



Service Repair Manual

Models

315C and 315C L Excavator

[Previous Screen](#)

Product: EXCAVATOR

Model: 315C EXCAVATOR AKE

Configuration: 315C & 315C L Excavators AKE00001-UP (MACHINE) POWERED BY 3046 Engine

Disassembly and Assembly 315C Excavator Machine Systems

Media Number -REN5525-05

Publication Date -01/11/2008

Date Updated -10/11/2008

i01959727

Travel Motor - Disassemble

SMCS - 4351-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7575	Link Bracket	2
B	1P-0074	Slide Hammer	1
C	9S-9152	Bearing Puller	1
D	1U-9895	Crossblock	1
	3H-0465	Push-Puller Plate	2
	8T-0649	Bolt	2
	9X-8257	Washer	2
E	5P-0975	Plate	1

Start By:

- a. Remove the piston motor (travel). Refer to Disassembly and Assembly, "Piston Motor (Travel) - 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.

Note: Put identification marks on the motor and on all hose assemblies for installation purposes and for the purpose of orientation. Plug all hose assemblies. This will help to prevent fluid loss and this helps to keep contaminants from entering the system.

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.

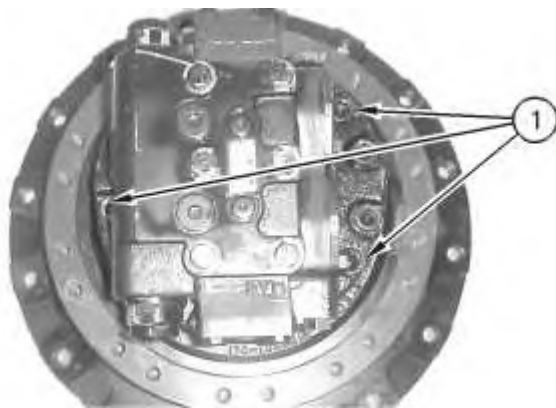


Illustration 1

g00779154

1. Remove bolts (1).



Illustration 2

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2. Remove bolts (2) from the traction control valve in order to install Tooling (A).

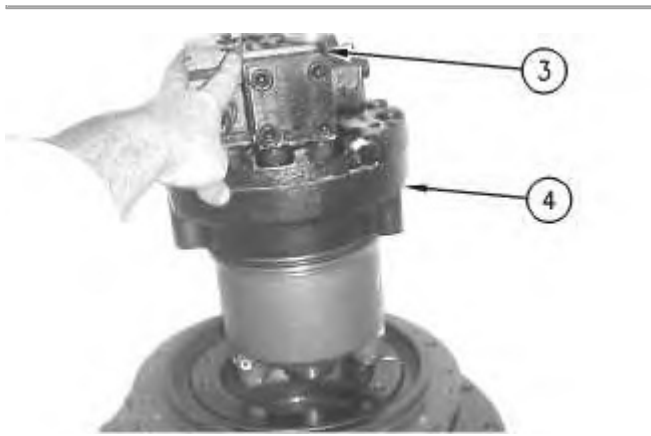


Illustration 3

g00779163

3. Remove traction control valve (3) and travel motor (4) from the final drive.

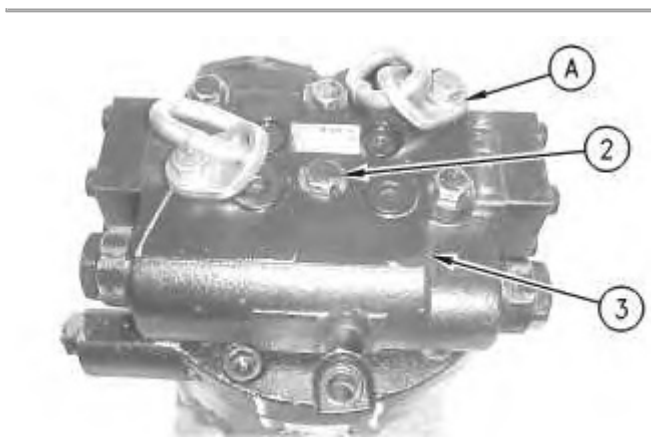


Illustration 4

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4. Remove Tooling (A). Remove four bolts (2). Remove traction control valve (3).

