



# Service Repair Manual

## **Models**

# 966R WHEEL LOADER

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Product: WHEEL LOADER

Model: 966R WHEEL LOADER 58Z

Configuration: 966R WHEEL LOADER 58Z00001-UP (MACHINE) POWERED BY 3306 ENGINE

## Disassembly and Assembly 966R WHEEL LOADER POWER TRAIN

Media Number -SEN2414-01

Publication Date -01/03/1985

Date Updated -11/10/2001

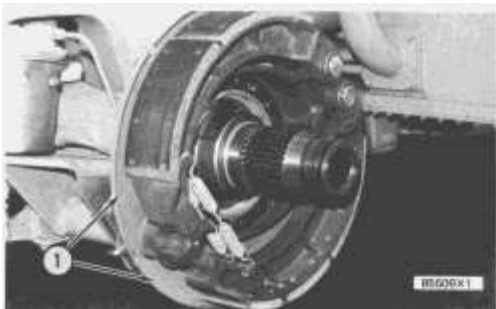
### Brake Shoes

SMCS - 4253-12; 4253-11

## Remove Brake Shoes

start by:

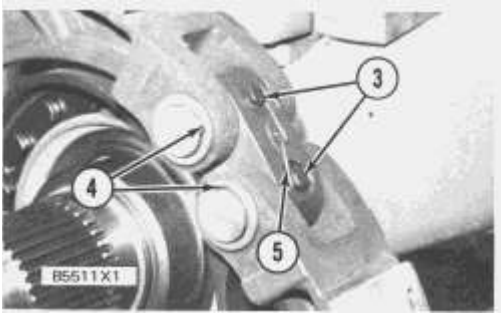
a) remove wheels, bearings and Duo-Cone seals



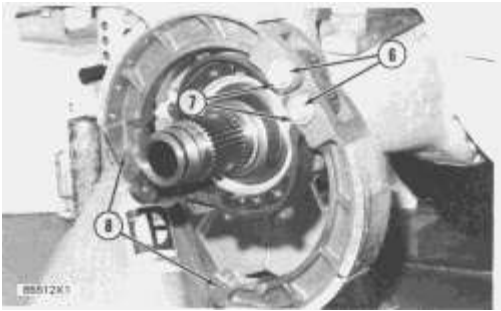
1. Remove covers (1) from the spindle.



2. Use an acceptable brake tool to remove springs (2) from the brake shoes.

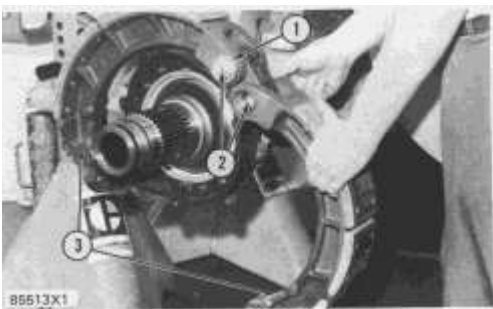


3. Remove lockwire (5). Loosen bolts (3) approximately .50 in. (12.7 mm).
4. Remove springs (4) from the pins.



5. Remove retainers (7) and felt washers.
6. Remove pins (6). Remove brake shoes (8). Remove springs, retainers and felt washers from the other end of pins (6).

## Install Brake Shoes



1. Install the felt washers, retainers and springs on one end of pins (2).
2. Put brake shoes (3) in position on the spider and bearing assembly and install pins (2).
3. Install felt washers and retainers (1) on the pins.
4. Install springs (5) on the pins.

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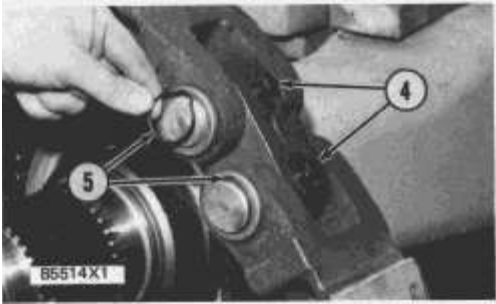
Hello dear friend!

Thank you very much for reading.

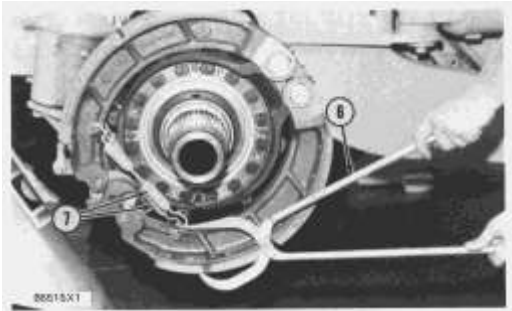
Enter the link into your browser.

