



Service Repair Manual

Models

M317F Wheeled Excavator

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Product: EXCAVATOR

Model: M317F EXCAVATOR F6P

Configuration: M317F Wheeled Excavator F6P00001-UP (MACHINE) POWERED BY C4.4 Engine

Disassembly and Assembly

M314F, M316F, M318F, M320F and M322F Wheeled Excavator Power Train

Media Number -UENR6143-07

Publication Date -01/03/2018

Date Updated -13/03/2018

i06220128

Final Drive Carriers, Hubs and Brakes - Disassemble - Rear Axle

SMCS - 4054-015; 4092-015; 4253-015; 4255-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1863	Retaining Ring Pliers	1
B	1P-0510	Driver Gp	2
	5F-7345	Screw	1
C	267-6564	Spanner	1
D	1U-5832	Pry Bar	1
E	1U-6410	Three Jaw Puller	1
F	1P-0510	Driver Gp	1
G	1A-1935	Full Nut	1
	3H-0465	Push-Puller Plate	4
	5F-7342	Adapter	2
	5F-7343	Bearing Puller Gp	1
	5F-7366	Forcing Screw	1
	5P-8248	Hard Washer	2
	6B-6684	Full Nut	2

6V-8237	Washer	1
8B-7549	Puller Leg	2
9S-7338	Crossblock	1

Start By:

- a. Remove the rear tires and rims.
- b. Release the hydraulic system pressure.

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.

1. Drain the oil from the front final drives into a suitable container. Refer to Operation and Maintenance Manual, "Final Drive Oil - Change".

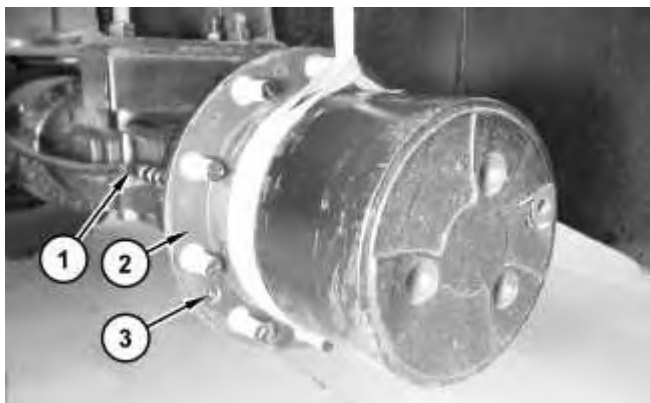


Illustration 1

g01178408

2. Attach a suitable lifting device to carrier housing (2).
3. Remove bolts (3).
4. Remove carrier housing (2). The weight of carrier housing (2) is approximately 31 kg (68 lb).

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5. Disconnect hose assembly (1).

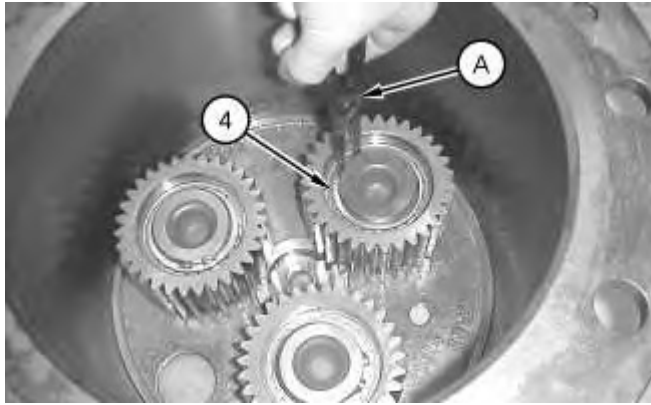


Illustration 2

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6. Use Tooling (A) in order to remove retaining rings (4).

