



Service Repair Manual

Models

324E L and 324E LN Excavator

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Product: EXCAVATOR

Model: 324E L EXCAVATOR TLF

Configuration: 324E L & 324E LN Excavators TLF00001-UP (MACHINE) POWERED BY C7.1 Engine

Disassembly and Assembly

324E and 329E Excavators and 329E MHPU Mobile Hydraulic Power Unit Machine Systems

Media Number -KENR9844-04

Publication Date -01/04/2015

Date Updated -14/04/2015

i04216221

Travel Motor - Disassemble

SMCS - 4351-015

S/N - JCZ1-UP

S/N - K2L1-UP

S/N - KTE1-UP

S/N - LDG1-UP

S/N - PNW1-UP

S/N - PTY1-UP

S/N - RDX1-UP

S/N - RLD1-UP

S/N - TLF1-UP

S/N - TST1-UP

S/N - WJK1-UP

S/N - ZCD1-UP

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty

A	1U-7506	Adapter	1
	8T-4244	Nut	6
	8T-4223	Hard Washer	6
	-	Threaded RodM12 x 1.75 by 250 mm (10 in) long	1
B	8T-0651	Bolt	1
	8T-4167	Hard Washer	1
C	3E-3882	Eyebolt	1
D	1P-1859	Retaining Ring Pliers	1
E	1P-0510	Driver Gp	1
	9S-9152	Bearing Puller Gp	1
F	1P-1861	Retaining Ring Pliers	1

Start By:

- A. Remove the travel motor. Refer to Disassembly and Assembly, "Travel Motor - Remove".

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. Thoroughly clean the outside of the travel motor prior to disassembly.
 2. Fasten the travel motor in Tooling (A) in a vertical position. The weight of the travel motor is approximately 60 kg (132 lb).
 3. Put an alignment mark across the head and the body of the travel motor for assembly purposes. The head must be reinstalled in the head's original position on the body of the travel motor.
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Illustration 1

g00887295

Note: During the removal of head (2) from the travel motor, be careful not to damage the mating surfaces of the components.



Spring force can cause personal injury or death.

Do not repair until you have read the Operation and Maintenance Manual.

