

Product: TRACK-TYPE TRACTOR

Model: D5R2 TRACK-TYPE TRACTOR R5A

Configuration: D5R2 XL Track-Type Tractor R5A00001-UP (MACHINE) POWERED BY C7.1 Engine

## Disassembly and Assembly D5R and D6N Track-Type Tractor Power Train

Media Number -M0071174-02

Publication Date -01/09/2015

Date Updated -25/07/2018

i06691884

# Steering Planetary and Brake - Disassemble

SMCS - 4132-015

## Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3940	Bracket As	3
B	1P-0520	Driver Group	1
C	-	3/8 × 16 Forcing Screw	3

### Start By:

- a. Remove the final drive, steering planetary, and brake (right side).

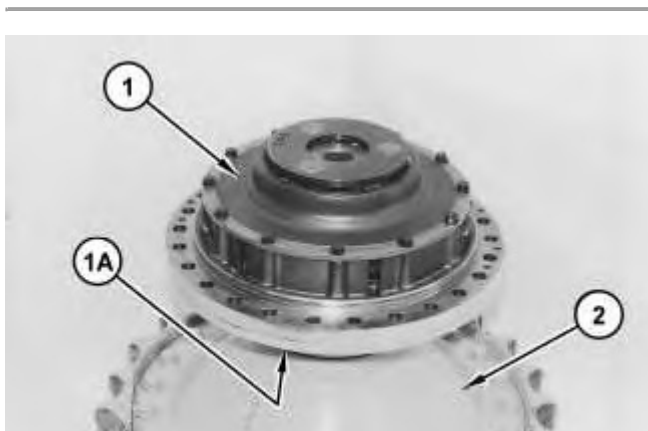


Illustration 1

g01234433

1. Position the final drive, steering planetary, and brake (right side).
2. Remove bolts (1A) (not shown) that hold steering planetary and brake (1) to final drive (2).
3. Attach Tooling (A) and a suitable lifting device (not shown) to steering planetary and brake (1). The weight of steering planetary and brake (1) is approximately 136 kg (300 lb).
4. Install Tooling (C) in the final drive hub.
5. Tighten Tooling (C) evenly to separate steering planetary and brake (1) from final drive (2).



Illustration 2

g00622109

 **WARNING**

**Personal injury can result from parts and/or covers under spring pressure.**

**Spring force will be released when covers are removed.**

**Be prepared to hold spring loaded covers as the bolts are loosened.**

---

6. Remove bolts (3).
  7. Remove ring gear (4) from housing (5).
-



Illustration 3

g06078032

8. Remove friction discs (6) and brake plates (7) (not shown) from housing (5).

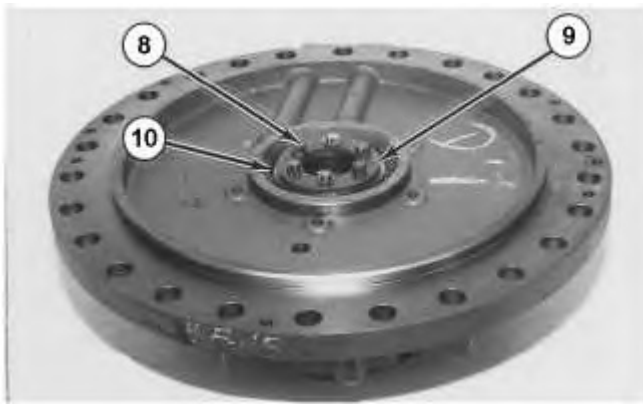


Illustration 4

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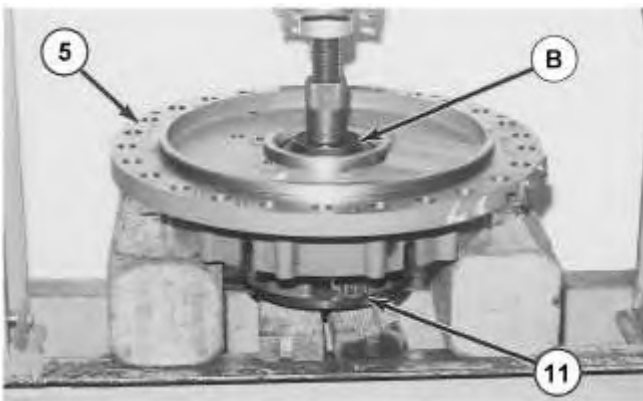


Illustration 5

g06078046

9. Remove bolts (8) and plate (9).

**Note:** Do not allow planetary carrier (11) to fall when the planetary carrier is pressed from housing (5).

10. Use a suitable press and Tooling (B) to remove planetary carrier (11) from housing (5).

11. Remove bearing cone (10) from housing (5).



Illustration 6

g00622127

12. Remove ring (14) from planetary carrier (11).

13. Remove bolts (13).

14. Remove slinger (12) from planetary carrier (11).

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### NOTICE

**The component is destroyed if the component is removed.**

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15. If necessary, remove bearing cone (15) from planetary carrier (11).



Illustration 7

g00996861

16. Use a hammer and a suitable punch to push spring pin (21) in planetary shaft (20).

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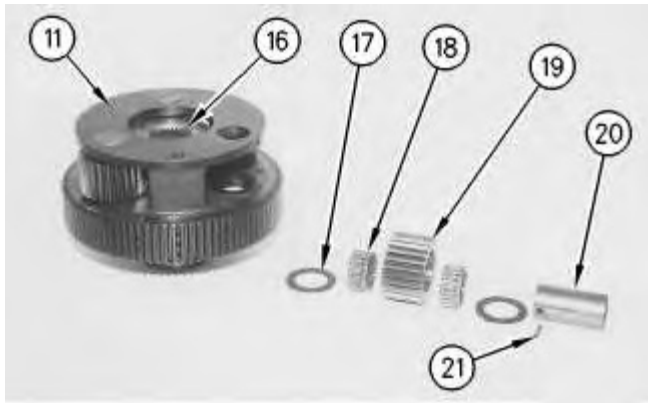


Illustration 8

g00996857

17. Remove planetary shaft (20), planetary gear (19), thrust discs (17), and roller bearings (18) from planetary carrier (11).
18. Remove spring pin (21) from planetary shaft (20).
19. Repeat Steps 16 through 18 for the remaining planetary gears.
20. Remove sun gear (16) from planetary carrier (11).



