

Product: WHEEL LOADER

Model: 966K WHEEL LOADER PBG

Configuration: 966K Wheel Loader PBG00001-UP (MACHINE) POWERED BY C9.3 Engine

## Disassembly and Assembly 966K and 972K Wheel Loaders Power Train

Media Number -KENR6472-01

Publication Date -01/03/2013

Date Updated -04/03/2013

i03916671

# Limited Slip Differential - Assemble

SMCS - 3263-016

## Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1U-9895	Crossblock	1
	1U-5477	Driver Ring	1
	1P-0526	Drive Plate <sup>(1)</sup>	1
	7X-2556	Bolt	1
	9X-8257	Washer	1
	8T-4132	Nut	1
	7X-2546	Bolt	2
	8T-4121	Hard Washer	2
	8T-4223	Hard Washer	2
	9X-8257	Washer	2
B	8T-5096	Dial Indicator Gp	1

<sup>(1)</sup> Part of **1P-0520** Driver Gp

1. Clean all parts of the differential and inspect the parts. Replace any parts that are worn or damaged.
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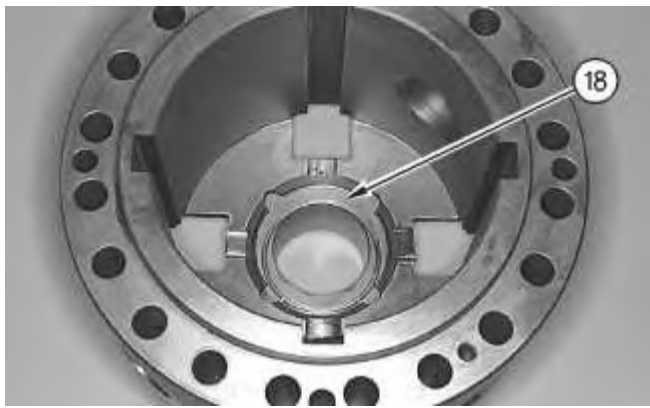


Illustration 1

g00333101

2. Install thrust washer (18). Apply clean axle oil to the face of the thrust washer.

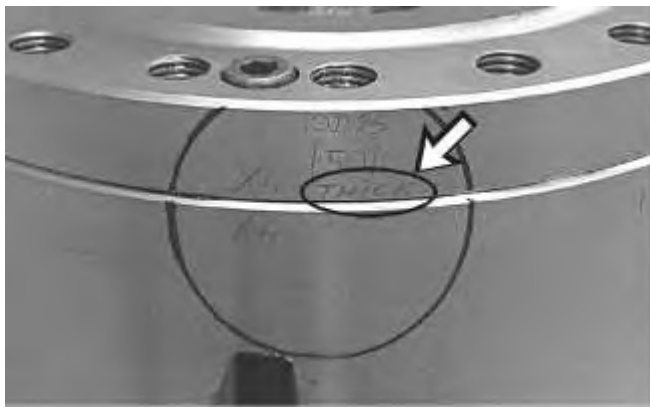


Illustration 2

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**Note:** Replace the disc pack if the stack heights of the two disc packs are not symmetrical within 0.10 mm (0.004 inch). Also replace the disc pack if the friction material is worn and areas of the friction discs are allowing steel to contact steel. Make sure that the correct disc packs are used for replacement according to the description on the differential case cover. If "THIN" is marked on the cover, use two thin disc packs. If "THICK" is marked on the cover, use two thick disc packs. **Do not use one disc of each size.**

