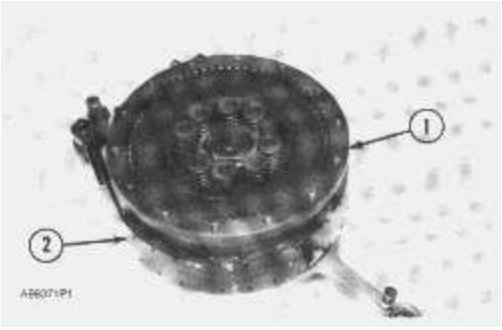
Disassemble Steering Clutches

Tools Needed		A	B	C	D	E	F	G
3B6352	Wrench	1						
8B7548	Puller Assembly (Crossbar)		1	1	1			
3H465	Plate		2	4	2			
0L1329	Bolt		2					
1D4719	Nut		2					
5P4770	Spanner Wrench					1		
6V9061	Pump Group (or electric)			1	1			
1P520	Driver Group			1				
7S8431	Plate			1				
8B7549	Leg			2				
8B7556	Adapters			2				
8S7650	Cylinder Assembly			1				
5P3036	Installer Ring			1				
7F9540	Puller Assembly				1			
1D4602	Bolt				2			
	Washer				2			
FT610	Clutch Stand						1	
5P9736	Link Bracket							2

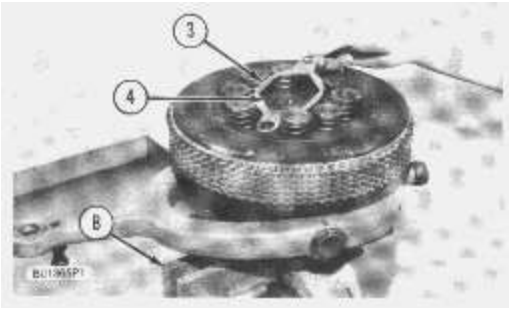
Tools Needed		H
8B7548	Puller Assembly (Crossbar)	1
3H465	Plate	2
0S1569	Bolt	2

Start By:

a. remove steering clutches



1. Remove brake band (2) and outer drum (1) from the steering clutch.

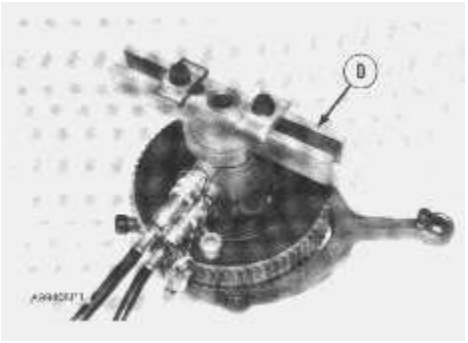


2. Install tooling (B) to the end of the clutch shaft and install it in a vise.

3. Remove lock (3). Use tooling (A) and loosen nut (4) until it is even with the top of the shaft.

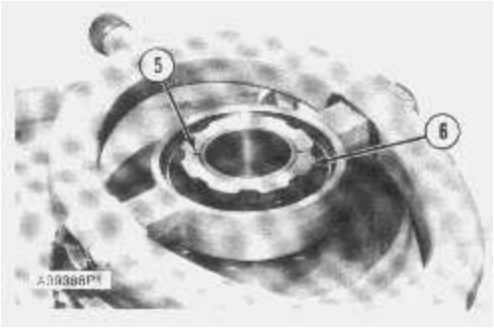
WARNING

Do not remove nut (4). This will keep the drum on the shaft when it is loosened from the taper on the shaft.



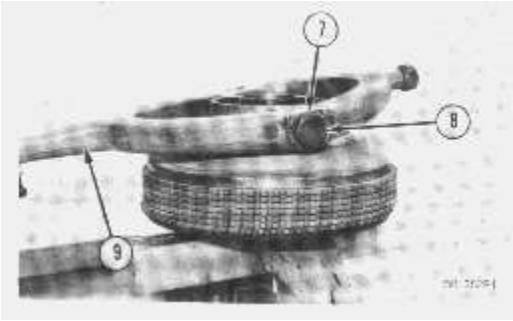
4. Remove the steering clutch from the vise. The weight is approximately 45 kg (100 lb.).

