CATERPILLAR®

Service Repair Manual

Model

426C BACKHOE LOADER

Product: BACKHOE LOADER
Model: 426C BACKHOE LOADER 7WN
Configuration: 426C Backhoe Loader Center Pivot, Single Tilt 7WN00001-00938 (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly
416C, 426C, 428C, 436C, & 438C BACKHOE LOADERS POWER TRAIN
Media Number -SENR1206-02 **Publication Date -01/11/2003** **Date Updated -26/02/2018**

SENR12060003

Axle Group (Rear)

SMCS - 3260-010; 3260-015; 3260-016

Remove & Install Axle Group (Rear)

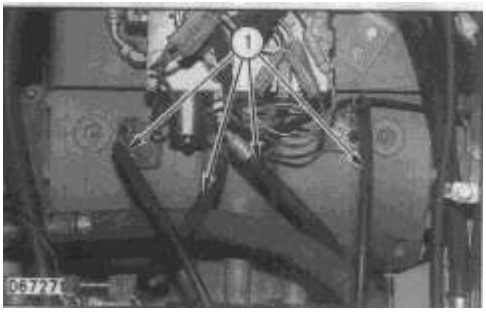
Start By:

a. remove rear wheels

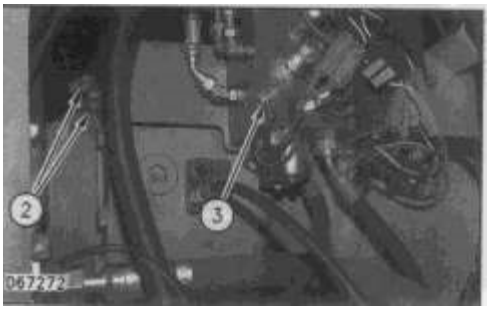
b. remove main drive shaft

NOTE: For photographic purposes the cab has been removed.

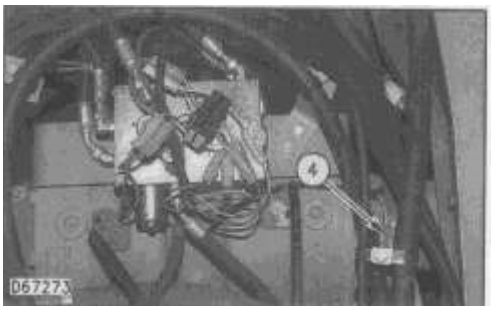
1. Remove the floor plate from inside the cab.



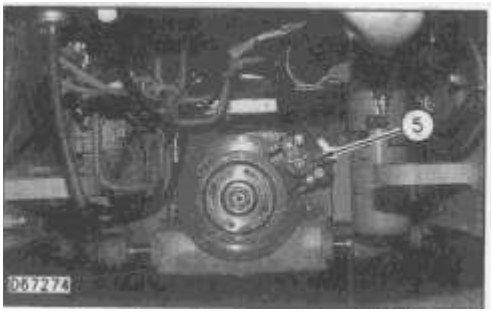
2. Disconnect four hoses (1).



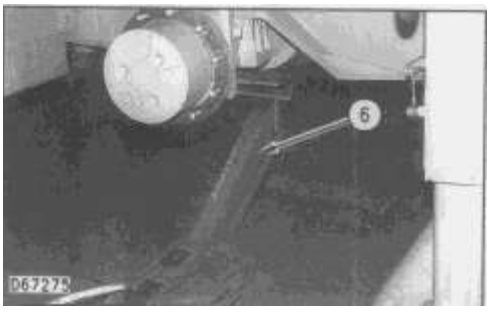
3. Remove four bolts (2) and reposition valve body (3) out of the way.



4. Disconnect wire connection (4).



5. Disconnect brake assembly (5) from the rear axle.



6. Position a suitable transmission jack (6) under the rear axle.

7. Remove four mounting bolts (7) from both sides of the machine.

8. Lower the jack, and remove the rear axle from beneath the machine. The weight of the rear axle is 500 kg (1100 lb).

NOTE: For installation of the rear axle, use the reverse order of steps 1 thru 8.

End By:

a. install rear wheels

b. install main drive shaft

Disassemble Axle Group (Rear)

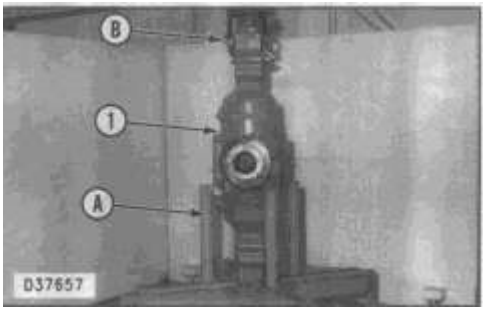
Tools Needed		A	B	C	D	E	F
1P2420	Transmission Repair Stand	1					
FT996	Positioning Group	1					
6V2157	Link Bracket		2				
5P982	Repair Stand			1			
5P979	Adapter Tube			1			
FT1870	Adapter Assembly			1			
8B7551	Bearing Pulling Attachment				1	1	
5P4170	Step Plate				1		
8B7548	Push-Puller				1	1	
8B7555	Adapter					2	
9S9154	Step Plate					1	
8B7550	Leg					2	
8T3111	Plate						1

Start By:

a. remove rear axle group

Fluid Spillage Containment

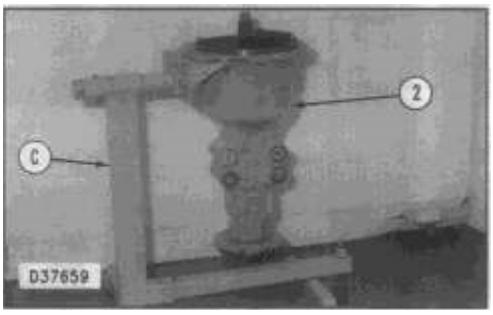
Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the machine. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids. Refer to "Tools And Shop Products Guide", NENG2500 for tools and supplies suitable to collect and contain fluids in Caterpillar machines. Dispose fluids according to local regulations and mandates.