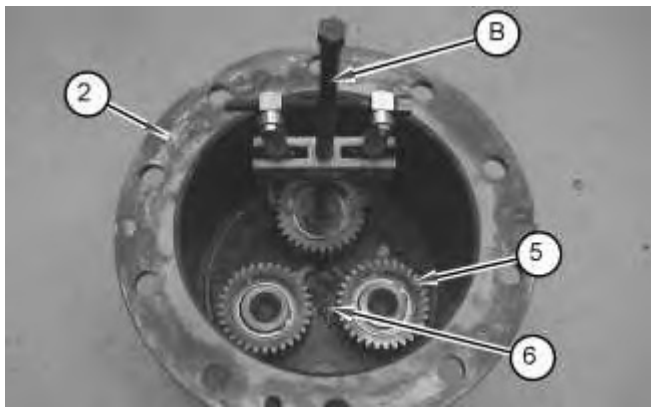


Illustration 3

g01136278

7. Use Tooling (B) in order to remove planetary gears (5) from carrier housing (2).

8. Remove thrust washer (6).

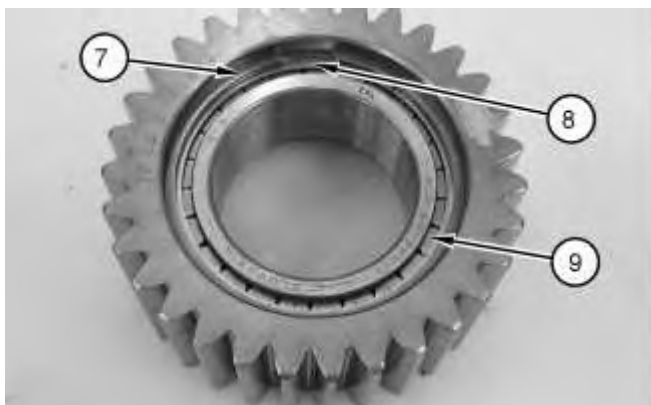


Illustration 4

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9. Remove retaining ring (7), washer (8), and roller bearing (9).



Illustration 5

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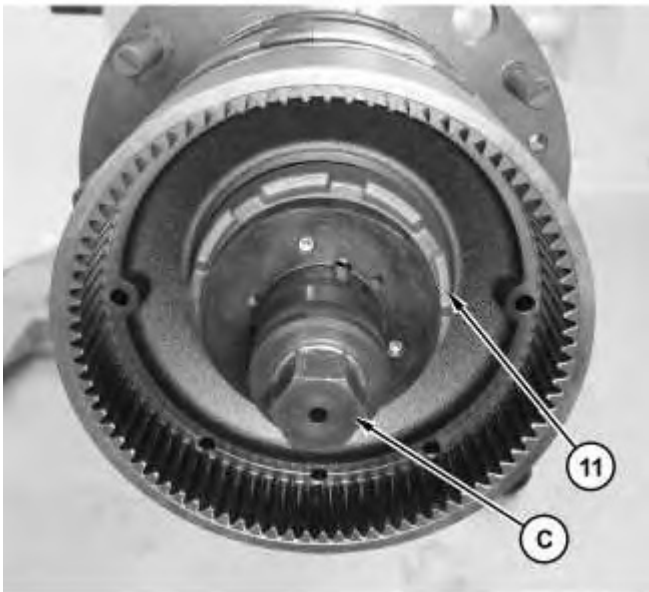


Illustration 6

g01178410

10. Remove bolt (10). Use Tooling (C) in order to remove nut (11).

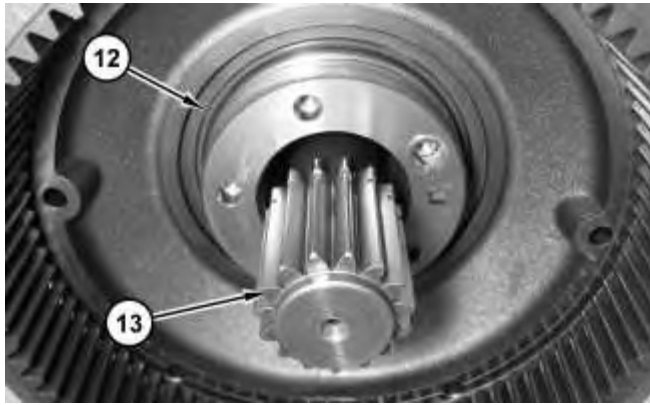


Illustration 7

g01178411

11. Remove O-ring seal (12). Remove stub shaft (13).



Illustration 8

g01178413

Note: Note the location of the alignment marks on ring gear housing (14) and the hub for assembly purposes.

