

Product: TRACK-TYPE TRACTOR

Model: D6R TRACK-TYPE TRACTOR 7AR

Configuration: D6R XR & D6R LGP TRACTORS / POWERSHIFT / 7AR00001-UP (MACHINE) POWERED BY 3306 ENGINE

Disassembly and Assembly D6R TRACK-TYPE TRACTOR POWER TRAIN

Media Number -SEN8357-02

Publication Date -01/05/2005

Date Updated -03/06/2014

SEN83570028

Bevel & Transfer Gears

SMCS - 3150-015; 3150-016; 3159-082; 3159; 3254; 3256-015

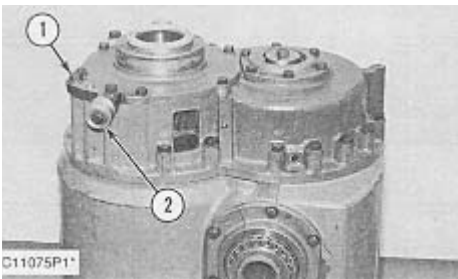
Disassemble Bevel & Transfer Gears

Tools Needed		A	B	C	D	E	F
5P9736	Link Bracket	3	1				
8H663	Bearing Puller			1			
8T2839	Spanner				1		
1P1863	Retaining Ring Pliers					1	
1P2321	Puller Assembly						1
5P4170	Step Plate						1

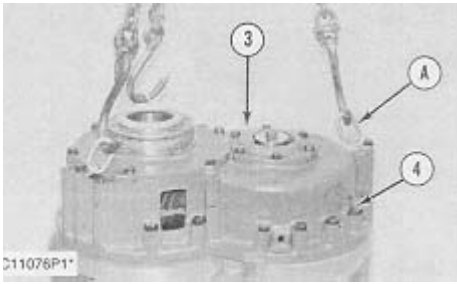
Start By:

a. separate transmission and bevel gears

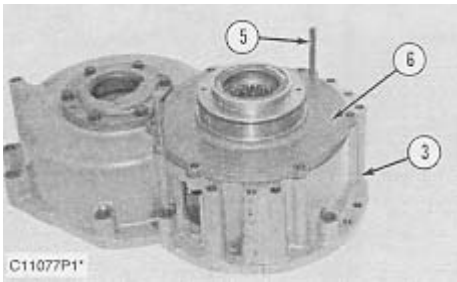
NOTE: Put identification marks on all of the shims when they are removed for correct installation.



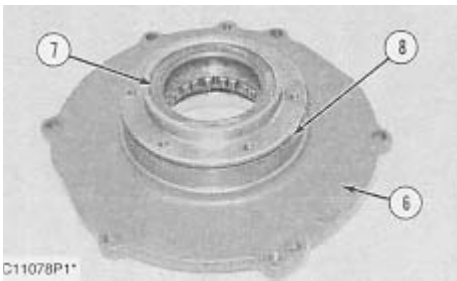
1. Remove two bolts (1) and roller bracket assembly (2) from each side of the transfer gear case.



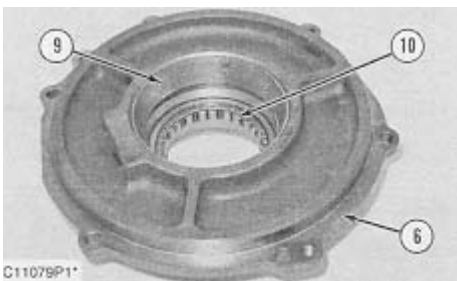
2. Remove sixteen bolts (4) that hold transfer gear case (3) to the bevel gear case.
3. The weight of the transfer gear case is **101 kg (223 lb)**. Install Tooling (A) and attach a hoist as shown. Remove transfer gear case (3) from the bevel gear case.



4. Remove the six bolts that hold cage (6) to transfer gear case (3).
5. Install two 1/2" - 13 NC forcing screws (5), and tighten evenly. Remove the cage and shims from the transfer gear case.



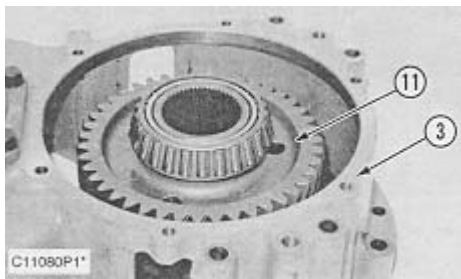
6. Remove lip-type seal (7) and O-ring seal (8) from cage (6).