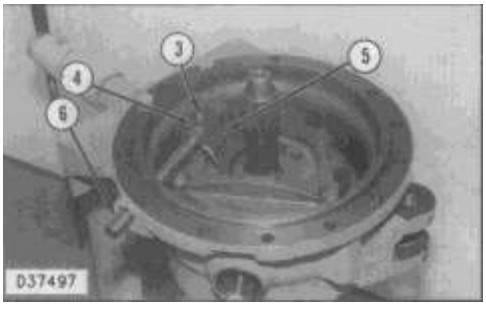
1. Drain the oil from the axle housings.

2. If possible, leave a tire on one end of the axle group, and use it as a platform to hold the axle housing in the vertical position. If this is not possible, put the axle group in position on Tooling (A).

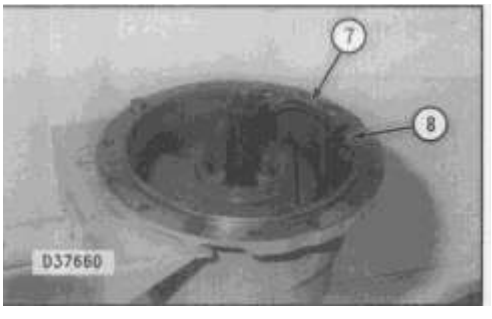
3. Fasten Tooling (B) and a hoist to the axle housing as shown. Remove bolts (1), and remove the axle housing from the differential case. Weight is 159 kg (350 lb).



4. Put axle housing (2) in position on Tooling (C).



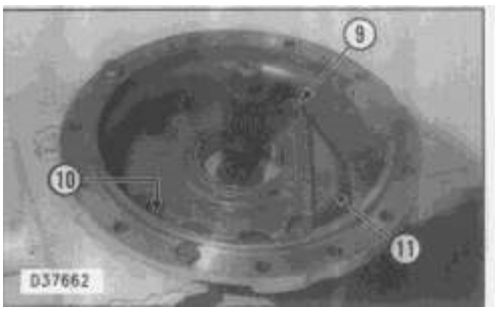
Typical Example



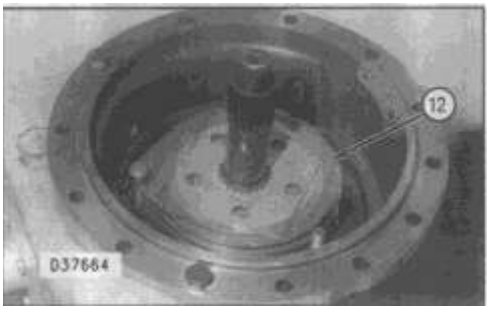
5. RIGHT SIDE AXLE HOUSING ONLY - Loosen nut (4), and remove bolt (3). Slide lower shaft (6) from the housing, and remove differential lock fork (5).

6. LEFT SIDE AXLE HOUSING ONLY - Remove bolts (8) and differential thrust block (7).

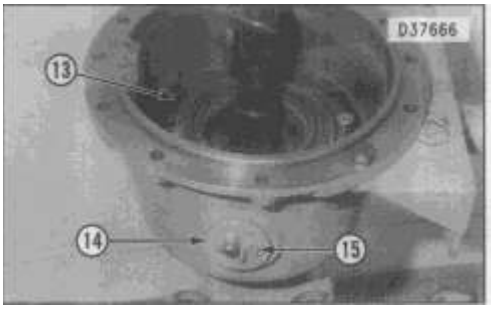
NOTE: From this point on, the axle housings are very similar. The right side axle housing only will be shown for disassembly.



7. Remove nuts (9) and bolts (10), and remove inner brake housing (11).

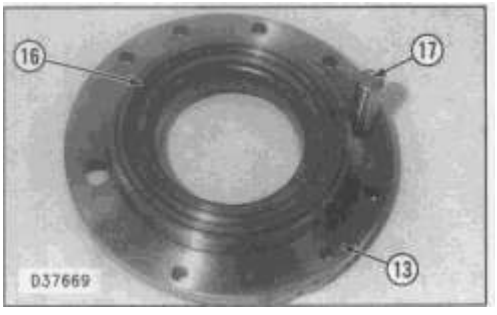


8. Remove four discs (12) and the four plates.

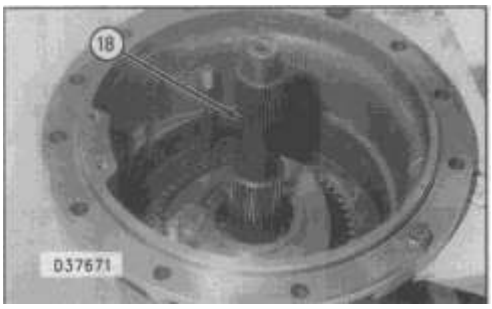


9. Remove screws (15), and remove manifold (14) from the axle housing.

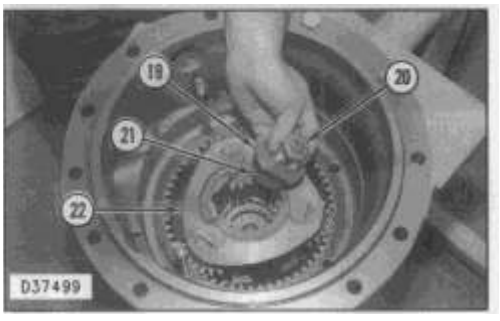
10. Remove outer brake housing (13).



11. Remove piston (16) and brake torque pin (17) from outer brake housing (13). Remove the seals from piston (16).



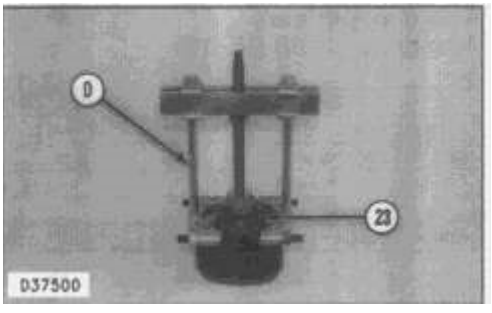
12. Remove sun gear (18).