Illustration 9

g00622132



**Personal injury can result from parts and/or covers under spring pressure.**

**Spring force will be released when covers are removed.**

**Be prepared to hold spring loaded covers as the bolts are loosened.**

21. Remove bolts (22) and the washers.

22. Remove retainer (23) from piston (24).



Illustration 10

g00996858

23. If necessary, remove bearing cups (25) from retainer (23).

24. Remove seal ring (26) from retainer (23).



Illustration 11

g00622156

25. Remove piston (24) and O-ring seal (27) from the housing.



Illustration 12

g00996860

26. Remove seal ring (28) from piston (24).

---



Illustration 13

g00819345

27. Remove disc spring (29) and ring (30) from housing (5).

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Media Number -M0071174-02

Publication Date -01/09/2015

Date Updated -25/07/2018

i06691986

# Steering Planetary and Brake - Assemble

SMCS - 4132-016

## Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3940	Bracket As	3
D	-	Loctite 518	-



Illustration 1

g00819345

**Note:** Orient the disc spring with the outer edge downward.

1. Install ring (30) and disc spring (29) in housing (5).





Illustration 2

g00622157

2. Apply clean oil to seal ring (28).

**Note:** Orient the seal ring with the lip downward. Refer to Illustration 2.

3. Install seal ring (28) in piston (24).



Illustration 3

g00622156

4. Install piston (24) and O-ring seal (27) in the housing.



Illustration 4

g00996858

5. If necessary, lower the temperature of bearing cups (25) and install bearing cups (25) in retainer (23).

**Note:** Orient the seal ring with the lip downward. Refer to Illustration 4.

6. Apply clean oil to seal ring (26). Install seal ring (26) in retainer (23).



Illustration 5

g00622132

7. Install retainer (23) on piston (24). Align the oil passage in retainer (23) with the oil passage and the O-ring seal in the housing. Install bolts (22).

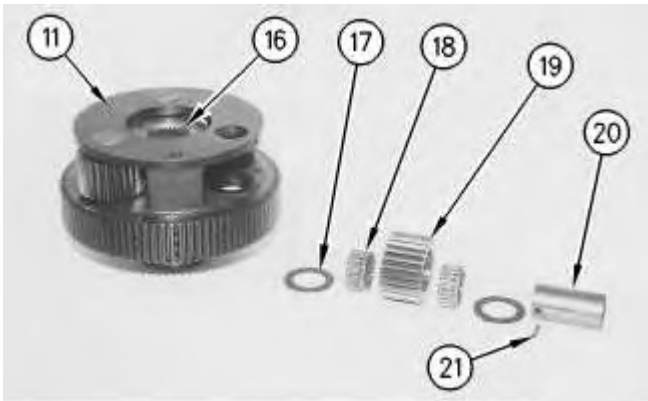


Illustration 6

g00996857

8. Install sun gear (16) in planetary carrier (11).
  9. Install bearings (18) in planetary gear (19).
  10. Install thrust discs (17) and planetary gear (19) in planetary carrier (11). Install planetary shaft (20).
-



Illustration 7

g00996861

**Note:** If the rubber in spring pin (21) is damaged, replace spring pin (21).

11. Align the hole in planetary shaft (20) with the hole in planetary carrier (11) and install spring pin (21). Install spring pin (21) until the spring pin is even with the surface of planetary carrier (11).
12. Repeat Steps 9 through 11 for the remaining planetary gears.



Illustration 8

g00622127

**Note:** If bearing cone (15) was removed from planetary carrier (11), a new bearing cone must be installed.

13. Raise the temperature of bearing cone (15). Install bearing cone (15) on planetary carrier (11).
14. Apply Tooling (D) to the flange of slinger (12).
15. Install slinger (12) on planetary carrier (11). Install bolts (13).
16. Install ring (14) in planetary carrier (11).

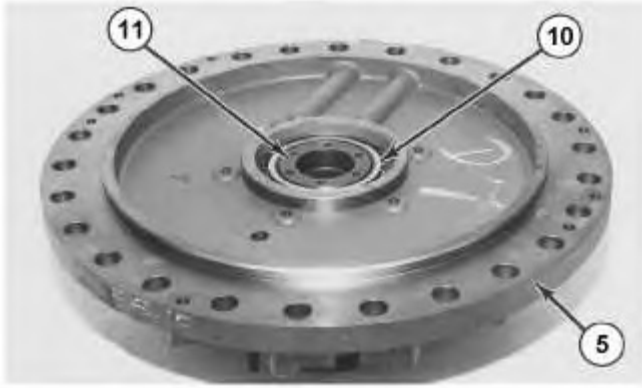


Illustration 9

g06078188

17. Position housing (5) on planetary carrier (11).
18. Raise the temperature of bearing cone (10). Install bearing cone (10) on planetary carrier (11).

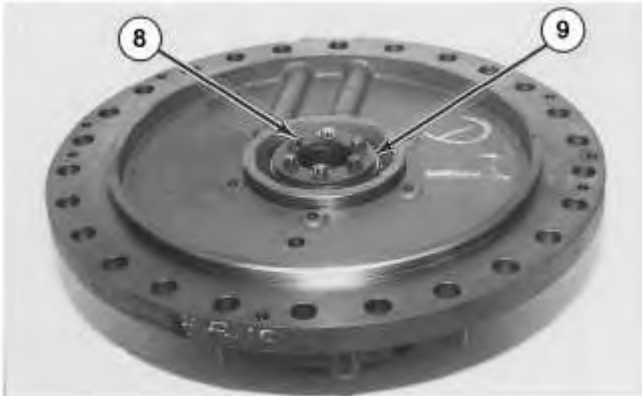


Illustration 10

g06078197

19. Position plate (9) on the planetary carrier.
20. Install bolts (8).



Illustration 11

g06078201

21. Install friction discs (6) and brake plates (7) (not shown). Alternate the friction discs and the brake plates.



Illustration 12

g00622109

22. Position ring gear (4) on housing (5).
23. Install bolts (3). Tighten bolts (3) to a torque of  $135 \pm 20 \text{ N}\cdot\text{m}$  ( $100 \pm 15 \text{ lb ft}$ ).

