

# INSTALLATION AND PARTS MANUAL

## MODEL PA110VS

### FOR D8R SERIES II TRACTORS

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#### MODEL NUMBER DESCRIPTION

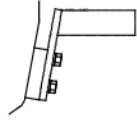
<b>PA110VS</b>	<b>245</b>	<b>V</b>	<b>65/33</b>	<b>3</b>
<b>Basic Winch Model</b>	Overall Gear Ratio 245:1	Motor Type V - Variable Displacement	Motor Size Cu. In. Displacement per revolution 6.5 cu in. (High) 3.3 cu in. (Low)	Fairlead 3 - 3 roller 4 - 4 roller

# FOREWORD

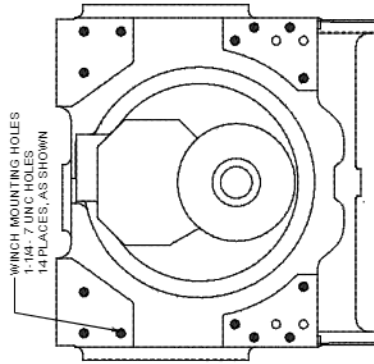
This manual includes parts listings and installation information for the PA110VS winch for use on the CATERPILLAR D8R Series II tractor.

Continuing product improvement may cause changes in your PACCAR built winch, which may not be included in this manual. If a question arises regarding your winch or this manual, contact your nearest CAT dealer, or the PACCAR WINCH DIVISION PRODUCT SUPPORT DEPARTMENT at 1-918-251-8511, Monday – Friday, 0800 hrs – 1630 hrs CST, or by fax at 1-918-259-1575. Please provide the complete winch MODEL number and SERIAL number when making inquiries.

**MODEL PA110VS  
MOUNTING GROUP/MOTOR LINES GROUP  
CATERPILLAR D8R SERIES II**

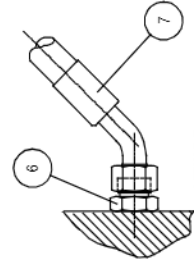


REF. MANIFOLD ASSEMBLY  
MOUNTING POSITION

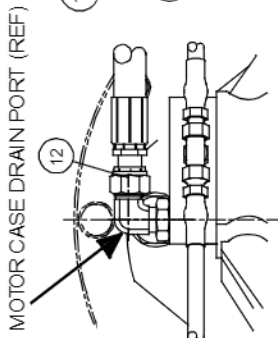


WINCH MOUNTING HOLES  
1-1/4" 7 UNC HOLES  
14 PLACES, AS SHOWN

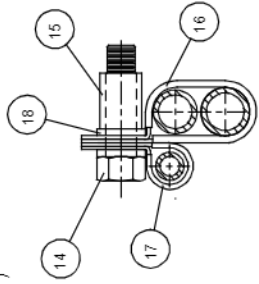
TRACTOR REAR FACE



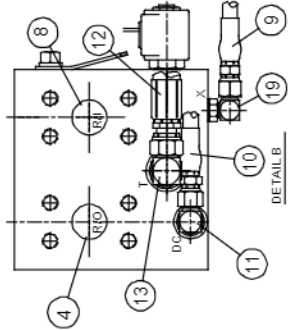
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NOT TO SCALE



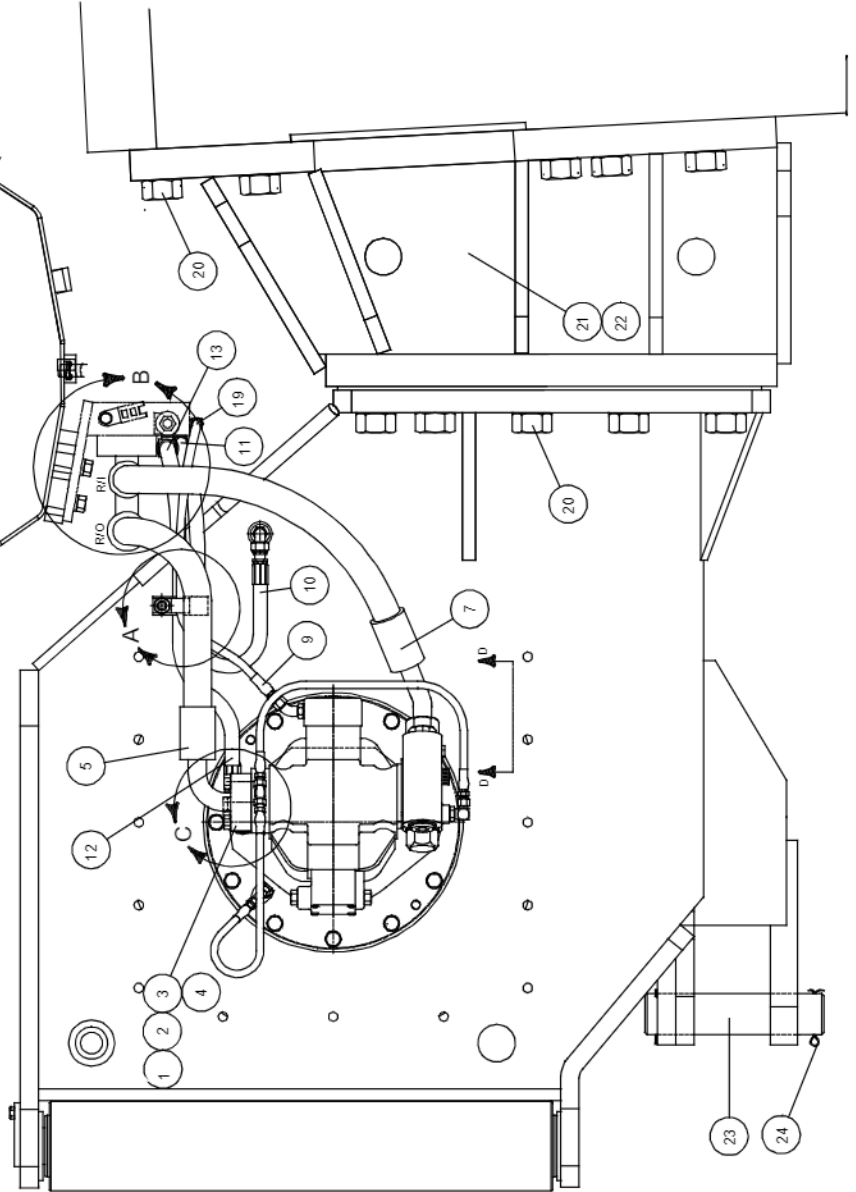
DETAIL C  
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DETAIL A  
NOT TO SCALE



DETAIL B  
NOT TO SCALE



## INSTRUCTIONS

### CAUTION

Cleanliness is of utmost importance when working on hydraulic equipment. Contamination may cause damage to close tolerance hydraulic components, which may result in erratic operation and reduced service life.

### WARNING

Personal injury can result from the sudden release of hydraulic oil under pressure or hot oil. Hydraulic oil pressure can remain in the hydraulic system after the tractor engine has been stopped. Serious injury can be caused if this pressure is not released before performing any service on the hydraulic system or equipment. Make sure all of the work tools have been lowered to the ground, and the oil is cool before removing any components or lines. Remove the oil filler cap only when the engine is stopped, and the filler cap is cool enough to touch with the bare hand.

### WARNING

Winch weighs approximately 3,950 lb (1,790 kg), without wire rope and mounting adapters. Make certain that lifting equipment has adequate capacity. Failure to use adequate lifting equipment may result in property damage, personal injury or death.

*NOTE: Refer to the appropriate Caterpillar service manuals for additional information regarding service procedures to the tractor.*

To prepare the tractor for service, lower the blade to the ground. Turn the engine off and relieve any oil pressure in all tractor circuits as required. Relieve oil pressure in the hydraulic reservoir by opening the fill cap. Turn the tractor master electrical switch off.

1. Drain the tractor hydraulic oil into a suitable container. Recycle or dispose of used oil in an environmentally responsible manner. Securely install the hydraulic reservoir drain plug after draining.

2. Clean all paint, oil, grease, rust and dirt from the mounting surfaces of the winch, winch adapter brackets and tractor rear face.

### WARNING

Winch adapters weigh approximately 340 lb (154 kg). Make certain that lifting equipment has adequate capacity. Failure to use adequate lifting equipment may result in property damage, personal injury or death.

3. Attach winch adapters, items 21 and 22, to the tractor rear face with bolts, item 20. Apply Loctite 272 or equivalent to bolt threads. Leave bolts loose at this time to aid alignment of winch to adapters.

4. Carefully hoist the winch and install to the winch adapters, using bolts, item 20. Apply Loctite 272 or equivalent to bolt threads.