The full manual is available for immediate download.

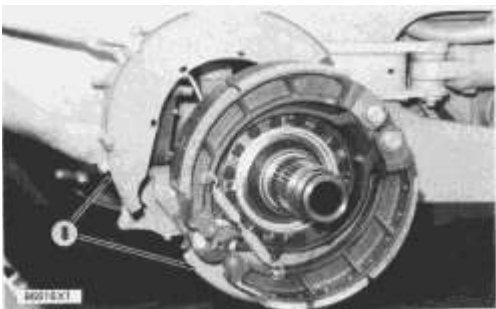
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5. Tighten bolts (4). Make sure the holes in the pins are in alignment with the bolts before the bolts are tightened.



6. Use an acceptable brake tool (6) to install springs (7) on the brake shoes.



7. Install covers (8) on the spindle.

**NOTE:** After the final drive ring gears and hubs have been installed, make an adjustment to the brakes. See BRAKE ADJUSTMENT, 966C AIR SYSTEM AND BRAKES.

end by:

a) install wheels, bearings and Duo-Cone seals

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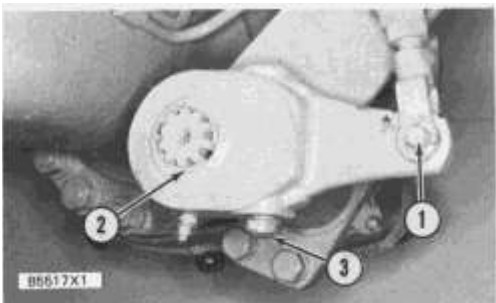
### Wheel Spindles

SMCS - 4205-12; 4205-11

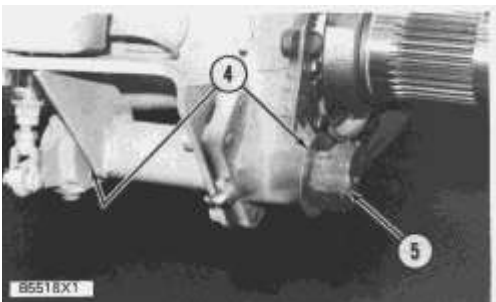
## Remove Wheel Spindles

start by:

a) remove brake shoes



1. Turn slack adjuster (3) to release any force on pin (1).
2. Remove retainer ring (2) from the brake camshaft.

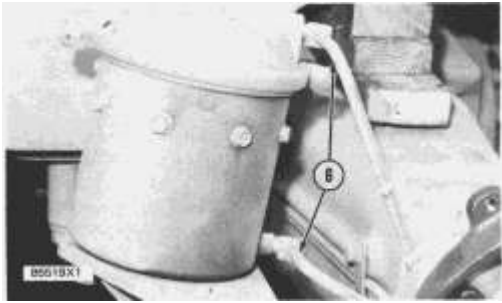


3. Remove brake camshaft (5). Remove washers (4) from between the bracket assembly and slack adjuster assembly and from between the brake camshaft and spindle housing.

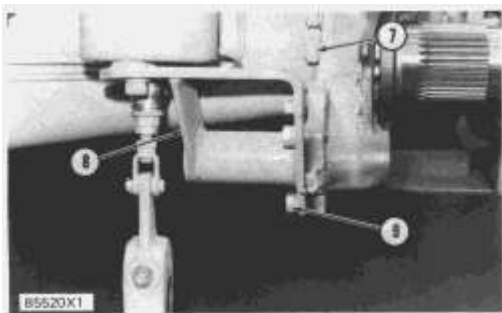
**WARNING**

**Make sure the air pressure in the brake system is zero before any lines are disconnected.**

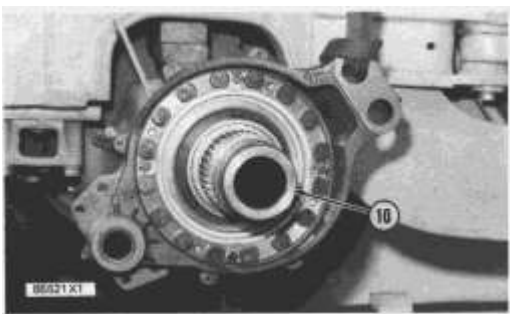
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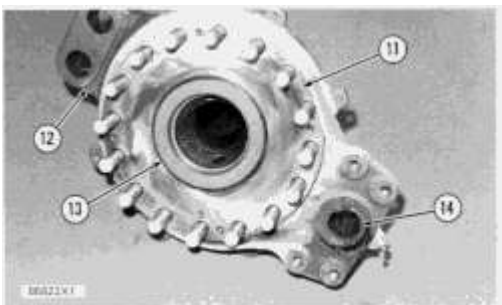
**4. Disconnect air lines (6) from the chamber assembly.**