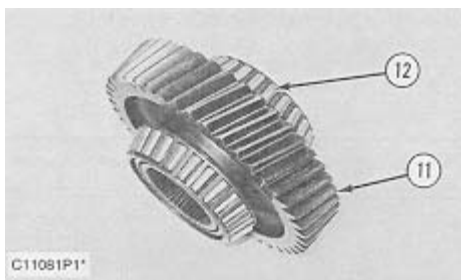
NOTICE

Bearing cup (9) and bearing (10) will be damaged if they are removed.

7. If necessary, remove bearing cup (9) and bearing (10) from cage (6)



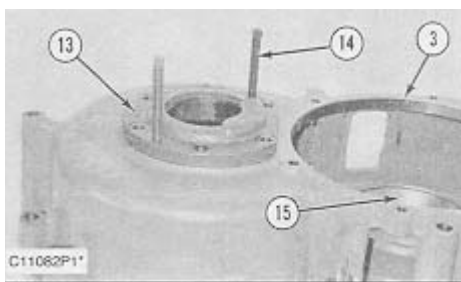
8. Remove transfer gear (11) from transfer gear case (3).



NOTICE

Bearing cones (12) will be damaged if they are removed from transfer gear (11).

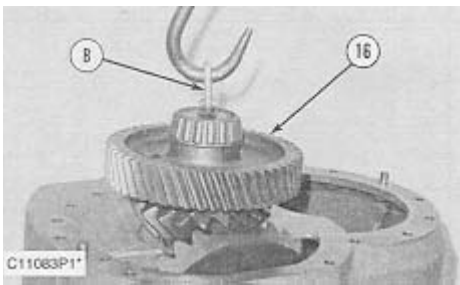
9. If necessary, remove two bearing cones (12) from transfer gear (11).



10. Remove the six bolts, and install 1/2 two " - 13 NC forcing screws (14) in cage (13). Tighten the forcing screws evenly, and remove cage (13) and the shims from transfer gear case (3).

11. Remove the bearing cup from cage (13).

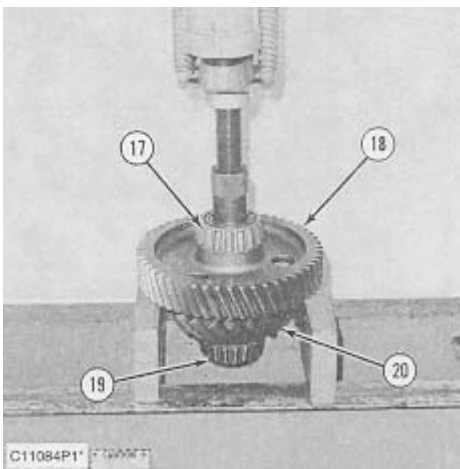
12. Remove bearing cup (15) from transfer gear case (3).



13. Remove the bolt and retainer from pinion gear assembly (16).

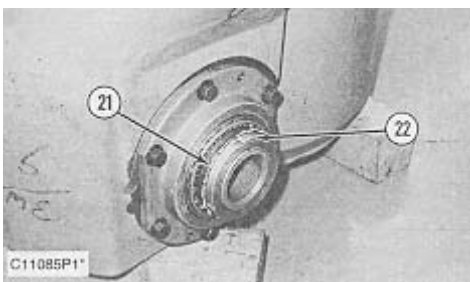
14. The weight of the pinion gear assembly is **33 kg (73 lb)**. Install Tooling (B), and attach a hoist. Remove the pinion gear assembly (16) from the bevel gear case.

15. Remove the pinion gear assembly bearing cup from the bevel gear case.



16. Put the pinion gear assembly in a press as shown. Remove transfer gear (18) and bearing cone (17) from the pinion gear (19).

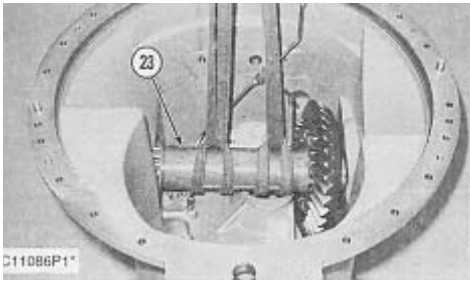
17. Use Tooling (C) and a press, and remove bearing cone (19) from pinion gear (20).



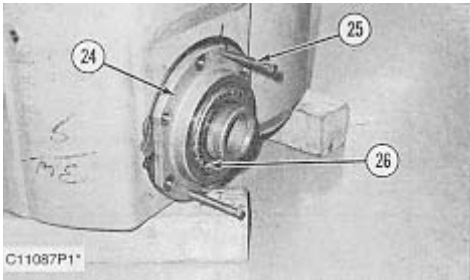
18. Bend the lock tab away from spanner nut (22).