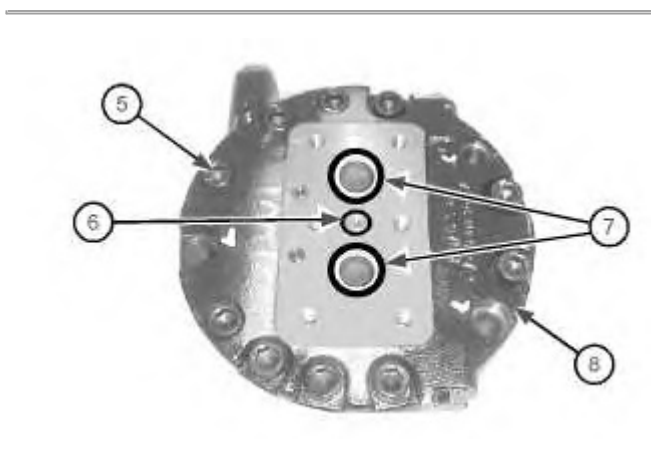


Illustration 5

g01018464

5. Remove socket head bolts (5). Remove O-ring seal (6) and O-ring seals (7). Remove head (8).



Illustration 6

g00779238

6. Remove shim (9).



Illustration 7

g00779248

7. Remove bearing (10).

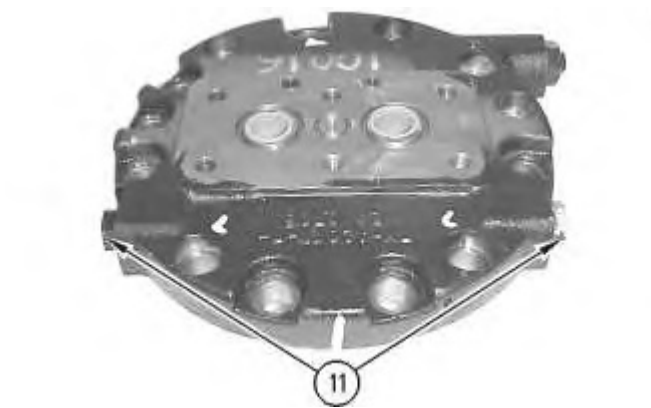


Illustration 8

g00779259

8. Remove plugs (11) and the O-ring seals.
-

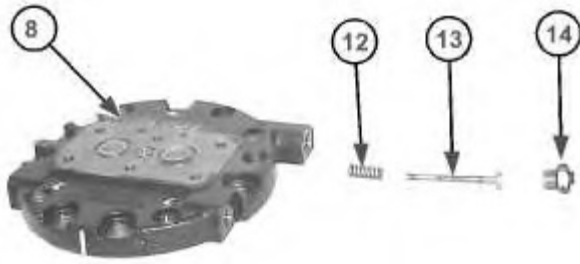


Illustration 9

g01018466

! 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.

