

Product: COMPACT WHEEL LOADER

Model: 914G COMPACT WHEEL LOADER PDF

Configuration: 914G Wheel Loader PDF00001-UP (MACHINE) POWERED BY 3054C Engine

Disassembly and Assembly 914G and 914G2 Compact Wheel Loaders and IT14G and IT14G2 Integrated Toolcarriers Power Train

Media Number -REN7767-05

Publication Date -01/05/2017

Date Updated -19/05/2017

i02090019

Differential - Disassemble

SMCS - 3258-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1U-5750	Engine Repair Stand	1
	1U-7558	Mounting Adapter Gp	2
B	8B-7554	Bearing Cup Puller	1
	6V-7887	Legs	2
	5P-2958	Step Plate	1
C	6V-2176	Link Bracket	1
D	5F-7544	Bearing Cup Puller	1
	5P-7341	Legs	2
	9S-9154	Step Plate	1
	5P-4750	Screw	1

Start By:

- A. Remove the parking brake. Refer to Disassembly and Assembly, "Parking Brake - Disassemble".
- B. Remove the brakes. Refer to Disassembly and Assembly, "Brake and Planetary - Disassemble".

- C. Remove the axle. Refer to Disassembly and Assembly, "Brake and Planetary - Disassemble".

Note: The front differential and the rear differential are identical. The parking brake assembly and the pinion housing are unique to the front differential.

Note: Cleanliness is an important factor. Before the disassembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

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, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

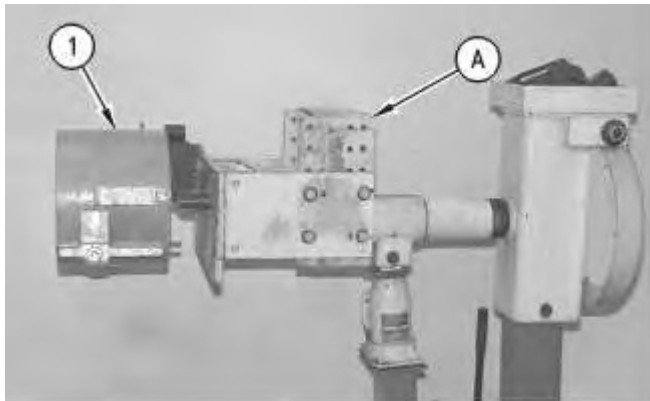


Illustration 1

g00683575

1. Use a suitable lifting device in order to attach differential (1) to Tooling (A). The weight of differential (1) is approximately 226.7 kg (500 lb).
-

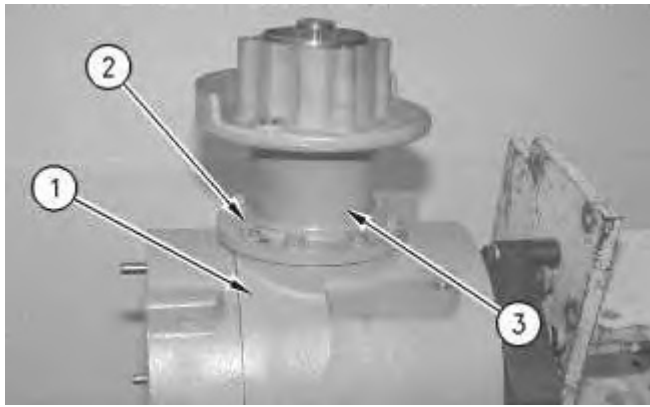


Illustration 2

g00683096

2. Remove bolts (2) and the washers that secure pinion housing (3) to differential housing (1) .

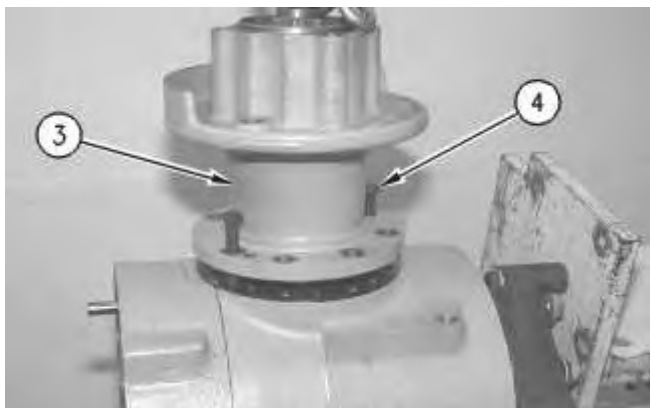


Illustration 3

g00683097

3. Use a suitable lifting device to support pinion housing (3) .
4. Install forcing screws (4) in pinion housing (3) .

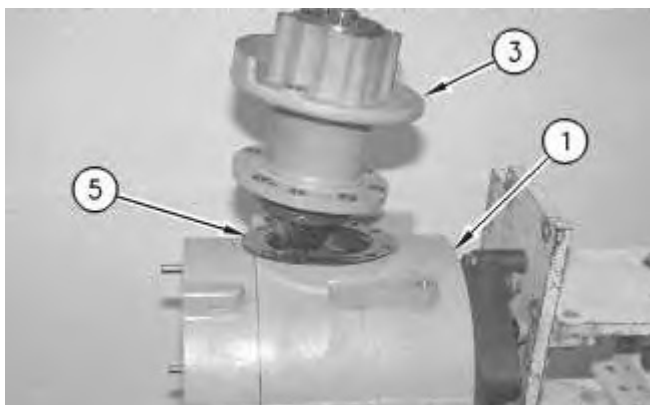


Illustration 4

g00683099

5. Remove pinion housing (3) from differential housing (1). The weight of pinion housing (3) is approximately 29.4 kg (65 lb).
6. Remove shims (5) .