12. Use Tooling (D) to remove ring gear housing (14).



Illustration 9

g01178412

WARNING

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

13. Remove the bolts, the springs, and retainers (15). Remove piston (16).



Illustration 10

g01178414

14. Remove O-ring seal (17), ring (18), O-ring seal (19), and ring (20).



Illustration 11

g01178415

15. Remove brake discs (21).

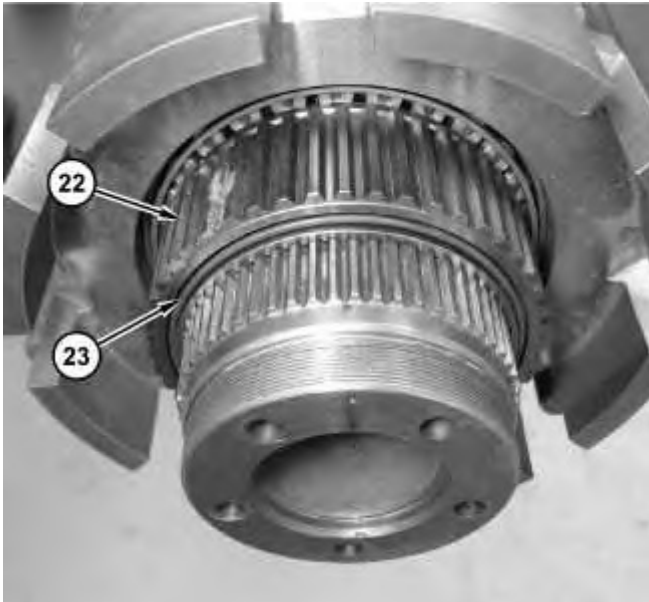


Illustration 12

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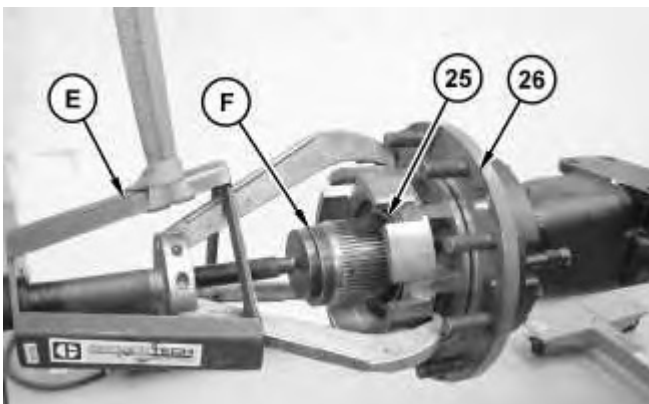
16. Remove O-ring seal (23). Use Tooling (D) in order to remove carrier gear (22).



Illustration 13

g01178429

17. Remove O-ring seal (24).



18. Use a suitable lifting device, Tooling (E), and Tooling (F) in order to remove bearing cone (25).
19. Use two people in order to remove flange (26). The weight of flange (26) is approximately 38 kg (83 lb).