4. Remove bolts (1) .
5. Remove head (2) from the body of the travel motor.

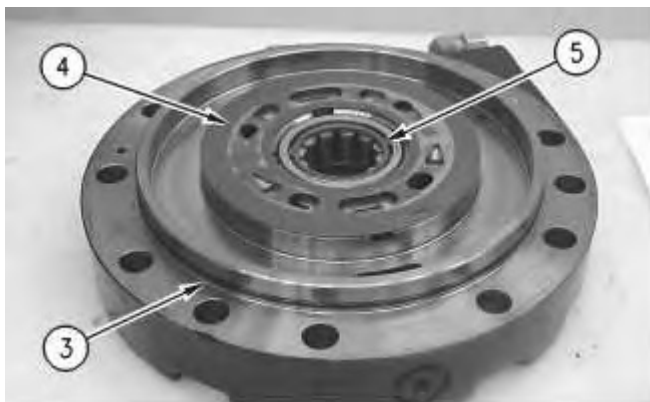


Illustration 2

g00887302

6. Remove O-ring seal (3), port plate (4), and bearing (5) .

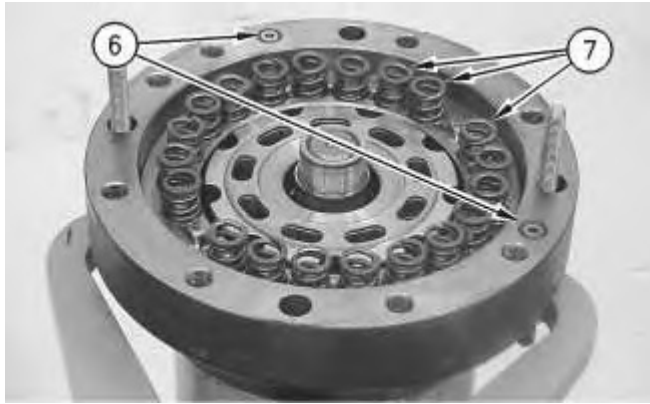


Illustration 3

g00887311

7. Remove O-ring seals (6). Remove springs (7) .

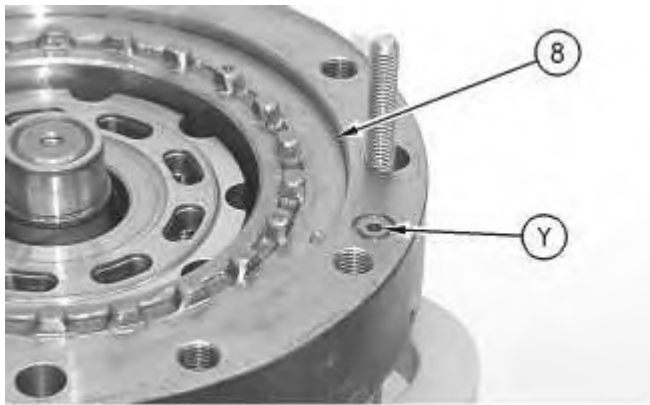


Illustration 4

g00887331

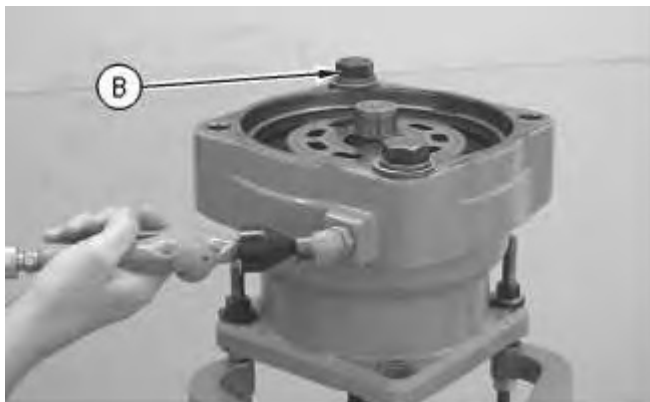


Illustration 5

g00890074

This is an example of the use of Tooling (B) .

8. Place a shop towel over brake piston (8). Retain brake piston (8) with Tooling (B). Apply approximately 525 kPa (75 psi) of shop air pressure to brake release Port (Y). Make sure that the shop air pressure is free of water. Brake piston (8) will move up the piston guide, and out of the piston guide. Remove brake piston (8) from the body of the travel motor.



Illustration 6

g00887336

9. Remove seal (9) and backup ring (10) from the brake piston.
10. Remove seal (11) and backup ring (12) from the brake piston.

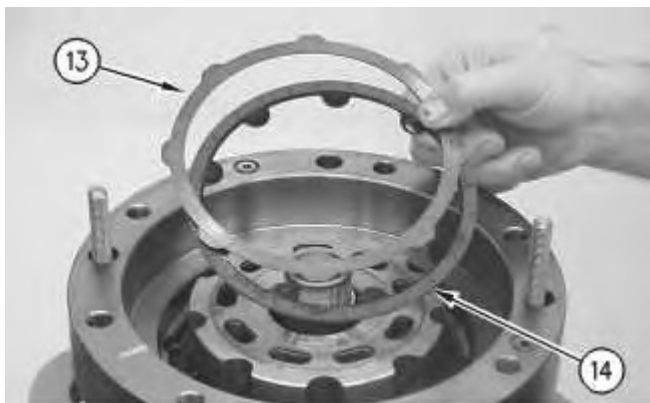


Illustration 7

g00887355

11. Remove plates (13) and friction discs (14) .
-

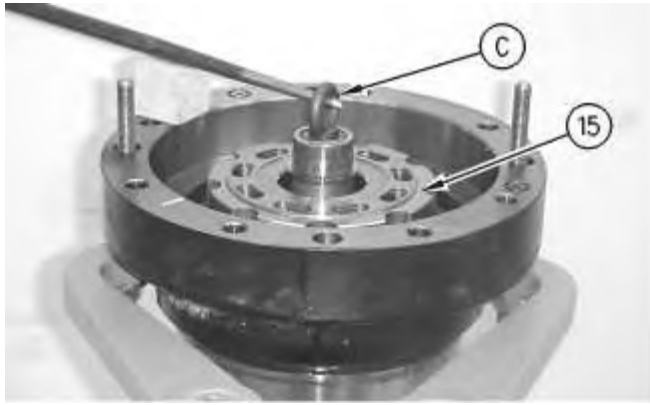


Illustration 8

g00887401

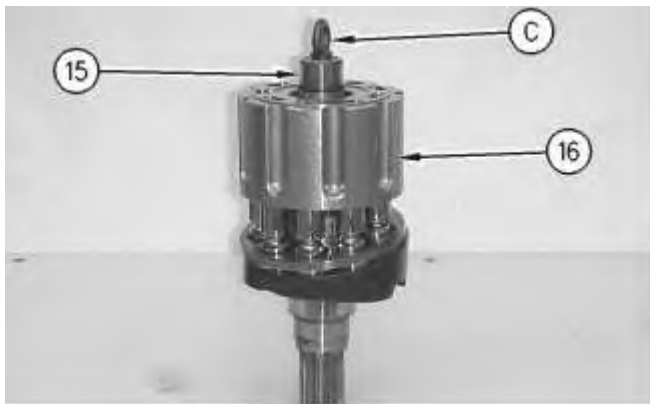


Illustration 9

g00887405

12. Install Tooling (C) into shaft (15). Use a prybar to remove the rotating assembly (16) from the housing.
13. Remove Tooling (C) from shaft (15) .