5. Use tooling (D) as shown to push the shaft from the inner drum. Remove tooling (D) and nut (4). Remove the shaft from the steering clutch.



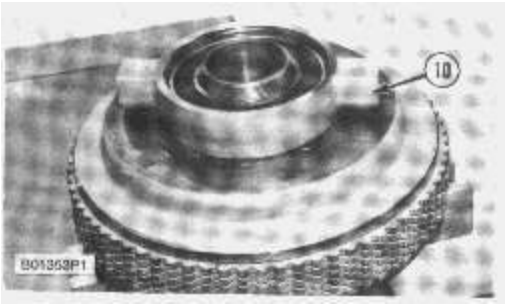
6. Install tooling (H) on the other side of the steering clutch and install it in a vise.

7. Remove two setscrews (5). Use tool (E) and remove spanner nut (6) from the plate assembly.

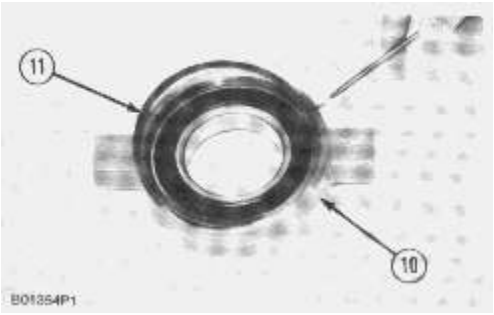


8. Bend locks (7) down and remove bolts (8) that hold the yoke in place.

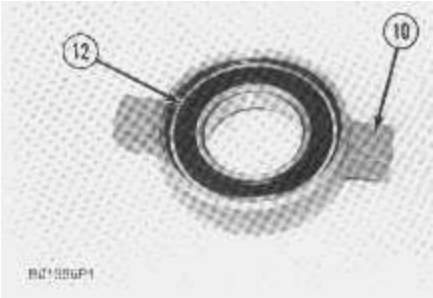
9. Remove yoke (9) from the plate assembly.



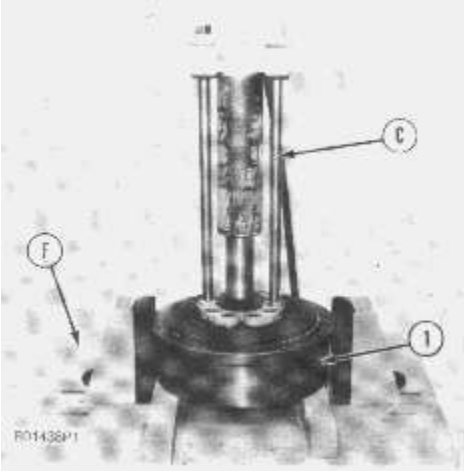
10. Use a pry bar on each side of the bearing cage and remove bearing cage (10) from the plate assembly.



11. Remove retaining ring (11) from bearing cage (10).



12. Remove bearing (12) from bearing cage (10).

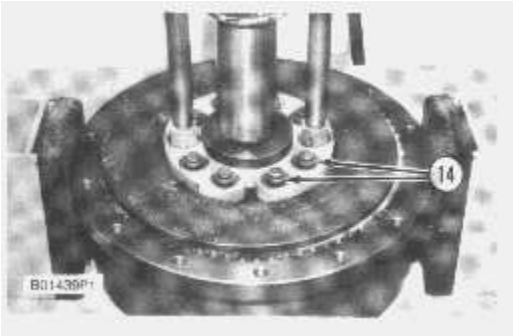


13. Put two pieces of wood (13) on tool (F), as shown, as a support for the steering clutches. Install drum (1). Make an alignment of the centers of the clutches and drum (1).