Illustration 15

20. Remove lip seal (27). Remove bearing cups (28).

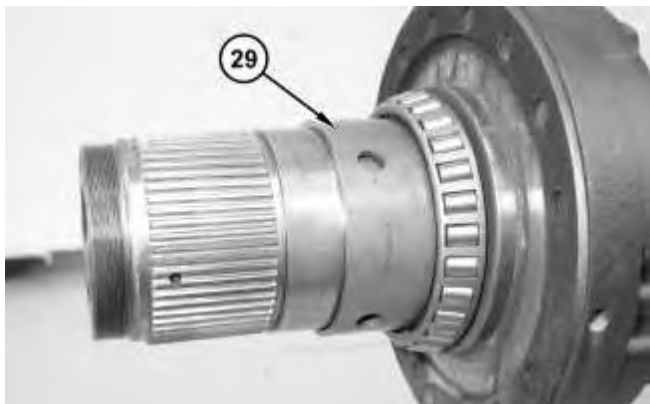


Illustration 16

21. Remove spacer (29).
-

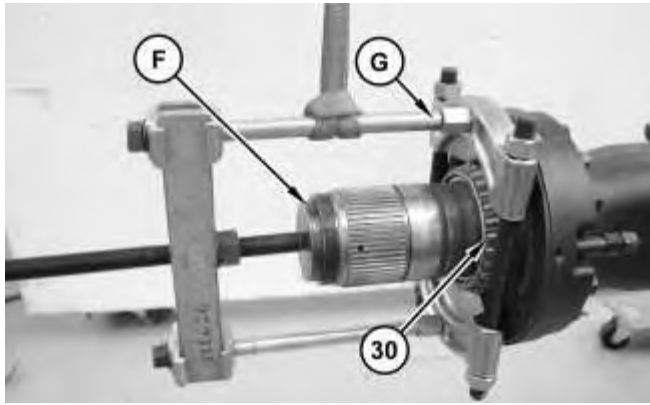


Illustration 17

g01178431

22. Use Tooling (F) and Tooling (G) in order to remove bearing cone (30).



Illustration 18

g01178432

23. Attach a suitable lifting device to hub (31). The weight of hub (31) is approximately 29 kg (65 lb). Remove bolts (32) and hub (31).

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Model: M317F EXCAVATOR F6P

Configuration: M317F Wheeled Excavator F6P00001-UP (MACHINE) POWERED BY C4.4 Engine

Disassembly and Assembly

M314F, M316F, M318F, M320F and M322F Wheeled Excavator Power Train

Media Number -UENR6143-07

Publication Date -01/03/2018

Date Updated -13/03/2018

i06220146

Final Drive Carriers, Hubs and Brakes - Assemble - Front Axle

SMCS - 4054-016; 4092-016; 4253-016; 4255-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1863	Retaining Ring Pliers	1
C	267-6564	Spanner	1
J	-	Loctite Graphite 50 Anti-Seize Lubricant	-
K	6V-6080	Torque Multiplier Gp	1
L	269-7627	Seal Installer	1

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

g01136417

1. Raise the temperature of bearing cone (32) and install bearing cone (32).



Illustration 2

g01136418

2. Lower the temperature of bearing cups (30) and install bearing cups (30).

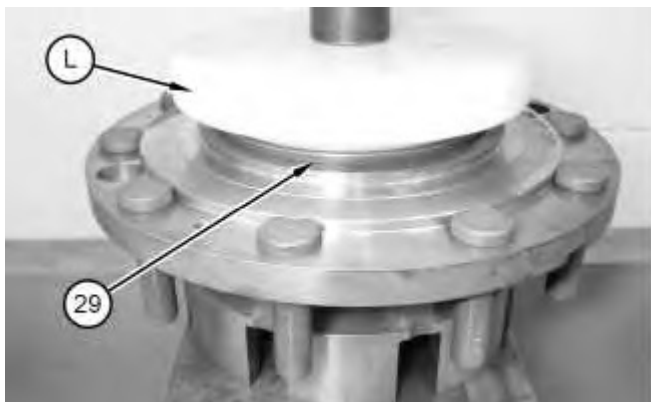


Illustration 3

g01136425

3. Use Tooling (L) and a suitable press in order to install seal (29).



Illustration 4

g01136427

4. Attach a suitable lifting device to flange (28) and install flange (28). The weight of flange (28) is approximately 38 kg (83 lb). Raise the temperature of bearing cone (27) and install bearing cone (27).



Illustration 5

g01136302

5. Install O-ring seal (19), ring (20), O-ring seal (21), and ring (22).



Illustration 6

g01136296

WARNING

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

6. Position piston (18). Install bolts (17), the springs, and the retainers. Tighten bolts (17) to a torque of 11 N·m (97 lb in).



Illustration 7

g01136430

7. Install ring gear housing (16).

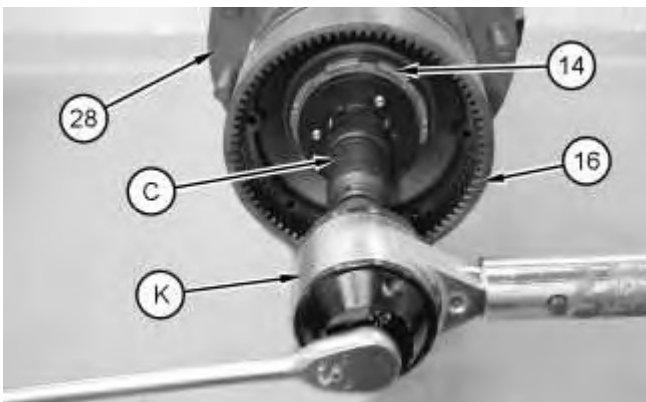


Illustration 8

g01136432

8. Apply Tooling (J) to nut (14) and install nut (14). Use Tooling (C) and Tooling (K) in order to tighten nut (14). Tighten nut (14) to a torque of 1400 + 200 - 0 N·m (103 + 14 - 0 lb ft).