**5. Remove bolts (9). Remove bracket assembly (8), slack adjuster assembly and chamber assembly from the spindle assembly as a unit.**



**6. Fasten a hoist to the wheel spindle assembly. Remove nuts (7) and washers. Remove wheel spindle assembly (10). The weight of the wheel spindle assembly is 100 lb. (45 kg).**

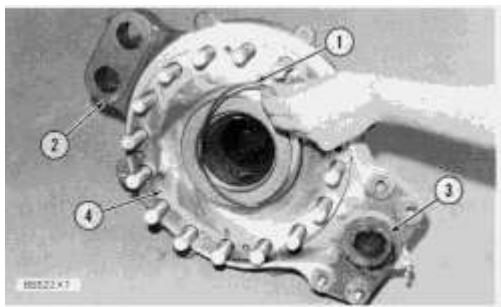


**7. Remove O-ring seal (13) from the spindle.**

8. Use four 1/2"-13 NC forcing screws to remove spider and bearing assembly (12) from spindle (11).
9. Remove sleeve (14), lip seal and bearing from the spider.

## Install Wheel Spindles

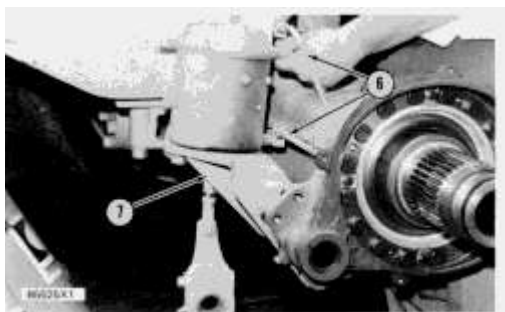
Tools Needed		A
1P510	Driver Group	1



1. Use tooling (A) to install sleeve (3) in the spider. Use tooling (A) to install bearing and lip seal in the opposite side of the spider. Install the seal with the lip toward the bearing.
2. Install spindle (4) in spider and bearing assembly (2). Put 1P808 General Purpose Lubricant in the bearing and bore of the spider assembly.
3. Install O-ring seal (1) on the spindle.

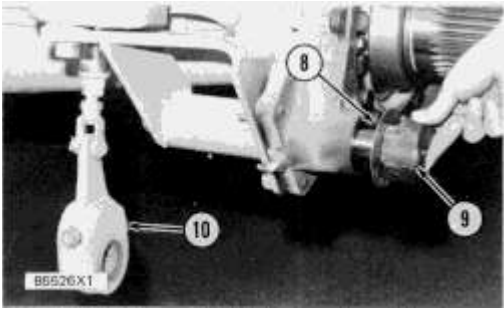


4. Fasten a hoist to the wheel spindle assembly. Install wheel spindle assembly (5) on the axle housing. Install the washers and nuts that hold it. Tighten the nuts to a torque of  $345 \pm 30$  lb.ft. ( $465 \pm 40$  N·m).



5. Install bracket assembly (7), slack adjuster assembly and chamber assembly on the spindle assembly as a unit.

6. Connect air lines (6) to the chamber assembly.



7. Install washer (8) on the brake camshaft. Install brake camshaft (9) in spider and bracket assemblies. Install washer and slack adjuster assembly (10) on brake camshaft (9). Install the retainer ring on the brake camshaft.

end by:

**a)** install brake shoes

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Product: WHEEL LOADER

Model: 966R WHEEL LOADER 58Z

Configuration: 966R WHEEL LOADER 58Z00001-UP (MACHINE) POWERED BY 3306 ENGINE

## Disassembly and Assembly 966R WHEEL LOADER POWER TRAIN

Media Number -SEN2414-01

Publication Date -01/03/1985

Date Updated -11/10/2001

### Front Differential And Carrier

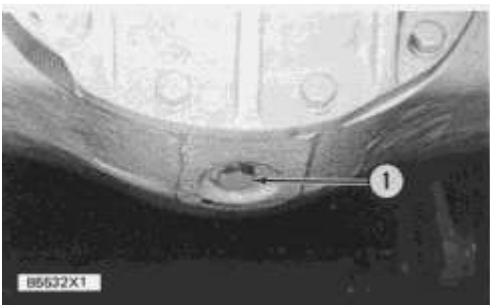
SMCS - 3258-12; 3258-11

### Remove Front Differential And Carrier

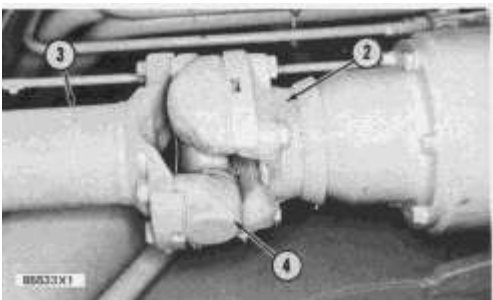
Tools Needed	A
OTC Model 1790 Transmission Jack	1

start by:

a) remove axles (front only)