WARNING

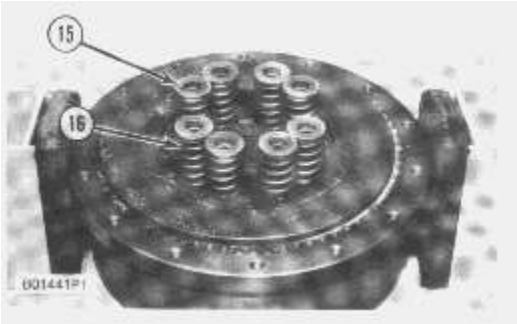
Use only enough force to put the steering clutch springs under compression to remove the locks from the studs. Be extra careful that 5P3036 Installer Ring moves freely on the studs.

14. Install tooling (C), as shown, and put the steering clutch spring under compression.



15. Remove locks (14) from the studs.

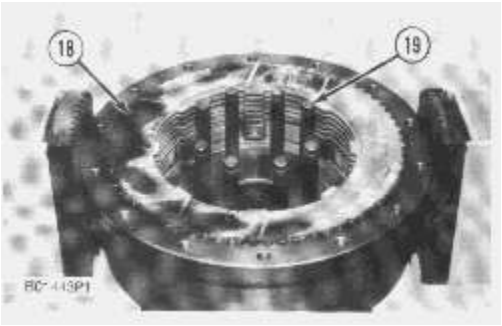
16. Slowly release the pressure on the steering clutch springs. Remove tooling (C).



NOTE: Only oil-cooled steering clutches have spacers located under springs (16).

17. Remove retainers (15) springs (16) and the spacers from the studs.

18. Install tooling (G) as shown. Fasten a hoist and remove inner drum (17).



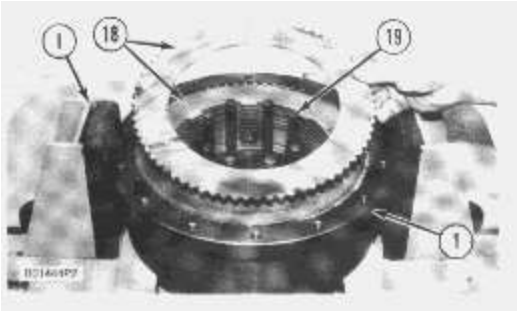
19. Remove steering clutch discs (18).

20. Remove studs (19) from the plate assembly.

Assemble Steering Clutches

Tools Needed		I	J	K	L	M	N	O
FT610	Clutch Stand	1						
5P9736	Link Bracket		2					
8B7548	Puller Assembly (Crossbar)			1		1	1	
6V9061	Pump Group (or electric)			1				1
1P520	Driver Group			1	1			
7S8431	Plate			1				
3H465	Plate			4		2	2	
8B7549	Leg			2				
8B7556	Adapter			2				
8S7650	Cylinder Assembly			1				
5P3036	Ring Installer			1				
0S1569	Bolt					2		
0L1329	Bolt						2	
1D4719	Nut						2	
7F9540	Puller Assembly							1
7M7237	Adapter							1
7M7238	Sleeve							1
2H0637	Bolt							1
	Washer							1

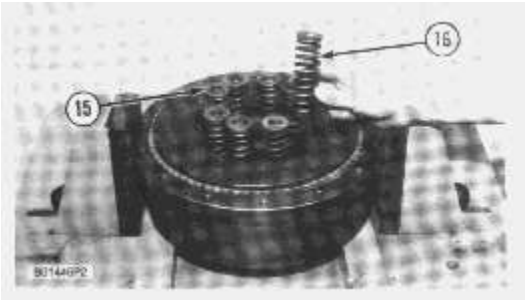
Tools Needed		P	Q
5P4770	Spanner Wrench	1	
3B6352	Wrench		1