Illustration 5

g00683102

7. Remove O-ring (6) .

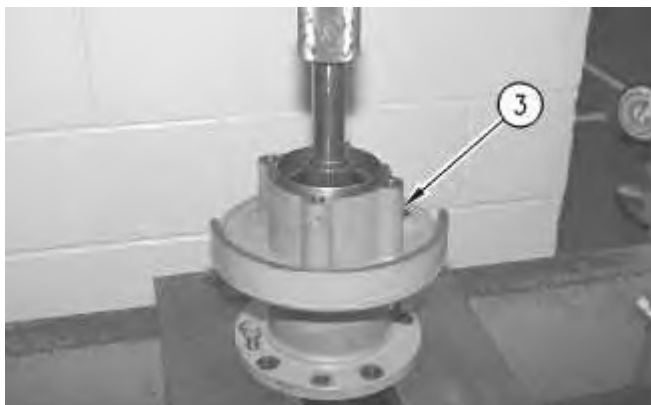
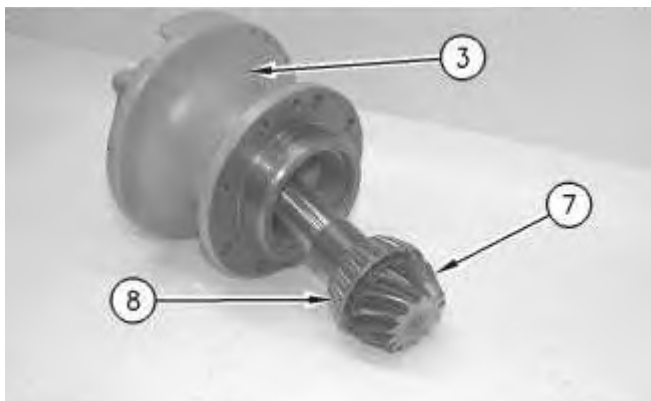


Illustration 6

g00683104



8. Use a press to separate bevel pinion shaft (7) from pinion housing (3) .
9. Remove bearing (8) from pinion shaft (7) .

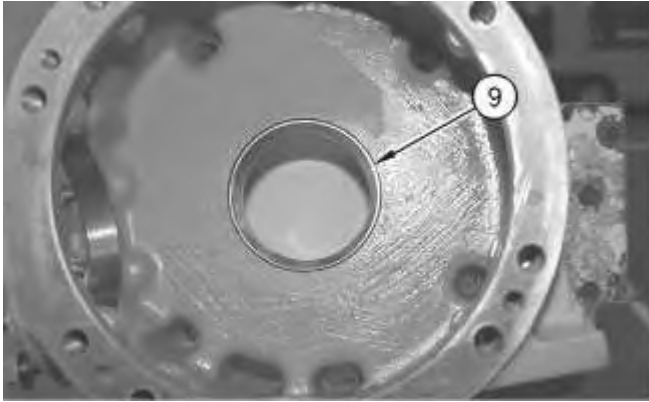


Illustration 8

10. Remove bearing race (9) from the pinion housing.

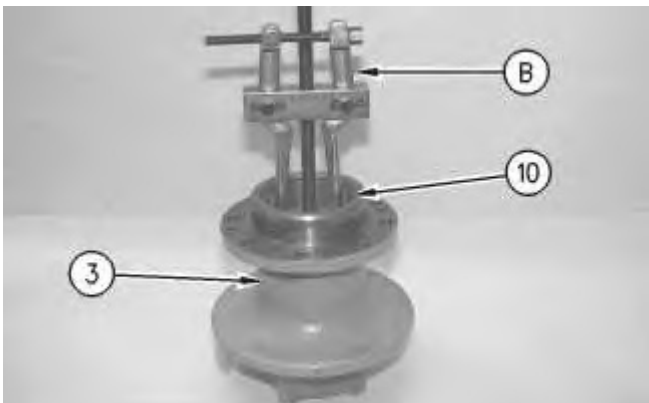


Illustration 9

11. Use Tooling (B) to remove bearing (10) from pinion housing (3) .
 12. Repeat Step 11 for the opposite side.
-

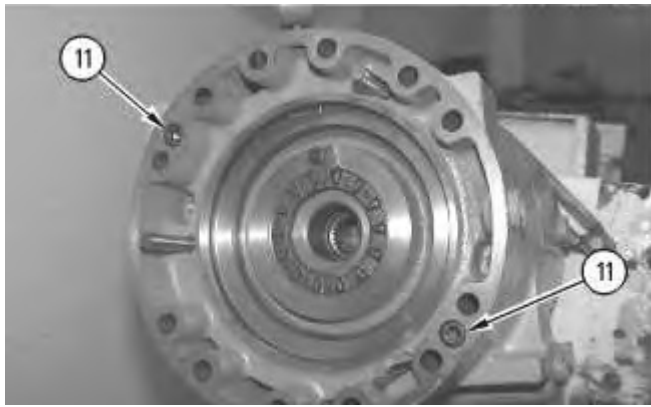


Illustration 10

g00683107

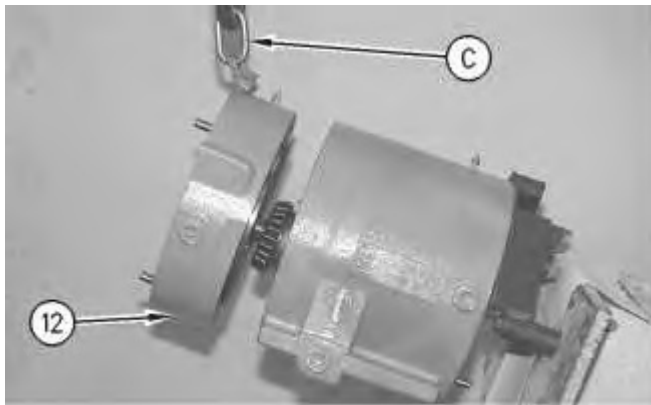


Illustration 11

g00683108

13. Attach Tooling (C) and a suitable lifting device to intermediate differential housing (12). Remove screws (11). Remove intermediate differential housing (12). The weight of intermediate differential housing (12) is approximately 34.0 kg (75 lb).