Typical Example

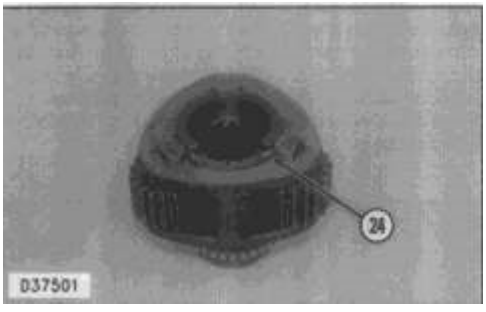
13. Remove the lock from the axle bolt.

14. Remove axle retainer bolt (20), washer (19) and shim (21). Remove planetary gear group (22).

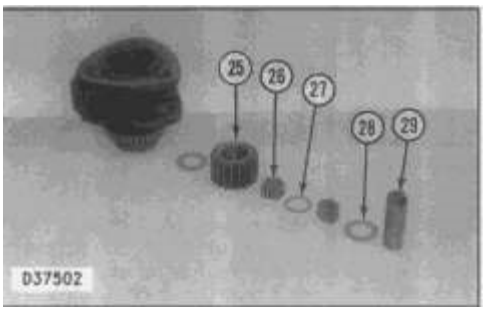


Typical Example

15. If bearing (23) is to be removed, use Tooling (D).



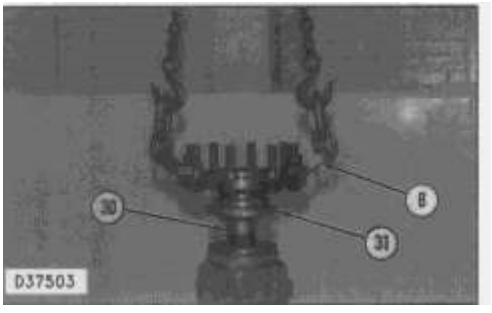
Typical Example



Typical Example

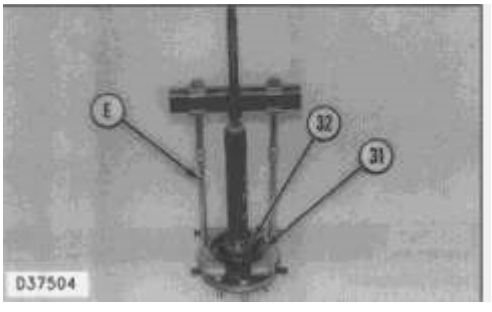
16. Straighten one end of retainer ring (24). Rotate the ring until a gear shaft can be removed.

17. Remove gear shaft (29). Remove washers (28) and gear assembly (25). Remove roller bearings (26) and spacers (27) from the gear.



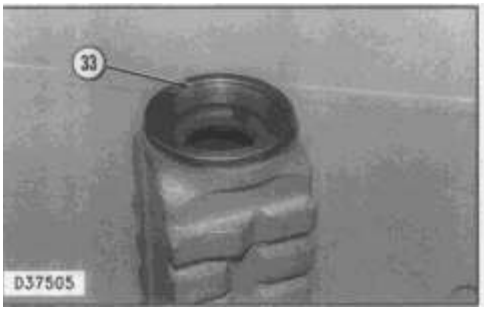
Typical Example

18. Rotate the axle housing on Tooling (C) so the small end is up. Use a punch to unstake seal retainer (31). Fasten Tooling (B) to the axle hub. Remove axle (30) from the housing.



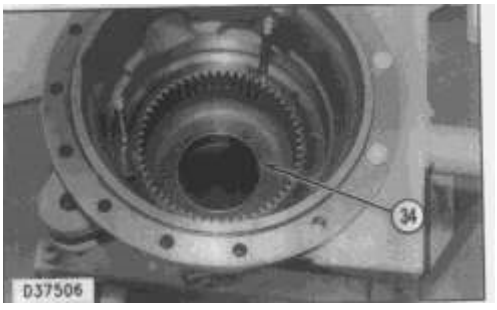
Typical Example

19. If seal retainer (31) and bearing (32) have to be removed, use Tooling (E).



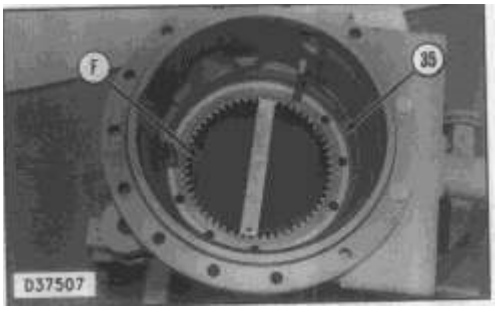
Typical Example

20. Remove bearing race (33) from the axle housing.



Typical Example

21. Remove bearing race (34) from the other end of the axle housing.



Typical Example

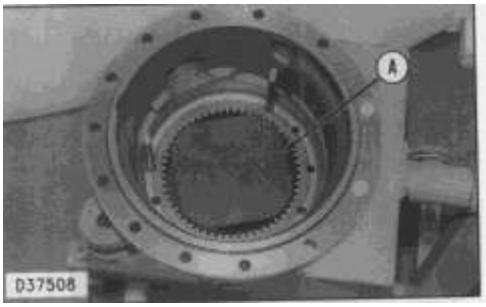
22. If ring gear (35) has to be removed, install Tool (F) beneath the ring gear. Remove the axle housing from Tooling (C), and install the axle housing in a press with the small end up. Use a solid rod to press on Tool (F), and remove gear (35).

Axle Group (Rear), Assemble

Tools Needed		A	B	C	D
8T3111	Plate	1			
6V2157	Line Bracket		2		
8S2328	Dial Indicator Test Group			1	
5P7264	Indicator Contact Point Group			1	
8T3110	Gauge				1

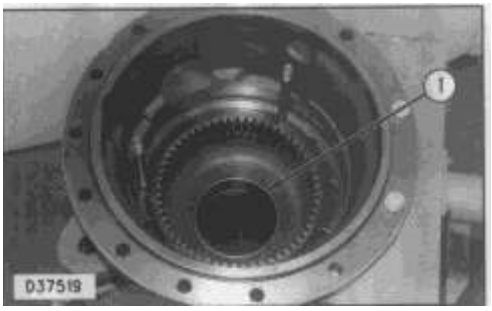
Fluid Spillage Containment

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the machine. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids. Refer to "Tools And Shop Products Guide", NENG2500 for tools and supplies suitable to collect and contain fluids in Caterpillar machines. Dispose fluids according to local regulations and mandates.