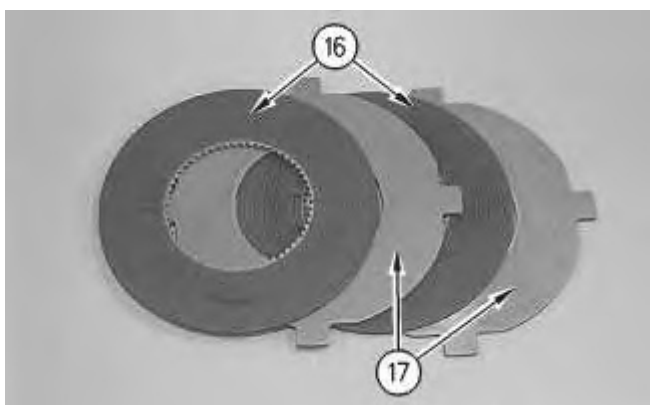


Illustration 3

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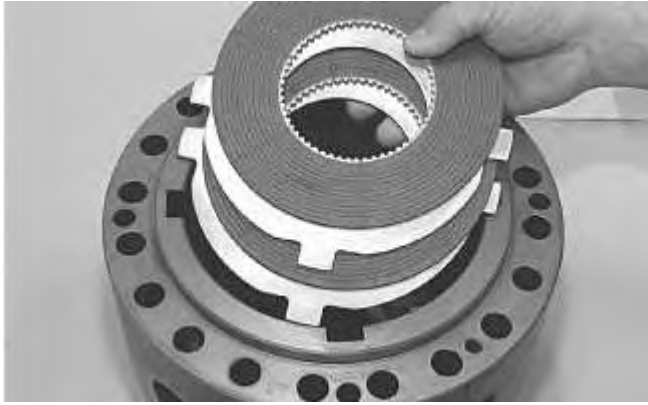


Illustration 4

g00333100

3. Thoroughly apply clean axle oil on the plates and on the friction discs. Install two friction discs (16) and two plates (17) in the case housing in alternating order. Start with a plate.



Illustration 5

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Illustration 6

g00342352

4. Align the tabs on actuator housing (15) with the slots in the case housing. Install actuator housing (15) in the case housing.
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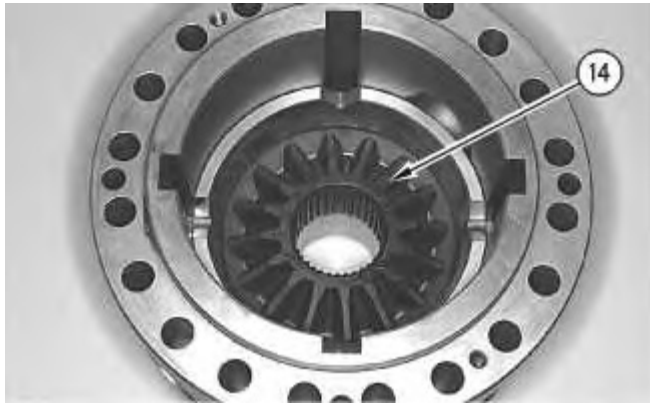


Illustration 7

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5. Install gear (14) in the case housing. Turn the gear slowly until the spline engages with the teeth of two friction discs (16). Make sure that the gear is seated.

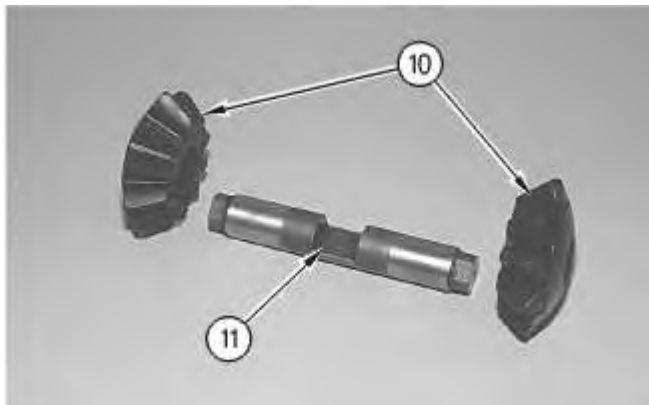


Illustration 8

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6. Install pinion gears (10) on pinion shaft (11). Repeat this step for pinion gears (12) on pinion shaft (13). Thoroughly apply clean axle oil on the pinion shafts and on the pinion gears.