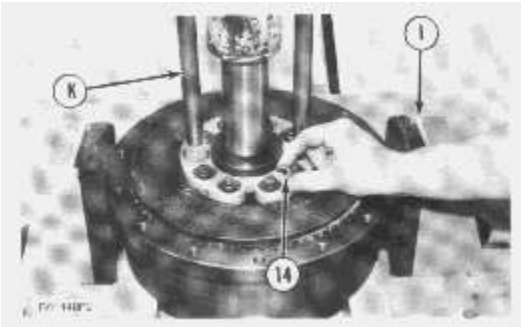
1. Install studs (19) in the plate assembly.

2. Put the plate assembly and outer drum (1) in position on tool (l). Install steering clutch disc (18). Start and stop with a disc that has teeth on the outside diameter. Make a visual alignment of the inside diameter of the discs.

3. Install tooling (J) to inner drum (17) and fasten a hoist. Install inner drum (17).



4. Install spacers, springs (16) and retainer (15) on studs.

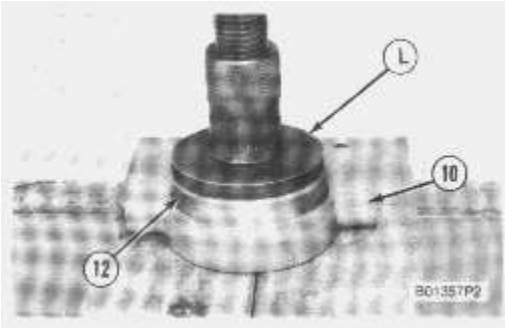


WARNING

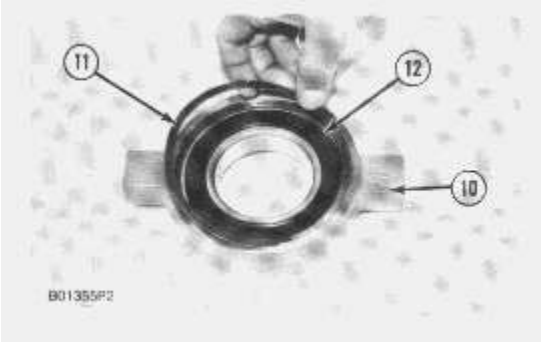
Use only enough force to put the steering clutch springs under compression to install the locks on the studs. Be extra careful that 5P3036 Installer Ring moves freely on the studs.

5. Install tooling (K) and put springs (16) under compression. Install locks (14) on the studs.

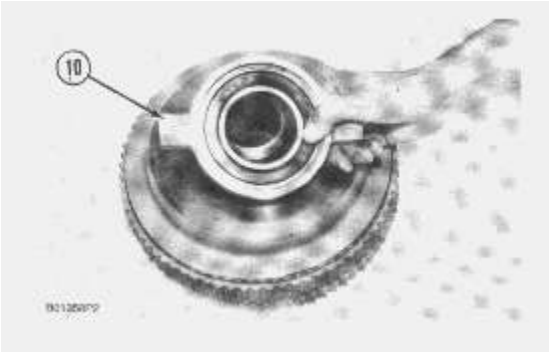
6. Remove tooling (K). Remove the steering clutch from tool (l). Remove outer drum (1).



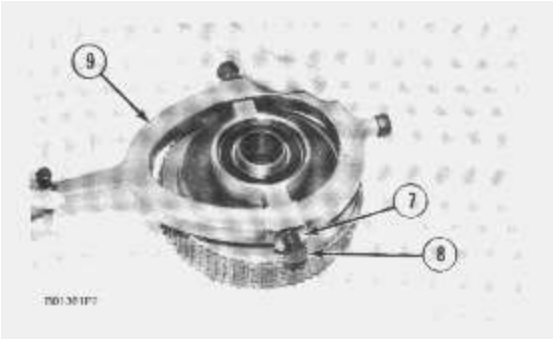
7. Install bearing (12) in bearing cage (10) with tooling (L).