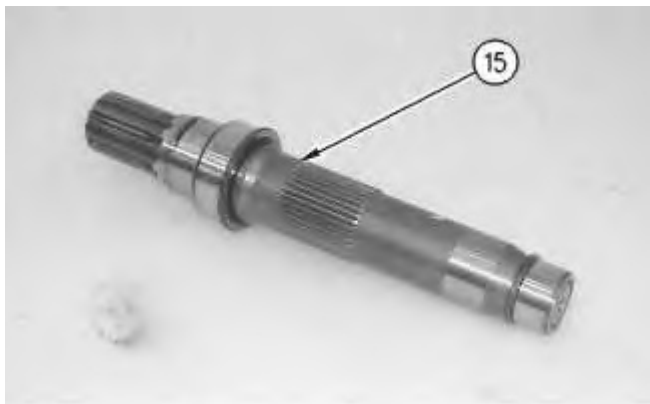


Illustration 10

g00887424

14. Remove shaft (15) from rotating assembly (16) .

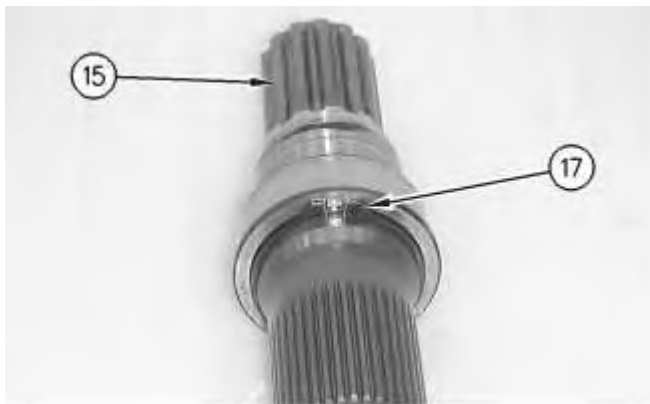


Illustration 11

g00887426

15. Use Tooling (D) in order to remove retaining ring (17) from shaft (15) .

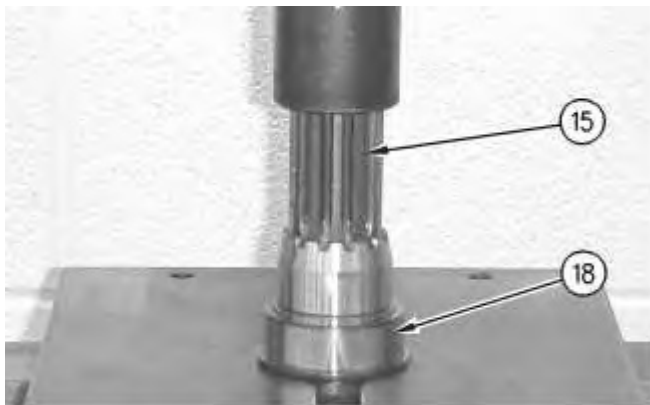
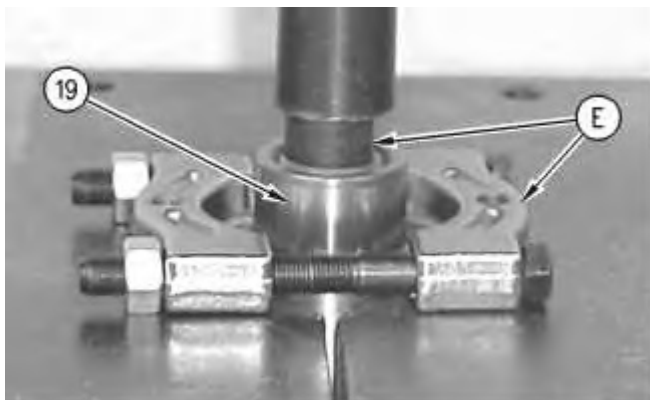


Illustration 12

g00887445

16. Install shaft (15) into a suitable press. Remove bearing race (18) from the shaft.



17. Rotate shaft (15). Install shaft (15) into a suitable press. Install Tooling (E). Remove bearing race (19) from shaft (15) .



18. Remove cam plate (20) from barrel assembly (21) .



19. Remove piston assemblies and retainer plate (22) from barrel assembly (21) .

Note: Place marks on the pistons and the barrel assembly. The pistons must be returned to the original position.



