



Service Repair Manual

Models

**D550B ARTICULATED
DUMP TRUCK**

Product: ARTICULATED TRUCK

Model: D550B ARTICULATED TRUCK 5ND

Configuration: D550B ARTICULATED DUMP TRUCK 5ND00001-UP (MACHINE) POWERED BY 3408 ENGINE

Disassembly and Assembly 3408 & 3408B INDUSTRIAL AND MARINE ENGINES

Media Number -SEN7382-02

Publication Date -01/12/1985

Date Updated -05/01/2016

SEN73820035

Camshaft

SMCS - 1210-011; 1210-012

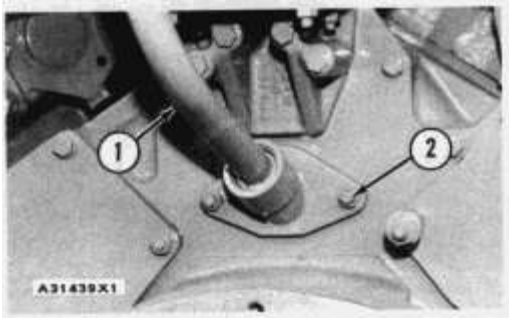
Remove Camshaft

Tools Needed		A	B	C	D	E
1B9575	Bolt [5/16"-18 NC x 3/4 in. (44 mm) long]	2				
9M1974	Flat Washer, 5/16"	2				
9S9082	Engine Turning Pinion		1			
8S1378	Stud Remover And Resetter Tool Group			1		
1P478	Drive Plate*				1	
5P944	Dowel Puller Group					1
5P939	Extractor					1

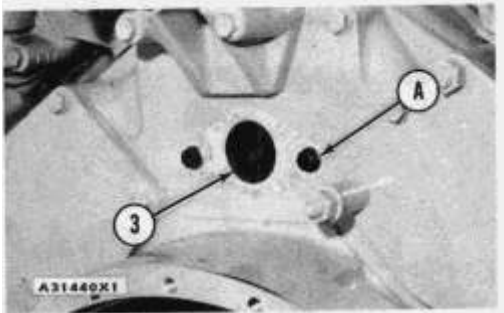
*Part of 1P510 Driver Group.

START BY:

- a. remove timing gear cover
- b. remove valve lifters



1. Remove turbocharger drain tube (1) from the flywheel housing. Remove two studs (2) with tool (C).

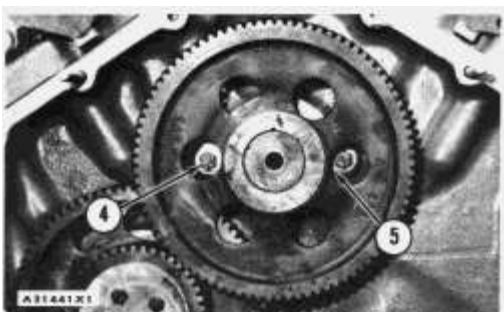


2. Turn the engine with tool (B) until the bolts in camshaft rear gear (3) are visible. Remove the four bolts.

NOTICE

Tooling (A) must be used to prevent the loss of timing of the rear balance weight gear and to keep the rear camshaft gear in place when the camshaft is removed.

3. Turn the engine until the "V" marks on the front timing gears are in alignment. Install tooling (A) through the flywheel housing and into gear (3).
4. Tighten tooling (A) evenly to free the rear camshaft gear from the camshaft.

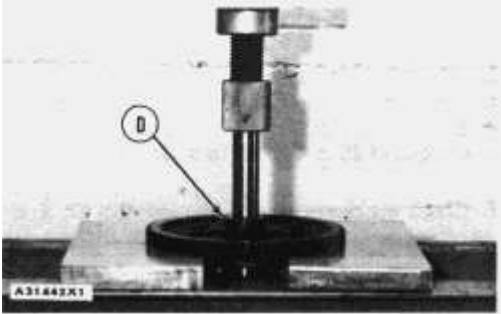


5. Remove two bolts (4) and plate (5).
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NOTICE

Be careful not to cause damage to the camshaft bearings as the camshaft is removed.

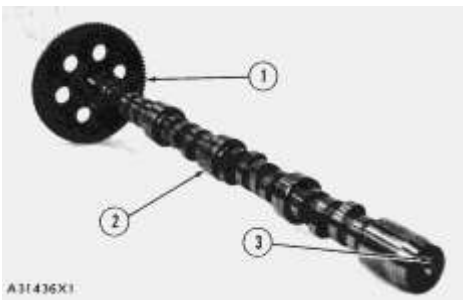
6. Remove the camshaft and gear from the cylinder block.



7. If necessary, remove the camshaft gear with tool (D). Remove the dowel on the taper end of the camshaft with tooling (E).