19. Put a pry bar in between the bolt heads on the bevel gear to stop the rotation of the bevel gear and shaft.

20. Use Tool (D), and remove spanner nut (22). Remove lock (21).

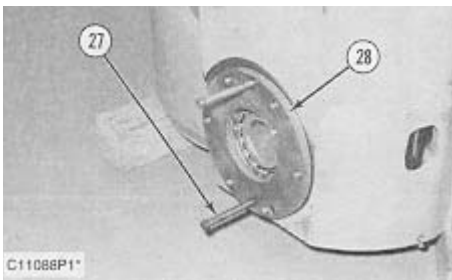


21. The weight of the bevel gear and shaft (23) is **55 kg (121 lb)**. Use nylon straps and a hoist to support the bevel gear and shaft so the bearings can be removed



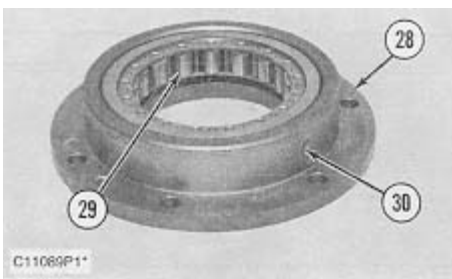
22. Remove the six bolts, and install 1/2 **two** " - 13 NC forcing screws (25). Tighten the forcing screws evenly, and remove cage (24), two bearing cones (26), the spacer between bearing cones and the shims from the bevel gear case.

23. Remove the bearing cups and center ring from cage (24).

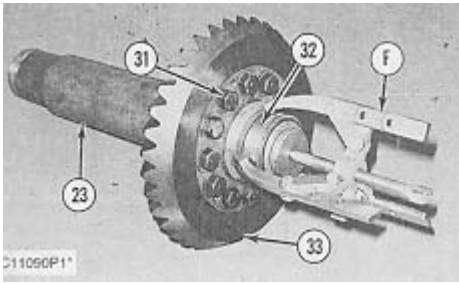


24. Remove the six bolts, and install 1/2 **two** " - 13 NC forcing screws (27). Tighten the forcing screws evenly, and remove cage (28) and the bearing from the bevel gear case.

25. Use the hoist and remove bevel gear and shaft (23) from the bevel gear case.



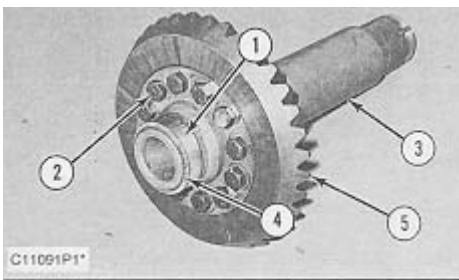
26. Install a 1/4 " - 20 NC bolt, and remove dowel (30) from cage (28). Remove race and roller assembly (29).



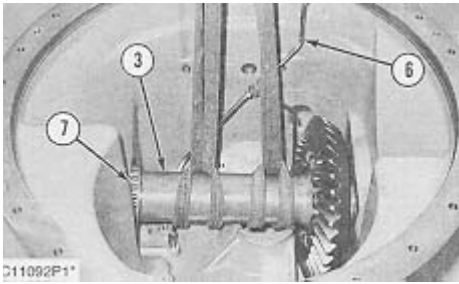
27. Use Tool (E) and remove the retaining ring from the bevel gear shaft (23).
28. Use Tooling (F) and remove bearing race (32) from the bevel gear shaft.
29. Remove 12 bolts (31) and nuts. Install three 1/2 " - 13 NC forcing screws in bevel gear (33). Tighten the forcing screws evenly, and remove the bevel gear from the bevel gear case.
30. Remove the tube assemblies from the bevel gear housing.

Assemble Bevel & Transfer Gears

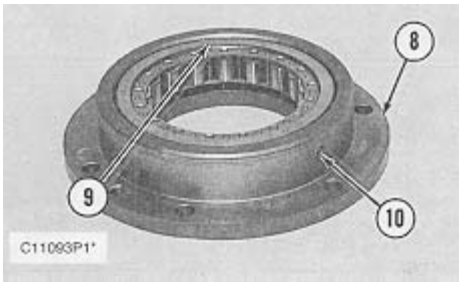
Tools Needed		A	B	C	D	E	F
1P1863	Retaining Ring Pliers	1					
8T2839	Spanner		1				
5P9736	Link Bracket			1		1	
1P520	Driver Group				1		
8T5096	Dial Indicator Test Group						1