Illustration 16

g00887558

20. Remove ball (23) and springs (24) .

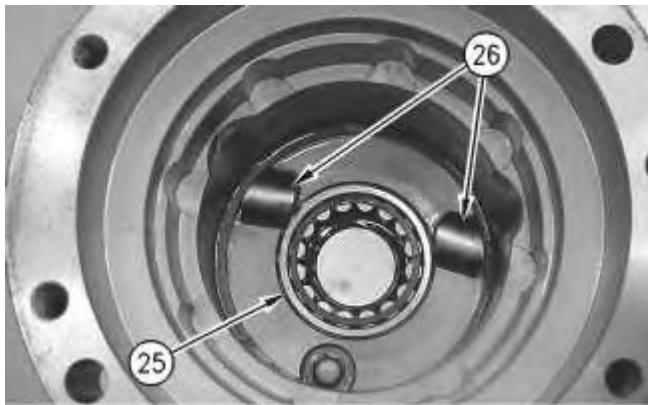


Illustration 17

g00887578

21. Remove bearing (25) .
22. Remove keys (26) and locating pins (not shown) from the body of the travel motor.



Illustration 18

g00887589

23. Rotate the housing. Use Tooling (F) in order to remove retaining ring (27) .

24. Remove seal (28) .

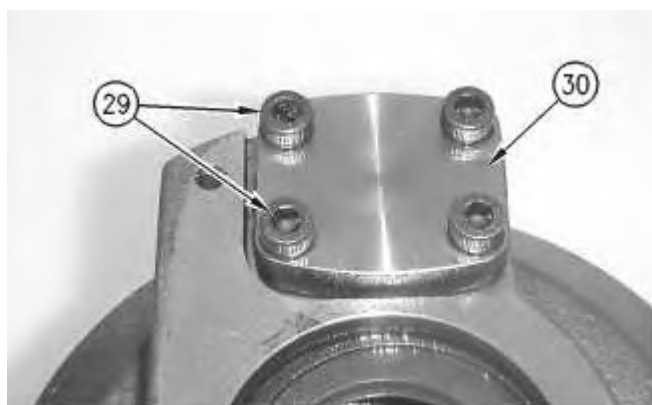


Illustration 19

g00887619

25. Remove bolts (29) and cover (30) .



Illustration 20

g00887729

26. Remove seal (31) and backup ring (32) .



Illustration 21

g00887754

27. Remove piston actuator (33) and seal (34).



Illustration 22

g00887762

28. Remove O-ring seal (35) from the housing of the travel motor.

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Product: EXCAVATOR

Model: 324E L EXCAVATOR TLF

Configuration: 324E L & 324E LN Excavators TLF00001-UP (MACHINE) POWERED BY C7.1 Engine

Disassembly and Assembly

324E and 329E Excavators and 329E MHPU Mobile Hydraulic Power Unit Machine Systems

Media Number -KENR9844-04

Publication Date -01/04/2015

Date Updated -14/04/2015

i04216229

Travel Motor - Assemble

SMCS - 4351-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1U-7506	Adapter	1
	8T-4244	Nut	6
	8T-4223	Hard Washer	6
	-	M12 x 1.75 X 250 mm (10 inch) Threaded Rod	1
C	3E-3882	Eyebolt	1
D	1P-1859	Retaining Ring Pliers	1
E	1P-0510	Driver Gp	1
	9S-9152	Bearing Puller Gp	1
F	1P-1861	Retaining Ring Pliers	1
G	-	Loctite 242	-



Illustration 1

g00887762

1. Install O-ring seal (35) onto the housing of the travel motor.



Illustration 2

g00887754

2. Install seal (34) and piston actuator (33). Lubricate the surfaces of piston actuator (33) with lubricant that is being sealed.



Illustration 3

g00887729

3. Install backup ring (32) and seal (31) .

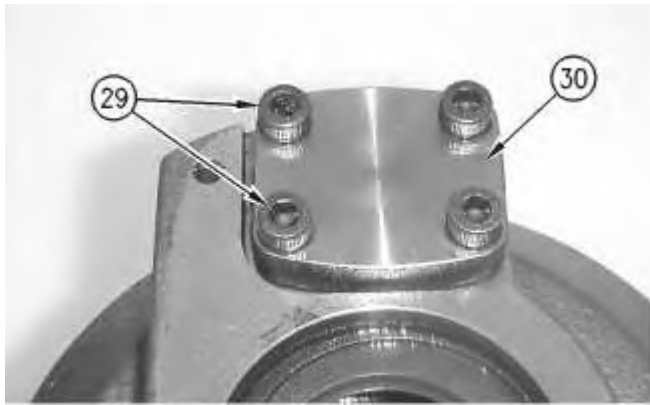


Illustration 4

g00887619

4. Install cover (30) and bolts (29). Tighten bolts (29) to a torque of 28 ± 7 N·m (21 ± 5 lb ft).



Illustration 5

g00887589

5. Apply Tooling (G) to the mating surface of lip seal (28). Use Tooling (E) in order to install lip seal (28). Lubricate the sealing lip of lip seal (28) with lubricant that is being sealed.
 6. Use Tooling (F) in order to install retaining ring (27) .
-

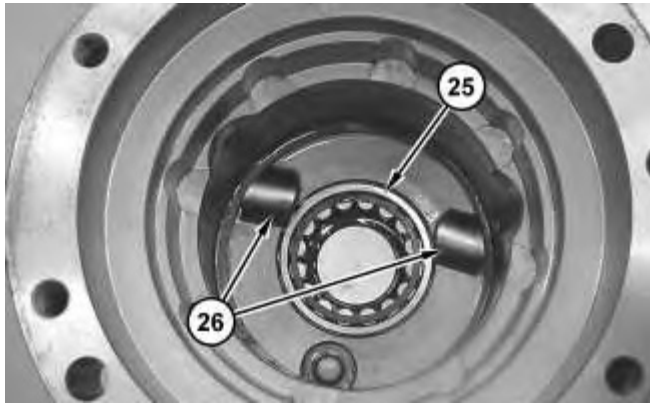


Illustration 6

g02107975

7. Rotate the housing.
8. Install keys (26) and locating pins (not shown) into the body of the travel motor.
9. Install bearing (25) .