9. Remove adapter (14) and the O-ring seal. Remove spool (13) and spring (12) from head (8).
-



Illustration 10

g00779279

10. Remove washer set (15).
-



Illustration 11

g00779289

11. Remove port plate (16).



Illustration 12

g00780482

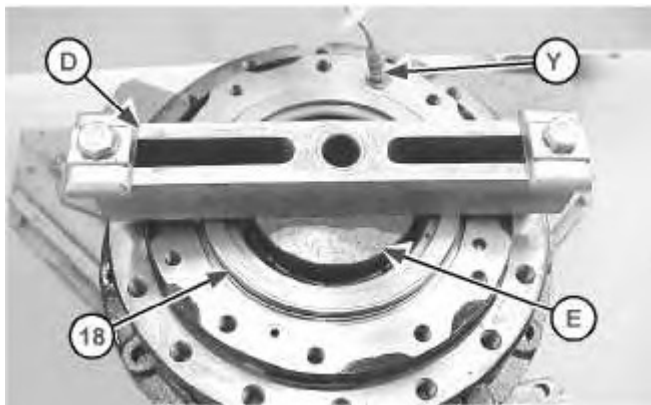


Illustration 13

g01020385

12. Remove three small O-ring seals (17). Install Tooling (D) and Tooling (E), as shown. Tooling (E) provides a protective cover for the barrel assembly. Tooling (E) prevents Tooling (D) from damaging the surface of the barrel assembly.

13. Retain piston (18) with Tooling (D) and apply approximately 517 kPa (75 psi) of shop air pressure to brake release port (Y). Brake piston (18) will move out of the piston guide. Remove brake piston (18) from the main housing.
-



Illustration 14

g00779307

14. Remove O-ring seal (19) and the backup ring and remove O-ring seal (20) and the backup ring.
-



Illustration 15

g00779310

15. Remove piston guide (21). Remove O-ring seal (22).
-



Illustration 16

g00779341

16. Remove O-ring seal (23) and backup ring (24).



Illustration 17

g00779343

17. Lay the travel motor housing on one side in order to remove rotating group (25) and brake pack (26) as a unit.



Illustration 18

g00780107

18. Remove brake pack (26).



Illustration 19

g00780290

NOTICE

In order to ensure that each piston assembly is installed into its original bore, identify and mark each piston assembly, retaining plate and the barrel before removing the piston assembly.

To avoid damage to the barrel assembly parts, do not allow the parts to separate from the assembly during removal or installation.

19. Remove pistons (27) and retainer plate (28) from barrel (29) as a unit. Separate the pistons from the retainer plate.
-

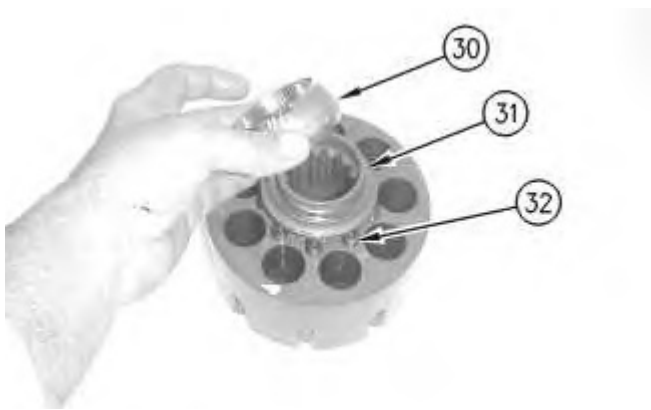


Illustration 20

g00780317

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.

20. Remove guide (30), spacer (31), and nine springs (32) from the barrel.
-



Illustration 21

g00780328

21. Remove swashplate (33).



Illustration 22

g00780348

22. Use a magnet in order to remove keys (34) and pistons (35).



Illustration 23

g00780352

23. Use a magnet in order to remove pins (36).



Illustration 24

g00780345

24. Remove shaft assembly (37). Remove plugs (38) and the O-ring seals.



Illustration 25

g01020388

25. Use Tooling (B) in order to remove seal (39).



Illustration 26

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26. Remove retaining rings (40) from each side of the bearing.