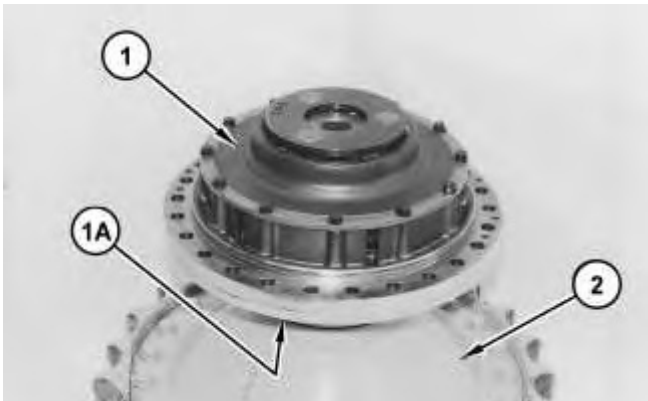


Illustration 13

g01234433

24. Attach Tooling (A) and a suitable lifting device (not shown) to position the steering planetary and brake (1) on final drive (2). The weight of steering planetary and brake (1) is approximately 135 kg (300 lb).
25. Install bolts (1A) (not shown) that hold steering planetary and brake (1) on the final drive.

**End By:**

- a. Install the final drive, steering planetary, and brake (right side).
-

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Configuration: D5R2 XL Track-Type Tractor R5A00001-UP (MACHINE) POWERED BY C7.1 Engine

## Disassembly and Assembly D5R and D6N Track-Type Tractor Power Train

Media Number -M0071174-02

Publication Date -01/09/2015

Date Updated -25/07/2018

i06691352

### Final Drive - Disassemble

SMCS - 4050-015

### Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3938	Link Bracket	3
B	1P-0074	Slide Hammer Puller Gp	1
C	FT-1934	Puller Beam	1
	-	(16 mm x 190.5 mm) Bolt	4
	5P-8247	Hard Washer	4
	6V-3170	Double Acting Cylinder	1
	9U-6600	Hand Hydraulic Pump	1
	1P-0521	Driver Group	1
D	439-3940	Bracket As	2

#### Start By:

- a. Remove the final drive.
-

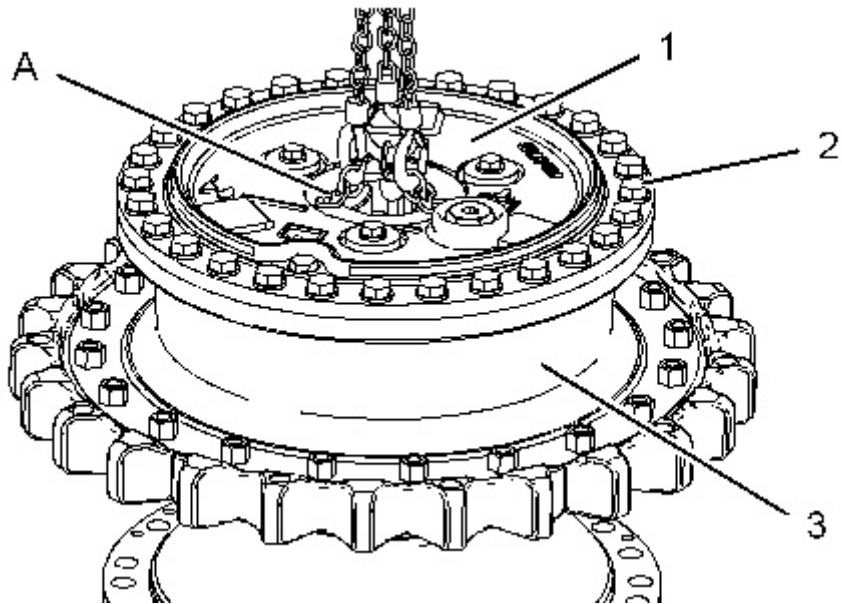


Illustration 1

g01234745

1. Attach Tooling (A) and a suitable lifting device to carrier (1). The weight of carrier (1) is approximately 50 kg (110 lb).
2. Remove bolts (2) and carrier (1) from sprocket hub (3). Position carrier (1) onto suitable cribbing.

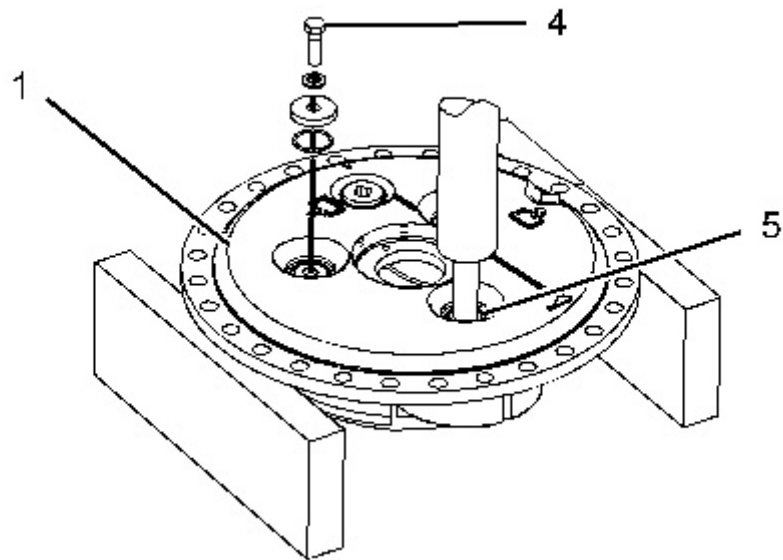


Illustration 2

g01234760

3. Remove bolt (4), the washer, the retainer, and the O-ring seal from carrier (1).
4. Use a suitable press to remove shaft (5) from carrier (1).
5. Repeat Steps 3 and 4 for the remaining shafts.