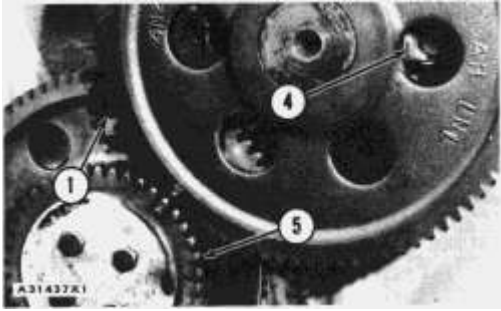
Install Camshaft

Tools Needed		A	B	C	D
1B9575	Bolt [5/16" NC x 1 3/4 in. (44 mm) long]	2			
9M1974	Flat Washer, 5/16"	2			
9S9082	Engine Turning Pinion		1		
8S1378	Stud Remover And Resetter Group			1	
8T5096	Dial Indicator Test Group				1



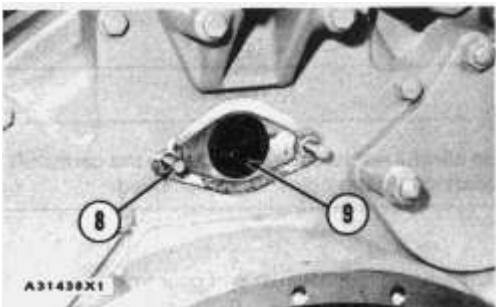
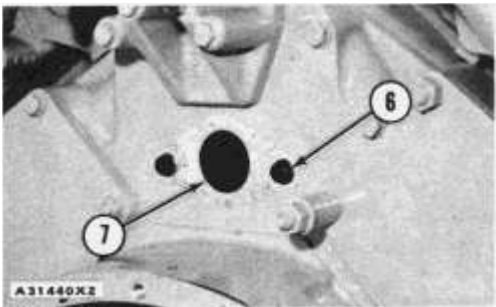
NOTE: Make sure the key for gear (1) is in position on camshaft (2) before gear (1) is installed.

1. Heat gear (1) to a maximum temperature of 600°F (315°C). Install gear (1) on camshaft (2).
2. Install pin (3) until it is extended 8.76 ± 0.25 mm ($.345 \pm .010$ in.) from the end of the camshaft.



3. Put clean engine oil on the lobes and journals of camshaft (2) and on the camshaft bearings in the cylinder block. Install the camshaft with the "V" mark on gear (1) in alignment with the "V" mark on gear (5).

4. Install plate (4) and the bolts.



5. Loosen bolts (6) of tooling (A) to align pin (3) and gear (7). Install one bolt in the gear to hold it in position. Remove tooling (A).

6. Turn the engine with tool (B) until all of bolts (9) are installed. Tighten bolts (9) evenly to a torque of 25 ± 4 N·m (20 ± 3 lb.ft.). Tighten the bolts again to a torque of 25 ± 4 N·m (18 ± 3 lb.ft.).

7. Check the camshaft end play with tool (D). End play must be 0.10 to 0.25 mm (.004 to .010 in.).

8. Install two studs (8) with tool (C) until they are extended 25.4 ± 1.5 mm ($1.00 \pm .06$ in.) from the surface of the flywheel housing.

9. Install the oil drain tube for the turbocharger.

END BY:

a. install valve lifters

b. install timing gear cover

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Media Number -SEN7382-02

Publication Date -01/12/1985

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SEN73820036

Camshaft Bearings

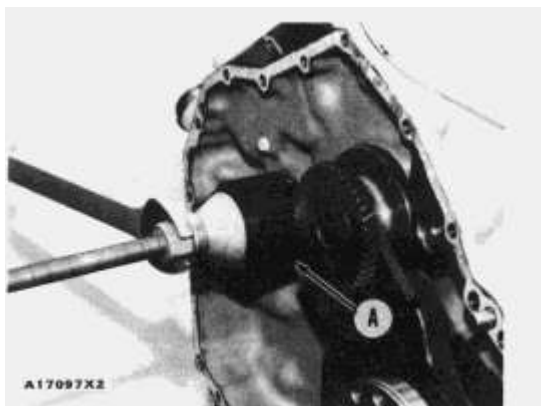
SMCS - 1211-011; 1211-012

Remove Camshaft Bearings

Tools Needed		A
8S2241	Camshaft Bearing Removal And Installation Tool Group	1
8S8293	Extension	1
5P1667	Spacer Tube	1

START BY:

- a. remove camshaft
- b. remove flywheel housing
- c. remove pistons and connecting rods

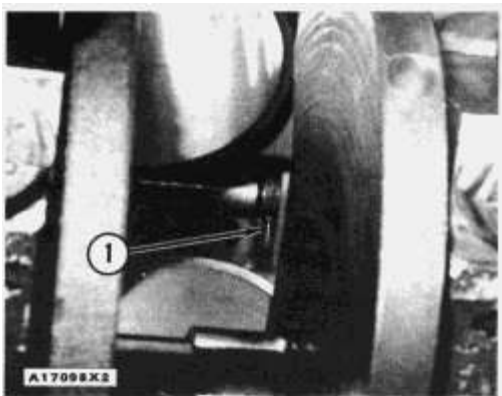


1. Remove the rear camshaft bearing with tooling (A).

2. Remove the remainder of the camshaft bearings with tooling (A). Start at the rear of the cylinder block, and work toward the front.

Install Camshaft Bearings

Tools Needed		A
8S2241	Camshaft Bearing Removal And Installation Tool Group	1
8S8293	Extension	1
5P1667	Spacer Tube	1



1. Install the rear camshaft bearing and the three inside camshaft bearings with tooling (A). Install the bearings from the rear of the block bore. Install the bearings until the front edge of the bearing is even with the front surface (1) of the block bore.

NOTICE

Make sure the bearing is in alignment with the cylinder block bore before the bearings are installed. Install the bearing with the oil holes on the horizontal centerline. Make sure the bearing joint position is above the oil holes.



2. Install the front camshaft bearing with tooling (A) until it is 33.8 ± 0.10 mm ($1.331 \pm .004$ in.) from the machined surface on the front of the cylinder block as shown.

END BY:

- a.** install pistons and connecting rods
- b.** install camshaft
- c.** install flywheel housing



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