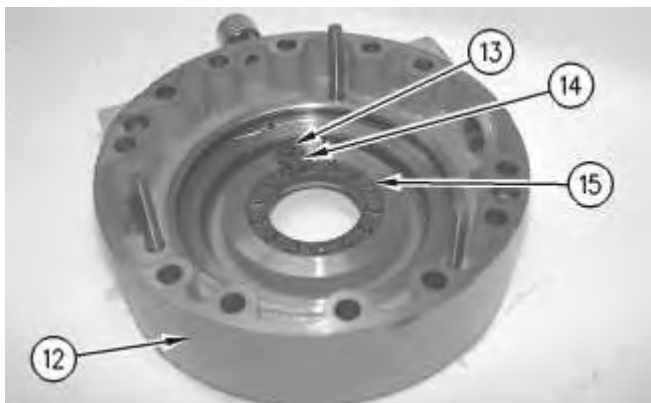


Illustration 12

g00683109

14. Remove bolt (13), lock (14), and adjustment spanner nut (15) from intermediate differential housing (12) .

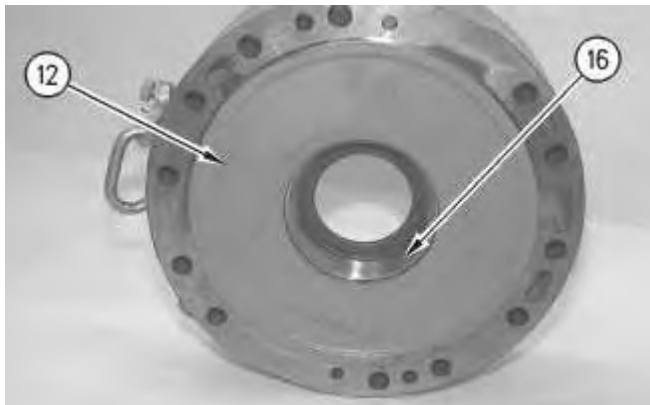


Illustration 13

g00683111

15. Remove bearing race (16) from the intermediate differential housing (12) .

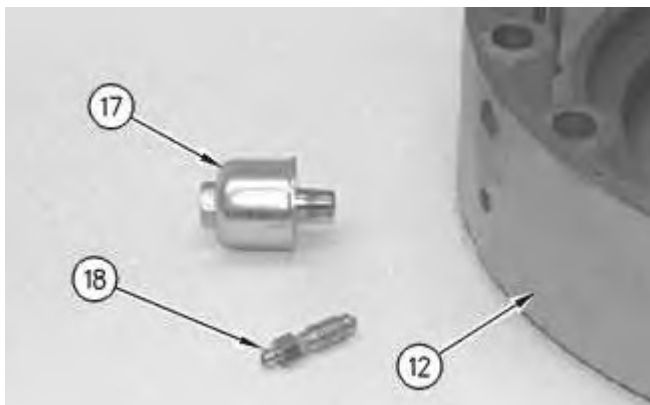


Illustration 14

g00683112

(S/N: 7ZM1-5998ZM1-4999WM1-12981WN1-898)

16. Remove breather (17) and brake bleeder (18) from intermediate differential housing (12) .

Note: Breather (17) will be replaced by a bushing and a fitting in machines that are effective with serial numbers (S/N: 7ZM600-UP8ZM500-UP9WM1299-UP1WN899-UP).

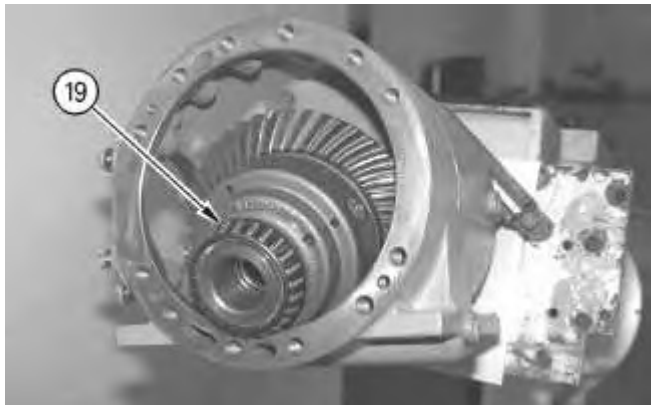


Illustration 15

g00683113

17. Use a suitable lifting device in order to remove bevel gear assembly (19) from the differential housing. The weight of bevel gear assembly (19) is approximately 27.2 kg (60 lb).