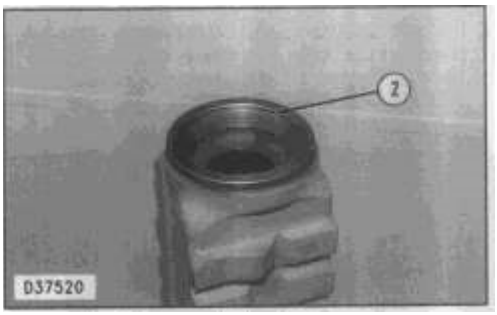


Typical Example

1. If the ring gear was removed, put Tool (A) in position on the ring gear as shown. Use a press and a solid rod to push on Tool (A) and the ring gear until the gear is seated in its bore. Check the gap between the ring gear and housing with a feeler gauge to make sure the ring gear is seated.

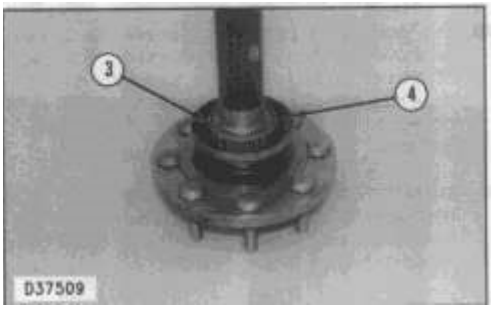


Typical Example



Typical Example

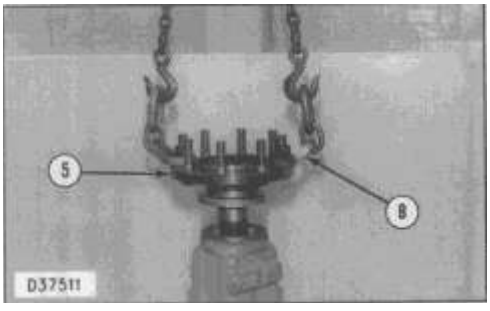
2. Lower the temperature of bearing races (1) and (2). Install the races in both ends of the axle housing. Make sure the bearing races are completely seated in their bores.



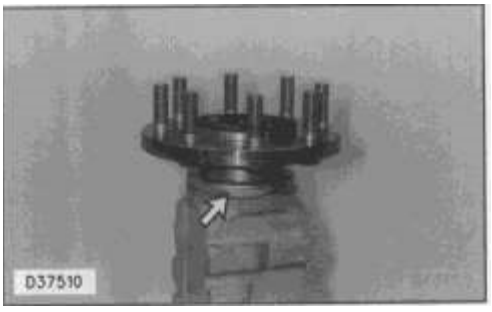
Typical Example

3. Put a new seal and retainer (4) in position on the axle shaft.

4. Heat bearing (3) to a temperature of 135°C (275°F), and install it on the axle shaft.



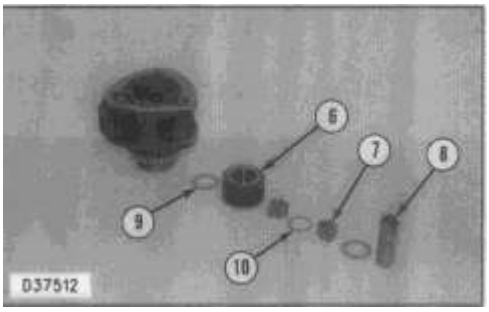
Typical Example



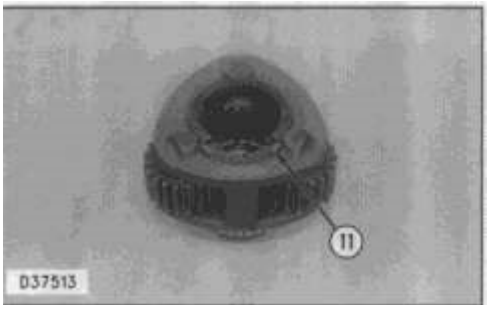
Typical Example

5. Fasten Tooling (B) and a hoist to the axle shaft assembly. Put axle shaft assembly (5) in the axle housing.

6. Stake the seal and retainer in four places around the axle housing as shown.



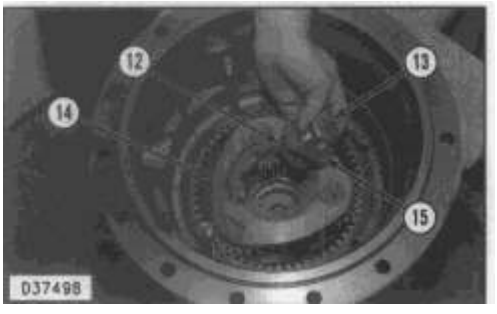
Typical Example



Typical Example

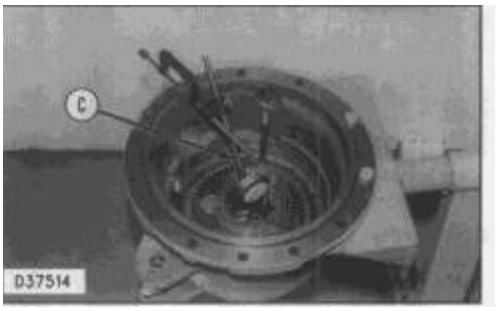
7. Install shaft (8) then spacer (10) in gear (6). Install roller bearings (7) around the shaft. Install washers (9) on each end of the gear. The washers will hold the roller bearings in place. Grease or oil will help hold the components in place. Remove shaft (8), and install the gear assembly in the planetary gear group. Install shaft (8) through the planetary case and gear assembly.