5. Torque all winch mounting bolts to 1,100 lb•ft (1,500 N•m).

6. Remove and discard the motor port cover plate and bolts on the upper port of the winch motor.

7. Attach one end of the REEL-OUT hose, item 5, to the manifold at the upper motor port. Use split flange halves, item 1, D-ring, item 4, and fasteners, items 2 and 3. Torque bolts to 50 lb•ft (70 N•m). Attach the opposite end to the LH port of the manifold, utilizing hardware previously defined and new D-ring, item 4.

8. Attach one end of the REEL-IN hose, item 7, to the port in the brake valve on the lower motor port, utilizing adapter, item 6. Attach the opposite end to the RH port of the manifold, utilizing the hardware defined previously and new O-ring, item 8.

9. Install MOTOR SHIFT hose, item 9, to the -4 elbow in the "X" port on the forward side of the winch motor. Install the opposite end to the "X" port on the lower surface of the manifold, using -4 elbow, item 19.

10. Install DRUM CLUTCH RELEASE hose, item 10, between the elbow located on the RH side of the winch case and the "DC" port of the manifold, using -6 elbow, item 11.

**MODEL PA110VS  
WINCH INSTALLATION  
CATERPILLAR D8R SERIES II**

11. Install MOTOR DRAIN hose, item 12, between the –8 elbow located on top of the motor, and to the “T” port on the manifold, utilizing the –8 elbow, item 13.
12. Route the hoses approximately as shown and bundle them together utilizing the clips, 16 and 17, fasteners, items 14 and 18, and spacer, item 15. Attach the clip set to the winch case and tighten the bolt snugly.

**NOTE:** After winch and controls installation has been completed, refill the tractor hydraulic reservoir with the proper lubricant. Refer to the appropriate Caterpillar service literature for the oil specs.

Start the tractor engine and operate at low engine idle to purge air from the hydraulic lines. Operate the winch in all functions to verify proper operation.

**CAUTION**

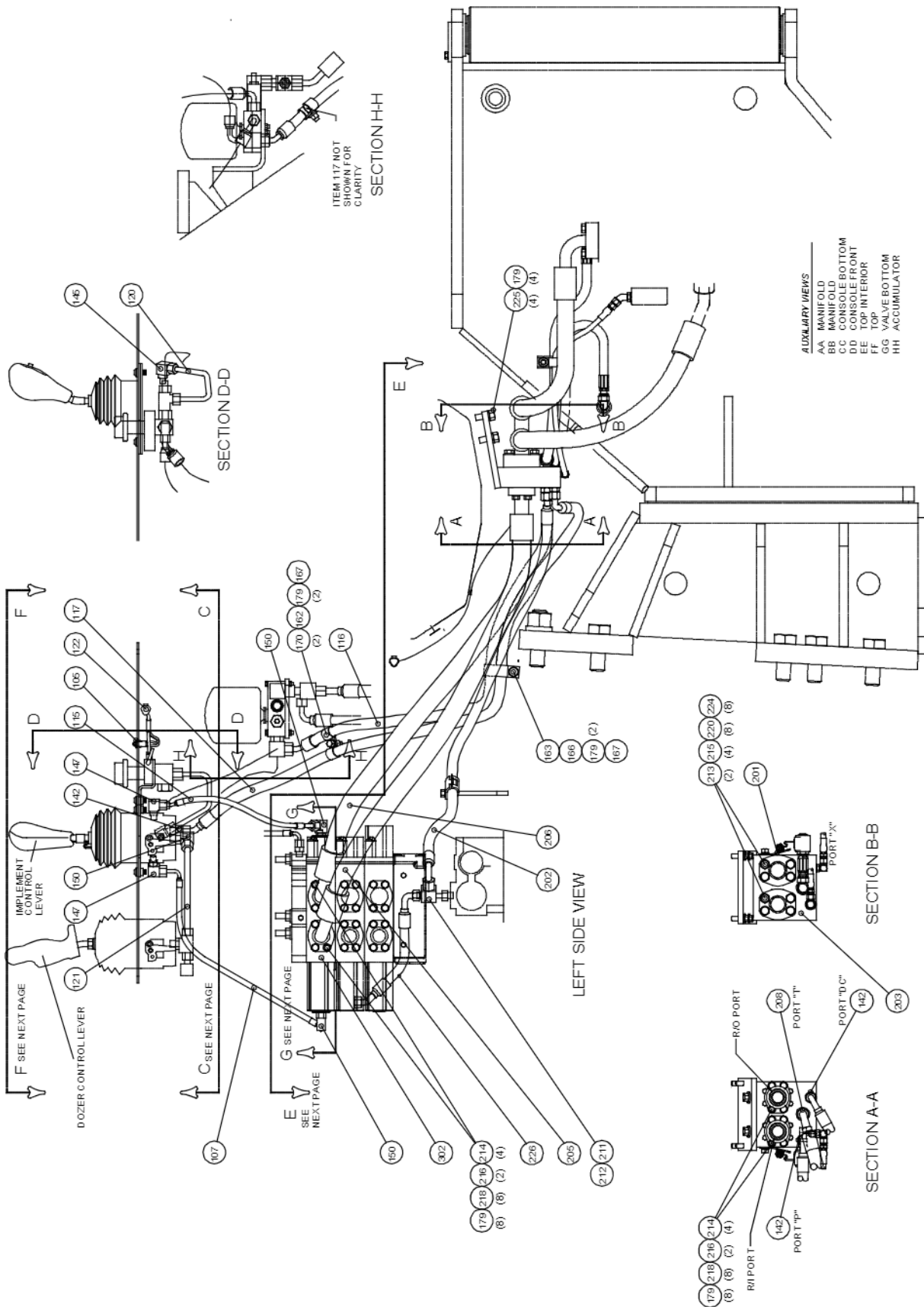
**Fill winch with to proper level with recommended oil BEFORE operating. Component damage may occur if winch is operated without oil.**

Check all connections for leaks and make any needed repairs. Check the hydraulic oil reservoir level. Add oil as needed to maintain the level at the “FULL” mark on the sight gauge.

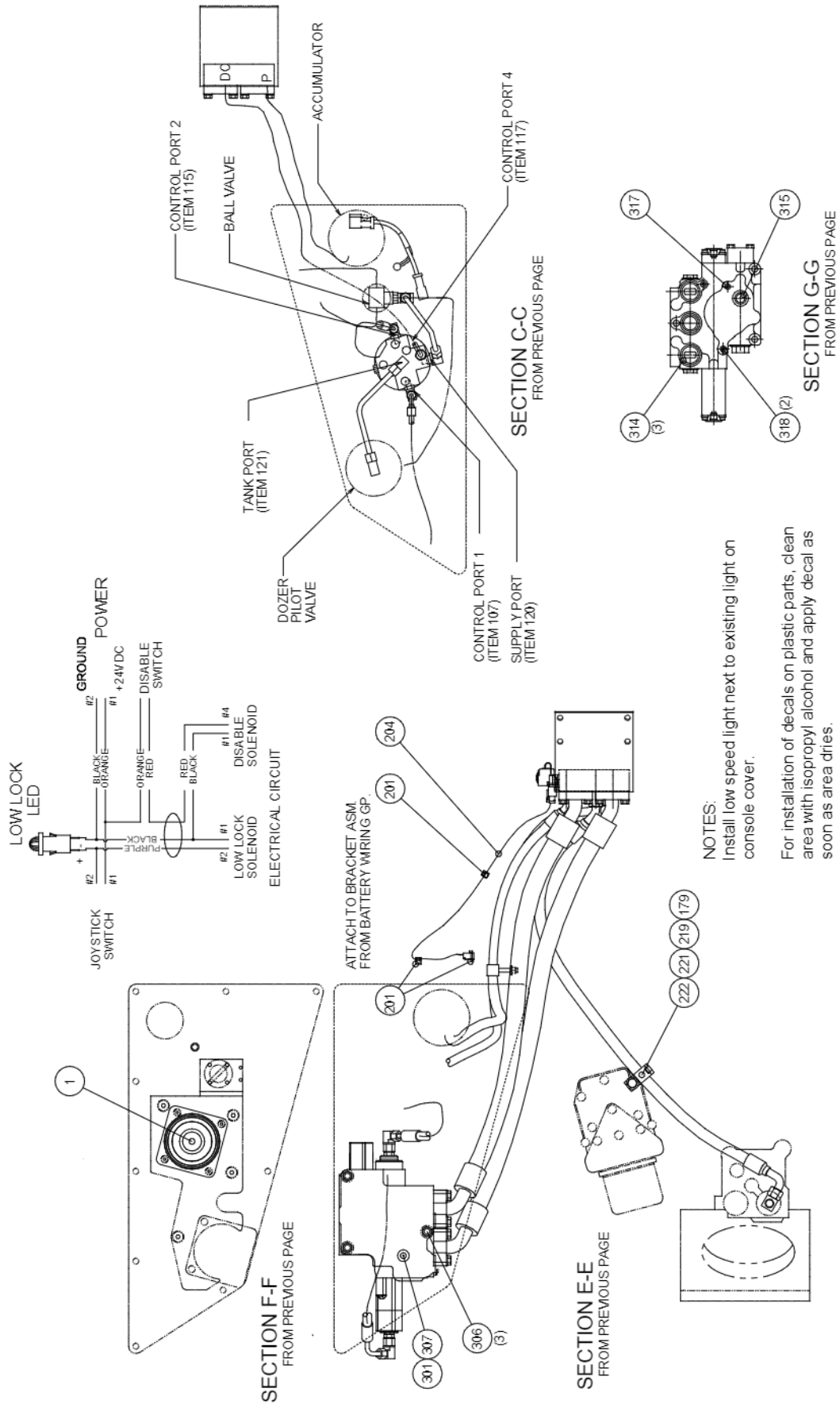
**WINCH MOUNTING GROUP / MOTOR LINES GROUP**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	1P-5766	SPLIT FLANGE HALF, -16 (CAT)	2
2	7X-0313	BOLT (7/16-14 X 2-3/4 G8)	4
3	8T-5360	WASHER, HARD (7/16)	4
4	1P-3703	D-RING, -16	3
5	163-3192	HOSE AS., -16 X 31.25, XT5	1
6	148-8317	ADAPTER, -12 ORB / -16 ORFS	1
7	161-8889	HOSE AS., -16 X 32.68, XT6	1
8	4J-0520	O-RING	1
9	8W-6688	HOSE AS., -4 X 26	1
10	152-8360	HOSE AS., -6 X 36	1
11	148-8378	ELBOW, 90°, -6 ORB / -6 ORFS	1
12	163-3189	HOSE AS., -8 X 29	1
13	148-8364	ELBOW, 90°, -8 ORB / -8 ORFS	1
14	7X-0326	BOLT (1/2-13 X 3 G8)	1
15	1F-1560	SPACER	1
16	6D-7573	CLIP	1
17	1S-6420	CLIP	1
18	8T-4223	WASHER, HARD (1/2)	2
19	148-8369	ELBOW, 90°, -4 ORB / -4 ORFS	1
20	7X-0427	BOLT (1-1/4-7 X 3-1/2 G8)	24
21	152-8371	ADAPTER, RH	1
22	152-8372	ADAPTER, LH	1
23	197-7837	HITCH PIN	1
24	3B-5320	COTTER PIN	2