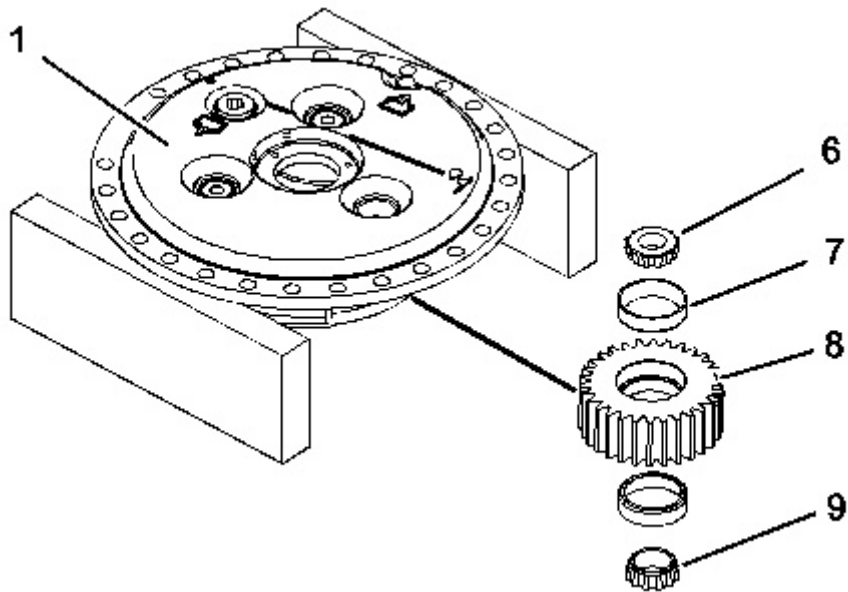
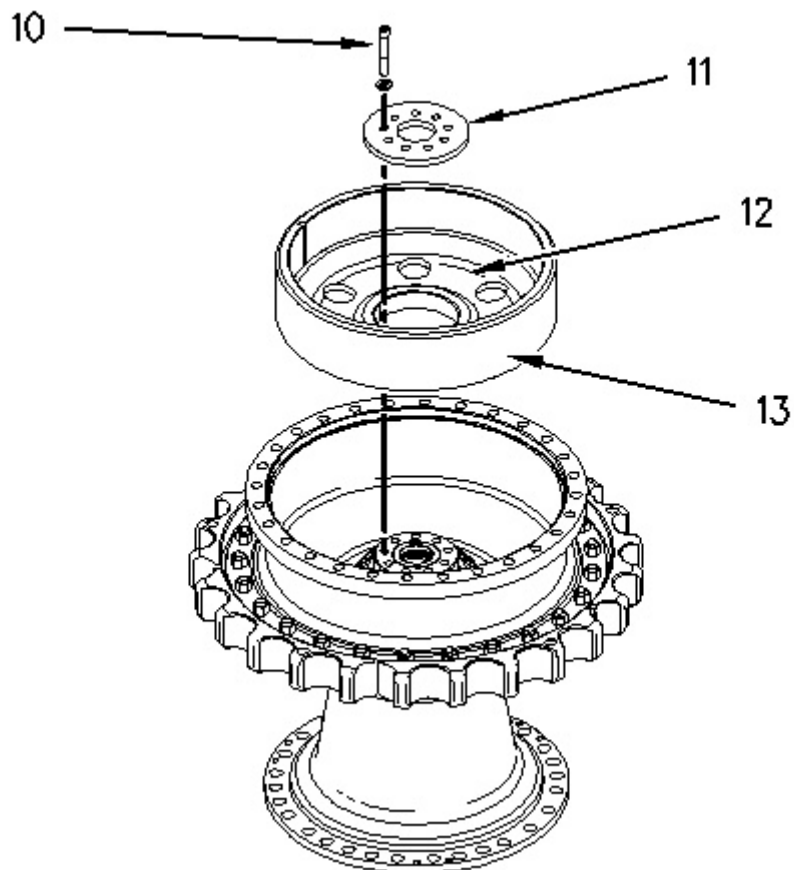


Illustration 3

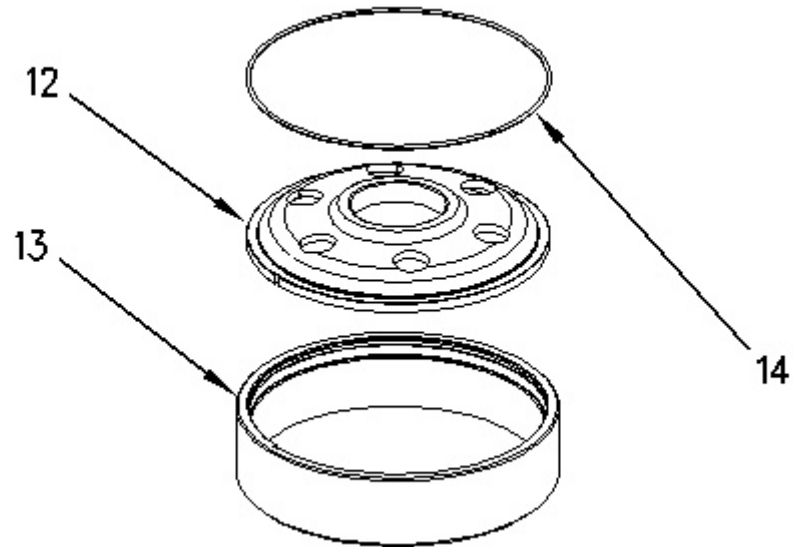
g06077476

6. Remove planetary gear (8) from carrier (1).
7. Remove bearing cones (6) and (9) from planetary gear (8).
8. Remove bearing cups (7) from planetary gear (8).
9. Repeat Steps 6 through 8 for the remaining planetary gears.