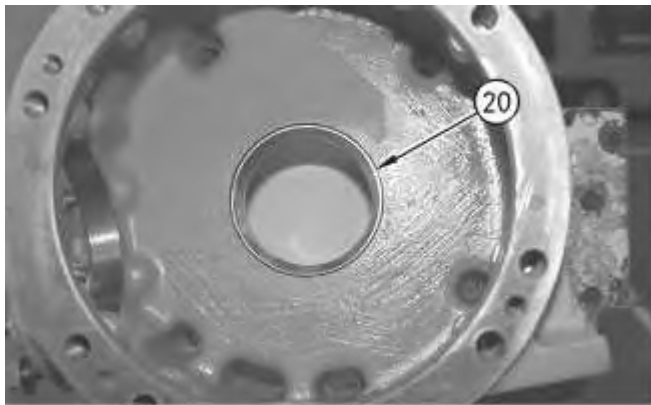


Illustration 16

g00683114

18. Remove bearing race (20) from the differential housing.



Illustration 17

g00683115

19. Remove bolts (21) from the bevel gear housing.



Illustration 18

g00683118

20. Use a press to separate bevel gear (22) from the differential case.

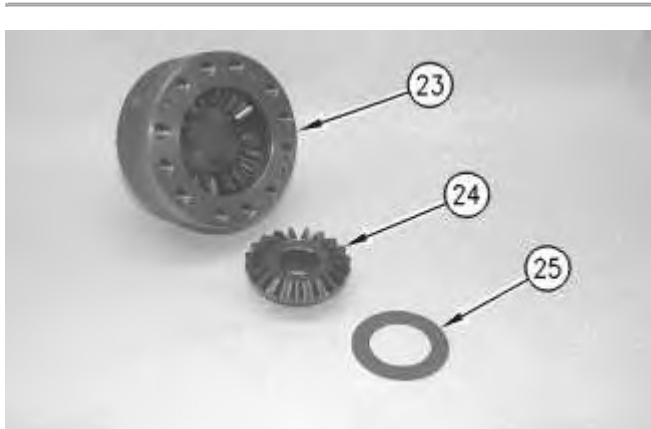


Illustration 19

g00683120

21. Remove thrust washer (25) and gear (24) from differential case (23) .

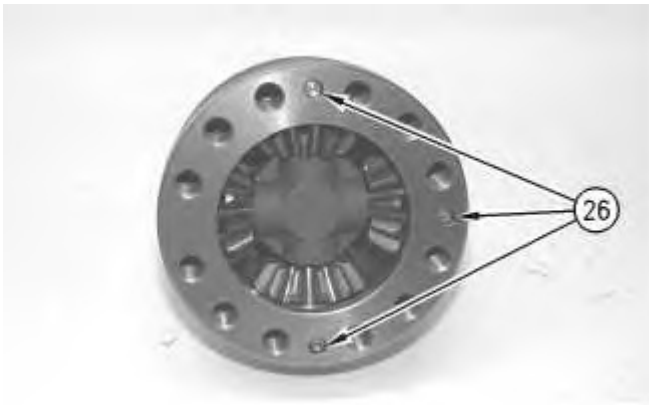


Illustration 20

g00683121

22. Remove dowel pins (26) from the differential case.

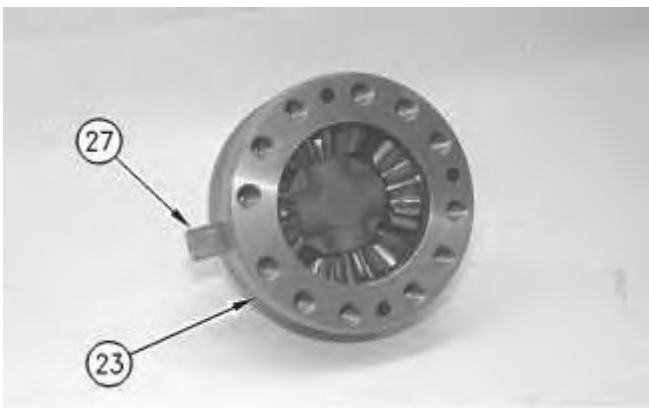


Illustration 21

g00683122

23. Remove three pinion shafts (27) from differential case (23).

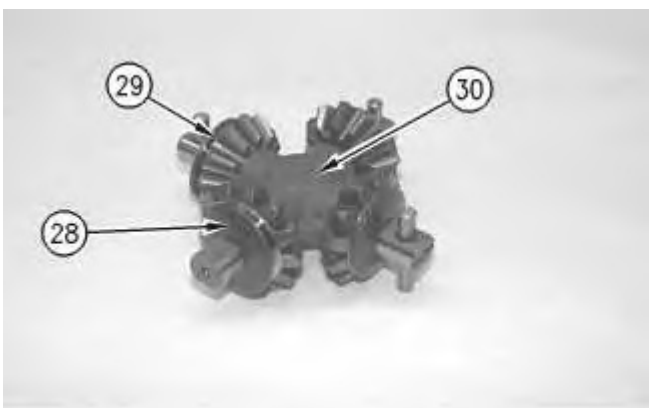


Illustration 22

g00683123

24. Remove thrust washers (28), pinion gears (29), and spider gear carrier (30) from the differential case.

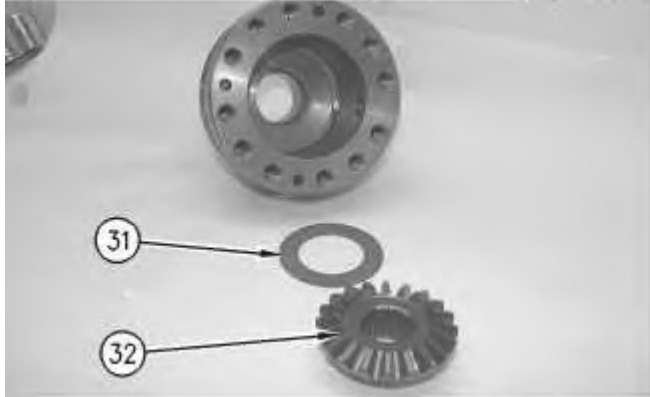


Illustration 23

g00683124

25. Remove differential gear (32) and thrust washer (31) from the differential case.