9. Rotate flange (28) in both directions several times in order to seat the bearings. Remove nut (14) and remove ring gear housing (16).



Illustration 9

g01136323

10. Install O-ring seal (26).

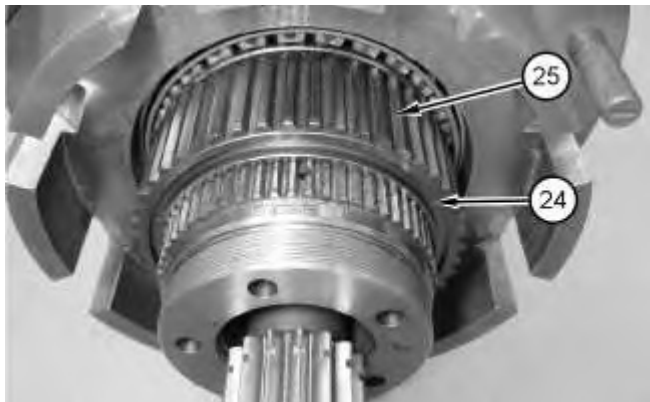


Illustration 10

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11. Install carrier gear (25) and O-ring seal (24).

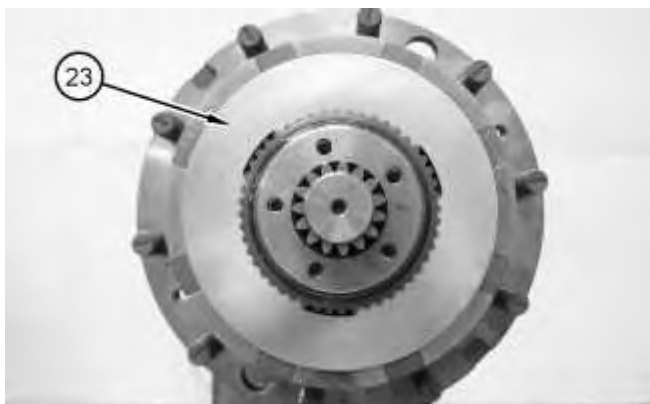


Illustration 11

g01136448

12. Install clutch discs (23). Alternate the friction discs and the drive plates during installation.



Illustration 12

g01136430



Illustration 13

g01136294

13. Install ring gear housing (16). Install O-ring seal (15) onto ring gear housing (16).

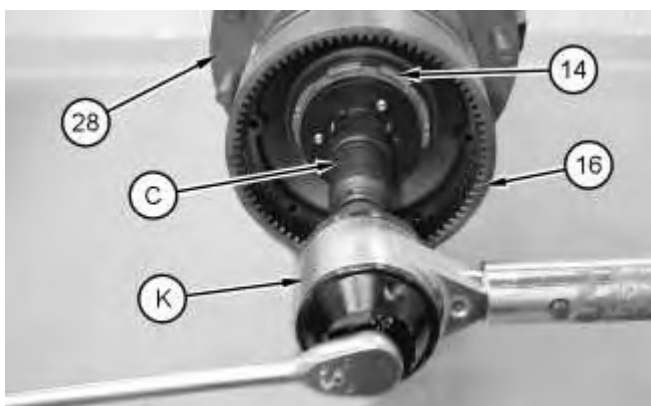


Illustration 14

g01136432

14. Apply Tooling (J) to nut (14) and install nut (14). Use Tooling (C) and Tooling (K) in order to tighten nut (14). Tighten nut (14) to a torque of 1400 N·m (1033 lb ft).
-