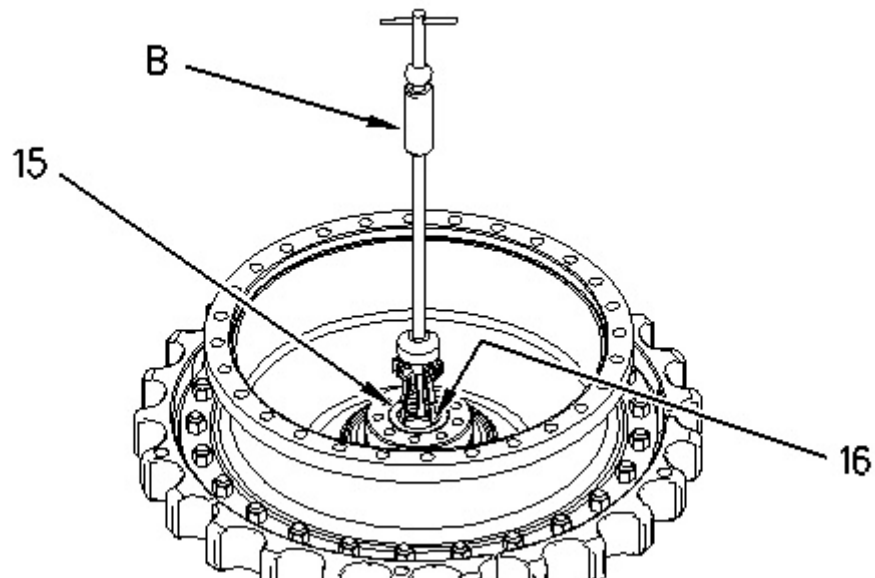




10. Remove bolts (10) and retainer (11).
  11. Remove ring gear hub (12) and ring gear (13).
- 



12. Remove ring (14) and ring gear hub (12) from ring gear (13).
- 



13. Use Tooling (B) to remove bushing (15) and lip-type seal (16) (not shown).
-

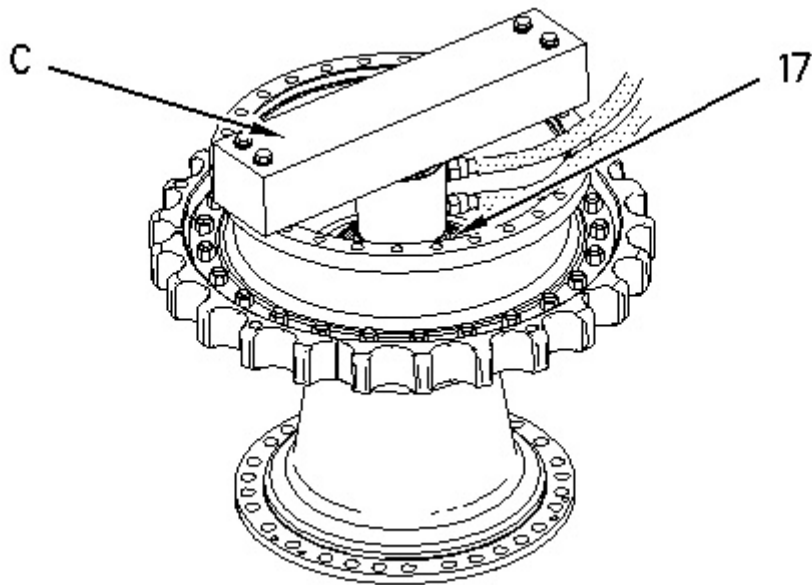


Illustration 7

g00988979

14. Raise the temperature of bearing cone (17).
15. Use Tooling (C) to remove bearing cone (17) from the spindle.

**Note:** Do not lift the sprocket hub so that the sprocket hub contacts the fittings that are on the hydraulic cylinder. Damage to the fittings could occur.

16. Remove Tooling (C).

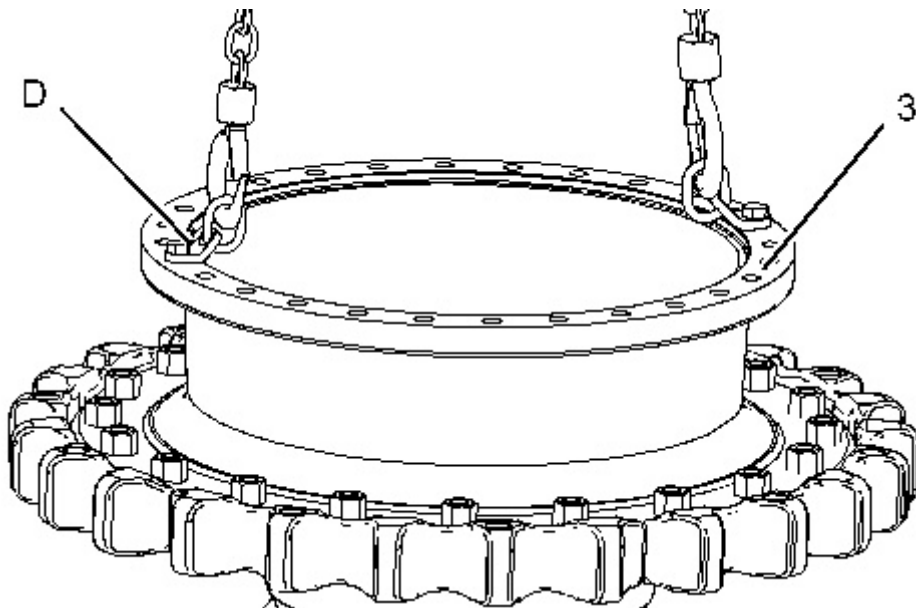
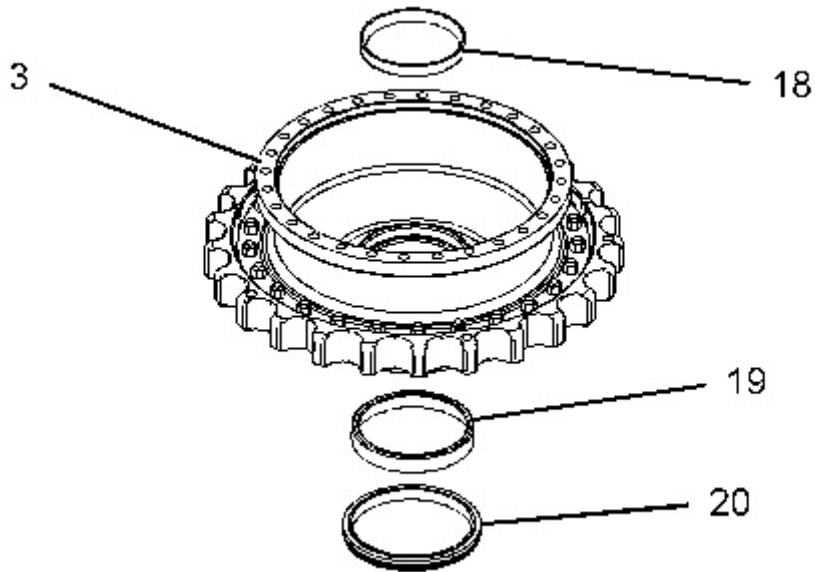


