# **CATERPILLAR®**

### Service Repair Manual

### Models

## 657E WHEEL SCRAPER

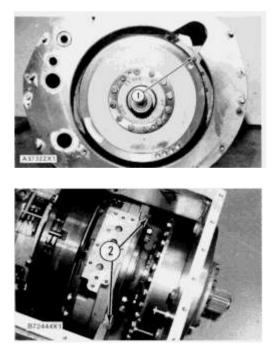
1	Tools Needed	A	в	С	D	Е	F
1 <b>P2420</b>	Transmission Repair Stand	1		ĺ			
FT1335	Fixture		1		l		
FT833	Clamp			2			
2P8312	Snap Ring Pliers				1		
1P510	Driver Group					1	
1P1855	Snap Ring Pliers					2	1

START BY:

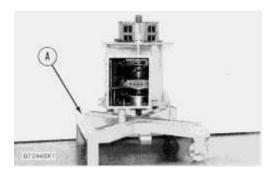
a) remove transmission hydraulic control valves

**b)** remove transmission and transfer gears

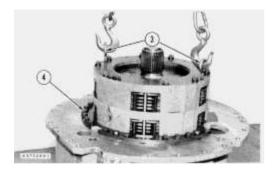
**1.** Remove the transfer gears from the transmission. See Steps 10 through 13 in Remove Transmission Transfer Gears.



**2.** Remove all of bolts (1) that hold the number one clutch housing to the transmission case except two bolts (2).

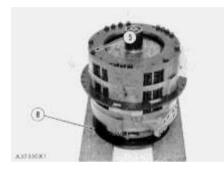


**3.** Put the transmission in position on tool (A) as shown.



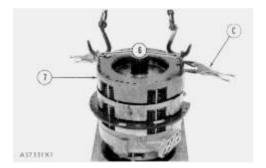
**4.** Install two 1/2"-13 NC forged eyebolts (3) in the number seven clutch housing. Fasten a hoist as shown.

**5.** Remove bolts (4) that hold the number three through number seven clutches to the transmission case. Remove the number three through number seven clutches from the transmission case as a unit. Weight is 327 kg (720 lb.). Put identification marks on the clutch housings for correct assembly.



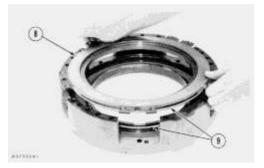
**6.** Put the clutches in position on blocks and tool (B) as shown. Make sure there are shims with a thickness of 33.35 mm (1.313 in.) in the bore of tool (B) before the clutches are put into position on tool (B).

7. Remove bolts (5) that hold the number seven and number six clutch housings in place.

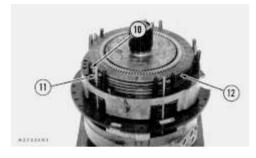


**8.** Install two 1/2"-13 NC forged eyebolts (6) in number seven clutch housing (7). Fasten a hoist to the clutch housing.

**9.** Use tools (C) to hold the piston in the clutch housing. Remove the number seven clutch housing (7). Weight is 25 kg (55 lb.).



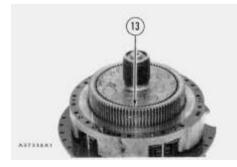
- 10. Remove piston (8) from the clutch housing.
- 11. Remove rings (9) from the piston and clutch housing.



#### NOTICE

Keep the clutch discs for the individual clutches in their original sequence and with their respective clutch housings. The original clutch discs are made with different friction material for different clutches and can not be mixed.

**12.** Remove springs (10), pins (11) and plates and discs (12) for the number seven clutch.

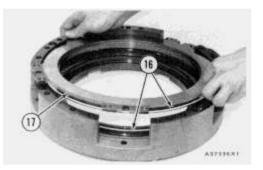


13. Remove ring gear (13) for the number seven clutch.

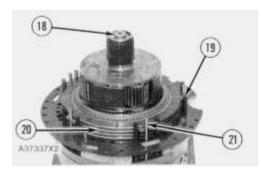


14. Use tools (C) to hold the piston in number six clutch housing (15).

**15.** Install two 1/2"-13 NC forged eyebolts (14) in clutch housing (15). Fasten a hoist and remove the clutch housing. Weight is 25 kg (55 lb.).



- **16.** Remove piston (17) from the number six clutch housing.
- 17. Remove rings (16) from the piston and clutch housing.



**18.** Remove the spiral ring and adapter (18). Remove springs (19) and pins (21). Remove plates and discs (20).



**19.** Remove ring (22) from the intermediate shaft. The ring holds the bearing on the intermediate shaft.

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