Illustration 7

g00887558



WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

10. Install springs (24) into the barrel assembly. Install ball (23) onto springs (24). Lubricate ball (23) with lubricant that is being sealed.

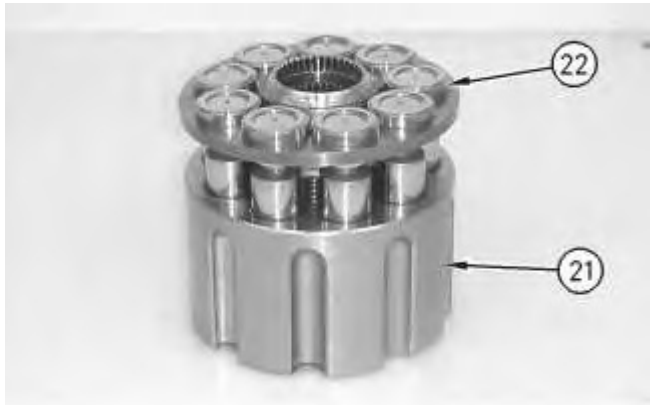


Illustration 8

g00887520

11. Lubricate the piston assemblies with lubricant that is being sealed. Install piston assemblies and retainer plate (22) into barrel assembly (21).

Note: Take note of the mark on the piston assembly and the barrel assembly. The pistons must be returned to the same position.