8. Rotate retainer ring (11) in position, and bend the ends of the ring down.



Typical Example

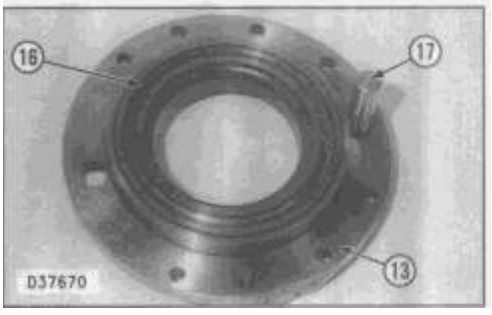
9. Put planetary gear group (14) in position in the axle housing. Install shim (12), washer (15) and retainer bolt (13). Tighten bolt (13) to a torque of 480 to 600 N·m (350 to 440 lb ft).



Typical Example

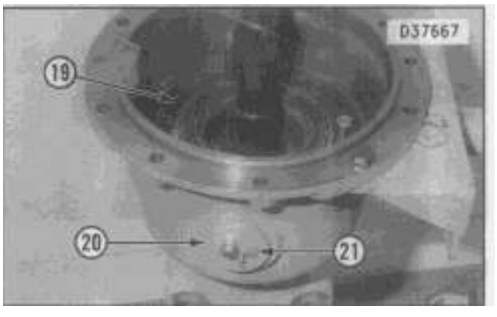
10. Put Tooling (C) in position on the axle retainer bolt as shown. Lift the axle shaft up and down to obtain bearing end play. Subtract original shim thickness from the reading obtained. Use the correct amount of shims to obtain the correct end play. This axle shaft end play is 0.025 to 0.076 mm (0.001 to 0.003 inch).

11. Install the lock on the axle bolt. It may be necessary to loosen or tighten the axle bolt so the lock slides freely over the bolt. Make sure the bolt keeps its original torque. See Step 9.



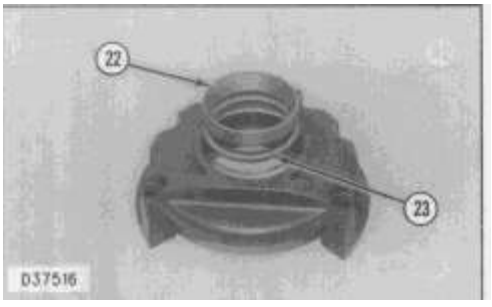
12. Install the seal in piston (16). Put clean oil on the seal, and install the piston in outer brake housing (18).

13. Install brake torque pin (17) in the outer brake housing.



14. Install outer brake housing (19) in the axle housing. Install manifold (20) and screws (21).

Typical Example



Typical Example

NOTE: Prior to installation of the sun gear and brake discs and plates, it will be necessary to obtain the differential preload adjustment if any of the following parts have been damaged and new parts installed.

a. Left hand side axle housing.
b. Left hand side planetary ring gear.
c. Left hand side outer brake housing.
d. Left hand side inner brake housing.

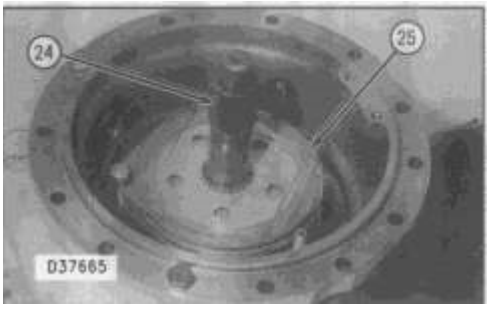
15. The differential preload adjustment will be made on the left side axle housing only.

16. Install the inner brake housing in the axle housing without its bearing race or shim. Tighten the nuts and bolts until the housing is completely seated.

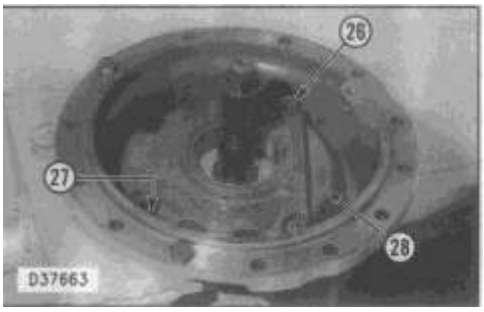
17. With the sun gear removed, install Tool (D) on the inner brake housing. Use a feeler gauge to measure the gap. This dimension will determine the shim thickness for the differential preload.

18. Remove the inner brake housing from the axle housing.

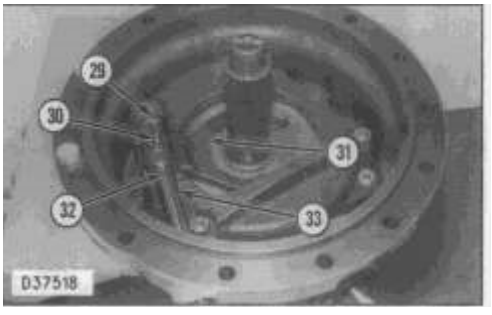
19. Put the correct assembly shims (23) in the bore of the inner brake housing. Lower the temperature of bearing race (22), and install it in the brake housing. Make sure the bearing race is completely seated in its bore. See Shim Chart in Specifications.



20. Install sun gear (24). Install four discs (25) and the four plates.

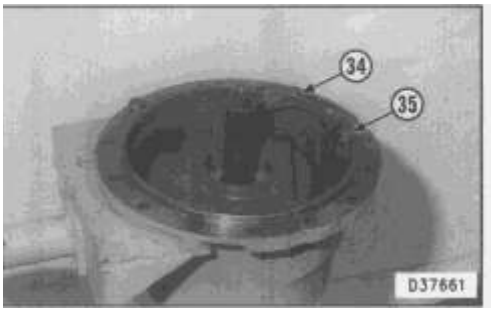


21. Put inner brake housing (28) in position, and install nuts (26) and bolts (27) that hold it. Tighten the nuts to a torque of 98 to 102 N·m (72 to 90 lb ft).