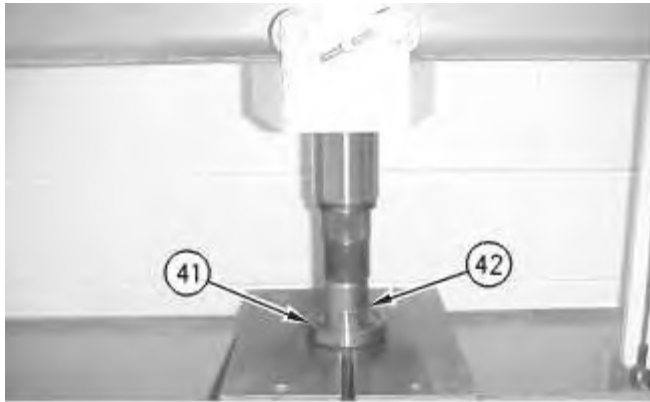


Illustration 27

g00780502

27. Use a suitable press in order to remove bearing assembly (41) from shaft (42).

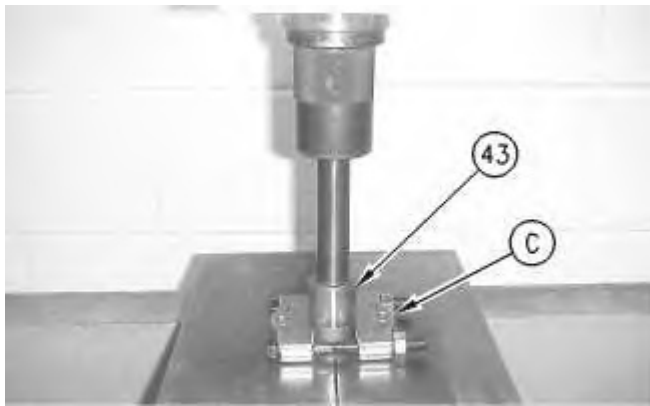


Illustration 28

g00780544

28. Use a suitable press and Tooling (C) in order to remove inner race (43) from shaft (42).

[Previous Screen](#)

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Disassembly and Assembly 315C Excavator Machine Systems

Media Number -REN5525-05

Publication Date -01/11/2008

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i01959745

Travel Motor - Assemble

SMCS - 4351-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7575	Link Bracket	2
F	1P-0510	Driver Group	1
G	206-3689	Turning Tool	1
H	5P-0960	Molybdenum Grease	1

Note: Replace all O-ring seals and gaskets. Apply a light film of "10W" oil to all components before assembly.

Note: Cleanliness is an important factor. Before assembly, all parts should be thoroughly cleaned in cleaning fluid. Allow the parts to air dry. Wiping cloths or rags should not be used to dry parts. Lint may be deposited on the parts which may cause later trouble. Inspect all parts. If any parts are worn or damaged, use new parts for replacement.

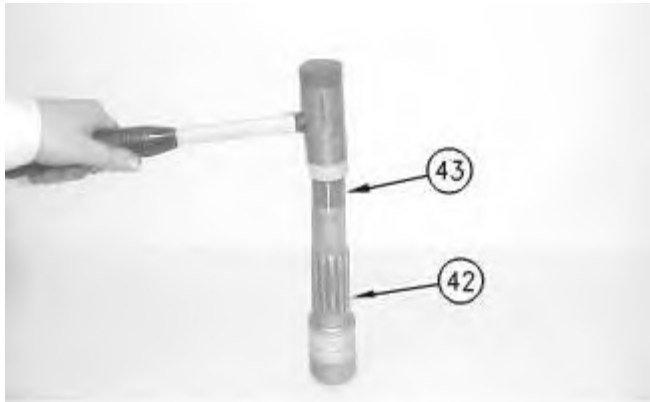


Illustration 1

g00780677

1. Raise the temperature of inner race (43). Lower the temperature of shaft (42). Use a soft hammer in order to install inner race (43) on shaft (42).



Illustration 2

g00780698

2. Raise the temperature of bearing assembly (41). Lower the temperature of shaft (42). Install bearing assembly (41) on shaft (42).