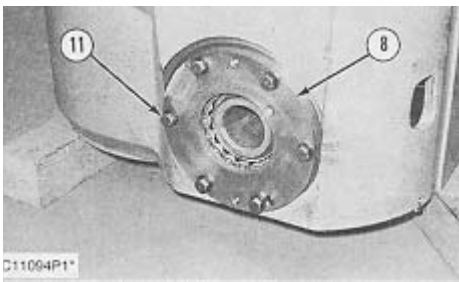
1. Put bevel gear (5) in position on bevel gear shaft (3). Install twelve bolts (2) and nuts.
3. Put two 1/2 " - 13 NC bolts into two of the forcing screw holes, and use a bar to hold the bevel gear and shaft. Tighten bolts (2) to a torque of $540 \pm 50 \text{ N}\cdot\text{m}$ ($400 \pm 37 \text{ lb ft}$).
3. Heat bearing race (1) to a maximum temperature of 135° C (275° F) and install it on the bevel gear shaft.
4. Use Tool (A), and install retaining ring (4) on bevel gear shaft (3).



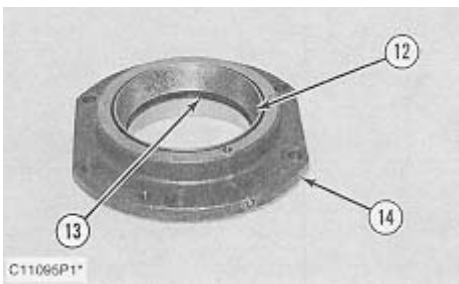
5. Install three tube assemblies (6) into the bevel gear case.
6. Use lifting straps and a hoist and put bevel gear and shaft (3) in position in the bevel gear case.



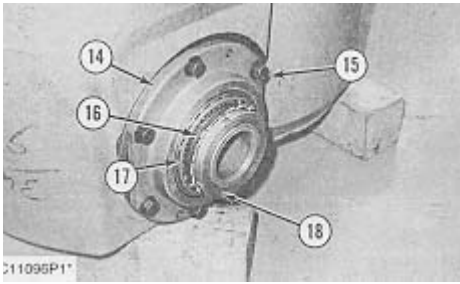
8. Align the dowel hole in bearing race (9) with the hole in cage (8), and install the bearing in the cage. Install dowel (10) in the cage that holds the bearing in place.



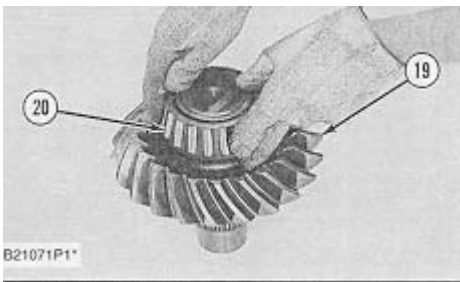
9. Put cage (8) in position on the bevel gear case, and install six bolts (11). Tighten the bolts to a torque of $130 \pm 15 \text{ N}\cdot\text{m}$ ($95 \pm 11 \text{ lb ft}$).



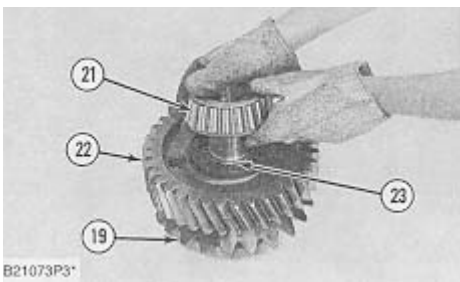
10. Lower the temperature of two bearing cups (12), and install with ring (13) into cage (14).



11. Install cage (14) without shims. Loosely install bolts (15) that hold cage (14) to the bevel gear case
12. Install bearing cone (17) on the bevel gear shaft.
13. Align the notch in the bevel gear shaft with the tooth on washer (16) and install washer (16).
14. Align the teeth on the lock with the notch in the bevel gear shaft, and put the lock in position.
15. Put **5P3931 Anti-Seize Compound** on the threads and face of spanner nut (18). Install spanner nut (18) on the bevel gear shaft.
16. Use Tooling (B), and tighten nut (18) to a torque of **612 ± 68 N·m (452 ± 49 lb ft)**.



17. Heat bearing cone (20) to a maximum temperature of **135° C (275° F)**, and install the bearing on pinion gear shaft (19). Use a **0.03 mm (.001 in)** feeler gauge to make sure the bearing is seated against the shoulder of the pinion shaft.



18. Align the splines, and install transfer gear (22) onto pinion gear shaft (19).
19. Heat bearing (21) to a maximum temperature of **135° C (275° F)**, and install the bearing on the pinion shaft. Use a **0.03 mm (.001 in)** feeler gauge to make sure the bearing is seated against the shoulder (23) of the pinion shaft.



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