



Service Manual

Chassis & Mast

MC/FC

GP40N	CT40A-00011-99999
GP45N	CT29E-50001-79999
GP50CN	CT29E-80001-99999
GP50N	CT33D-50001-79999
GP55N	CT33D-80001-99999

DP40NB	CT12D-00011-99999
DP45NB	CT19F-50001-79999
DP50CNB	CT19F-80001-99999
DP50NB	CT28E-50001-79999
DP55NB	CT28E-80001-99999

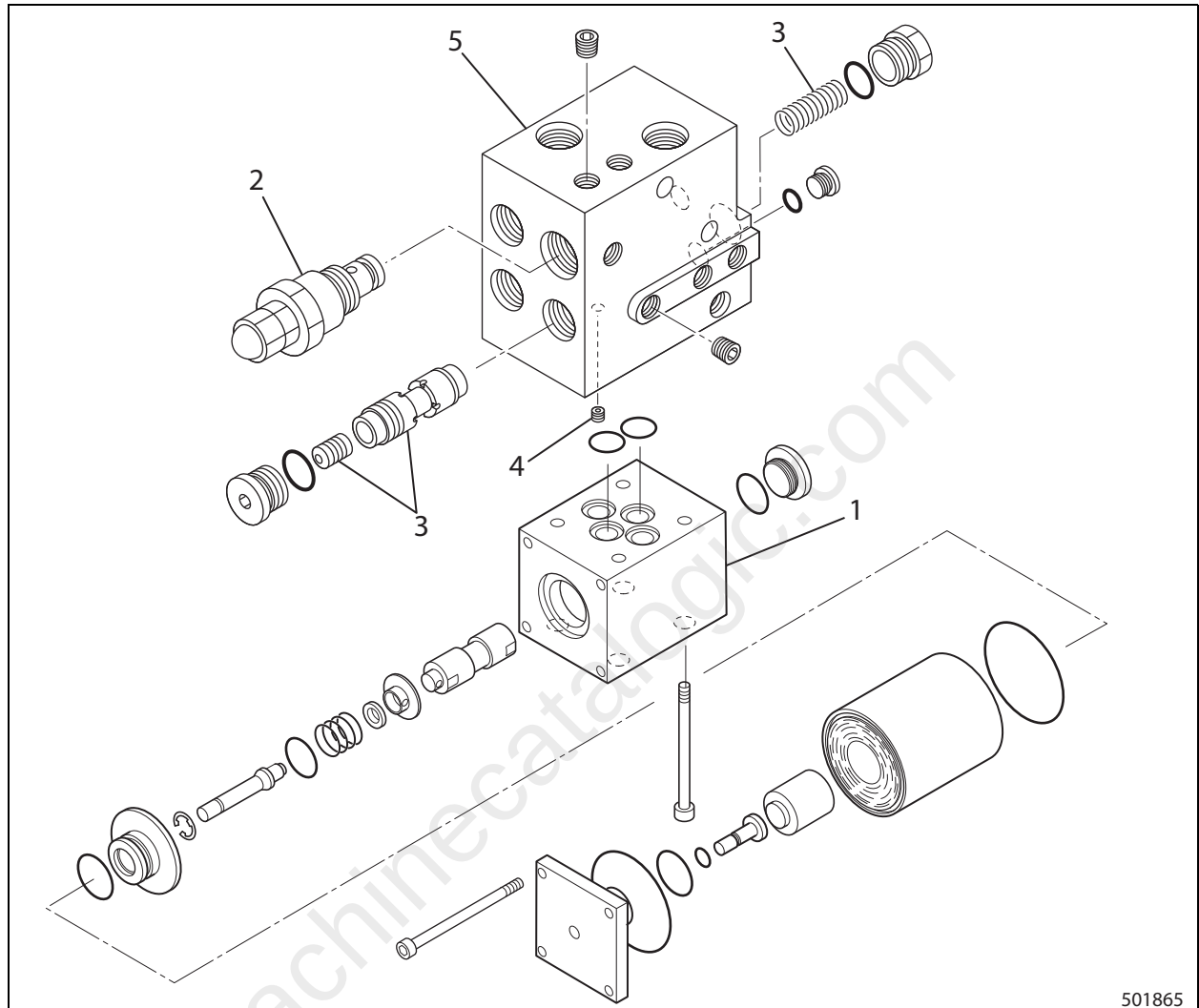
VCM signal allocation (CN1)