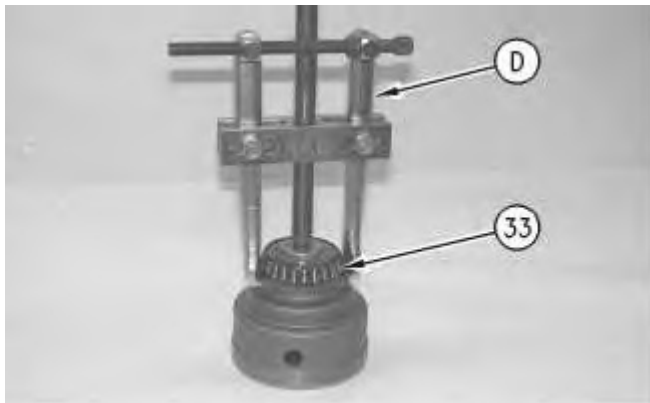


Illustration 24

g00683126

26. Install Tooling (D) and remove bearing (33) .
-

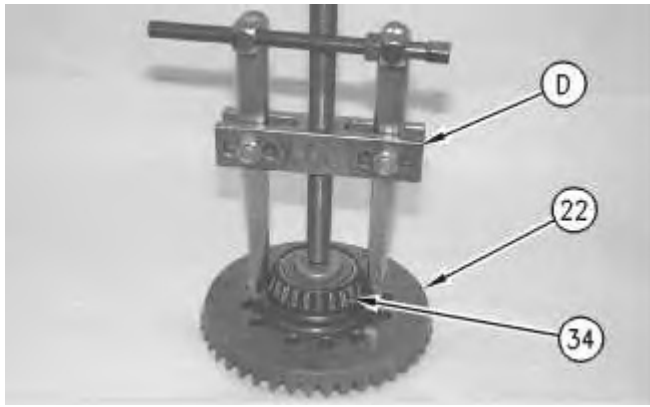


Illustration 25

g00683127

27. Install Tooling (D) and remove bearing (34) from bevel gear (22) .

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Media Number -REN7767-05

Publication Date -01/05/2017

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i02090020

Differential - Assemble

SMCS - 3258-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	8T-5096	Dial Indicator	1
B	1U-5750	Engine Repair Stand	1
	1U-7558	Mounting Adapter Gp	2
C	6V-2156	Link Bracket	1
D	6F-3010	Spanner Wrench	1
E	1U-8846	Gasket Sealant	1

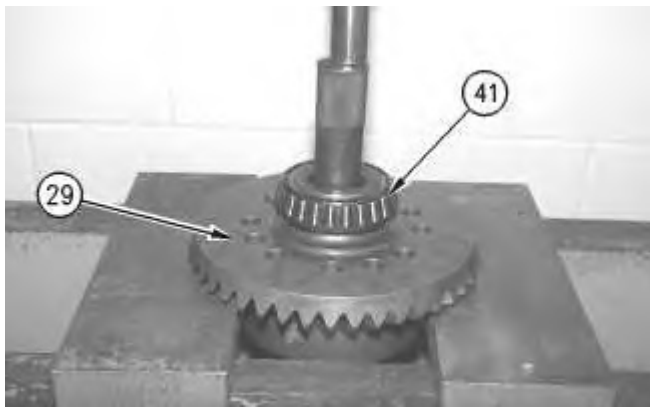


Illustration 1

g00683817

Note: Lubricate bearing (41) with the lubricant that is being used.

1. Use a suitable press in order to install bearing (41) onto bevel gear (29) .

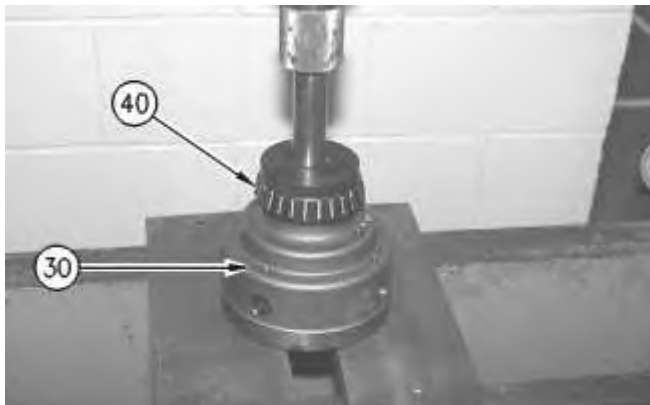
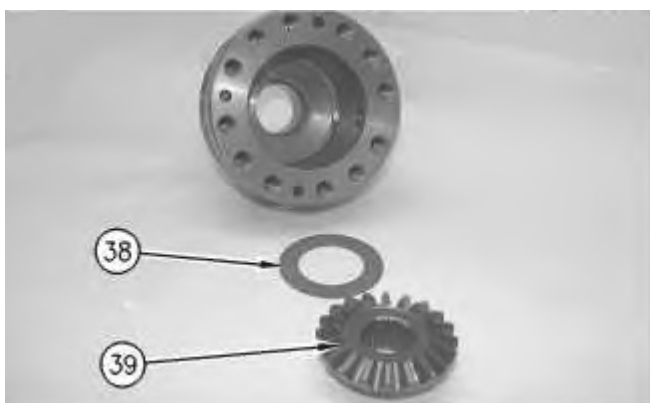


Illustration 2

g00705146

Note: Lubricate bearing (40) with the lubricant that is being used.