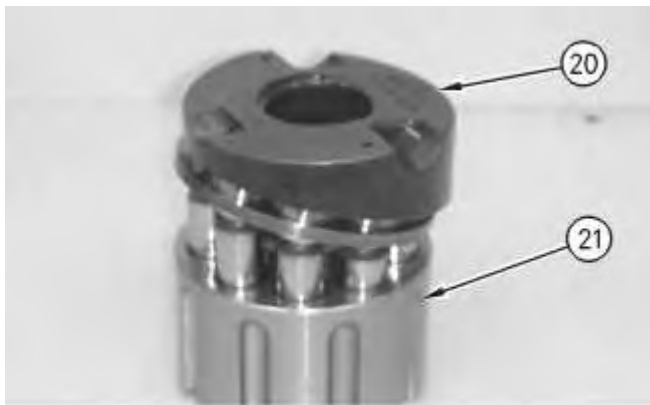


Illustration 9

g00887501

12. Lubricate cam plate (20) with lubricant that is being sealed. Install cam plate (20) onto barrel assembly (21) .
-

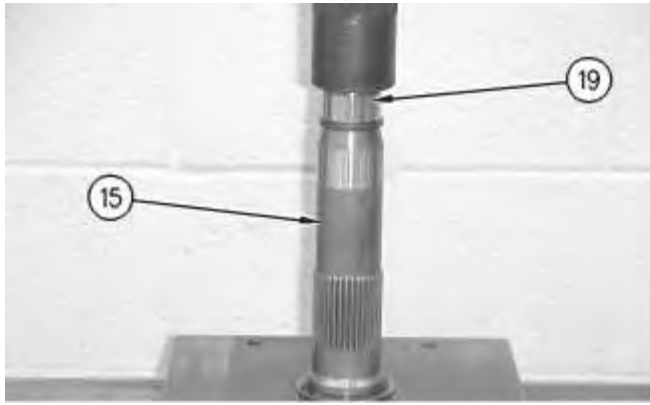


Illustration 10

g00888697

13. Install shaft (15) into a suitable press. Install bearing race (19) onto shaft (15) .

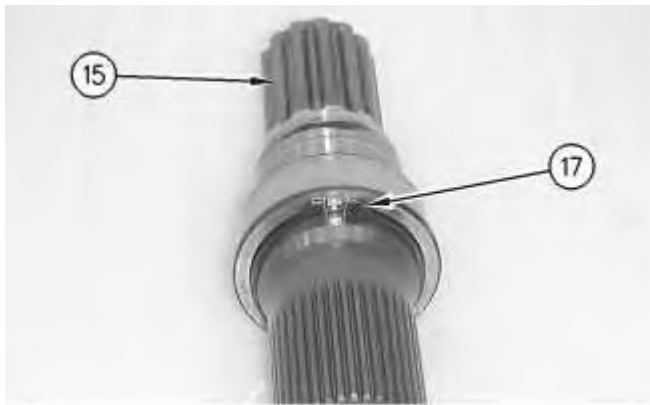


Illustration 11

g00887426

14. Rotate shaft (15) in the suitable press. Use Tooling (D) to install retaining ring (17) onto shaft (15) .

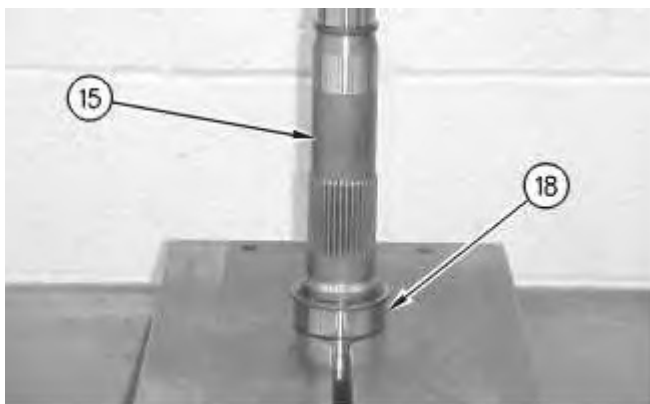


Illustration 12

g00888710

15. Install bearing race (18) onto shaft (15) .

Note: Bearing race (18) must contact retaining ring (17) .

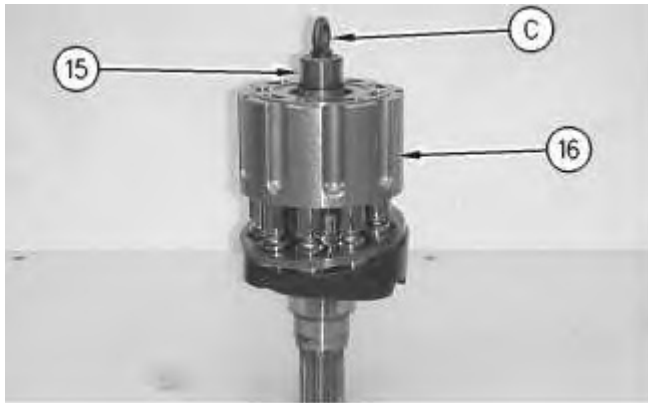


Illustration 13

g00887405

16. Install Tooling (C) into shaft (15). Install shaft (15) into rotating assembly (16) .

17. Place the pump housing into Tooling (A) .

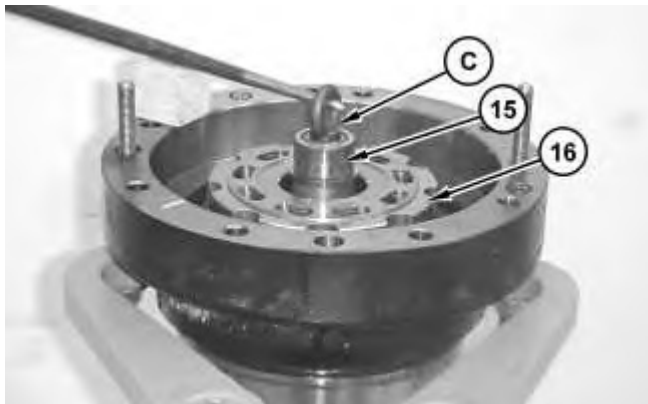


Illustration 14

g02107957

18. Use Tooling (C) in order to install rotating assembly (16) into the housing.

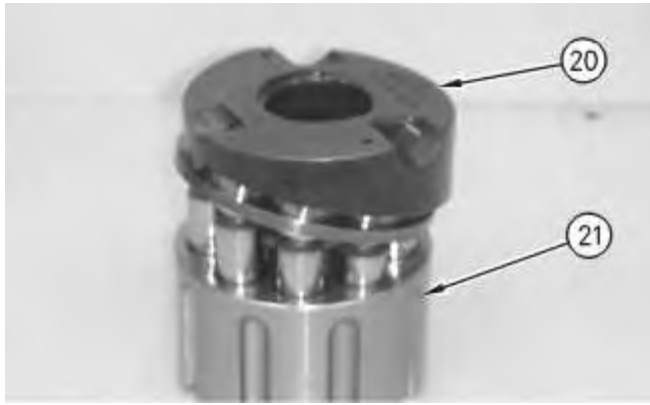


Illustration 15

g00887501

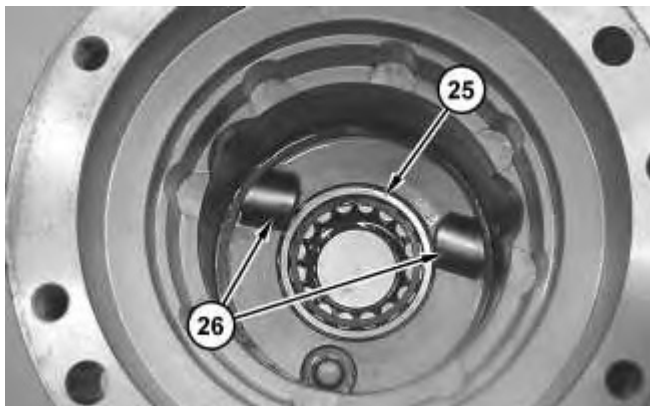


Illustration 16

g02107975

19. The notches in cam plate (20) must align with keys (26). The keys are located in the bottom of the housing of the travel motor.