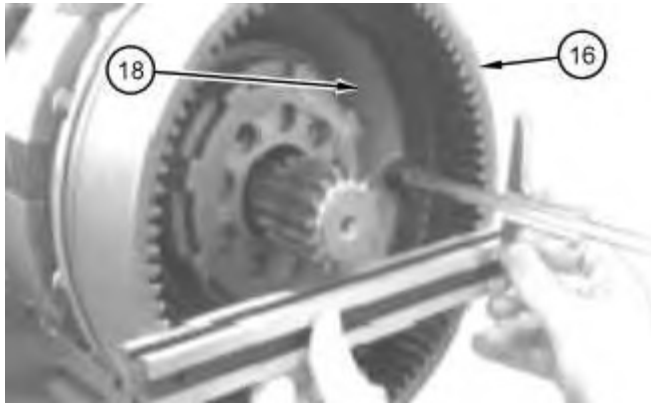


Illustration 15

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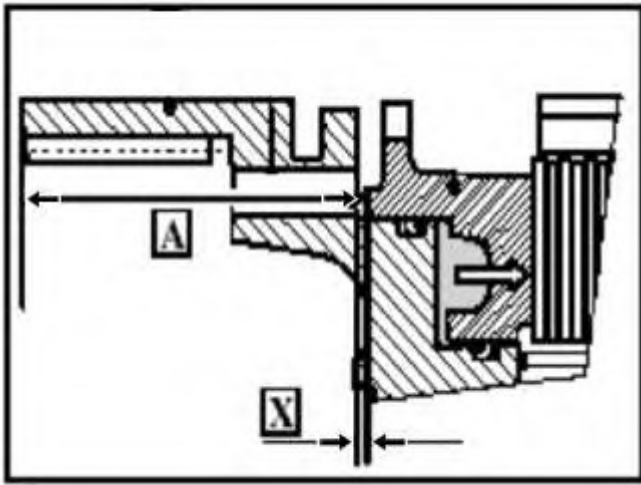
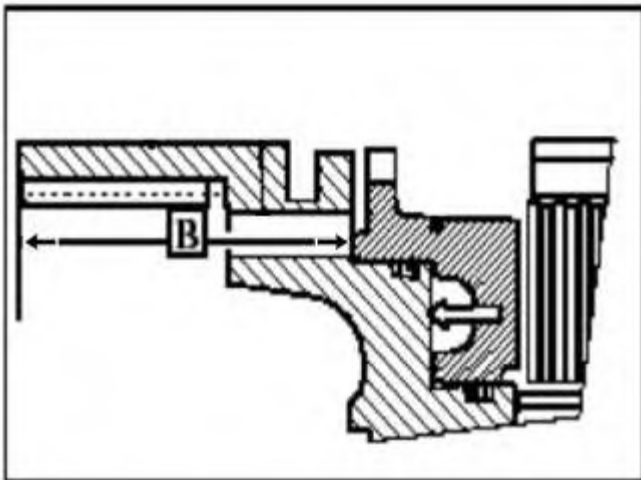


Illustration 16

g01136698



15. Apply 9997 kPa (1450 psi) of pressure to the brakes. Measure the distance from the surface of ring gear housing (16) to the surface of piston (18). Record the dimension as Dimension (A).
16. Release the pressure from the brakes. Measure the distance from the surface of ring gear housing (16) to the surface of piston (18). Record the dimension as Dimension (B). Subtract Dimension (B) from Dimension (A) in order to determine Clearance (X) for the discs. Clearance (X) for the discs should measure 1.2 mm (0.05 inch) to 1.8 mm (0.07 inch). Use different discs until this clearance is reached.



Illustration 18

17. Install bolt (13). Tighten bolt (13) to a torque of 32 N·m (283 lb in).



Illustration 19

18. Measure the distance from the surface of carrier housing (2) to the surface of the seat for the thrust washer. Record the dimension as Dimension (C).
-

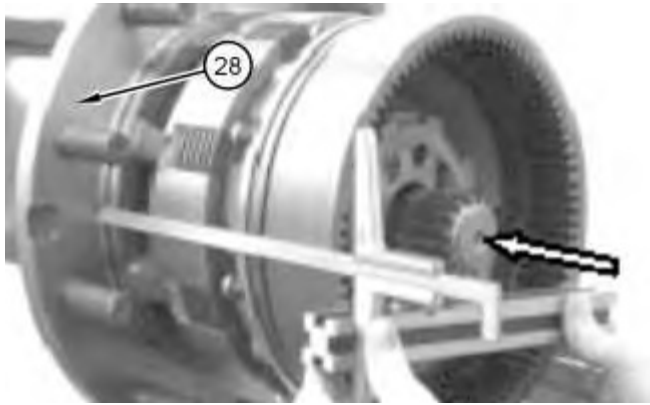


Illustration 20

g01136743



Illustration 21

g01136746

19. Measure the distance from the surface of the sun gear to the mounting face of flange (28). Record the dimension as Dimension (D).
20. Subtract Dimension (D) from Dimension (C). The resulting dimension is the thickness that is needed for the thrust washer.
21. Use a suitable press in order to install the thrust washer.