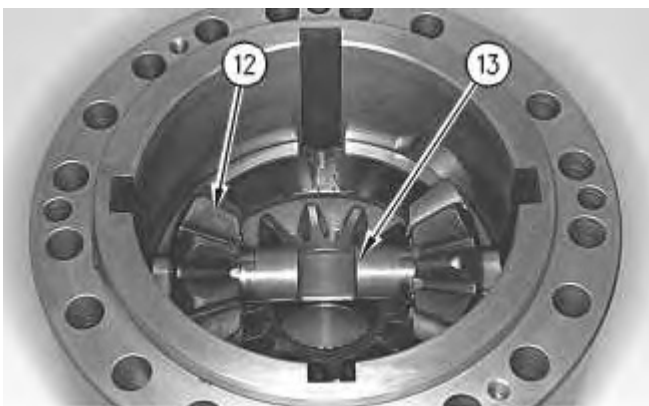


Illustration 9

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7. Install pinion shaft (13) and two pinion gears (12) as a unit. Rotate the pinion gears slightly until the pinion shaft is resting in the slots in the actuator housing.

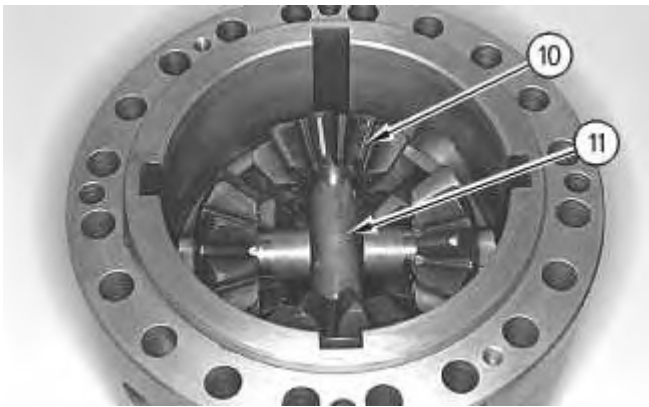


Illustration 10

g00333020

8. Install pinion shaft (11) and two pinion gears (10) as a unit.

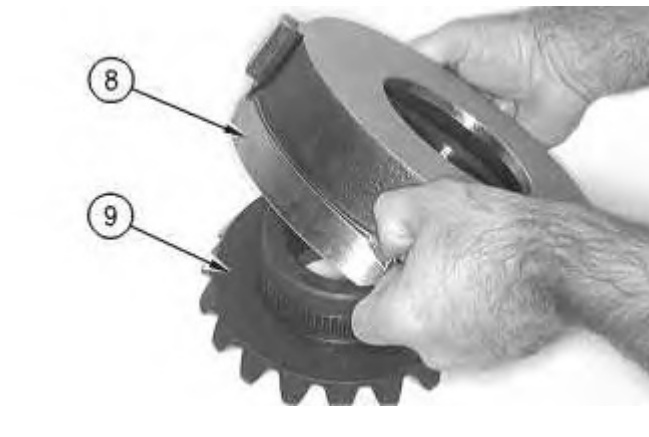


Illustration 11

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9. Assemble gear (9) and actuator housing (8), as shown.



Illustration 12

g00332965

10. Align the tabs on actuator housing (8) with the slots in the case housing. Install actuator housing (8) and gear (9) in the case housing.

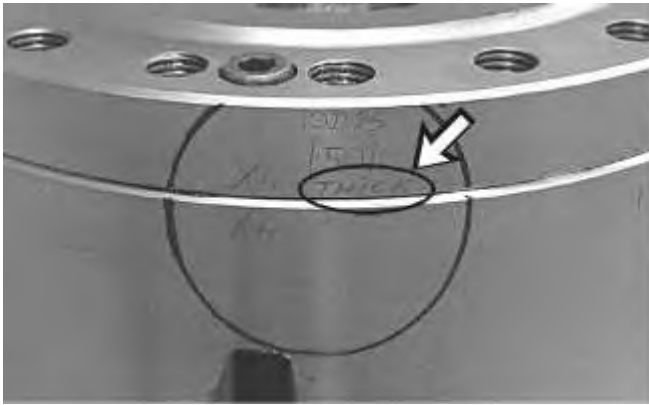


Illustration 13

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**Note:** Replace the disc pack if the stack heights of the two disc packs are not symmetrical within 0.10 mm (0.004 inch). Also replace the disc pack if the friction material is worn and areas of the friction discs are allowing steel to contact steel. Make sure that the correct disc packs are used for replacement according to the description on the differential case cover. If "THIN" is marked on the cover, use two thin disc packs. If "THICK" is marked on the cover, use two thick disc packs. **Do not use one disc of each size.**