**MODEL PA110VS  
PILOT LINES AND WINCH LINES GROUP  
CATERPILLAR D8R SERIES II**



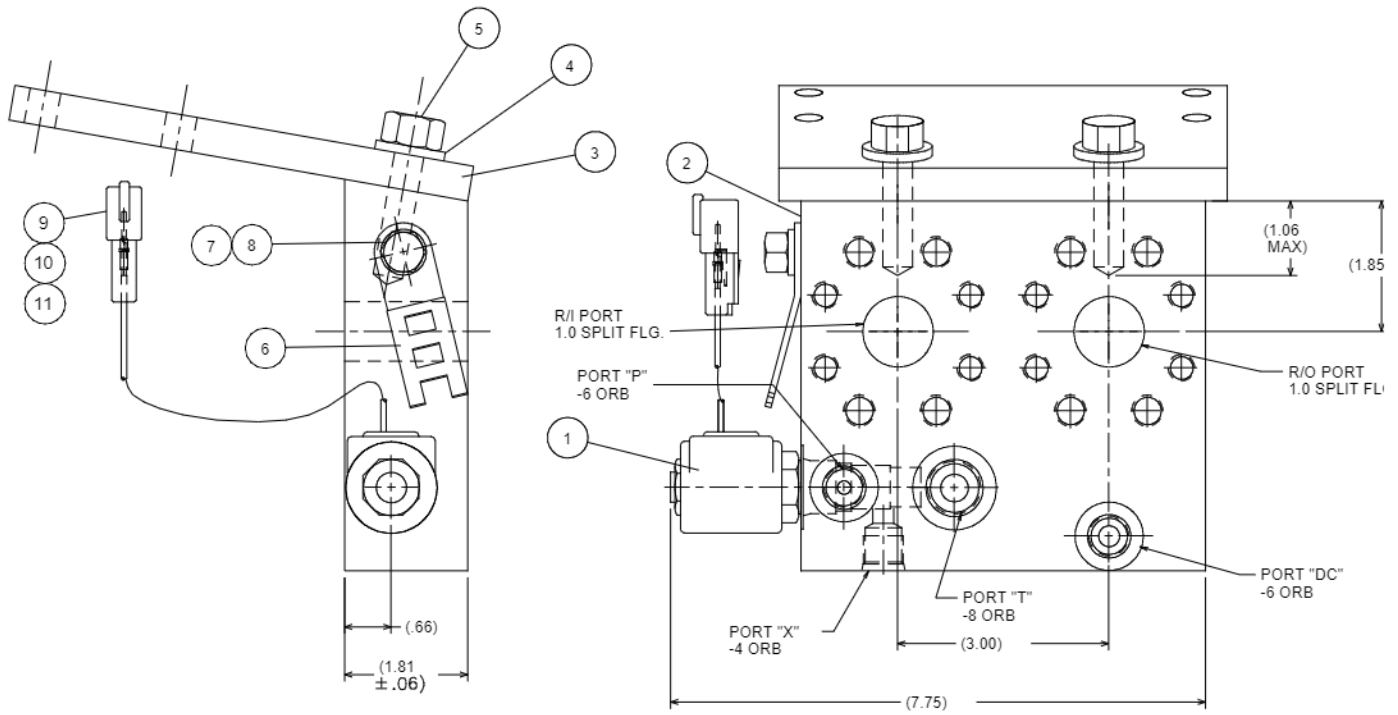
**MODEL PA110VS  
PILOT LINES AND WINCH LINES GROUP  
CATERPILLAR D8R SERIES II**



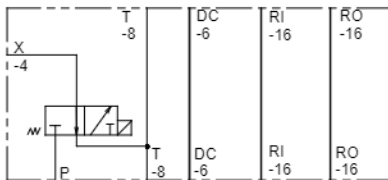
**MODEL PA110VS  
PILOT LINES AND WINCH LINES GROUP  
CATERPILLAR D8R SERIES II**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	160-0766	JOYSTICK CONTROL AS.	1
105	126-0810	INDICATOR LIGHT, GREEN	1
107	159-3453	HOSE AS.	1
115	161-2109	HOSE AS.	1
116	161-2338	HOSE AS.	1
117	161-2339	HOSE AS.	1
120	163-3434	TUBE AS.	1
121	163-3435	TUBE AS.	1
122	165-0107	WIRING HARNESS	1
142	148-8336	ADAPTER -6 ORB / -6 ORFS	3
145	148-8361	ELBOW	1
147	148-8369	ELBOW	2
150	148-8378	ELBOW	3
162	4L-6454	BOLT (3/8 - 16 x 1 in. G8)	1
163	5K-5338	CLIP	1
166	8T-2501	BOLT (3/8 - 16 x 1-3/4 G8)	1
167	6V-8801	HEX NUT (3/8 - 16)	2
170	8M-2773	CLIP	2
179	8T-4896	WASHER, HARD (3/8)	24
201	7K-1181	STRAP	4
202	161-3948	HOSE AS.	1
203	161-8893	MANIFOLD & CARTRIDGE AS. (REFER TO PAGE 8)	1
204	170-4891	HARNESS	1
205	197-8494	HOSE AS.	1
206	197-8495	HOSE AS.	1
208	148-8340	ADAPTER	1
211	148-8415	REDUCER, ORFS	1
212	148-8444	TEE, ORFS	1
214	1P-3703	SEAL, D-RING	2
215	1P-4577	SPLIT FLANGE HALF	8
216	1P-5766	SPLIT FLANGE HALF	4
217	4J-0520	O-RING	4
219	5S-7382	BOLT (3/8 - 16 x 1-3/8 G8)	16
220	8C-6877	BOLT (7/16 - 14 X 1-3/4 G8)	8
221	1S-0994	CLIP	2
224	8T-5360	WASHER, HARD (7/16)	8
225	9B-7237	BOLT (3/8 - 16 X 1-1/4 G8)	4
226	235-5971	HOSE AS.	1
302	245-7400	CONTROL VALVE SECTION	1
306	164-7677	ROD	3
314	4J-0522	O-RING	3
315	4J-8997	O-RING	1
317	6V-0913	O-RING	1
318	6V-5555	O-RING	2
-	164-9928	DECAL	1
-	164-9930	DECAL	1