1. Remove plug (1). Drain the oil from the front axle housing.

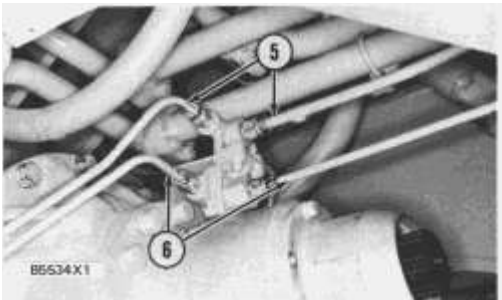


2. Remove spider and bearing assembly (4) from the front drive shaft (3) and differential pinion shaft.

3. Remove yoke (2) from the differential pinion shaft.

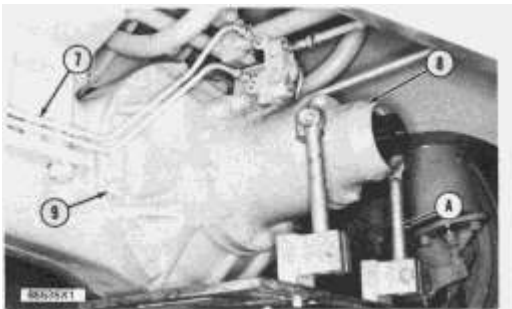


**Make sure the air pressure in the brake system is zero before any lines are disconnected.**



4. Disconnect three lines (5) from the tee fitting.

5. Disconnect three lines (6) from the quick release valve.

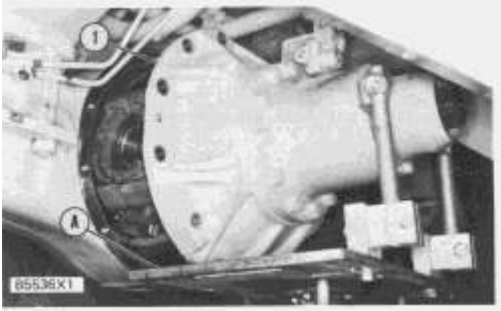


6. Disconnect clips (7) from each side of the axle housing and pull the air lines clear of the differential and carrier.

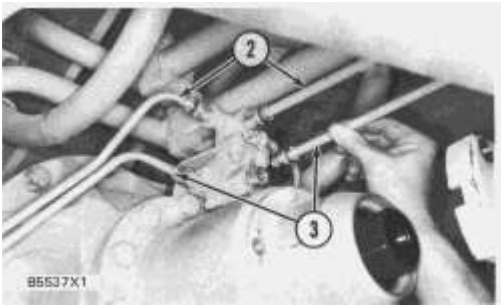
7. Fasten tooling (A) to the front differential and carrier as shown. Remove bolts (9). Install two 1/2"-13 NC forcing screws and remove differential and carrier (8) from the axle housing. The weight of the differential and carrier is 350 lb. (158 kg).

## Install Front Differential And Carrier

Tools Needed	A
OTC Model 1790 Transmission Jack	1



**1.** Fasten tooling (A) to the differential and carrier as shown. Put differential and carrier (1) in position in the axle housing. Install the bolts that hold it. Tighten the bolts to a torque of  $195 \pm 18$  lb.ft. ( $265 \pm 24$  N·m).



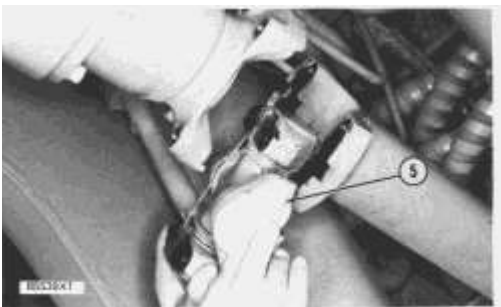
**2.** Connect three air lines (2) to the tee fitting.

**3.** Connect three air lines (3) to the quick release valve.

**4.** Connect the clips that hold the air lines in position on the axle housing.



**5.** Install yoke (4) on the differential pinion shaft.



**6.** Install spider and bearing assembly (5) on the yoke and front drive shaft. Tighten the bolts to a torque of  $100 \pm 10$  lb.ft. ( $135 \pm 14$  N·m).