2. Use a suitable press in order to install bearing (40) onto differential case (30) .



3. Install thrust washer (38) and differential gear (39) into the differential case.



Illustration 4

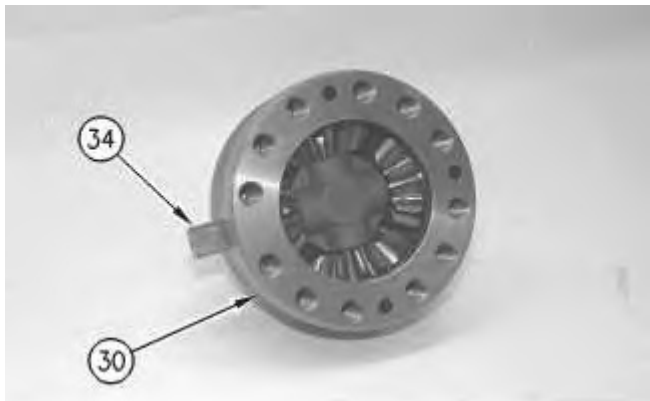


Illustration 5

4. Install spider gear carrier (37), pinion gears (36), and thrust washers (35) into differential case (30) .
 5. Install three pinion shafts (34) into differential case (30) .
-

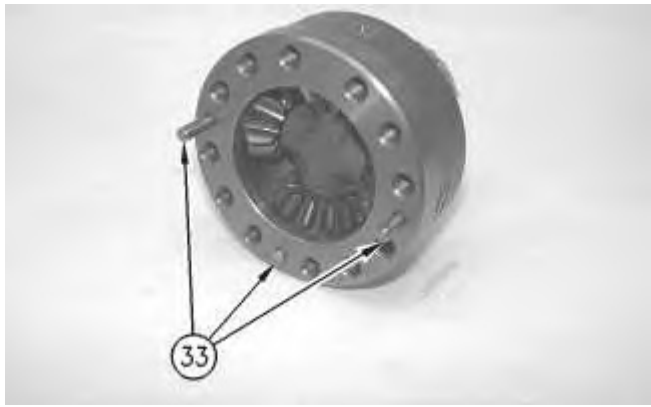


Illustration 6

g00705155

6. Install dowel pins (33) into the differential case.

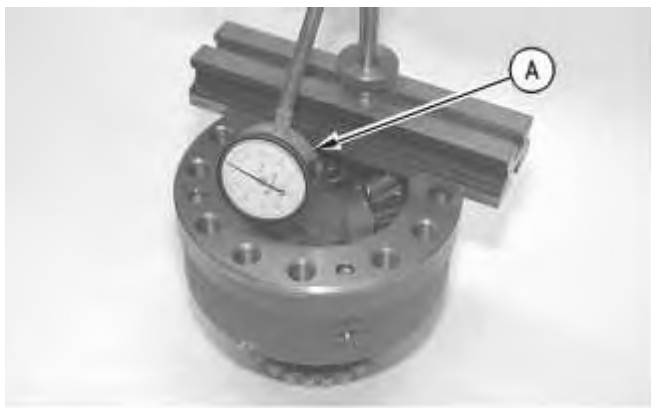


Illustration 7

g00493290

7. Install Tooling (A) on the differential case, as shown. The backlash of spider gears should be between 0.20 mm to 0.30 mm (0.008 inch to 0.012 inch).

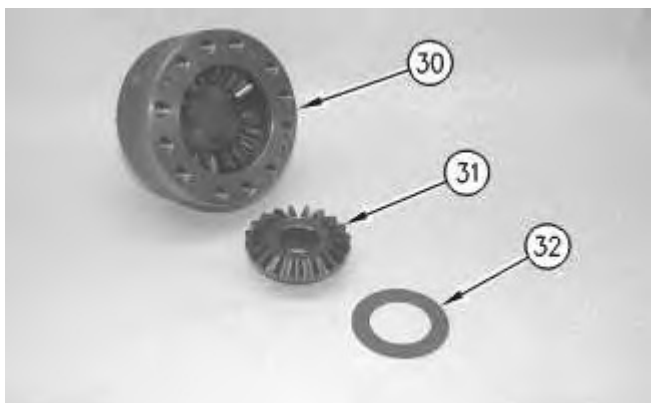


Illustration 8

g00705159

8. Install gear (31) and thrust washer (32) into differential case (30) .

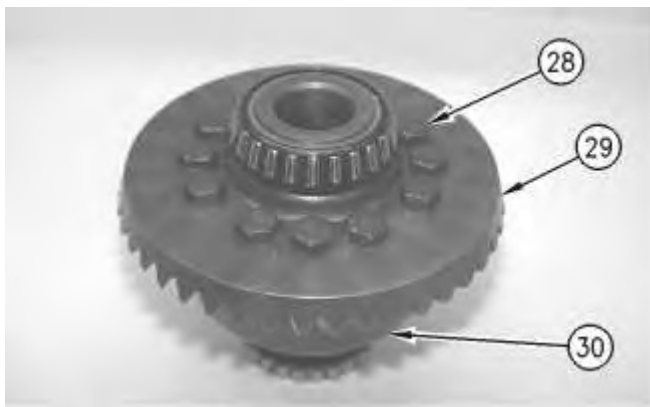


Illustration 9

g00705160

9. Install differential case (30) onto bevel gear housing (29). Install bolts (28) to bevel gear housing (29). Tighten bolts (28) to a torque of 300 ± 40 N·m (222 ± 30 lb ft).