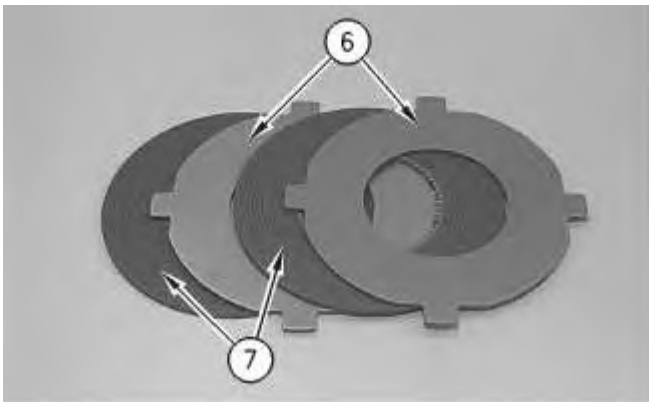


Illustration 14

g00342292



11. Thoroughly apply clean axle oil on the plates and on the friction discs. Install two friction discs (6) and two plates (7) in the case housing in alternating order. Start with a friction disc.
12. Use the following procedure to measure the end play gap:

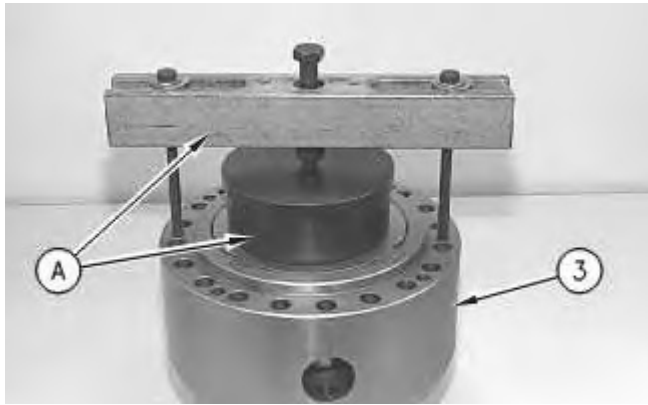


Illustration 16

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- a. Install Tooling (A) on case housing (3), as shown.

**Note:** The center bolt of Tooling (A) must have a  $M16 \times 2.0$  thread in order to apply the proper preload on the disc packs.