Pin No.	Circuit No. (Wire color)	MC	FC	Signal name
1	611	○	○	Mode selection switch
2	-	-	-	Oil temperature switch (Hydraulic oil, wet disc brake)
3	-	-	-	Lift operation switch
4	-	-	-	Tilt operation switch
5	615	-	○	Mast high switch (option)
6	616	○	○	Speed limit switch
7	617	○	○	Power/soft mode switch
8	618	○	○	Power/soft mode switch
9	619	○	○	Contact-type FC control 4V-5V switch
10	620	○	○	Parking brake pressure switch
11	621	○	○	T/M variable force solenoid
12	622	○	○	Illumination sensor signal (+)
13	623	○	○	Illumination sensor signal (-)
14	624	○	○	Oil pressure sensor power supply(+5V)
15	625	○	○	Oil pressure LIFT signal
16	-	-	-	AUX sensor signal
17	627	○	○	Oil pressure sensor GND
18	600	○	○	Power supply (+12V)
19	-	-	-	Steering sensor power supply(+12V)
20	-	-	-	Steering sensor GND
21	-	-	-	Steering sensor [angle 1]
22	-	-	-	Steering sensor [angle 2]
23	-	-	-	Steering sensor [neutral]
24	-	-	-	AUX out 1
25	960	○	○	Power supply GND
26	601	○	○	Power supply (+12V)
27	637	-	○	Tilt angle sensor power supply (+5V)
28	638	-	○	Tilt angle sensor signal
29	639	-	○	Tilt angle sensor GND
30	640	○	○	Unload solenoid output
31	641	○	○	Lift lock solenoid output
32	642	○	○	Unload/lift lock return
33	643	○	○	Warning alarm output
34	961	○	○	Power supply GND

5. Disassembling and Assembling Parking Brake Valve

5.1 Disassembling Parking Brake

Disassembly sequence



1. Solenoid valve assembly

2. Main relief valve

3. Spool, Slug, Spring

4. Orifice

5. Parking brake valve block

Inspecting parking brake valve after disassembly

- (1) Inspection of springs
- (2) Check springs for cracks and settling.