Illustration 8

g01235181

17. Attach Tooling (D) and a suitable lifting device to sprocket hub (3). The weight of sprocket hub (3) is approximately 135 kg (298 lb). Remove sprocket hub (3) from the spindle.

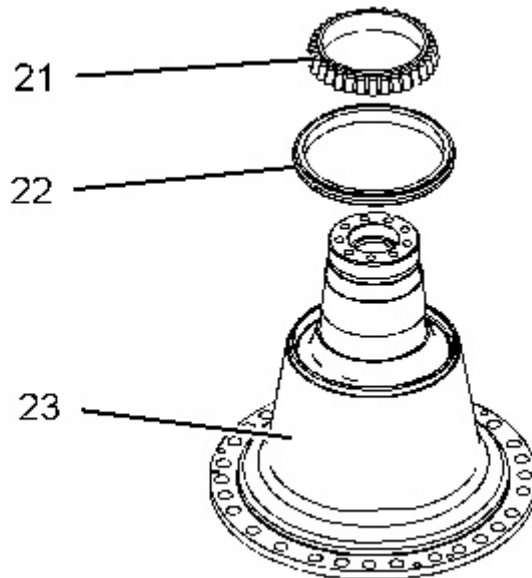


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Illustration 9

g01235238

18. Remove bearing cups (18) and (19) from sprocket hub (3).
19. Remove Duo-cone seal (20) from sprocket hub (3).



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Illustration 10

g01235241

20. Remove Duo-cone seal (22) from spindle (23).
  21. Remove bearing cone (21) from spindle (23).
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## Disassembly and Assembly D5R and D6N Track-Type Tractor Power Train

Media Number -M0071174-02

Publication Date -01/09/2015

Date Updated -25/07/2018

i06691406

## Final Drive - Assemble

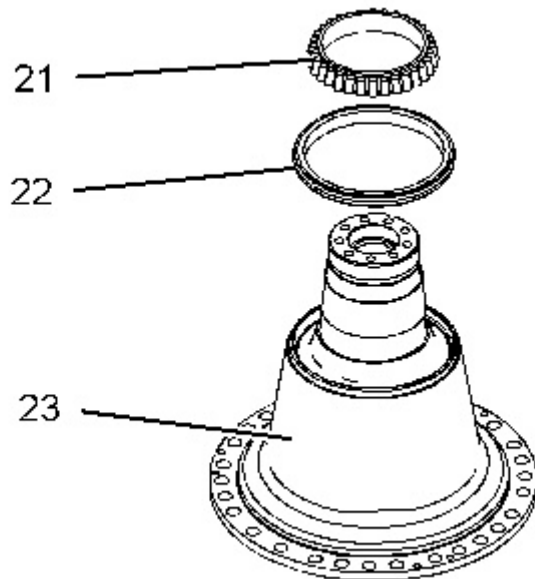
SMCS - 4050-016

## Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3938	Link Bracket	3
D	439-3940	Bracket As	2
E	1P-0520	Driver Gp	1
F	1U-6437	Duo-Cone Seal Installer As	1
G	1U-7234	Feeler Gauge	1

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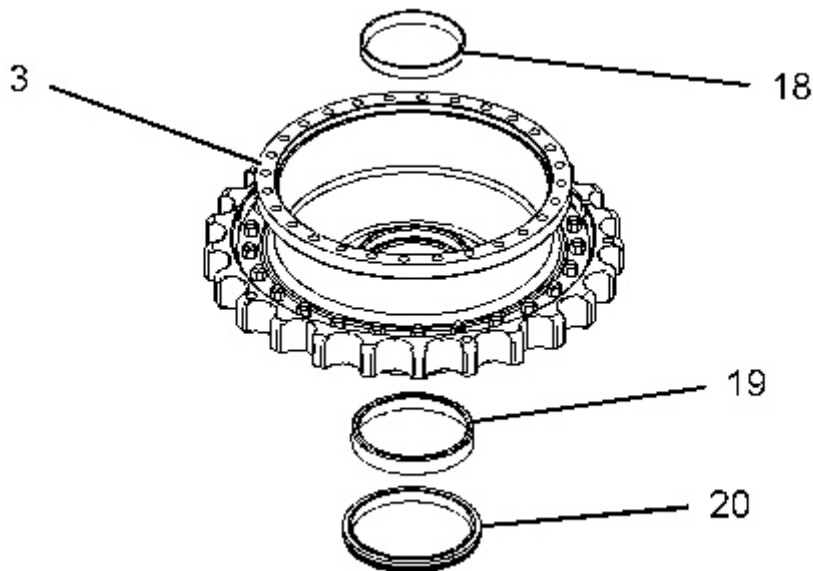


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Illustration 1

g01235241

1. Raise the temperature of bearing cone (21). Lubricate bearing cone (21) with the lubricant that is being sealed. Install bearing cone (21) onto spindle (23).
2. Use Tooling (F) (not shown) to install Duo-cone seal (22). Refer to Disassembly and Assembly, "Duo-Cone Conventional Seals - Install".



