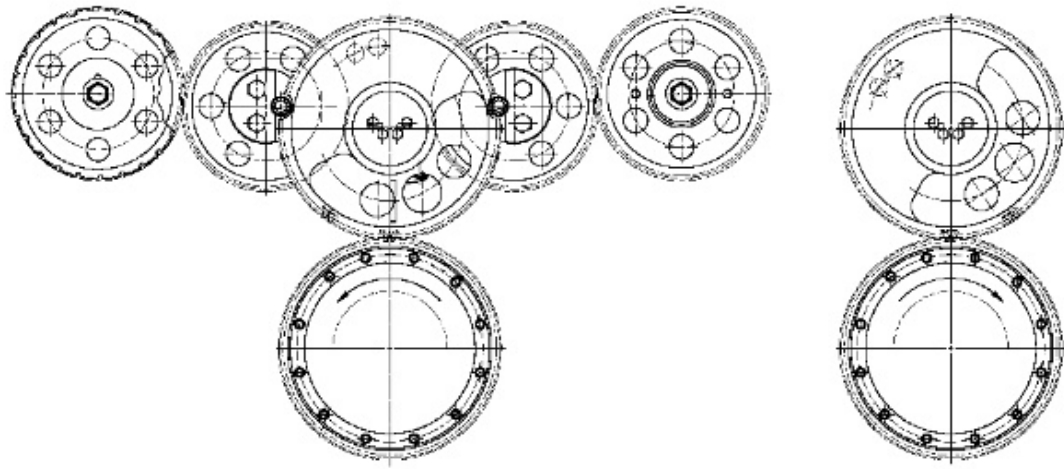


Illustration 7

g01056631

Note: When you install the rear cluster gear assembly to the crank gear, there are no timing marks on the 3512, 3516, G3512 and G3516 engines. On the 3508 and G3508 engines, the rear cluster gears have timing marks that must be aligned with the marks that are on the cluster gears.

9. Put clean engine oil on the bearing and install the gear assembly on the shaft. Make sure that the marks on the gear assembly and the crankshaft are in alignment with the rotation of the engine, as shown.



Illustration 8

g00913045

10. Place clean engine oil on gear (2) and install gear (2) on the engine.
11. Install plate (1) and the bolts.

End By: Install the flywheel housing. Refer to Disassembly and Assembly, "Flywheel Housing - Install".

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