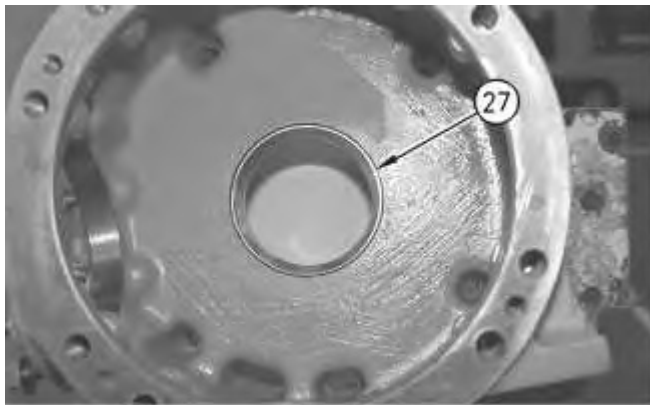


Illustration 10

g00705166

10. Install bearing cup (27) into the differential housing.
-

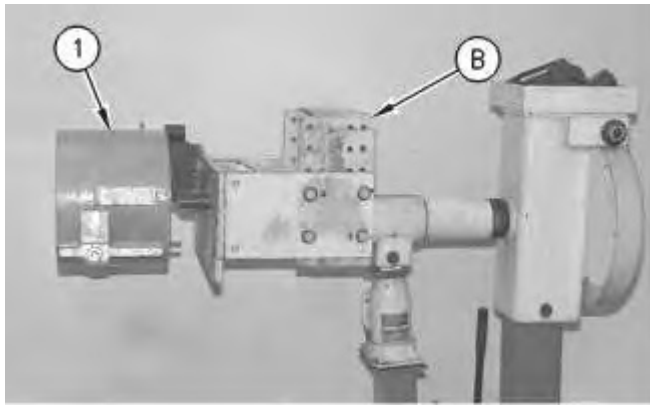


Illustration 11

g00705168

11. Use a suitable lifting device in order to attach differential housing (1) to Tooling (B). The weight of differential housing (1) is approximately 136 kg (300 lb).

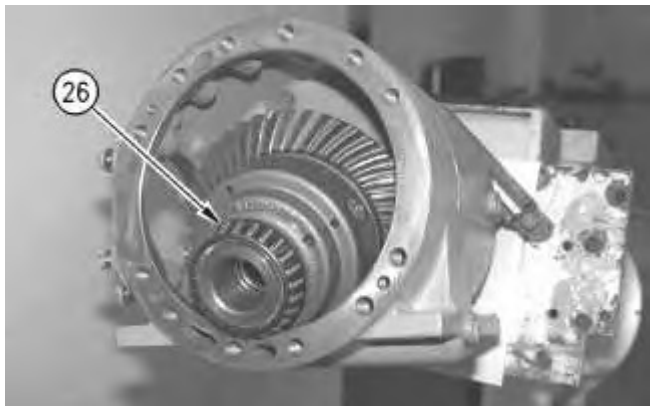


Illustration 12

g00705175

12. Use a suitable lifting device in order to install bevel gear assembly (26) in the differential housing. The weight of bevel gear assembly (26) is approximately 27.2 kg (60 lb).

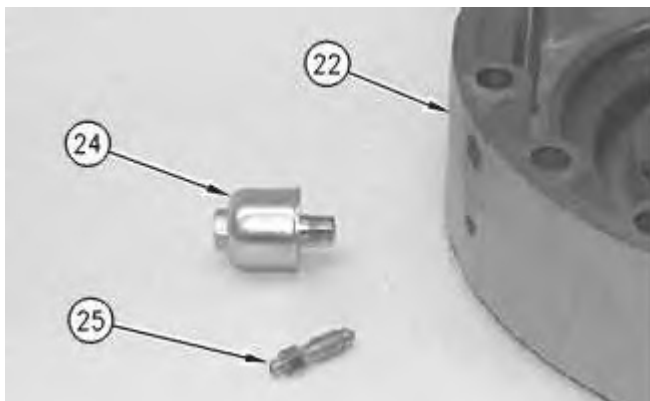


Illustration 13

g00704891

(S/N: 7ZM1-5998ZM1-4999WM1-12981WN1-898)

13. Install brake bleeder (25) and breather (24) to intermediate differential housing (22) .

Note: The breather (24) will be replaced by a bushing and a fitting in machines that are effective with serial numbers (S/N: 7ZM600-UP8ZM500-UP9WM1299-UP1WN899-UP).