7. Install the drain plug and fill the front axle housing with oil to the correct level. See MAINTENANCE GUIDE.

end by:

**a)** install axles (front only)

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Product: WHEEL LOADER

Model: 966R WHEEL LOADER 58Z

Configuration: 966R WHEEL LOADER 58Z00001-UP (MACHINE) POWERED BY 3306 ENGINE

## Disassembly and Assembly 966R WHEEL LOADER POWER TRAIN

Media Number -SEN2414-01

Publication Date -01/03/1985

Date Updated -11/10/2001

# Rear Differential And Carrier

SMCS - 3258-11; 3258-12

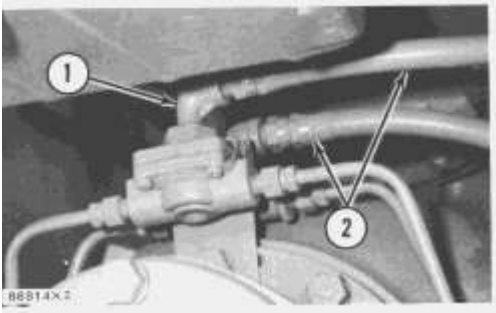
## Remove Rear Differential And Carrier

	Tools Needed	A	B
8S7630	Stand	2	
8S7621	Tube	2	
8S7615	Pin	4	2
8S7625	Collar	2	
8S7650	Cylinder	2	
5P3100	Pump Group (or electric)	1	
8S7640	Stand		2
8S7611	Tube		2
8S8048	Saddle		2

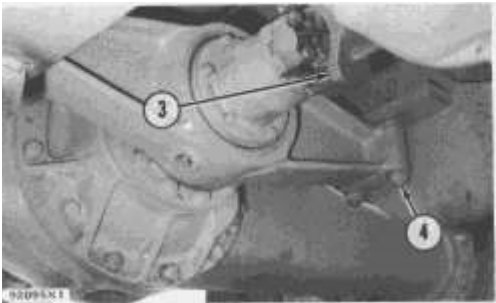
start by:

a) remove axles

1. Install the covers to the final drives to keep dirt out.
2. Remove the guards from under the engine and transmission using a floor jack. Weights are 78 lb. (35.4 kg) and 200 lb. (90.7 kg).
3. Remove air from air tank.
4. Disconnect lines (2). Put identification on the lines for assembly purposes.



5. Connect an air supply to fitting (1) to release the rear brakes.



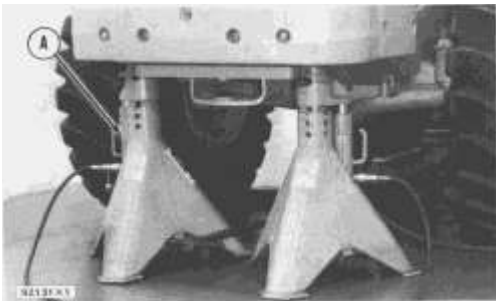
6. Remove the drive shaft (3).

7. Remove the eight bolts (4) that hold the front and rear supports to the frame.

8. Put bucket control lever in "FLOAT" position.

9. Put blocks in front and rear of front tires.

10. Fasten a floor jack to the rear support.

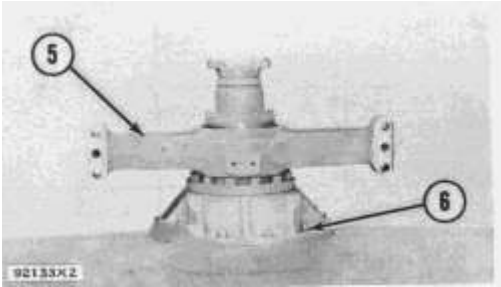


11. Put tooling (A) under rear of machine as shown.

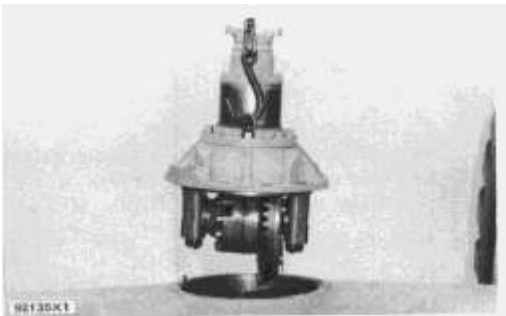
12. Lift the rear of the machine evenly. Make the front and rear supports free from the frame with a crowfoot bar.



13. Put tooling (B) under the frame as a support.
14. Remove tooling (A) and release the brakes on the rear wheels.
15. Remove rear axle housing and wheels as a unit from under machine.
16. Turn the axle housing until carrier assembly is up as shown.