Illustration 3

g00780494

3. Install retaining rings (40) on each side of the bearing.
-

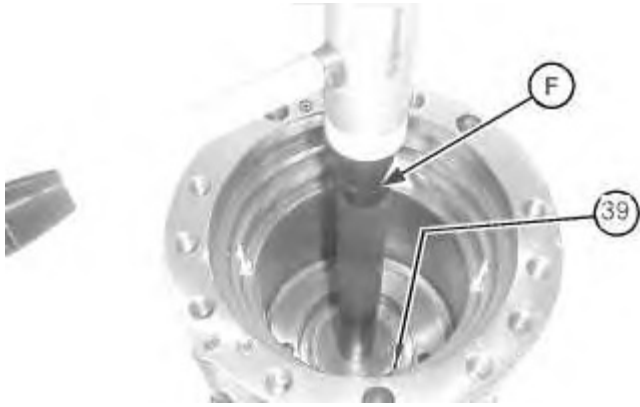


Illustration 4

g01018474

4. Use Tooling (F) in order to install seal (39).

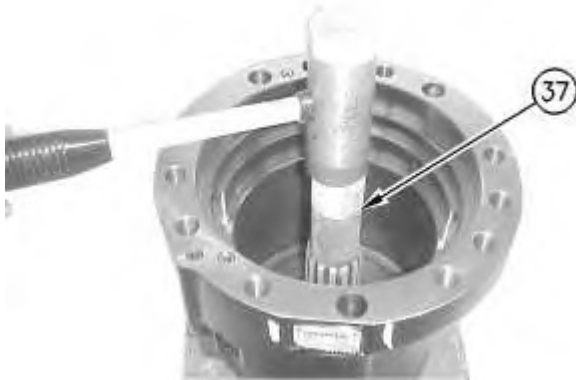


Illustration 5

g00780715

5. Use a soft hammer in order to install shaft assembly (37).



Illustration 6

g00780723

6. Install plugs (38) and the O-ring seals. Tighten plugs (38) to a torque of 140 ± 14 N·m (103 ± 10 lb ft).

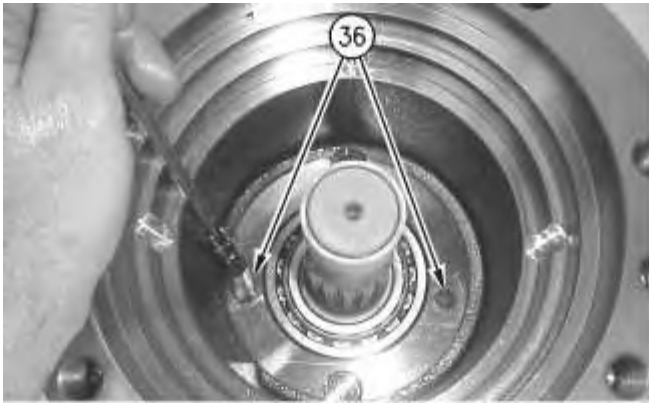


Illustration 7

g00780352

7. Use a magnet in order to install pins (36).

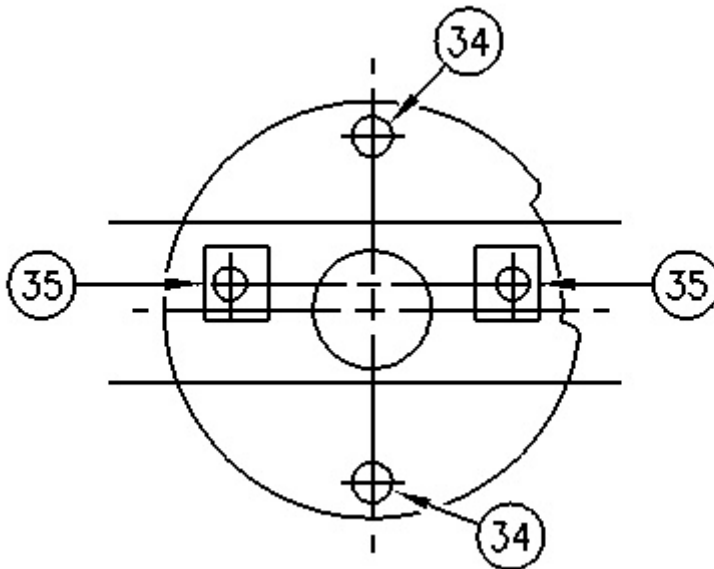


Illustration 8

g00780839

NOTICE

The locating pin on each key is not centered. In order to prevent damage to the barrel assembly during assembly of the travel motor, the