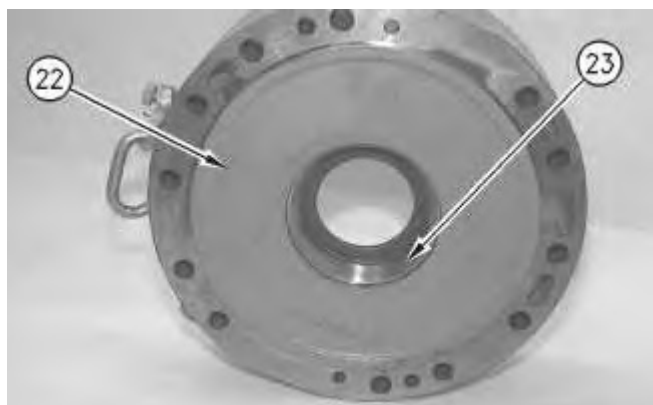


Illustration 14

g00705273

14. Install bearing cup (23) into intermediate differential housing (22) .



Illustration 15

g00705274

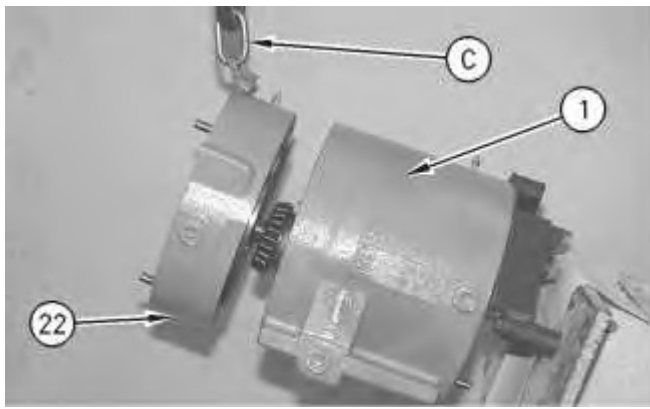


Illustration 16

g00704085

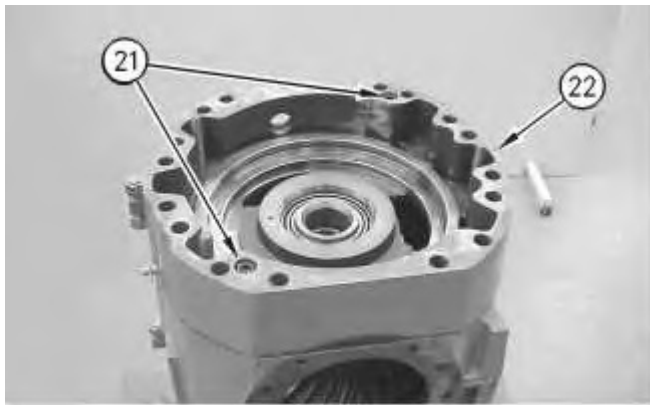


Illustration 17

g00704733

Note: Clean the mating surfaces of differential housing (1) and intermediate differential housing (22). Apply a continuous bead of Tooling (E) to the mating surface of differential housing (1).

15. Use Tooling (C) to support intermediate differential housing (22). Install screws (21). Tighten screws (21) to a torque of 120 ± 20 N·m (89 ± 15 lb ft). The weight of intermediate differential housing (22) is approximately 34.0 kg (75 lb).



16. Use a suitable press to install bearing cup (20) into pinion housing (6) .

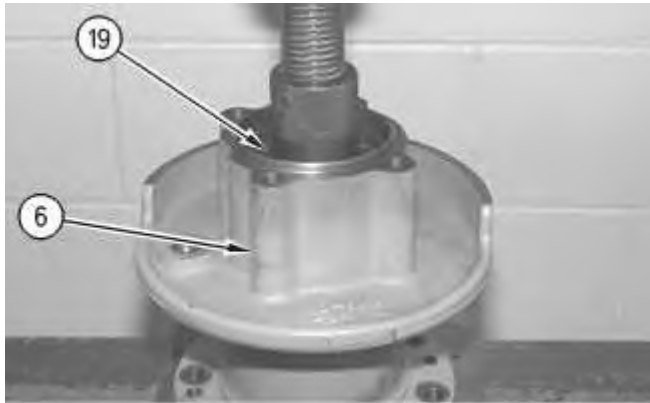


Illustration 19

17. Use a suitable press to install bearing cup (19) into pinion housing (6) .

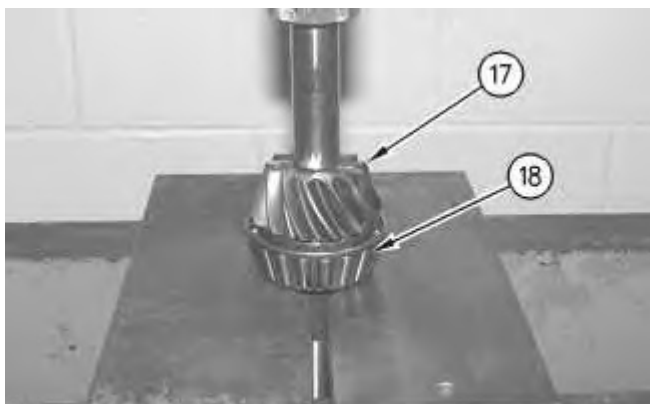


Illustration 20

Note: Lubricate bearing cone (18) with the lubricant that is being used.

18. Use a suitable press to install bearing cone (18) onto pinion shaft (17) .
-

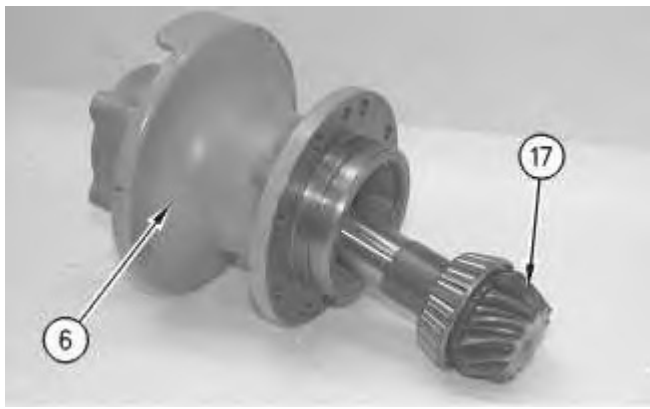


Illustration 21

g00705293



Illustration 22

g00493740

19. Use a suitable press to install pinion shaft assembly (17) into pinion housing (6) .

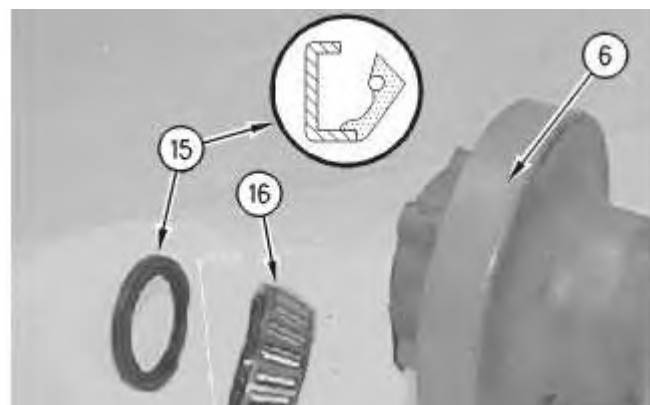


Illustration 23

g00704622

Note: Lubricate bearing (16) and the sealing lip of lip seal (15) with the lubricant that is being used.

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