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Illustration 2

g01235238

3. Lower the temperature of bearing cups (19) and (18).
  4. Install bearing cups (19) and (18) in sprocket hub (3).
  5. Use Tooling (F) (not shown) to install Duo-cone seal (20) in sprocket hub (3). Refer to Disassembly and Assembly, "Duo-Cone Conventional Seals - Install".
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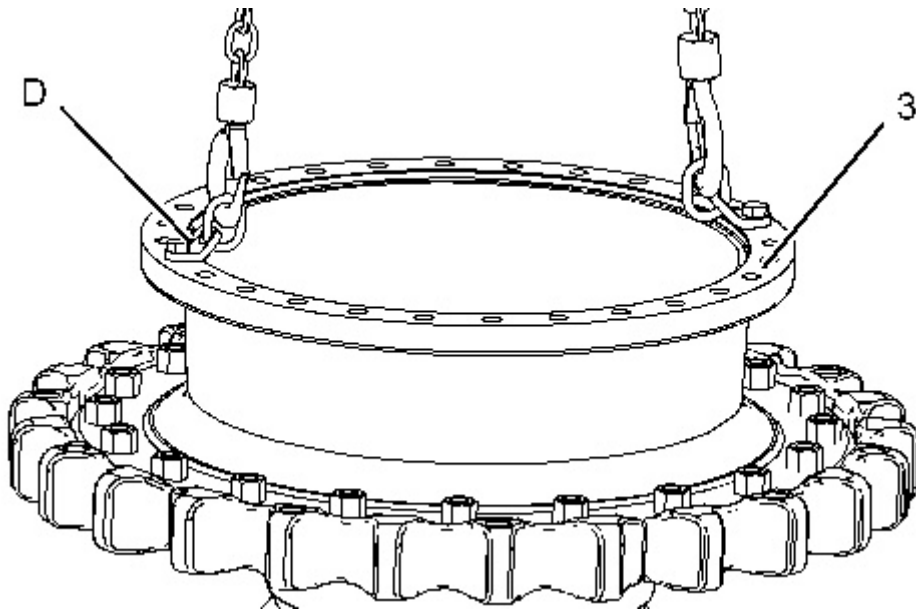


Illustration 3

g01235181

6. Attach Tooling (D) and a suitable lifting device to sprocket hub (3). The weight of sprocket hub (3) is approximately 135 kg (298 lb). Install sprocket hub (3) onto the spindle.

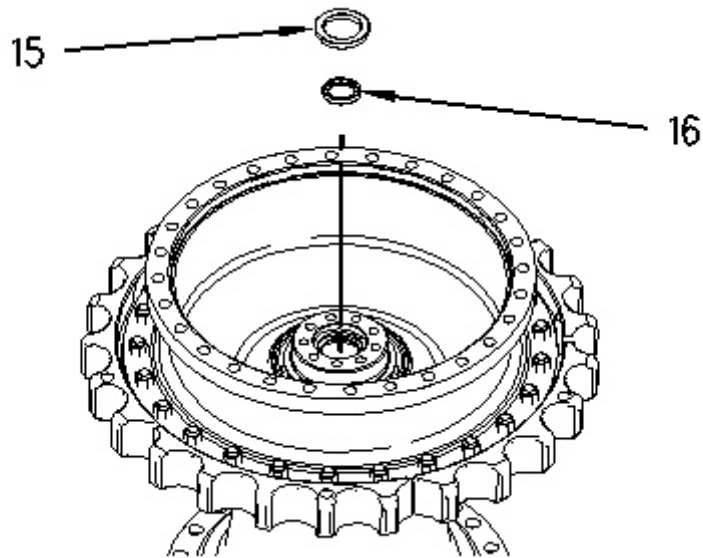
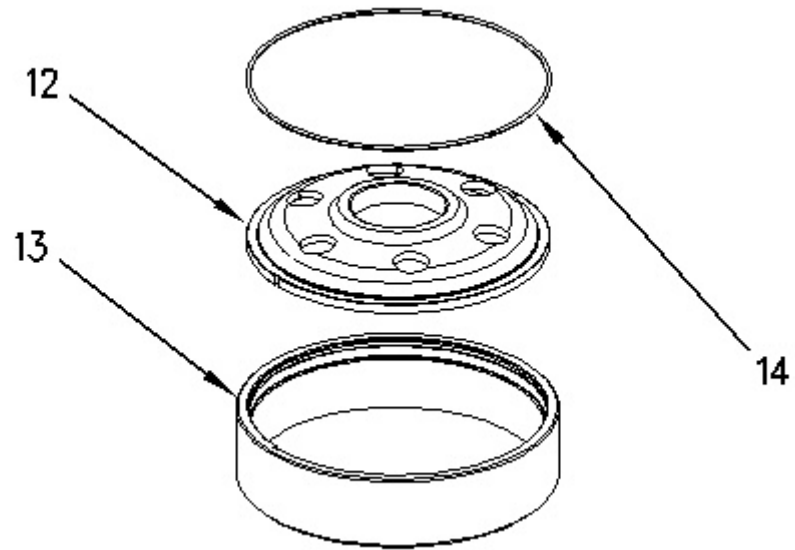


Illustration 4

g00990323

7. Lubricate lip-type seal (16) with the lubricant that is being sealed. Use Tooling (E) to install lip-type seal (16) and bushing (15).