keys must be installed as shown. Also, the keys must be installed in the key's original location in the body of the travel motor.

8. Install pistons (34) and keys (35).



Illustration 9

g00780328

9. Install swashplate (33).

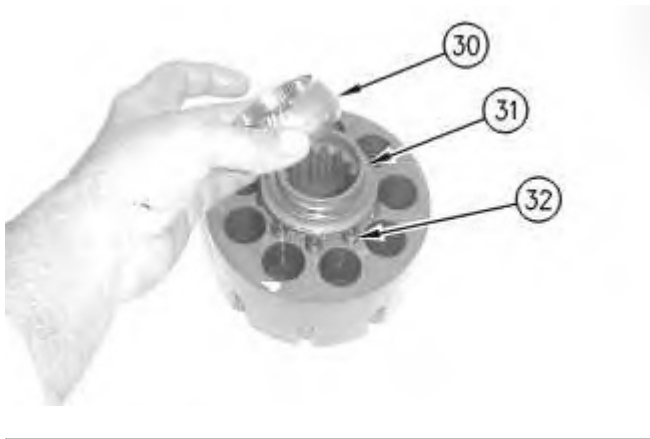


Illustration 10

g00780317

 **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 nine springs (32), spacer (31), and guide (30) into the barrel.



Illustration 11

g00780290

11. Install pistons (27) into the retainer plate (28). Install pistons (27) and retainer plate (28) as a unit into barrel (29) .

Note: Use string in order to keep the rotating group from separating during installation.

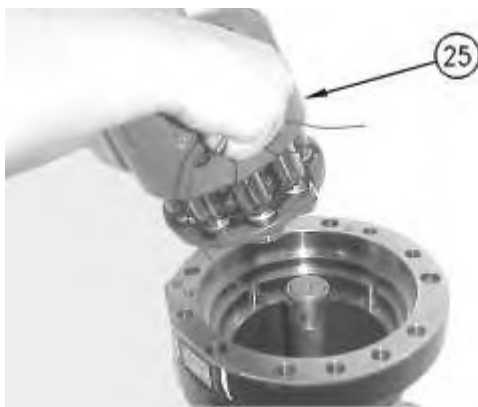


Illustration 12

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12. Install rotating group (25).