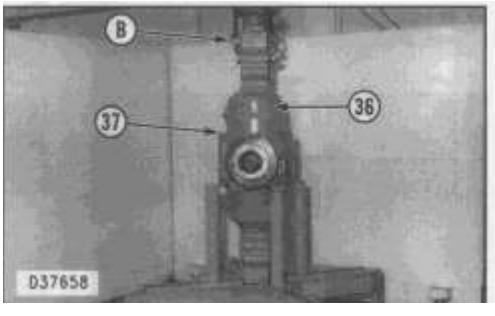


Typical Example

22. Install differential lock fork (31) and shaft (33). Put bolt (30) in alignment with hole (32) in the shaft. Tighten nut (29).



23. Install differential thrust block (34), and install bolts (35).



24. Put axle housings (36) in position with Tooling (B) and a hoist. Install bolts (37). Tighten the bolts to a torque of 149 to 210 N·m (110 to 155 lb ft).

End By:

a. install rear axle group

Product: BACKHOE LOADER
Model: 426C BACKHOE LOADER 7WN
Configuration: 426C Backhoe Loader Center Pivot, Single Tilt 7WN00001-00938 (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly
416C, 426C, 428C, 436C, & 438C BACKHOE LOADERS POWER TRAIN
Media Number -SENR1206-02 **Publication Date -01/11/2003** **Date Updated -26/02/2018**

SENR12060004

Differential (Rear)

SMCS - 3258-015; 3258-016

Disassemble Differential (Rear)

Tools Needed		A	B
8B7551	Bearing Pulling Attachment	1	
5P4170	Step Plate	1	
8B7548	Push-Puller	1	1
5P4167	Adapter		1
8H663	Bearing Pulling Attachment		1
8B7550	Leg		2

Start By:

a. remove left side axle housing only *

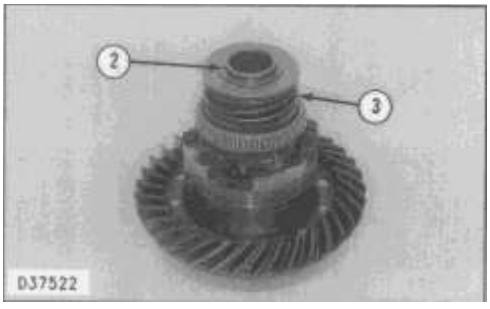
---

*See Disassemble Rear Axle group.

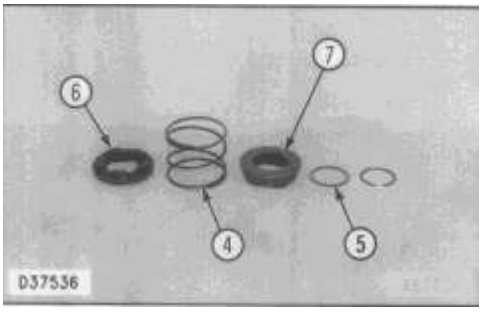
Fluid Spillage Containment

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the machine. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids. Refer to "Tools And Shop Products Guide", NENG2500 for tools and supplies suitable to collect and contain fluids in Caterpillar machines. Dispose fluids according to local regulations and mandates.

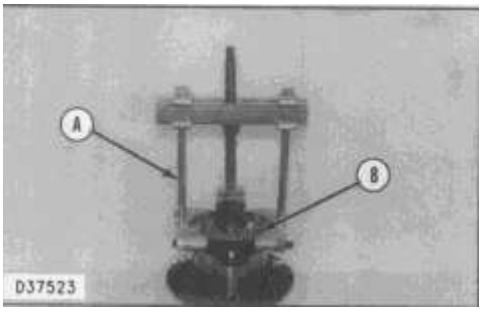
1. Remove differential case (1) from the axle housing with a hoist. Weight is 36 kg (80 lb).



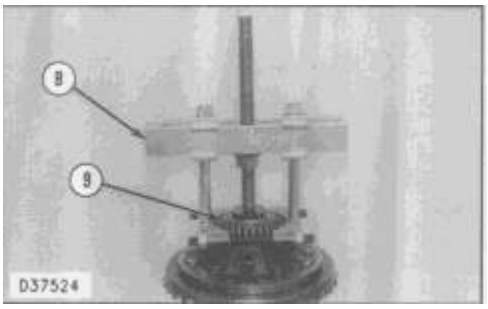
2. Remove retainer ring (2), and remove differential lock group (3).



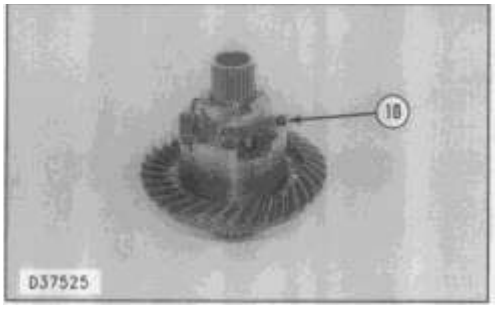
3. Separate washer (5), coupling (7), spring (4) and adapter (6) to disconnect differential lock group.



4. Use Tooling (A) to remove large bearing cone (8) from the differential case.

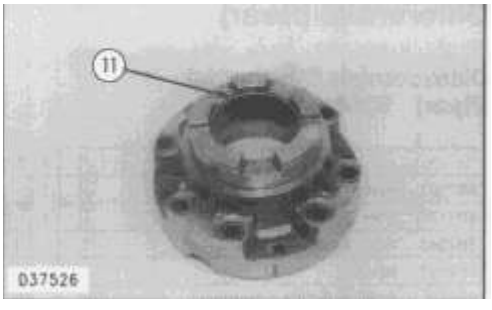


5. Remove small bearing cone (9) from the differential case with Tooling (B).

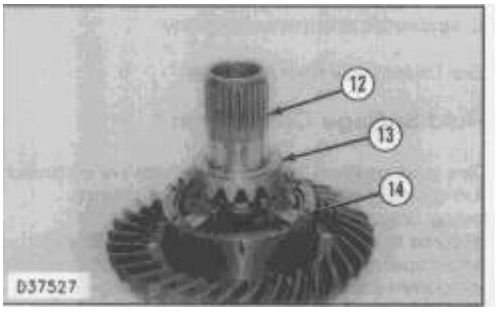


6. Put identification (location marks) on the differential case halves.

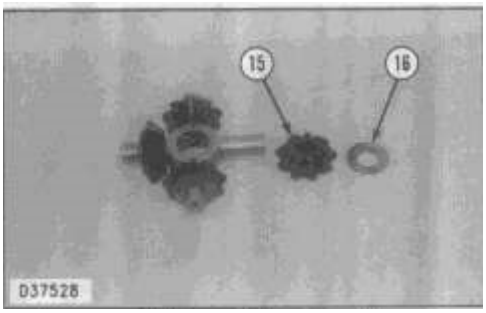
7. Remove bolts (10) to separate the differential case halves.