**MODEL PA110VS  
MANIFOLD ASSEMBLY  
CATERPILLAR D8R SERIES II**



REF.-DUAL SPLIT FLANGE PATTERNS

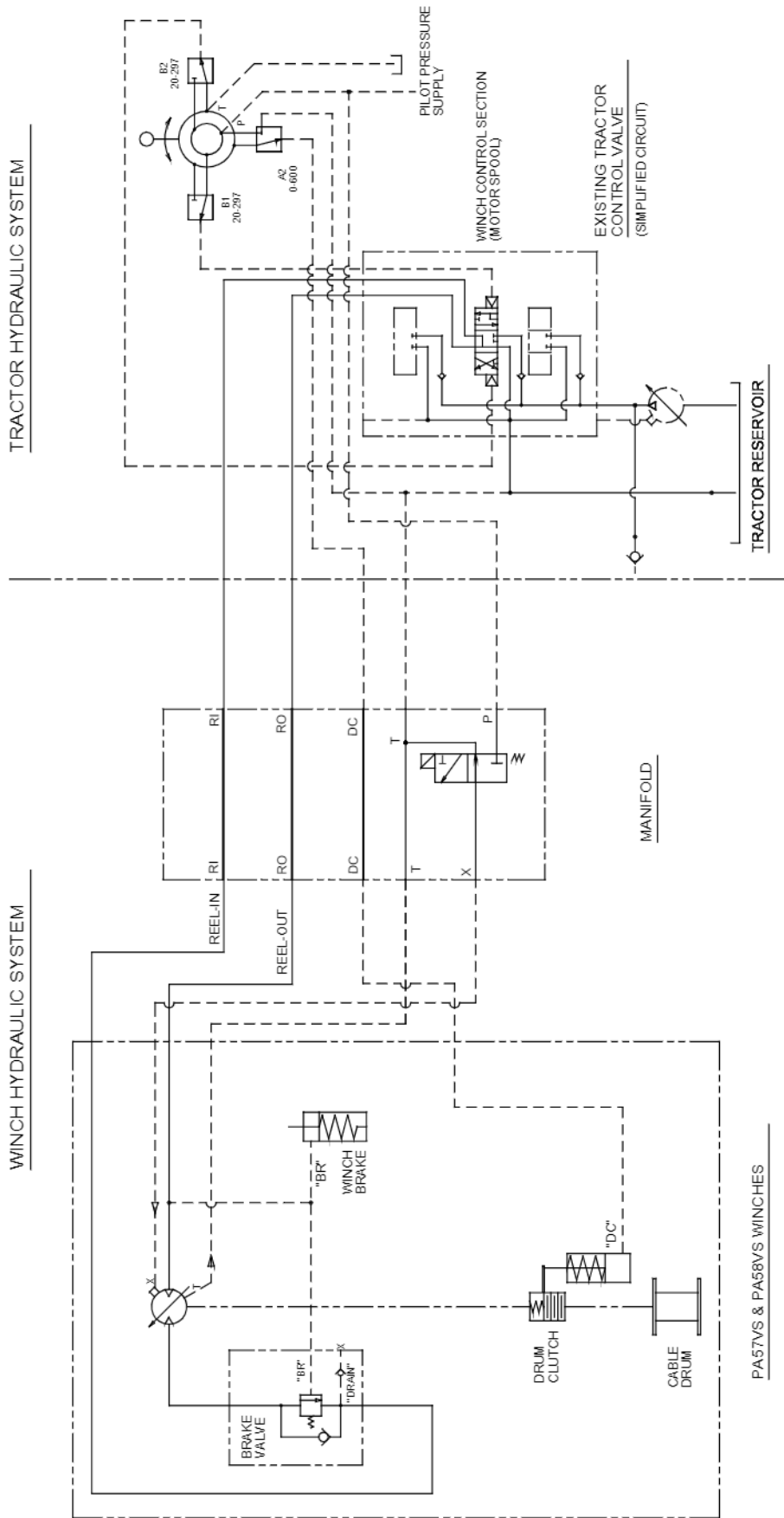


HYDRAULIC CHART

**MANIFOLD ASSEMBLY**

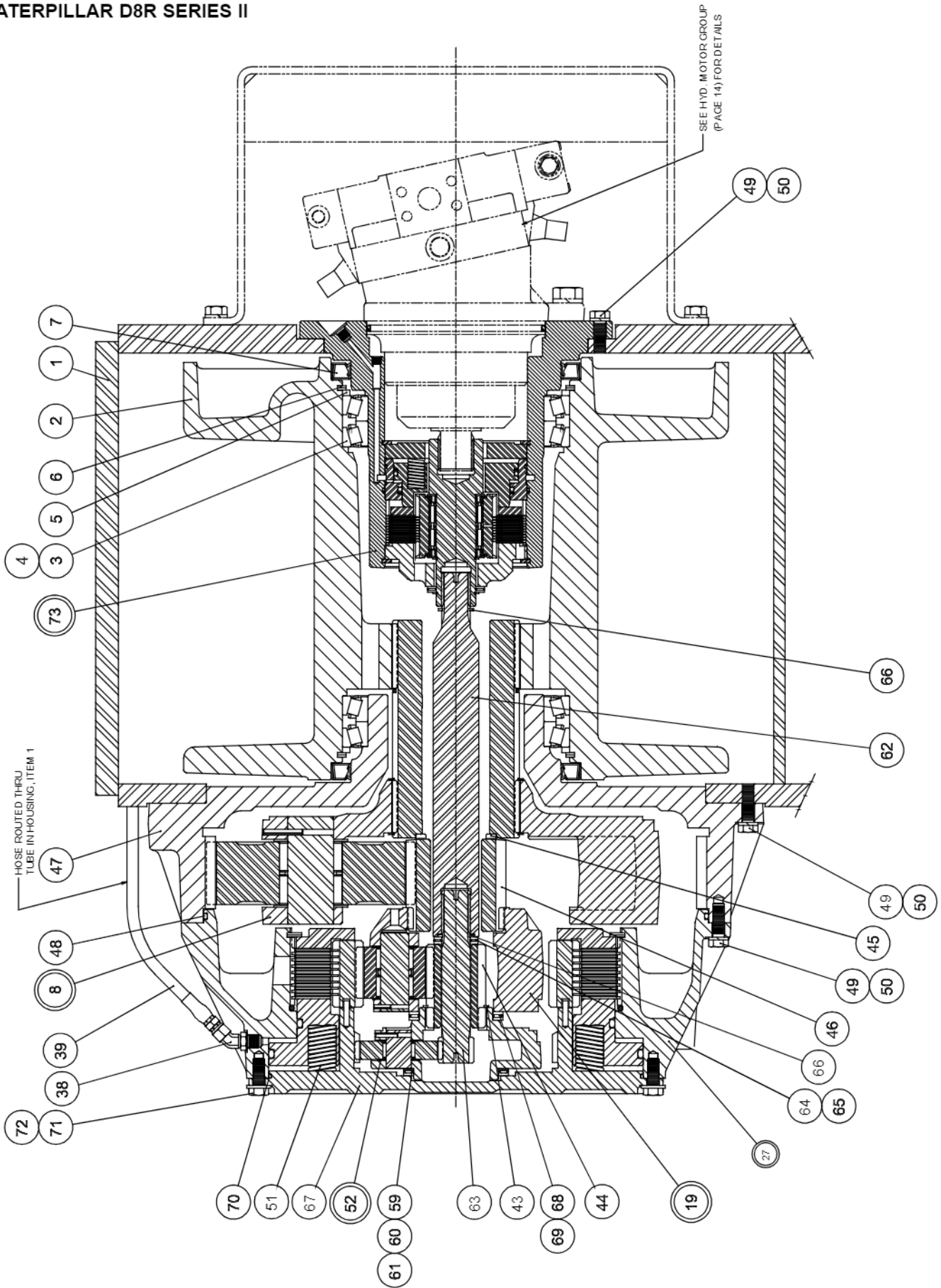
ITEM NO.	PART NO.	DESCRIPTION	QTY.
--	161-8893	MANIFOLD AND CARTRIDGE AS.	1
1	152-9095	SOLENOID VALVE AND TERMINATION AS. - LOW RANGE LOCK	1
	126-0858	SOLENOID VALVE CARTRIDGE AS.	1
	127-1955	SEAL KIT (FOR 126-0858)	1
	126-3900	COIL (FOR 126-0858)	1
	2	161-8885	MANIFOLD
3	161-8891	PLATE	1
4	8T-4223	WASHER, HARD (1/2)	2
5	8T-8917	BOLT (1/2 -13 X 1-1/4 G8)	2
6	4P-7581	CLIP	1
7	5P-8167	BOLT (3/8-16 x 5/8 G8)	1
8	8T-4896	WASHER, HARD (3/8)	1
9	3E-3364	RECEPTACLE (FOR 152-9095)	1
10	3E-3365	WEDGE, CONNECTOR (FOR 152-9095)	1
11	8T-8729	CONTACT PIN (FOR 152-9095)	2