8. Install retaining ring (11) that holds bearing (12) in bearing cage (10).



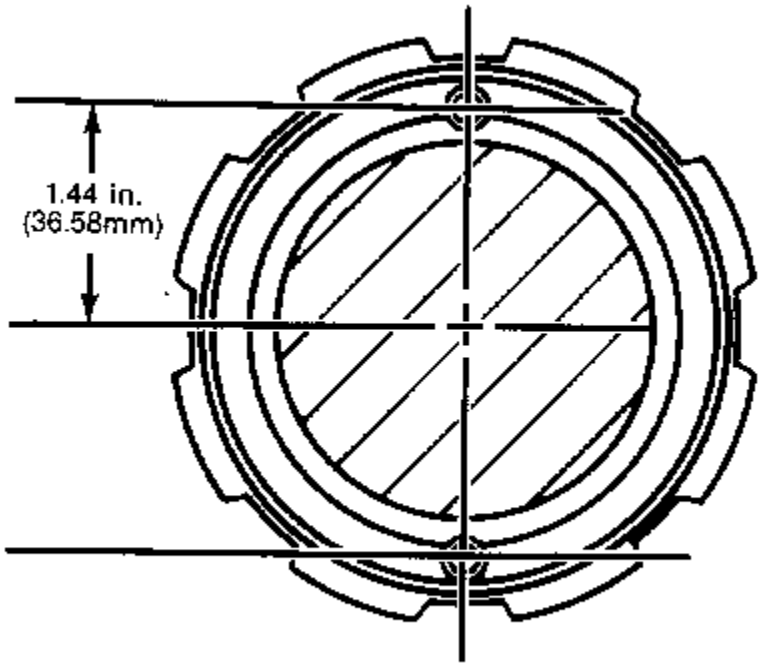
9. Install bearing cage (10) on the plate assembly.



10. Put yoke (9) on the bearing cage.

11. Install locks (7) and bolts (8) that hold the yoke to the bearing cage. Bend the locks up.

12. Install tooling (M) on the steering clutch inner drum and put it in a vise.



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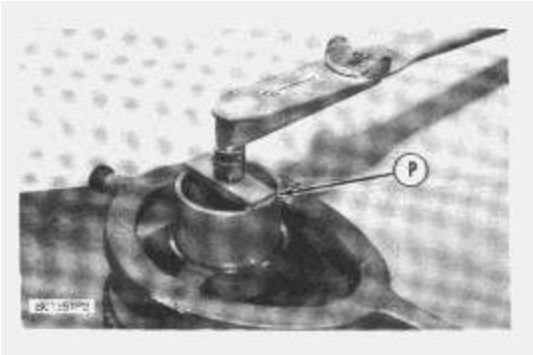
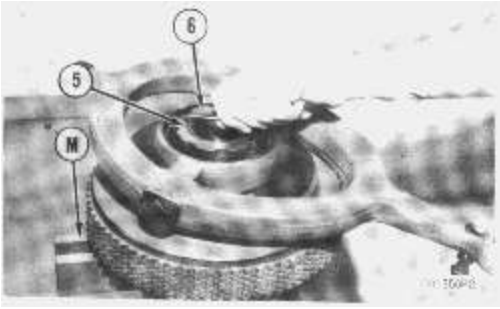
12. If a replacement spanner nut is needed, drill two holes 5.16 mm (.203 in.) to a depth of 9.65 mm (.38 in.) with the center line of the spanner nut to the holes 36.58 mm (1.44 in.) apart as shown. Use a 1/4"-20 NC tap to make threads in the spanner nut to a depth of 7.87 mm (.31 in.).