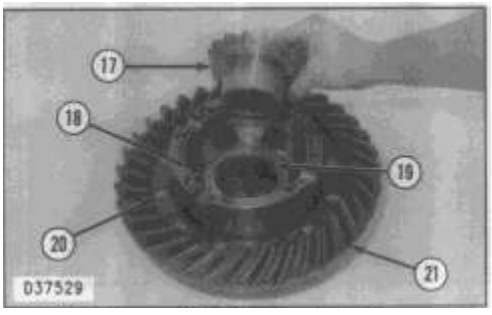
8. Remove bushing (11) from the differential case halve.



9. Remove gear assembly (12). Remove washer (13) from the gear assembly. Remove spider assembly (14) from the differential case half.



10. Remove washers (16) and gears (15) from the spider assembly.



11. Remove gear (17) and washer (18). Remove bushing (19) from the differential case half.

12. If ring gear (21) is to be removed, follow the steps below:

a. Center punch either end of retaining rivets (20). Be sure the hole is punched as near to the center of the rivets as possible.

b. Use a 12.7 mm (.50 in) drill, and drill in the rivet until the head end breaks free from the rivet shank.

c. Use a suitable punch, and punch out the remainder of the rivets.

Assemble Differential (Rear)

Fluid Spillage Containment

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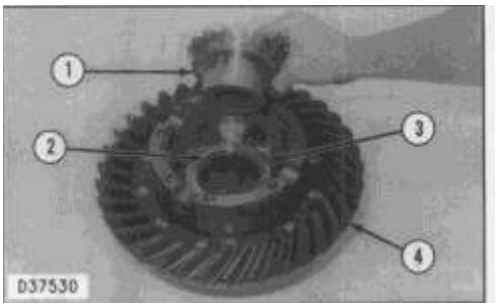
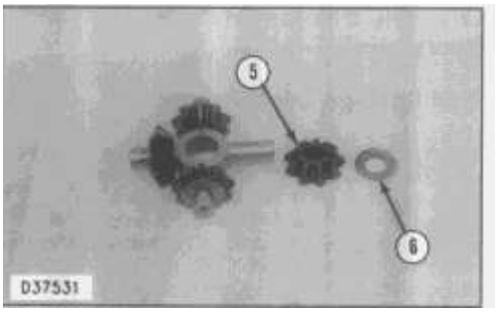
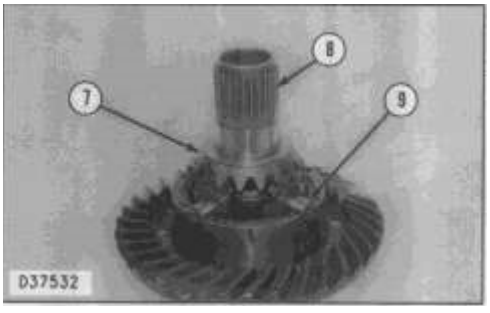


1. If a new ring gear (4) is installed, fasten the new ring gear on the differential case half with replacement bolts and nuts. Tighten the nuts to a torque of 105 ± 20 N·m (77.0 ± 15.0 lb ft).

2. Install bushing (2) in the differential case half. Install thrust washer (3) with the groove side up. Install side gear (1).

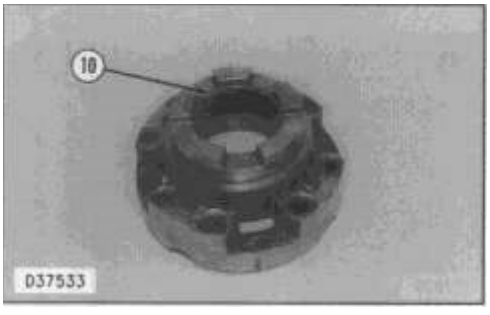


3. Install gears (5) and washers (6) on the spider.

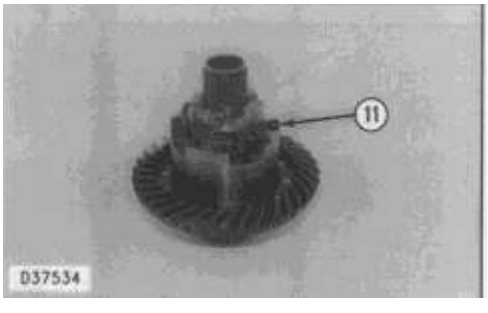


4. Install spider assembly (9) in the differential case half.

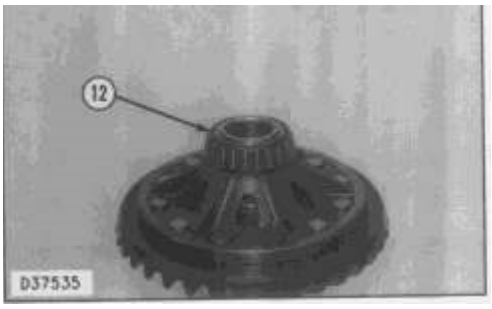
5. Install side gear (8). Install thrust washer (7) on the side gear with the groove side up.



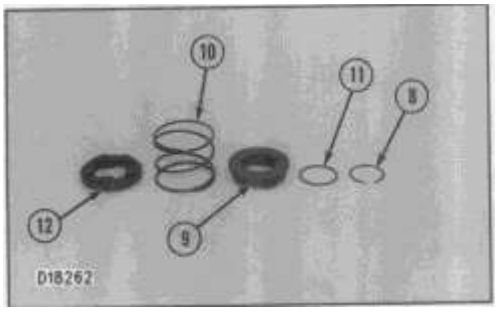
6. Install bushing (10) in the differential case half.