Illustration 22

g01138776

22. Raise the temperature of planetary gears (5) and install planetary gears (5).

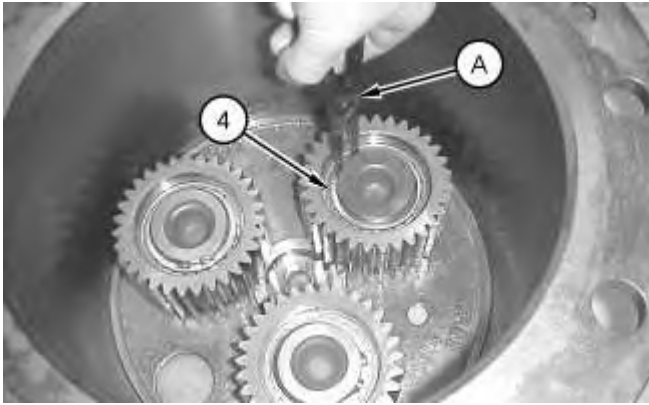


Illustration 23

g01136274

23. Use Tooling (A) in order to install retaining rings (4).

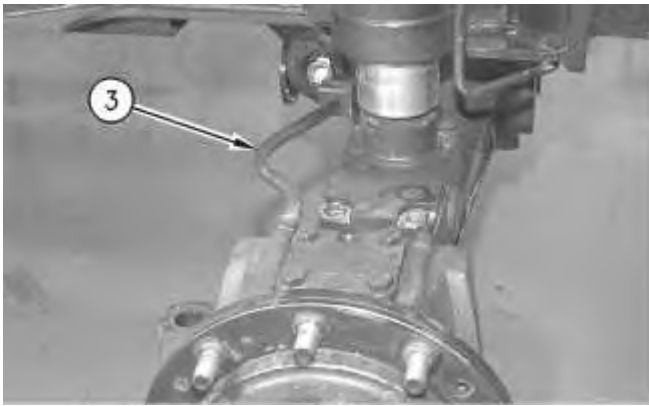


Illustration 24

g00894124

24. Connect hose assembly (3).

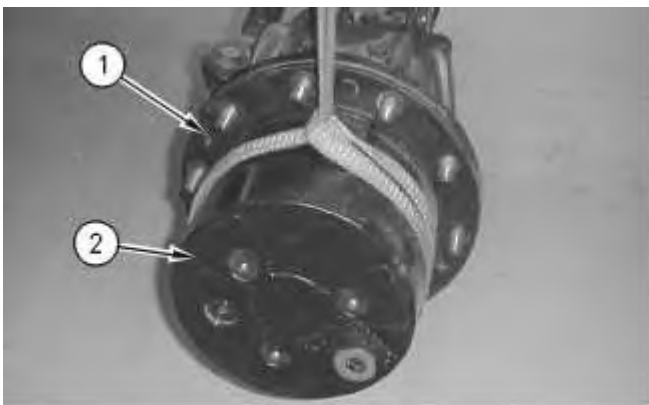


Illustration 25

g00894123

25. Attach a suitable lifting device to carrier housing (2) and position carrier housing (2). The weight of carrier housing (2) is approximately 31 kg (68 lb).

26. Install bolts (1). Tighten bolts (1) to a torque of 55 N·m (41 lb ft).
27. Fill the front final drives with oil. Refer to Operation and Maintenance Manual, "Final Drive Oil - Change".

End By:

- a. Install the front tires and rims.

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Media Number -UENR6143-07

Publication Date -01/03/2018

Date Updated -13/03/2018

i06220167

Final Drive Carriers, Hubs and Brakes - Assemble - Rear Axle

SMCS - 4054-016; 4092-016; 4253-016; 4255-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1863	Retaining Ring Pliers	1
C	267-6564	Spanner	1
J	-	Loctite Graphite 50 Anti-Seize Lubricant	-
K	6V-6080	Torque Multiplier Gp	1
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Illustration 1

g01178432

1. Attach a suitable lifting device to hub (31). The weight of hub (31) is approximately 29 kg (65 lb). Position hub (31) and install bolts (32). Tighten bolts (32) to a torque of 280 N·m (207 lb ft).