Illustration 13

g00780887

13. Install brake pack (26).

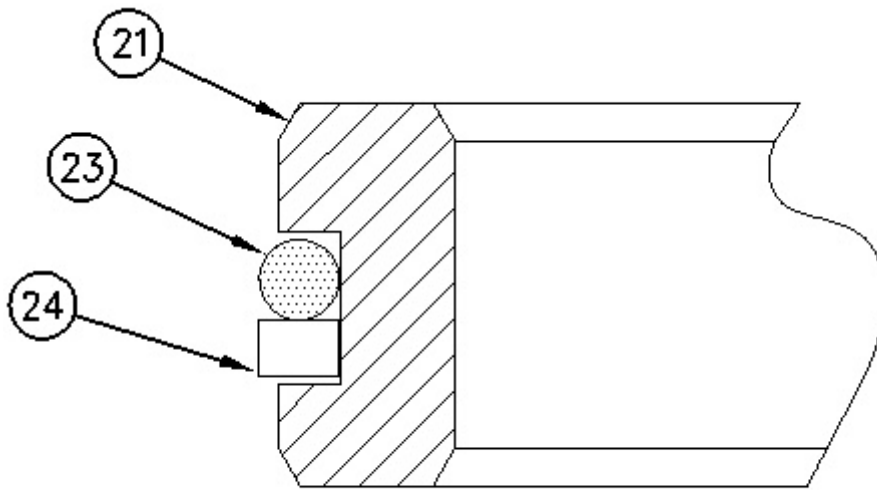


Illustration 14

g00780817

14. Install O-ring seal (23) and backup ring (24) on piston guide (21).



Illustration 15

g00779310

15. Install piston guide (21). Install O-ring seal (22).



16. Install O-ring seal (19) and the backup ring and install O-ring seal (20) and the backup ring.



Illustration 17

g00797765

Note: Make sure that brake piston (18) is thoroughly clean and free of dirt and debris.

17. Install three small O-ring seals (17). Install piston (18).



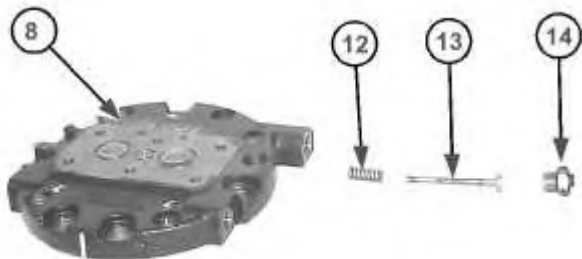
Illustration 18

g00779289

18. Install port plate (16).



19. Install washer set (15).
-



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.

20. Install spring (12) and spool (13) into head (8). Install adapter (14) and the O-ring seal into head (8).
-



21. Install plugs (11) and the O-ring seals.
-



Illustration 22

g00779248

22. Lower the temperature of bearing (10) and install bearing (10).



Illustration 23

g00779238

23. Use a shim or shims (9) so that the following requirements are met.

Note: During the following checks, turn the travel motor output shaft in a clockwise direction.

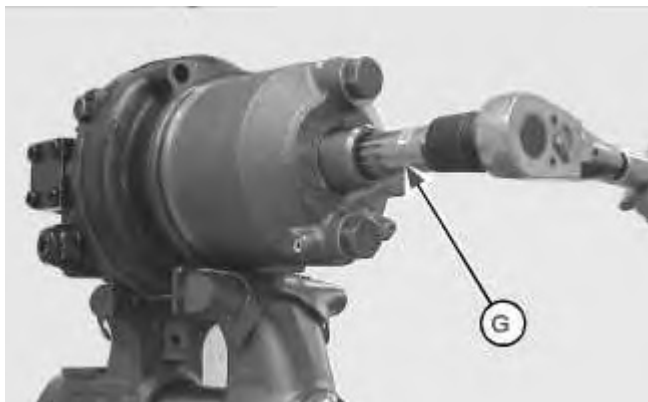


Illustration 24

g01018475

- a. Use Tooling (G) in order to turn the output shaft. The travel motor output shaft does not rotate with an applied torque of 440 N·m (325 lb ft) with the parking brake release port open.

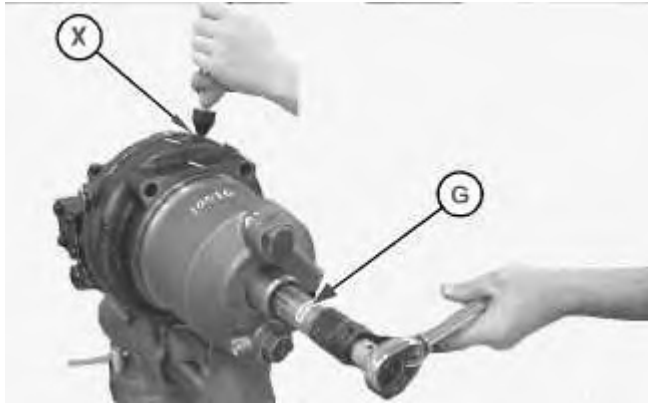


Illustration 25

g01018476

- b. Apply the air pressure at orifice (X). Use Tooling (G) in order to turn the output shaft when the parking brake release port is pressurized to 780 kPa (115 psi). Perform this procedure with the inlet port and the outlet port open to the hydraulic oil tank. The travel motor output shaft rotates with an applied torque of 29 N·m (21 lb ft) or less.