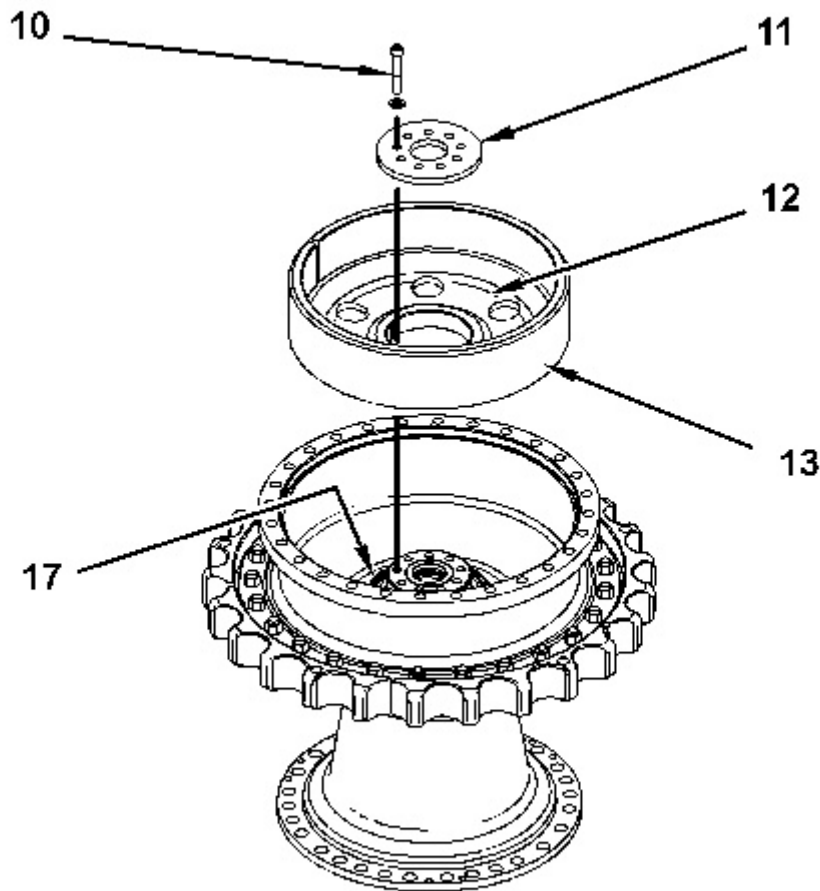


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Illustration 5

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8. Position ring gear hub (12) onto ring gear (13). Install ring (14).
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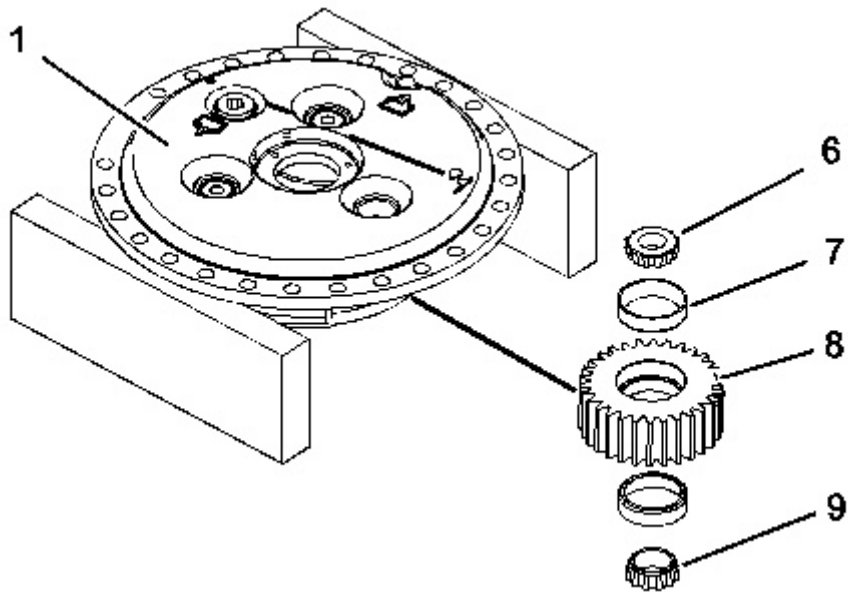
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Illustration 6

g02145273

9. Raise the temperature of bearing cone (17). Lubricate bearing cone (17) with the lubricant that is being sealed. Install bearing cone (17) on the spindle.
  10. Install ring gear hub (12) and ring gear (13) as an assembly.
  11. Install retainer (11) and bolts (10). Tighten all bolts (10) in a star pattern. Tighten bolts (10) to a torque of  $120 \pm 20 \text{ N}\cdot\text{m}$  ( $89 \pm 15 \text{ lb ft}$ ). Continually rotate hub (12) to properly seat bearing cone (17). Tighten bolts (10) to a torque of  $120 \pm 20 \text{ N}\cdot\text{m}$  ( $89 \pm 15 \text{ lb ft}$ ) to ensure the proper torque.
  12. Use Tooling (G) (not shown) to verify from inside the axle opening that the spindle is touching the retainer.
  13. If necessary, repeat Step 11 and Step 12 to verify that bearing cone (17) is seated properly.
-



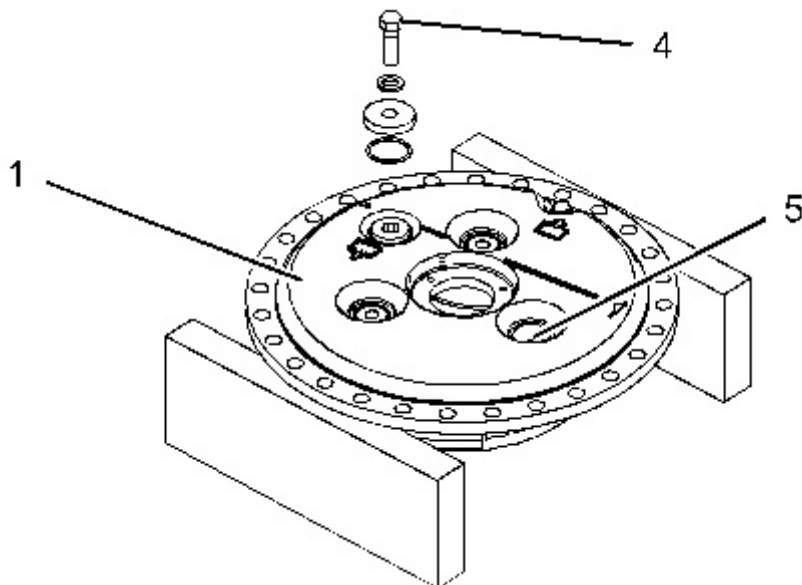


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Illustration 7

g06077476

14. Lower the temperature of bearing cups (7). Install bearing cups (7) into planetary gear (8).
  15. Lubricate bearing cones (6) and (9) with the lubricant that is being sealed. Position bearing cones (6) and (9) into planetary gear (8).
  16. Position planetary gear (8) into carrier (1).
  17. Repeat Steps 14 through 16 for the remaining planetary gears.
- 



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Illustration 8

g01235164

18. Lower the temperature of shaft (5). Use a suitable press to install shaft (5). Install shaft (5) until the end of the shaft is flush with the outer surface of carrier (1).

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