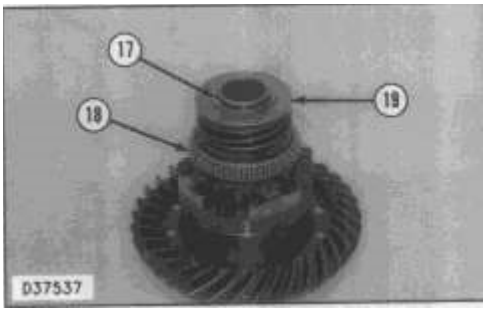


7. Fasten the differential case halves together with bolts (11). Tighten the bolts to a torque of 88 to 102 N·m (65 to 75 lb ft).



8. Heat small bearing (12) to a temperature of 135°C (275°F). Install the bearing as shown.

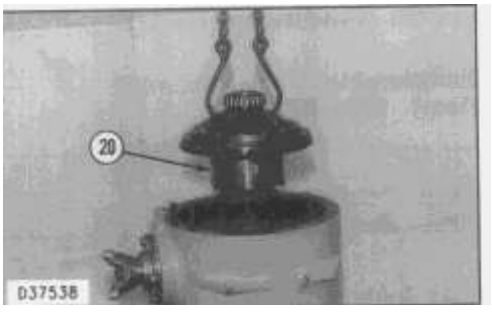




9. To assemble the differential lock group, put spring (15) in position on adapter (13). Install coupling (14) on spring (15). Install washer (16) on coupling (14).

10. Heat large bearing (18) to a temperature of 135°C (275°F). Install it on the differential case.

11. Install differential lock group (19) and retainer ring (17).



12. Put differential case assembly (20) in position in the axle housing with a hoist.

NOTE: Check the differential preload adjustment. See Steps 13 through 17 in topic Assemble Rear Axle Housings.

End By:

a. install left side axle housing only *

*See Assemble Rear Axle Housings.

Product: BACKHOE LOADER
Model: 426C BACKHOE LOADER 7WN
Configuration: 426C Backhoe Loader Center Pivot, Single Tilt 7WN00001-00938 (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly
416C, 426C, 428C, 436C, & 438C BACKHOE LOADERS POWER TRAIN
Media Number -SENR1206-02 **Publication Date -01/11/2003** **Date Updated -26/02/2018**

SENR12060005

Pinion Assembly (Rear)

SMCS - 3254-015; 3254-016

Disassemble Pinion Assembly (Rear)

Tools Needed		A
8B7548	Push-Puller	1
8H663	Bearing Pulling Attachment	1

Fluid Spillage Containment

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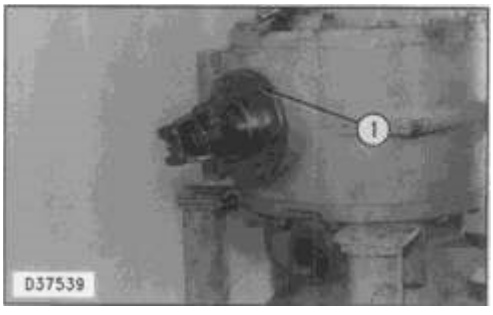

1. Remove bolts (1) that hold the pinion assembly to the axle housing.

Suggest:

If the above button click is invalid.

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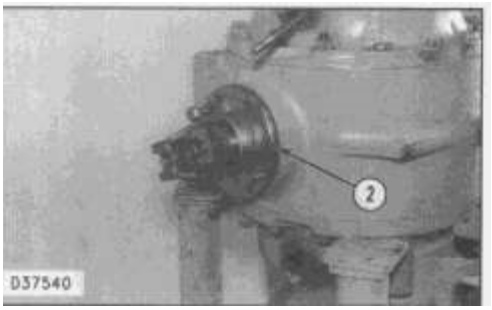
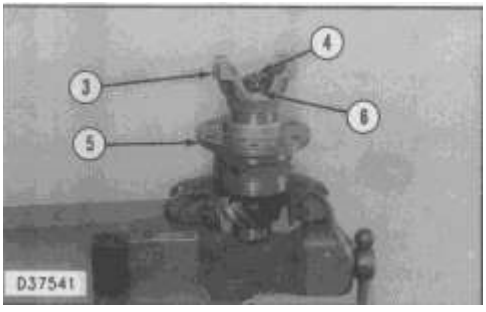
first, and then click the above link

to download the complete manual.

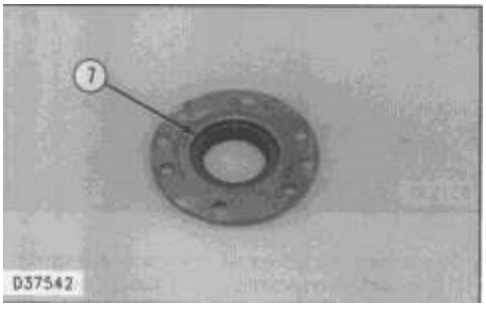
Thank you so much for reading



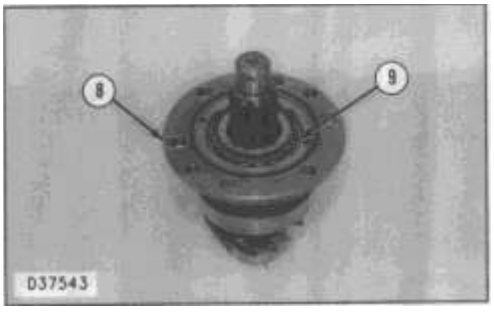
2. Use two of the original bolts to carefully force pinion assembly (2) from the axle housing.



3. Remove cotter pin (4), nut (6), the washer and seal. Remove yoke (3) and seal retainer (5).



4. Remove seal (7) from the retainer.



5. Remove bearing (9) and the spacer. Remove housing assembly (8) from the pinion assembly.