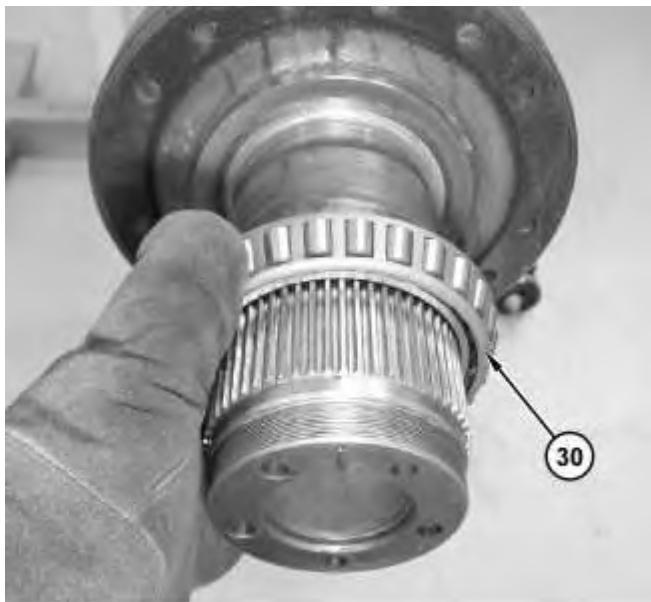


Illustration 2

g01178643

2. Raise the temperature of bearing cone (30) and install bearing cone (30).
-

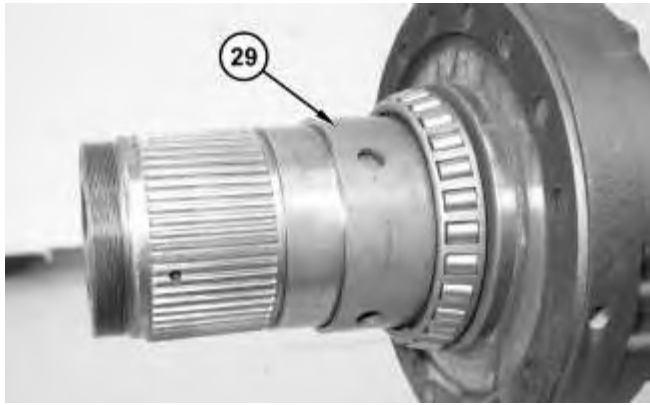


Illustration 3

g01178418

3. Install spacer (29).



Illustration 4

g01178644

4. Lower the temperature of bearing cups (28) and install bearing cups (28).



Illustration 5

g01184452

5. Use Tooling (L) and a suitable press in order to install lip seal (27) to a depth of $6.0 + 0.2 - 0$ mm ($0.24 + 0.01 - 0$ inch) below the face of flange (26).



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Illustration 6

g01184454

6. Attach a suitable lifting device to flange (26) and install flange (26). The weight of flange (26) is approximately 38 kg (83 lb). Raise the temperature of bearing cone (25) and install bearing cone (25).

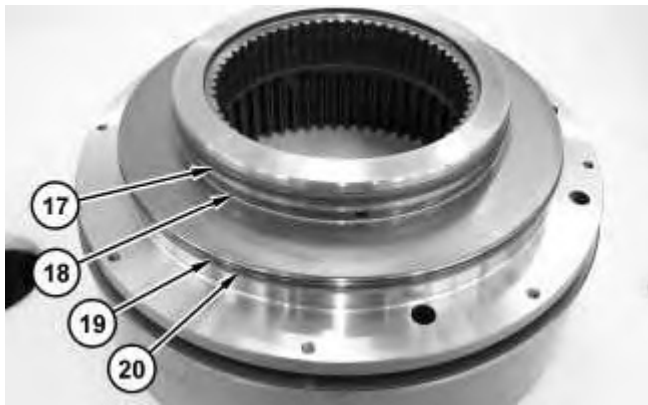


Illustration 7

g01178414

7. Install O-ring seal (17), ring (18), O-ring seal (19), and ring (20).



Illustration 8

g01178412

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