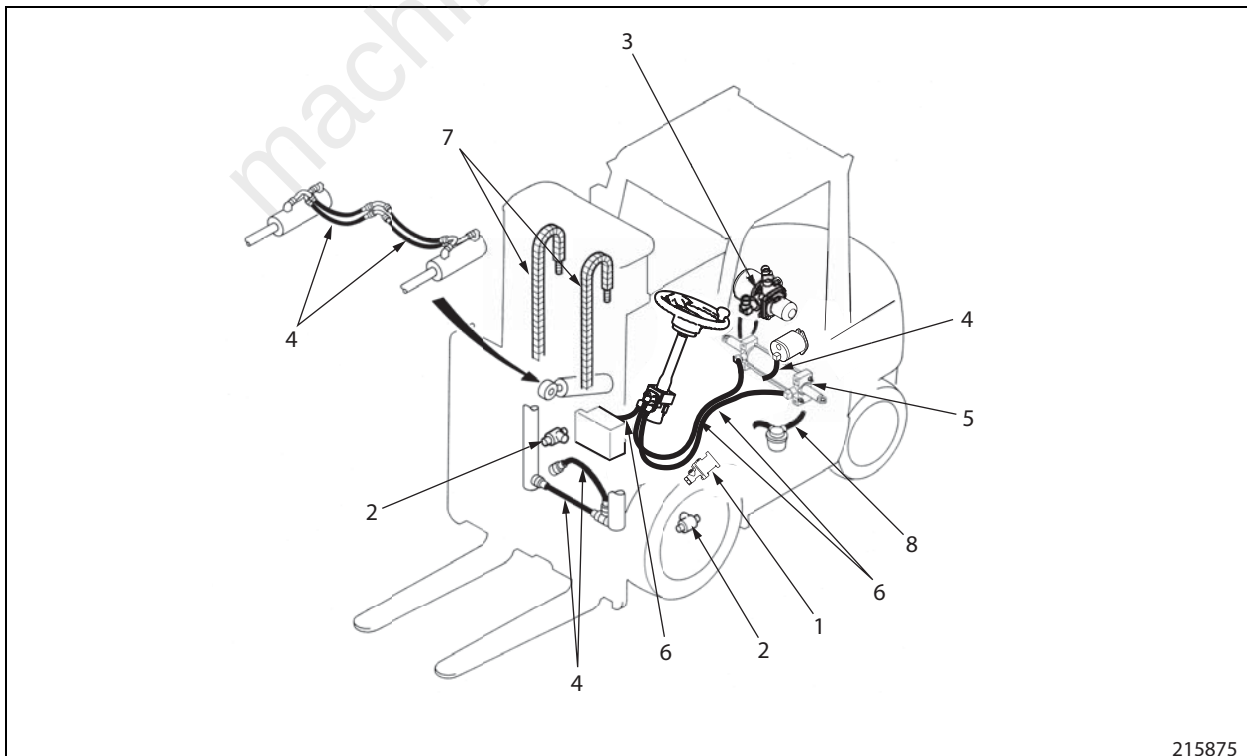
3. Periodic Inspection Parts

The important parts (marked with *) and elements for safe operation listed below must be replaced at every designated replacement period.

3.1 Periodic Replacement Parts

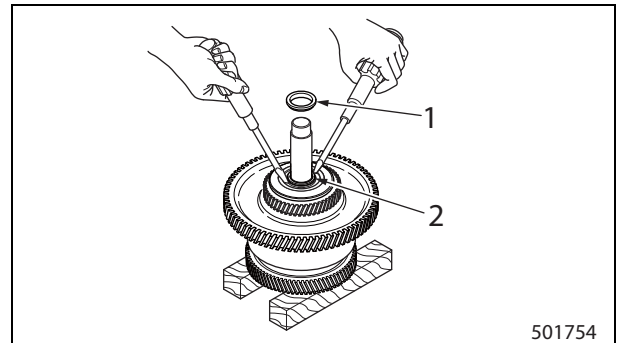
No.	Periodic Replacement Parts	Replacement period			Remark
		Yearly (year)	Monthly (month)	Service hours (hour)	
1	*Brake valve rubber parts and hoses	1		2000	
2	*Rubber parts for brake wheel cylinder	1		2000	
3	*LPG repair kit (LPG model only)		30	6000	
4	*High pressure hoses	1		2000	
5	*Rubber parts for power cylinder	2		4000	
6	*Power steering hoses	2		4000	
7	*Lift chains	2		4000	
8	*Fuel hoses	2		4000	
9	Engine oil filter element		3	500	Also 1 month after delivery
10	Fuel filter elements		6	1000	Also 1 month after delivery
11	Hydraulic tank return filter		6	1000	Also 1 month after delivery
12	Air cleaner element		6	1000	Clean every 2 weeks
13	Engine coolant	1		2000	
14	*LPG fuel filter (LPG model only)	1		2000	

Note: (*) indicates important security parts.



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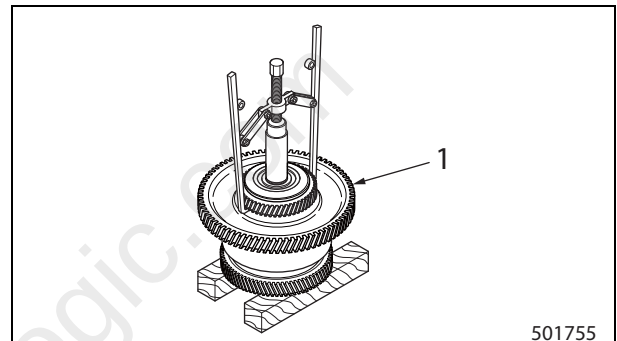
- (4) Remove the spacer from the shaft using two flathead screwdrivers.
- (5) Remove the snapping.