17. Fasten a hoist and remove the front support (5). Weight of the front support is 75 lb. (34 kg).
18. Remove the bolts (6) that hold carrier housing to axle housing.

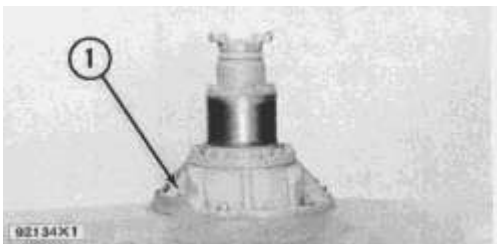


19. Install two 3/8"-16 NC forged eyebolts in the housing and fasten a hoist.
20. Use two 3/8"-16 NC forcing screws to make the carrier housing separate from axle housing.
21. Remove differential and carrier from axle housing. Weight is 350 lb. (159 kg).

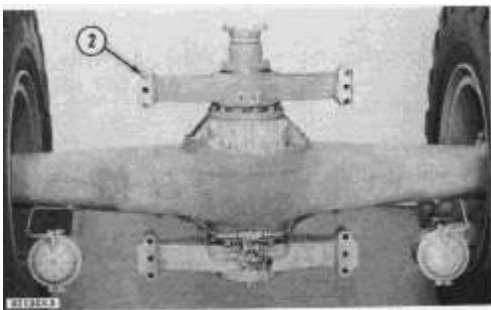
## **Install Rear Differential And Carrier**

Tools Needed		A	B
8S7630	Stand	2	
8S7621	Tube	2	
8S7615	Pin	4	2
8S7625	Collar	2	
8S7650	Cylinder	2	
5P3100	Pump Group (or electric)	1	
8S7640	Stand		2
8S7611	Tube		2
8S8048	Saddle		2

1. Put differential and carrier into position in rear axle housing with a hoist.



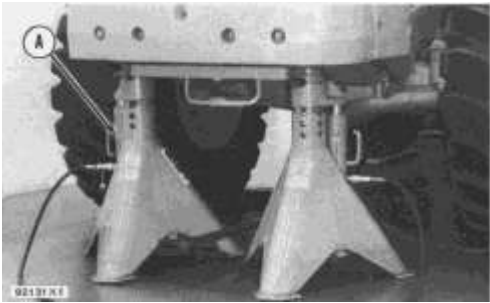
2. Install bolts (1) that hold carrier housing to axle housing. Tighten bolts to  $195 \pm 18$  lb.ft. ( $265 \pm 24$  N·m).



3. Install front support (2) with a hoist.
4. Release the brakes on the rear wheels. Connect a floor jack to the rear support.
5. Put the rear axle housing and wheels as a unit into position under the machine.
6. Lift the machine off tooling (B) with tooling (A).

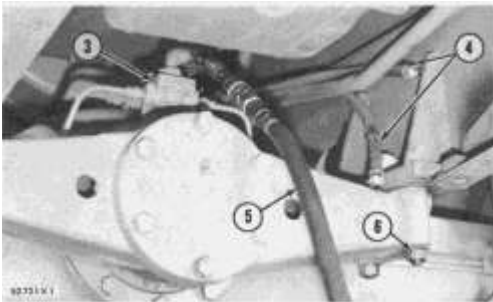


7. Remove tooling (B).



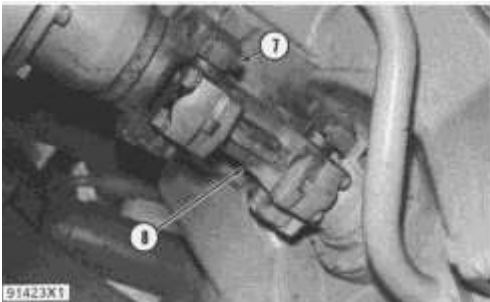
8. Lower the machine slowly into position with tooling (A).

9. Put the front and rear supports in alignment with the frame.



10. Install the bolts (6) that hold the front and rear supports to the frame.

11. Remove the air line (5). Connect the air lines (4) to the quick release and holding valve (3).



12. Install the drive shaft (8). Tighten the bolts (7) to  $98 \pm 10$  lb.ft. ( $134 \pm 14$  N·m).

13. Put the guards under the engine and transmission with a floor jack.

end by:

**a) install axles**

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Configuration: 966R WHEEL LOADER 58Z00001-UP (MACHINE) POWERED BY 3306 ENGINE