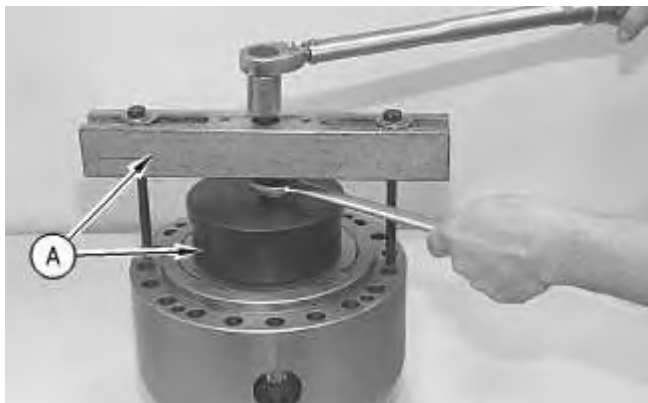


Illustration 17

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- b. Tighten the center bolt of Tooling (A) to a torque of  $27 \text{ N}\cdot\text{m}$  (20 lb ft). This tooling will apply 900 kg (2000 lb) of preload on the disc packs.
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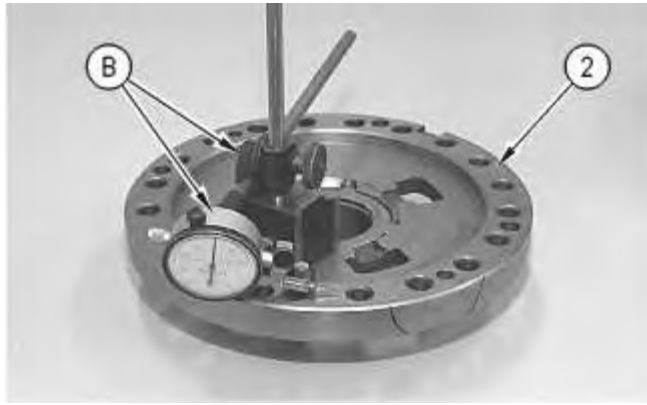


Illustration 18

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- c. Mount the magnetic base of Tooling (B) on the inner face of differential case cover (2), as shown.
- d. Zero the dial indicator on the outer face of differential case cover (2), as shown.
- e. Carefully remove Tooling (B) from differential case cover (2).

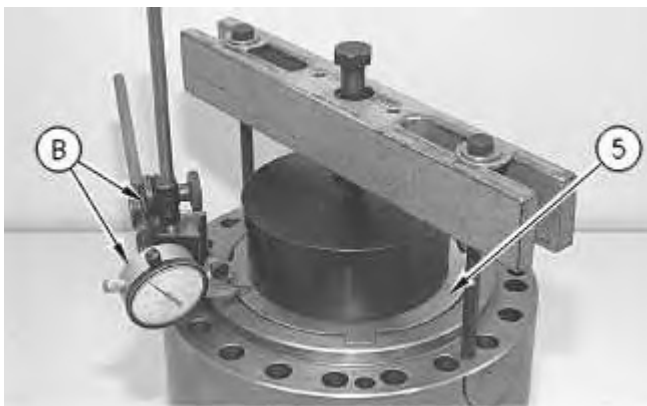


Illustration 19

g00332962

- f. Mount the magnetic base of Tooling (B) on the top of case housing (3), as shown.
- g. Place the dial indicator on disc pack (5), as shown. Record the reading.
- h. Record two additional readings from different areas of disc pack (5).
- i. Average the three readings. This average is the end play gap.
- j. If the end play gap for the existing disc packs is greater than 0.81 mm (0.032 inch), the disc packs must be replaced.

If the end play gap for the existing disc packs is correct, proceed to Step 14.

13. If new disc packs are installed, the end play gap must be between 0.203 mm (0.008 inch) and 0.508 mm (0.020 inch). Measure the end play gap again.



- a. If the end play gap is not between 0.203 mm (0.008 inch) and 0.508 mm (0.020 inch) and two thin disc packs were installed, replace the thin disc packs with thick disc packs and measure the end play gap again.
- b. If the end play gap is not yet between 0.203 mm (0.008 inch) and 0.508 mm (0.020 inch), replace the pinion shafts and/or both actuator housings. Use either two thin disc packs or two thick disc packs in order to achieve an end play gap that is between 0.203 mm (0.008 inch) and 0.508 mm (0.020 inch).

**Note:** If a different size of disc packs was installed, change the existing description on the differential case cover for future reference.



Illustration 20

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14. Apply a small amount of grease on the back side of thrust washer (4). This grease will retain the thrust washer during installation of the differential case cover. Turn differential case cover (2) upside-down and install thrust washer (4).

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### NOTICE

**A new differential group or a new case assembly will be equipped with bolts that are used for shipping , assembly, and storage purposes only. Remove and discard these bolts after the bevel gear has been installed. These bolts should not be used for final assembly.**

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Illustration 21

g00332918



Illustration 22

g00333618

15. Install differential case cover (2) on case housing (3). Align the marks on the differential case cover with the marks on the case housing.
16. Install bolts (1). Tighten the bolts to a torque of  $61 \pm 7 \text{ N}\cdot\text{m}$  ( $45 \pm 5 \text{ lb ft}$ ). Bolts (1) are used to hold the differential case together until final assembly. Remove bolts (1) and discard bolts (1) after the bevel gear has been installed.

**End By:**

- a. Install the differential and the bevel gear.
-



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