1. Spacer

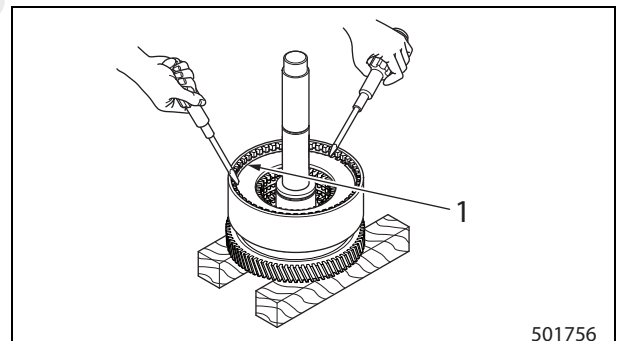
2. Snapping

- (6) Remove F2 clutch gear from clutch drum using the puller (special tool).



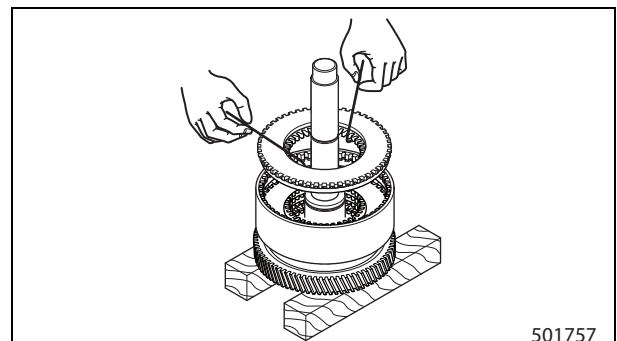
1. F2 clutch gear

- (7) Remove the bearing by tapping with a round bar.
- (8) Remove the snapping from clutch drum using two flathead screwdrivers.



1. Snapping

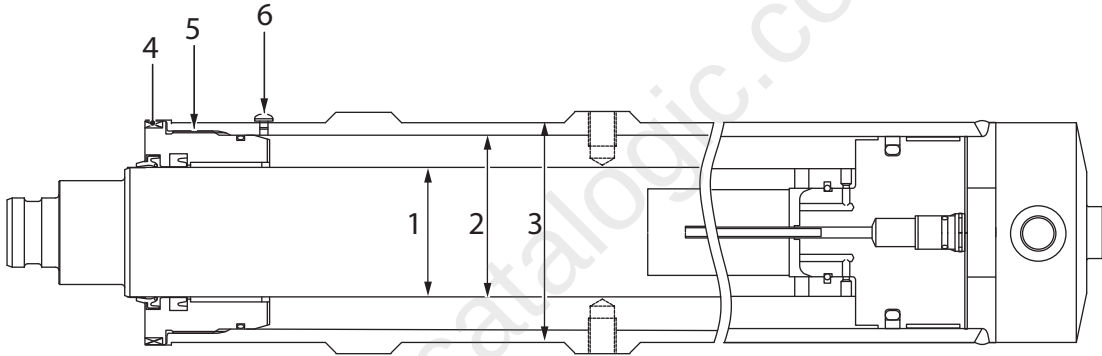
- (9) Using a wire with a shaped hook at the end, remove the pressure plate, mating plate, and friction plate from clutch drum.



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34.3 First Cylinder for Duplex and Triplex Masts

Ref.	Item		Truck class	
			4.0 to 4.5 ton	5.0C to 5.5 ton
1	Rod outside diameter	Standard value	70 mm (2.76 in.)	75 mm (2.95 in.)
2	Cylinder inside diameter	Standard value	100 mm (3.94 in.)	110 mm (4.33 in.)
3	Cylinder outside diameter	Standard value	115 mm (4.53 in.)	127 mm (5.00 in.)
4	Cylinder head thread size	Standard value	M105 x 2	M115 x 2
5	Cylinder head	Tightening torque	647 ± 150 N·m (65.97 ± 15.30 kgf·m) [477.20 ± 110.63 lbf·ft]	834 ± 191 N·m (85.0 ± 19.48 kgf·m) [615.13 ± 149.87 lbf·ft]
6	Plug	Tightening torque	3.92 ± 0.98 N·m (0.40 ± 0.10 kgf·m) [2.89 ± 0.72 lbf·ft]	3.92 ± 0.78 N·m (0.40 ± 0.08 kgf·m) [2.89 ± 0.58 lbf·ft]



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Full Version Available

Caterpillar DP50CNB Forklift Service and Operator Manual (99739-6B110)

Caterpillar DP50CNB forklift service manual, covers hydraulics, drive unit, wiring, mast, and engine work. Searchable PDF download.

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