## Disassembly and Assembly 966R WHEEL LOADER POWER TRAIN

Media Number -SEN2414-01

Publication Date -01/03/1985

Date Updated -11/10/2001

# Differential And Carrier Assembly

SMCS - 3258-15; 3258-16

## Disassemble Differential And Carrier Assembly

	Tools Needed	A	B	C	D
1P2420	Transmission Repair Stand	1			
FT957	Differential Repair Positioning Group	1			
1P820	Hydraulic Puller Group		1		1
8B7567	Adapter		2		
8B7549	Leg		2		
1B4207	Nut		2		2
8B7560	Step Plate		1		
3H465	Plate		4		4
5F7343	Bearing Puller Attachment			1	
1H3107	Puller Assembly			1	
1H3108	Leg			2	
7F9540	Hydraulic Puller			1	
8B7551	Bearing Puller Attachment				1
1P490	Drive Plate				1
5F7369	Leg				2

start by:

a) remove front or rear differential and carrier assembly

1. Put the differential and carrier assembly on stand (A) with bevel gear down.

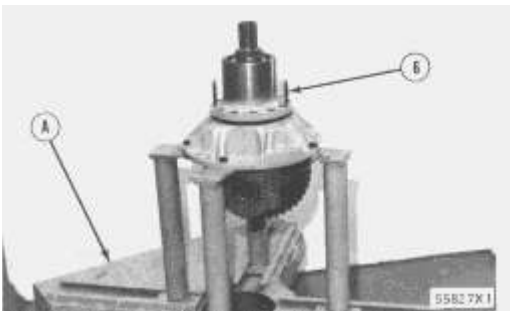


2. Remove the yoke (1).

3. Remove the bolts (3) and seal retainer (2). Remove the seal from retainer (2).



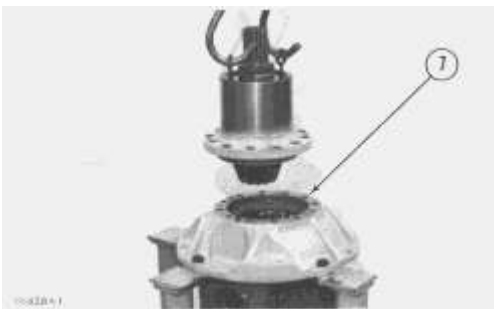
4. Remove the bolts (4) that hold cage (5) for bevel pinion to the carrier.



5. Install two 1/2"-13 NC forcing screws (6), and loosen the cage (5) from carrier.

6. Remove the forcing screws, and install two 3/8"-16 NC forged eyebolts.

7. Connect a hoist and remove the bevel pinion shaft and cage assembly. Weight of assembly is 85 lb. (39 kg).

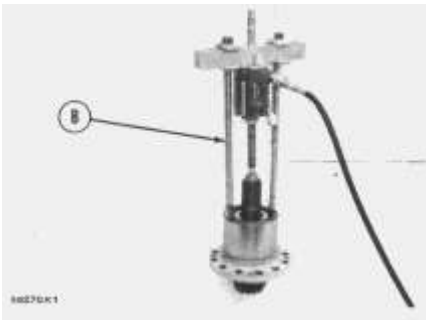


8. Remove and put identification on shims (7) for assembly purposes.

9. Disassemble the bevel pinion shaft and cage assembly as follows:



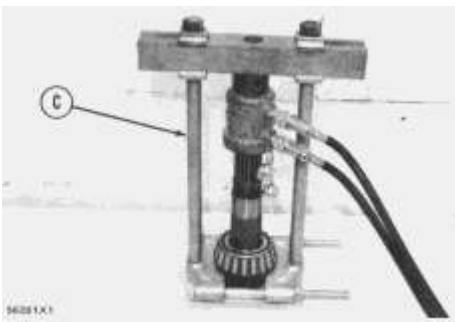
**a)** Remove the two spanner nuts (8) and lock.