**MODEL PA110VS  
HYDRAULIC CIRCUIT  
CATERPILLAR D8R SERIES II**



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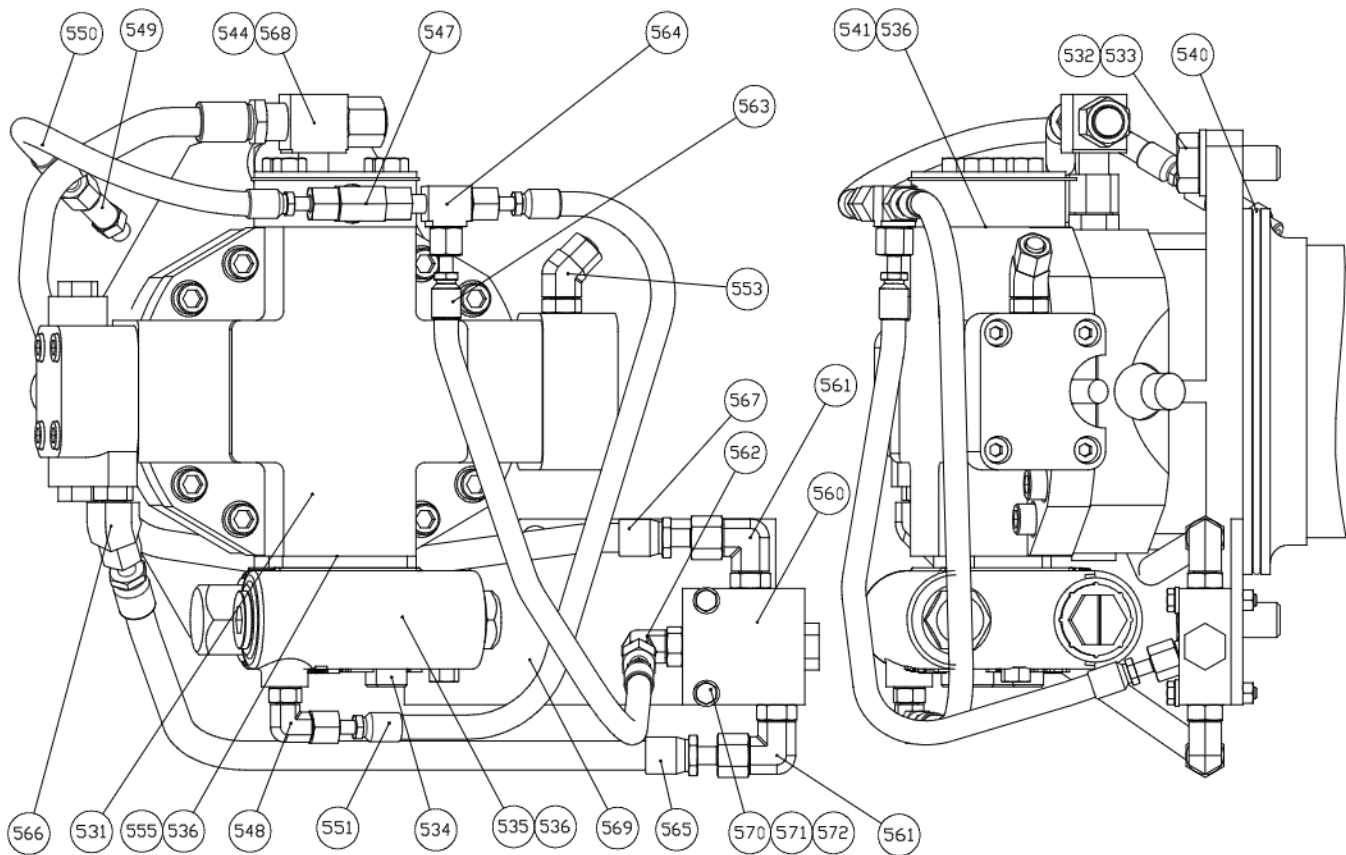
**MODEL PA110VS  
WINCH GROUP  
CATERPILLAR D8R SERIES II**



**MODEL PA110VS  
WINCH GROUP  
CATERPILLAR D8R SERIES II**

ITEM	PART NO.	DESCRIPTION	QTY.
1	126-2470	WINCH HOUSING	1
2	126-7137	CABLE DRUM	1
3	126-0771	BEARING CONE	4
4	126-0775	BEARING CUP	4
5	126-0774	SPACER RING	2
6	126-0773	RETAINING RING	2
7	126-0772	OIL SEAL	2
8	126-7136	OUTPUT PLANET CARRIER ASSEMBLY - SEE PAGE 16	1
19	126-2860	SECONDARY PLANET CARRIER ASSEMBLY - SEE PG. 16	1
27	---	DRUM CLUTCH ASSEMBLY - SEE PAGE 17	1
38	148-8353	ELBOW, 45, -6 ORB TO -6 ORFS - DRUM CLUTCH PORT	1
39	169-4018	HOSE, -6 ORFS, 34 IN. (864 MM) DRUM CLUTCH RELEASE	1
43	8C-3232	RETAINING RING	1
44	126-0841	SECONDARY SUN GEAR	1
45	126-0781	THRUST WASHER	1
46	126-0840	OUTPUT SUN GEAR	1
47	126-0854	OUTPUT RING GEAR	1
48	4H-6730	O-RING	1
49	5P-2566	CAPSCREW, HEX HEAD (1/2-13 X 1 1/2 PLTD.)	46
50	8T-4223	WASHER (1/2 PLTD.)	46
51	126-0780	SPRING	20
52	126-2861	PRIMARY PLANET CARRIER ASSEMBLY - SEE PG. 15	1
59	126-0793	THRUST BEARING RACE-.125 IN. (3.17mm) OUTER	1
60	126-0792	THRUST BEARING	1
61	126-2462	THRUST BEARING RACE-.062 IN. (1.58mm) INNER	1
62	126-0851	INTERMEDIATE SHAFT	1
63	126-0839	PRIMARY SUN GEAR SHAFT	1
64	064-0011	THRUST BEARING RACE - .125 IN. (3.17mm)	2
65	8H-9585	THRUST BEARING	1
66	126-0797	RETAINING RING	2
67	126-0850	PRIMARY PLANET RING GEAR/ COVER - includes 8 dowel pins	1
68	126-2465	THRUST BEARING RACE	2
69	126-0795	THRUST BEARING	1
70	7S-8561	O-RING	1
71	8T-8917	CAPSCREW, HEX HEAD (1/2-13 X 1 1/4 PLTD.)	10
72	8T-4223	WASHER, HARDENED (1/2 PLTD.)	10
73	140-7268	BRAKE HOUSING ASSEMBLY - SEE PAGE 14	1

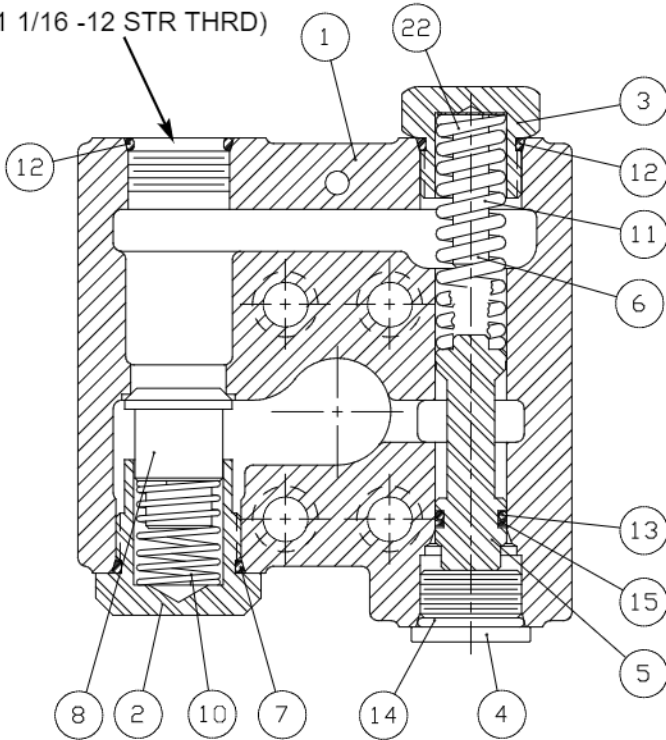
**MODEL PA110VS  
MOTOR GROUP  
CATERPILLAR D8R SERIES II**