Note: It may be necessary to remove head (8) several times in order to determine the correct thickness of shim or shims (9) that are used to adjust the rolling torque of the travel motor output shaft.

24. Apply a thin layer of Tooling (H) on shim or shims (9). Install the shim or shims on the head. The grease will hold the shim or shims in place during the installation of the head. Install the head on the body of the travel motor.

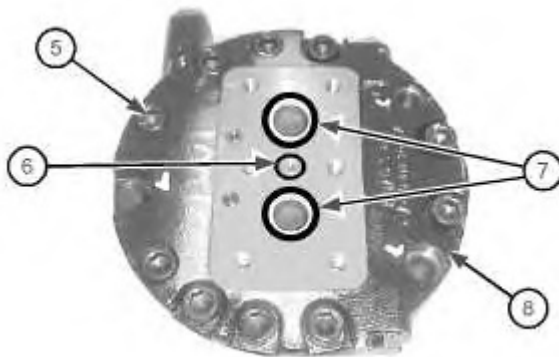


Illustration 26

g01018464

NOTICE

To prevent possible damage to the travel motor, fill the unit with oil at least to the fill port before operating the machine. Refer to the Operation and Maintenance Manual for the correct oil specification.



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25. Install O-ring seal (6) and O-ring seals (7). Install head (8). Install socket head bolts (5). Tighten bolts (5) to a torque of $177 \pm 18 \text{ N}\cdot\text{m}$ ($131 \pm 13 \text{ lb ft}$).
-

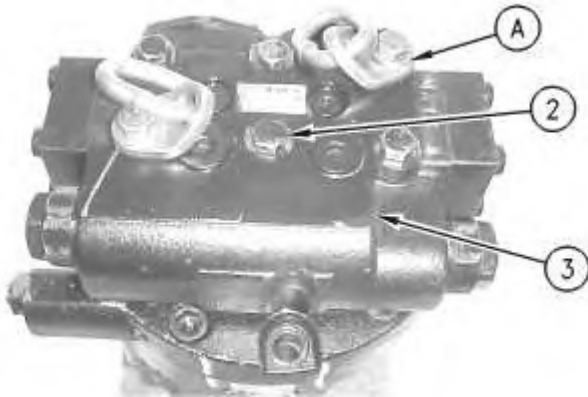


Illustration 27

g00779215

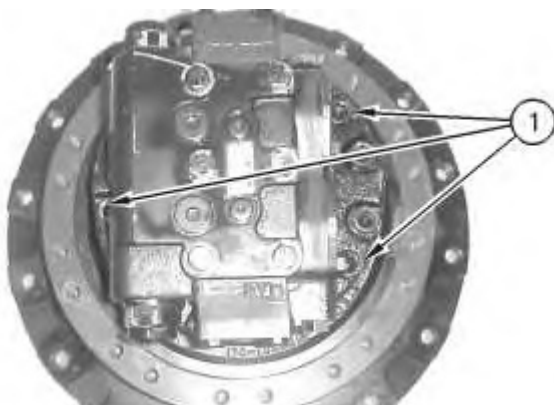
26. Install Tooling (A). Install traction control valve (3). Remove Tooling (A). Install six bolts (2). Tighten bolts (2) to a torque of $80 \pm 8 \text{ N}\cdot\text{m}$ ($59 \pm 6 \text{ lb ft}$).
-



Illustration 28

g00779163

27. Install traction control valve (3) and travel motor (4) into the final drive as a unit.
-



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