**b)** Install tooling (B), and remove the pinion shaft from cage.

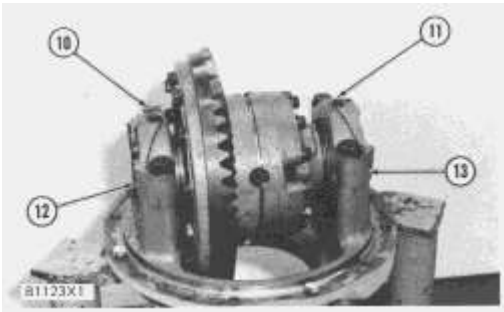


**c)** Remove the small bearing cone from cage (5). Remove bearing cups (9) from cage.



**d)** Install tooling (C), and remove the large bearing cone from bevel pinion shaft.

**10.** Connect a hoist and turn the differential and carrier assembly over on stand (A) with bevel gear up.

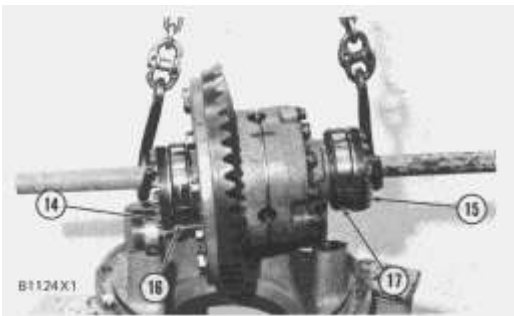


**11.** Remove the lockwire from bolts (11). Remove the bolts (11) and two locks.

**12.** Put identification marks on bearing caps (12) and (13) to make sure caps are installed back in their correct positions.

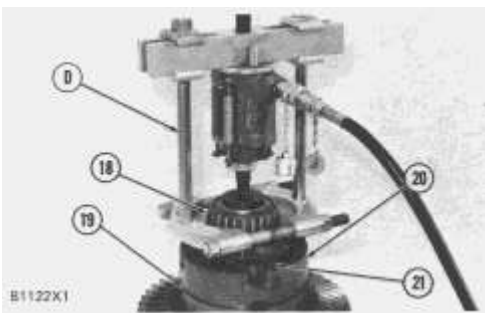
**13.** Remove the bolts (10) from bearing caps (12) and (13). Remove the bearing caps.

**14.** Put a bar through the differential. Connect a hoist and remove the differential assembly. Weight of assembly is 135 lb. (61 kg).



**15.** Remove adjusting rings (14) and (15).

**16.** Put identification marks on bearing cups (16) and (17) to make sure cups are installed with their respective bearing cones. Remove the bearing cups (16) and (17).



**17.** Install tooling (D) and remove bearing cone (18) from differential.

**18.** Put an alignment mark on cases (19) and (20) in the same place to make sure of correct alignment during assembly.

**19.** Remove bolts (21).



**Suggest:**

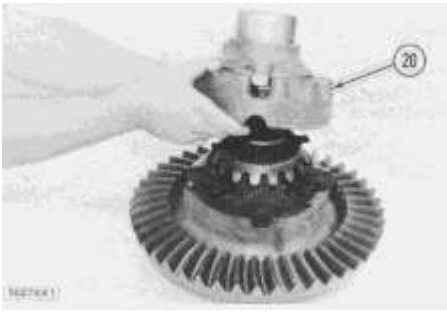
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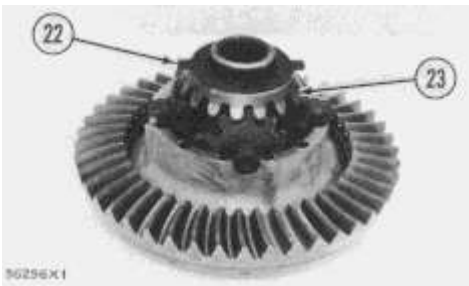
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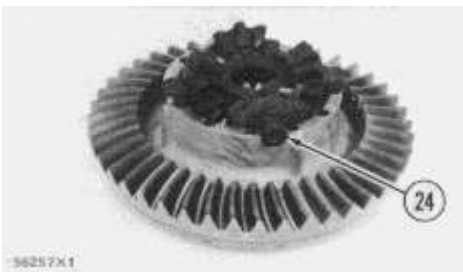
**Thank you so much for reading**



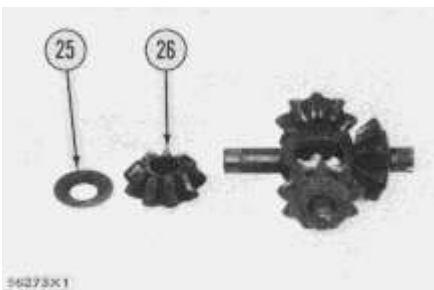
20. Remove differential case (20).



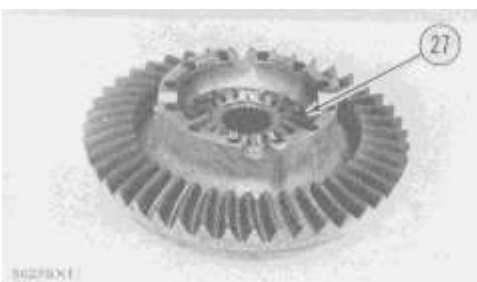
21. Remove thrust washer (22) and side gear (23).



22. Remove the pinions and spider (24) as a unit.



23. Remove the thrust washers (25) and pinions (26) from spider (24).



24. Remove the side gear (27) and thrust washer from differential case.

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