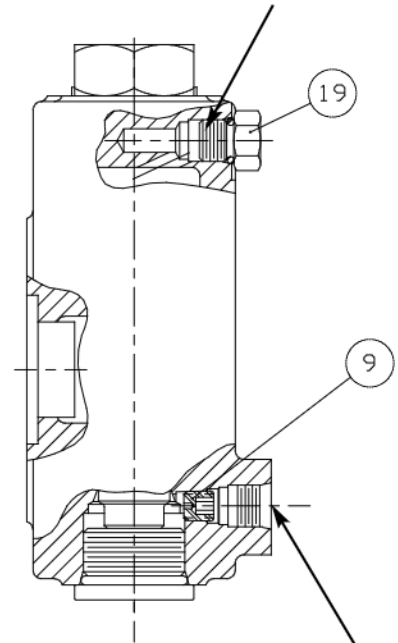
ITEM NO.	PART NO.	DESCRIPTION	QTY.
531	158-6534	HYD MOTOR, 3.34 CID / 3100 PSI	1
532	8T-9398	CAPSCREW, 3/4 - 10 UNC X 1-3/4 G8	2
533	8T-4994	WASHER, HARD (3/4)	2
534	3J-4567	CAPSCREW, 7/16 - 14 UNC X 3 in. G8, HEX SOCKET	4
535	240-8858	BRAKE VALVE AS (REFER TO PAGE 13)	1
536	4F-7391	O-RING	3
540	119-1586	O-RING	1
541	126-0824	ADAPTER BLOCK	1
544	7U-8897	ADAPTER, METRIC	1
547	148-8432	TEE	1
548	148-8369	ELBOW, 90°	1
549	150-4042	ADAPTER	1
550	152-8368	HOSE AS.	1
551	152-8369	HOSE AS.	1
553	150-3033	ELBOW, 45°	1
555	126-0837	SPACER	1
560	242-7225	CHECK VALVE	1
561	148-8378	ELBOW, 90°	2
562	6V-8627	ELBOW, 90°	1
563	197-8745	HOSE AS.	1
564	150-5968	TEE	1
565	196-0719	HOSE AS.	1
566	148-8353	ELBOW, 45°	1
567	242-1531	HOSE AS.	1
568	150-4037	TEE	1
569	242-0709	BRACKET	1
570	5P-2675	CAPSCREW, 1/4 - 20 UNC X 1-3/4 G8	2
571	6V-8185	HEX NUT, 1/4 - 20 UNC	2
572	8T-4205	WASHER, HARD (1/4)	2

**MODEL PA110VS  
BRAKE VALVE ASSEMBLY  
CATERPILLAR D8R SERIES II**

SAE -12 O-RING BOSS  
(1 1/16 -12 STR THRD)



SAE -4 O-RING BOSS  
(7/16 -20 STR THRD)



BRAKE PORT  
SAE -4 O-RING BOSS  
(7/16 -20 STR THRD)

**ASSEMBLY INSTRUCTIONS**

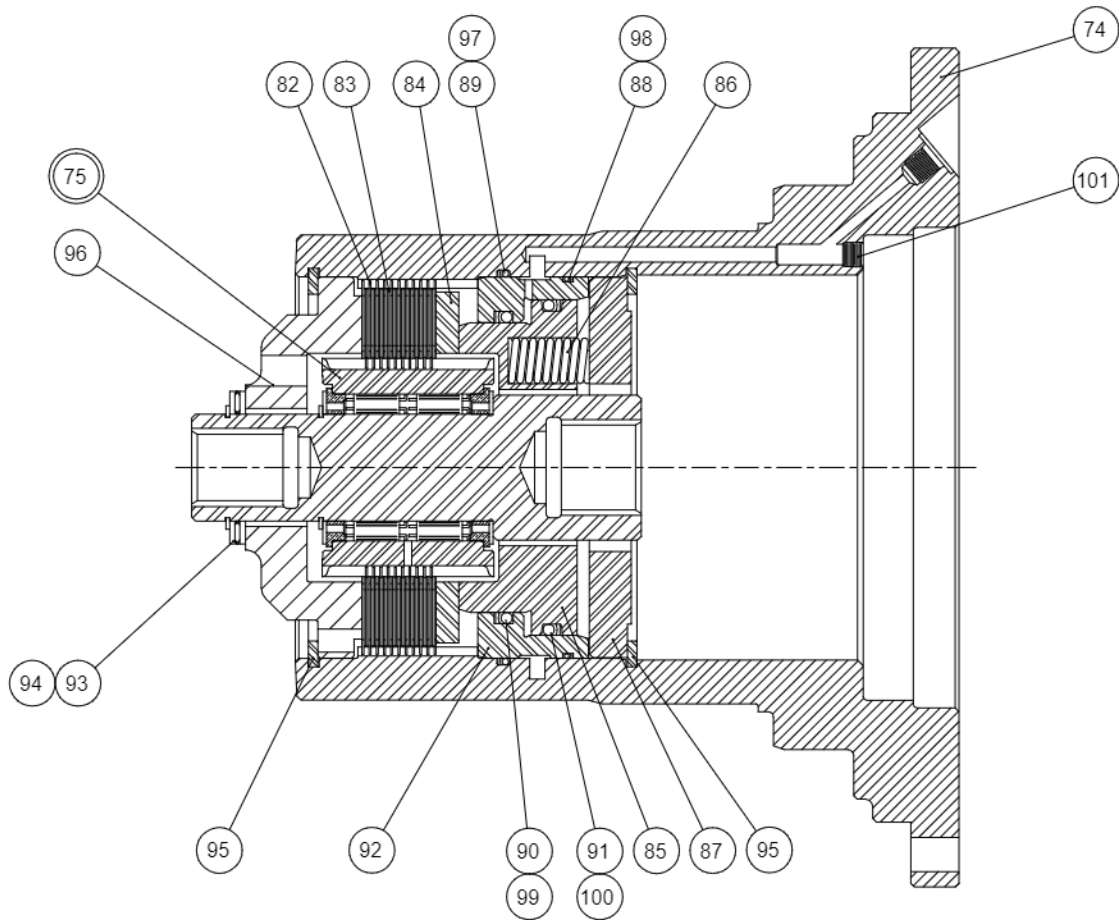
1. Tighten plug, item 19, to 25 lb•ft (34 N•m) torque.
2. Tighten plugs, items 2, 3, and 4, to 40 lb•ft (54 N•m) torque.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
-	240-8858	BRAKE VALVE ASSEMBLY	1
1	NSS	BRAKE VALVE HOUSING	1
2	242-7228	VALVE SPRING RETAINER	1
3	242-7229	SPRING RETAINER	1
4	9S-8008	PLUG	1
5	NSS	SPOOL	1
6	126-2454	SPOOL STOP	1
7	7M-8485	O-RING	1
8	242-7226	CHECK VALVE POPPET	1
9	126-2453	PILOT ORIFICE	1
10	126-0817	CHECK VALVE SPRING	1
11	242-7227	SPRING, MAIN SPOOL	1
12	3D-2824	O-RING	2
13	4J-5268	O-RING	1
14	6V-8397	O-RING	1
15	126-3349	BACK-UP RING	1
19	155-3624	PLUG, -4 ORFS	1
22	8J-7269	SHIM, MAIN SPOOL SPRING	AR

NSS - NOT SERVICE SEPARATELY

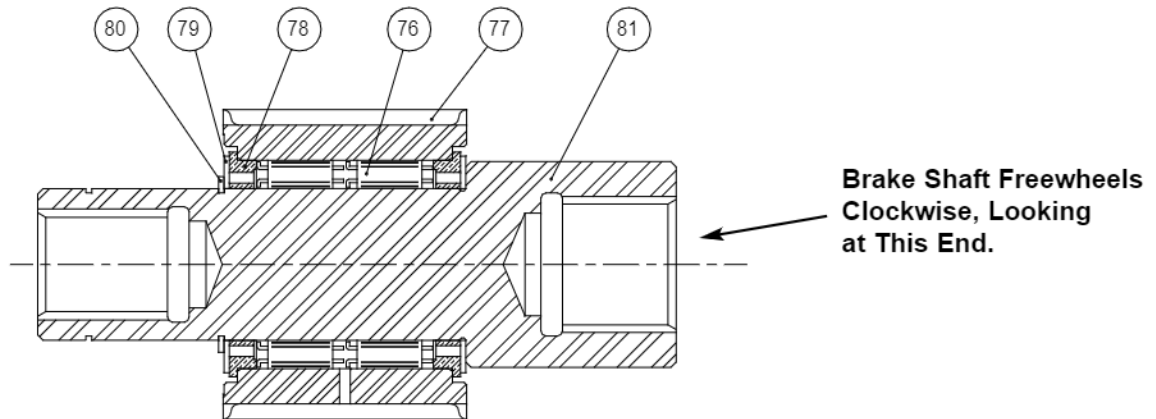
AR - AS REQUIRED

**MODEL PA110VS  
BRAKE HOUSING ASSEMBLY  
CATERPILLAR D8R SERIES II**



ITEM	PART NO.	DESCRIPTION	QTY.
74	126-2469	BRAKE HOUSING	1
75	126-2863	BRAKE CLUTCH ASSEMBLY - SEE PAGE 15	1
82	126-0827	DISC - STEEL DIVIDER	11
83	126-0828	DISC - FRICTION	10
84	126-0800	SPACER - BRAKE DISC	1
85	126-0829	BRAKE PISTON	1
86	126-0798	SPRING	13
87	126-0830	SPRING RETAINER	1
88	5P-3864	O-RING	1
89	8M-4704	O-RING	1
90	1P-9005	O-RING	1
91	8J-1688	O-RING	1
92	126-0826	BRAKE CYLINDER	1
93	126-2457	THRUST BEARING RACE	2
94	126-0808	THRUST BEARING	1
95	126-0807	RETAINING RING	2
96	126-0825	BRAKE RETAINER	1
97	126-3167	BACK-UP RING	1
98	126-3168	BACK-UP RING	1
99	126-3169	BACK-UP RING	1
100	126-3170	BACK-UP RING	1
101	096-5971	PIPE PLUG (1/8 NPT)	1