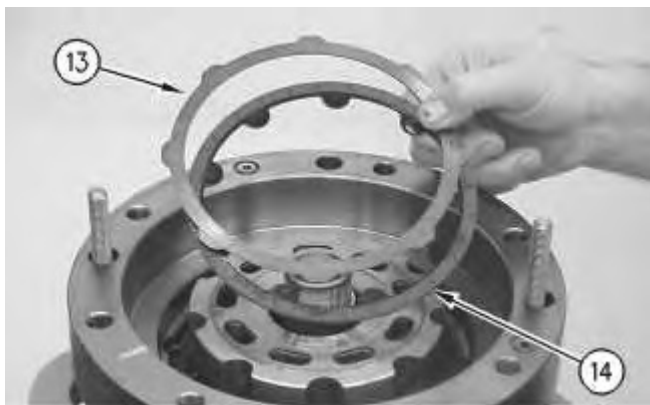


Illustration 17

g00887355

20. Install plates (13) and friction discs (14) into the housing.

Note: Install the plates and the discs alternately.



Illustration 18

g00887336

21. Install backup ring (12) and seal (11) onto the brake piston.
22. Install backup ring (10) and seal (9) onto the brake piston.

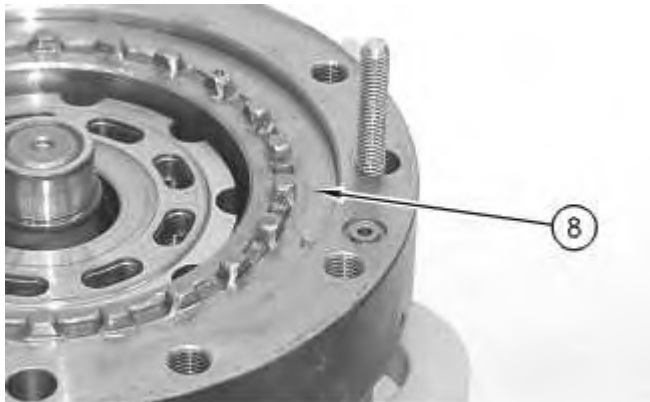


Illustration 19

g00888967

23. Rotate brake piston (8) .
24. Install brake piston (8) into the housing.

Note: Brake piston (8) must be level upon installation. The brake piston must be level in order to prevent damage to the O-ring seals.

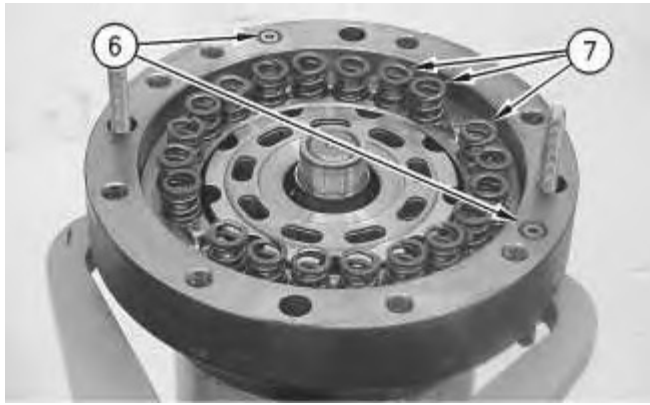


Illustration 20

g00887311

25. Install springs (7) and O-ring seals (6) .

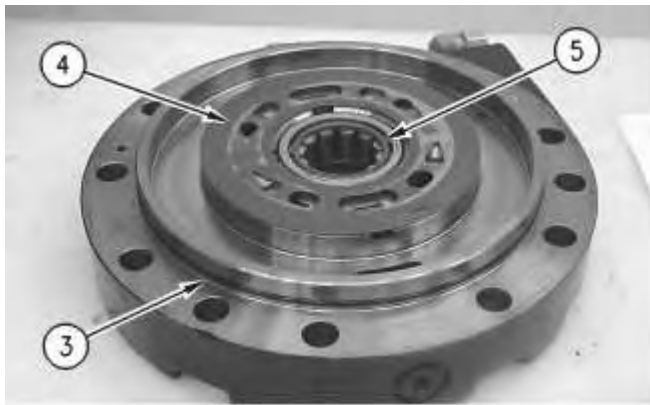


Illustration 21

g00887302

26. Lubricate port plate (4) with lubricant that is being sealed. Install O-ring seal (3), port plate (4), and bearing (5) .



Illustration 22

g00887295



WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

27. Install head (2) onto the body of the travel motor.

Note: During the installation of head (2) onto the travel motor, be careful not to damage the mating surfaces of the components.

28. Install bolts (1). Tighten bolts (1) to a torque of $177 \pm 18 \text{ N}\cdot\text{m}$ ($130.5 \pm 13.27 \text{ lb ft}$).