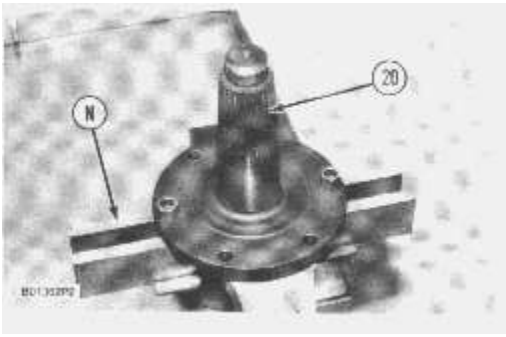
13. Use tool (P) and install spanner nut (6). Tighten the spanner nut to a torque of 470 ± 70 N·m (350 ± 50 lb.ft.).



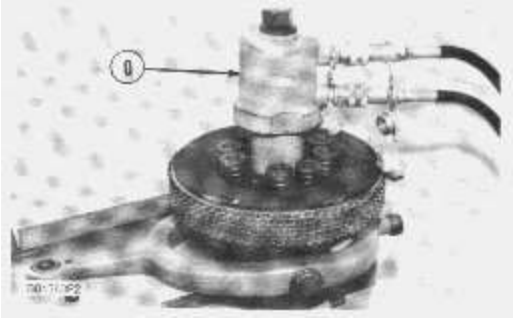
14. Install setscrews (5) that lock the spanner nut (6) in place.

15. Use a center punch to move the metal stake over the setscrews enough to keep the setscrews tight.

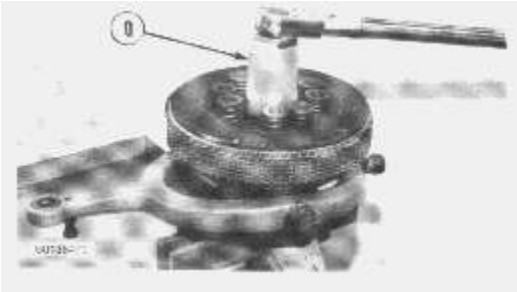
16. Remove the steering clutch from the vise. Remove tooling (M).



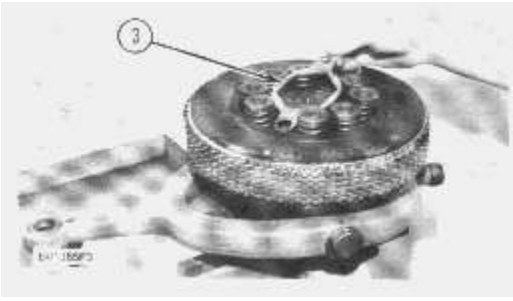
17. Install tooling (N) on shaft (20) and put it in a vise as shown.



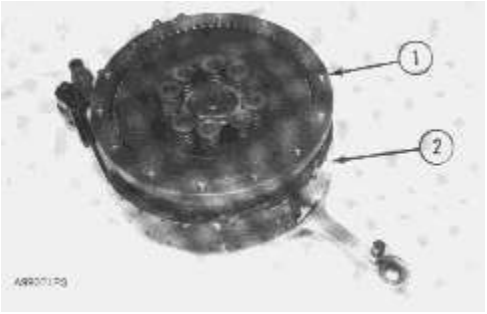
18. Put the steering clutch on the shaft. Use tooling (O) and push the steering clutch on to the shaft with a force of 135 to 180 kN (15 to 20 ton). The face of the inner drum must extend a distance of 3.0 ± 0.8 mm (.12 ± .03 in.) beyond the splines on the shaft.



19. Install the nut that holds the inner drum to the shaft. Use tooling (Q) and tighten the nut to a torque of 470 ± 70 N·m (350 ± 50 lb.ft.).



20. Put lock (3) in place and install the bolts that hold it to the inner drum. Tighten the bolts to a torque of 205 ± 27 N·m (150 ± 20 lb.ft.).



NOTICE

Be extra careful not to bend the teeth on the discs when the outer drum is installed.

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21. Install outer drum (1). Install brake band (2) around the outer drum.