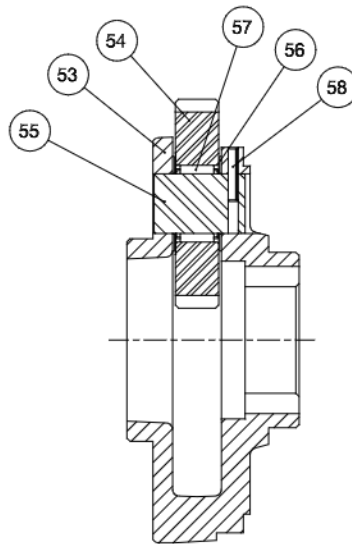
**MODEL PA110VS  
OVER-RUNNING BRAKE CLUTCH ASSEMBLY  
CATERPILLAR D8R SERIES II**



ITEM	PART NO.	DESCRIPTION	QTY.
	126-2863	BRAKE CLUTCH ASSEMBLY	1
76	NSS	SPRAG CLUTCH	2
77	NSS	OUTER BRAKE RACE	1
78	126-0802	SPRAG BEARING - BRONZE ALLOY	2
79	119-1572	THRUST WASHER	2
80	6V-7700	RETAINING RING	1
81	NSS	BRAKE SHAFT - METRIC - REXROTH	1

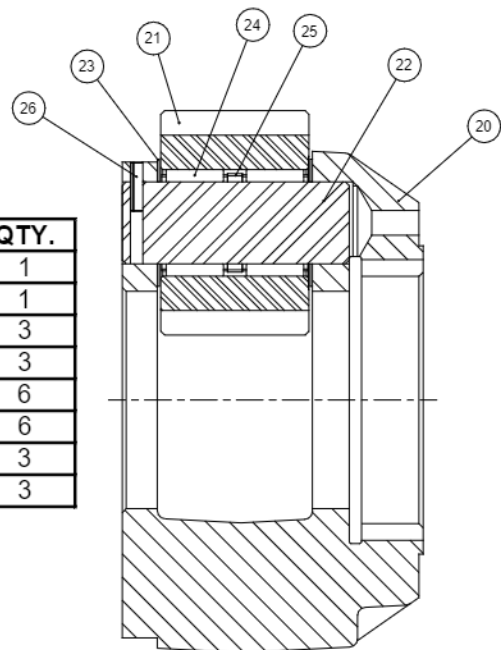
NSS - NOT SERVICED SEPARATELY - ORDER COMPLETE ASSEMBLY.

**PRIMARY PLANET ASSEMBLY**



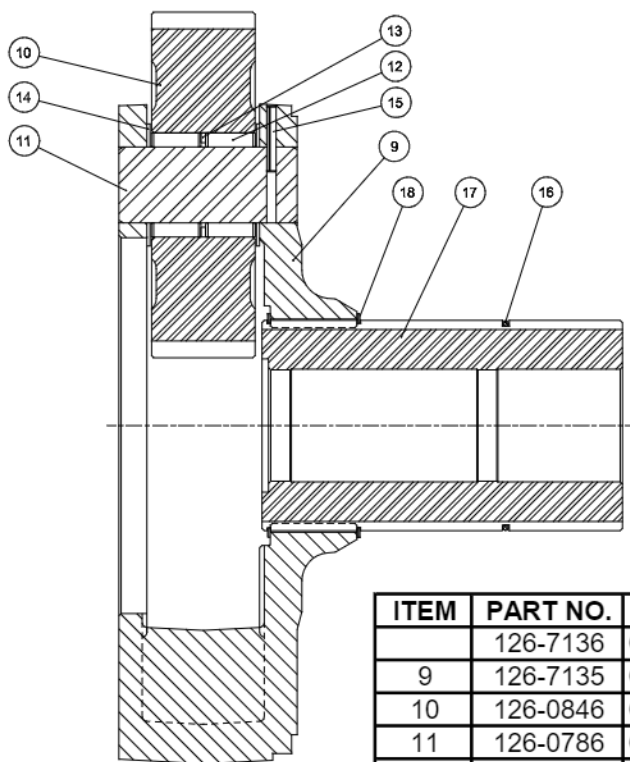
ITEM	PART NO.	DESCRIPTION	QTY.
	126-2861	PRIMARY PLANET CARRIER ASSEMBLY	1
53	126-0852	PRIMARY PLANET CARRIER	1
54	126-0838	PRIMARY PLANET GEAR	3
55	126-0789	PRIMARY PLANET GEAR SHAFT	3
56	126-0788	THRUST BEARING	6
57	126-2464	ROLLER BEARING	3
59	6H-3956	SPIROL PIN	3

**MODEL PA110VS  
SECONDARY PLANET ASSEMBLY  
CATERPILLAR D8R SERIES II**



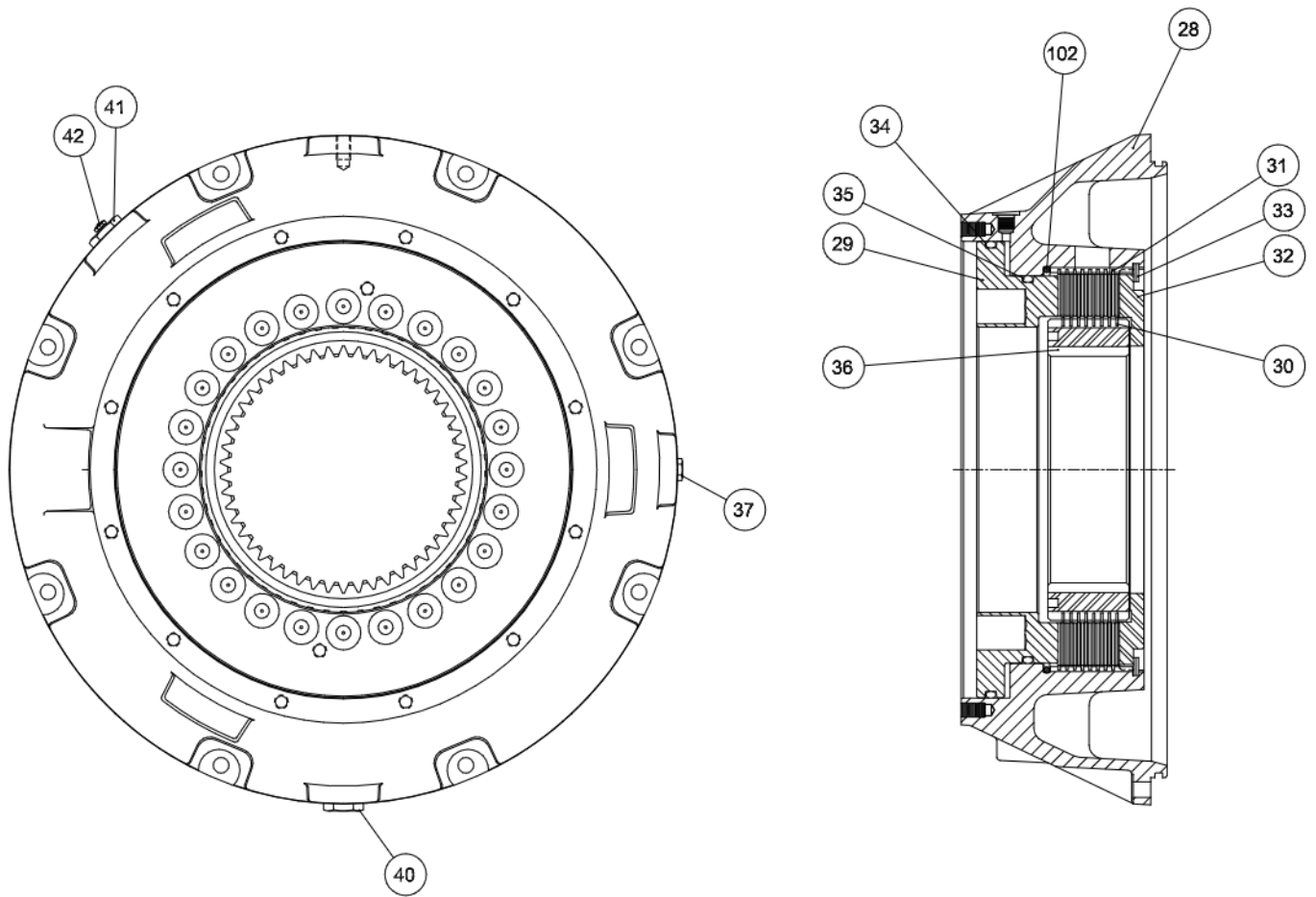
ITEM	PART NO.	DESCRIPTION	QTY.
	126-2860	SECONDARY PLANET CARRIER ASSEMBLY	1
20	126-0857	SECONDARY PLANET CARRIER	1
21	126-0845	SECONDARY PLANET GEAR	3
22	126-0787	SECONDARY PLANET GEAR SHAFT	3
23	126-2460	THRUST WASHER	6
24	126-2459	ROLLER BEARING	6
25	126-0823	BEARING SPACER	3
26	126-0822	SPIROL PIN	3