End By: Install the travel motor.

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Product: EXCAVATOR

Model: 324E L EXCAVATOR TLF

Configuration: 324E L & 324E LN Excavators TLF00001-UP (MACHINE) POWERED BY C7.1 Engine

Disassembly and Assembly

324E and 329E Excavators and 329E MHPU Mobile Hydraulic Power Unit Machine Systems

Media Number -KENR9844-04

Publication Date -01/04/2015

Date Updated -14/04/2015

i04216189

Travel Motor - Install

SMCS - 4351-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-7692	Threaded Rod	2

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. Thoroughly clean the mating surfaces of the travel motor and the final drive.



Illustration 1

g00878123

2. Install new O-ring seal (6). Apply clean hydraulic oil on the O-ring seal.

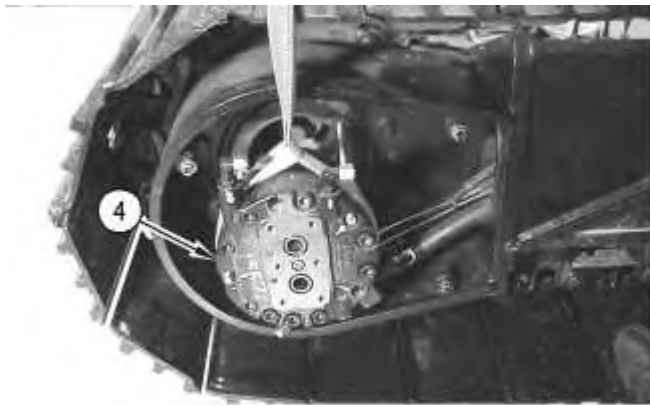


Illustration 2

g00707267

3. Attach a suitable lifting device to travel motor (4), as shown.
4. The weight of the travel motor is approximately 57 kg (125 lb).

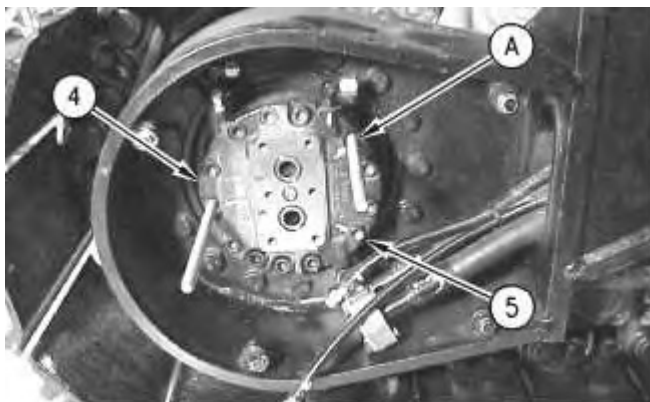


Illustration 3

g00878121



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5. Carefully install travel motor (4) onto Tooling (A). Slide the travel motor into the final drive.
6. Install one of three bolts (5) that secures the travel motor to the final drive.
7. Remove Tooling (A) .

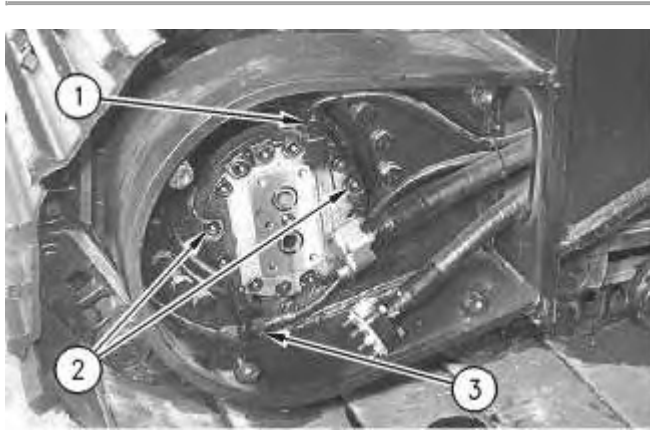


Illustration 4

g00707275

Typical example

8. Install remaining bolts (2) .
9. Connect hose assembly (3). Connect hose assembly (1) .
10. Fill the final drive with oil.

ReferenceRefer to Operation and Maintenance Manual, "Lubricant Viscosities" for the proper oil viscosity.

ReferenceRefer to Operation and Maintenance Manual, "Final Drive Oil Level - Check" for the correct filling procedure.

11. Install high efficiency filters in place of the pilot filter, the case drain filter, and the return filter.

Note: High efficiency filters should not be run for more than 250 hours before you change back to the standard filters.

12. Obtain a hydraulic oil sample from the main S·O·S port.

ReferenceRefer to Operation and Maintenance Manual, "Sampling Interval and Location of Sampling Valve" for the correct location.

13. If the S·O·S sample exceeds ISO 18/15, flush the hydraulic system.

ReferenceRefer to Contamination Control Guidelines, SEBF8436, "Hydraulic System Flushing Procedure for 322C Hydraulic Excavators" for further information.

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