**OUTPUT PLANET ASSEMBLY**



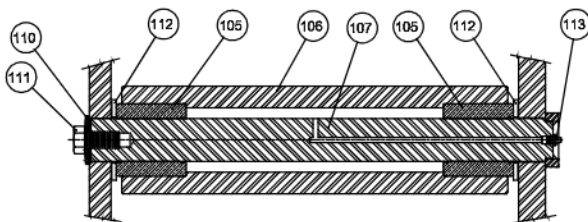
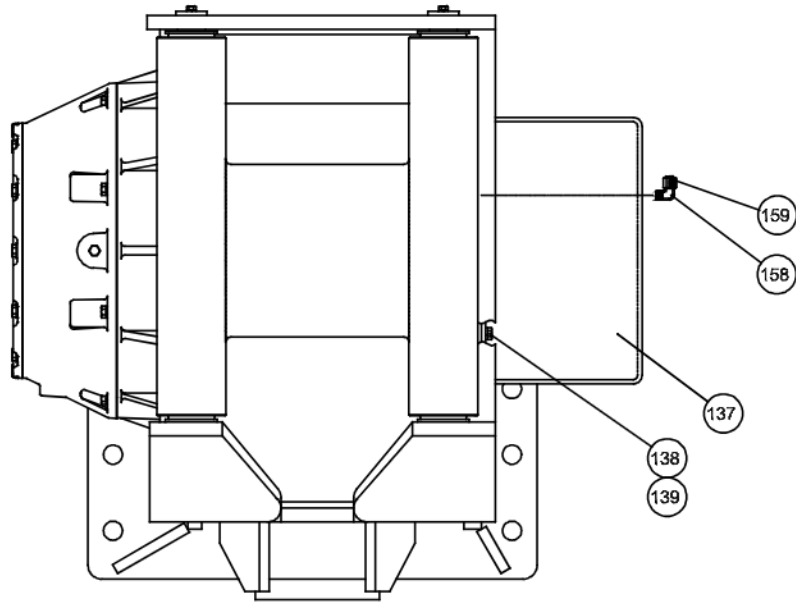
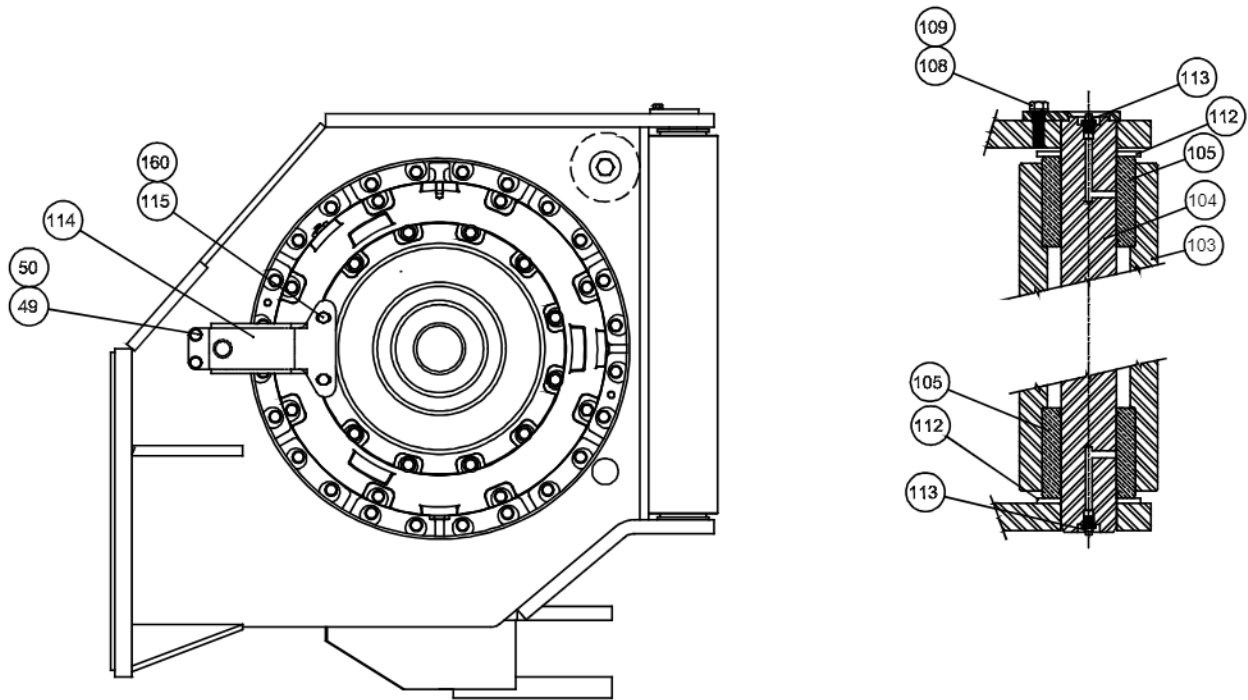
ITEM	PART NO.	DESCRIPTION	QTY.
	126-7136	OUTPUT PLANET CARRIER ASSEMBLY	1
9	126-7135	OUTPUT PLANET CARRIER	1
10	126-0846	OUTPUT PLANET GEAR	3
11	126-0786	OUTPUT PLANET SHAFT	3
12	126-0785	ROLLER	120
13	126-0779	BEARING SPACER	3
14	126-0784	THRUST WASHER	6
15	4H-4737	ROLL PIN	3
16	126-0783	RETAINING RING	1
17	126-0847	DRUM DRIVE SHAFT	1
18	126-0782	RETAINING RING	2

**MODEL PA110VS  
DRUM CLUTCH ASSEMBLY  
CATERPILLAR D8R SERIES II**

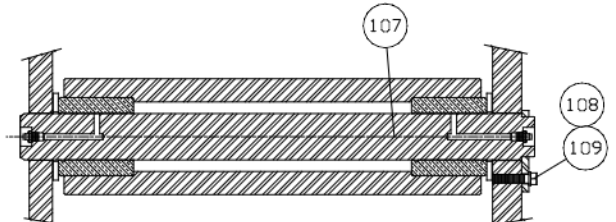


ITEM	PART NO.	DESCRIPTION	QTY.
28	126-0856	CLUTCH HOUSING	1
29	126-0855	CLUTCH PISTON	1
30	126-0844	DISC - FRICTION	8
31	126-2466	DISC - STEEL DIVIDER	8
32	126-0843	PRESSURE PLATE	1
33	126-0821	RETAINING RING	1
34	6v-5862	O-RING	1
35	5p-9217	O-RING	1
36	126-0842	CLUTCH HUB	1
37	148-8407	PLUG - OIL LEVEL	1
40	126-0778	PLUG - OIL DRAIN - MAGNETIC	1
41	126-3230	PLUG - FILL	1
42	126-0776	PLUG - VENT RELIEF	1
102	140-7271	SPACER RING	1

MODEL PA110VS  
 COVERS AND FAIRLEAD GROUP  
 CATERPILLAR D8R SERIES II



**Early Design**

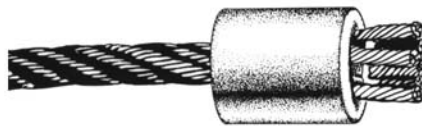


**Current Design**

**MODEL PA110VS  
COVERS AND FAIRLEAD GROUP  
CATERPILLAR D8R SERIES II**

ITEM	PART NO.	DESCRIPTION	QTY.	
			3 ROLLER	4 ROLLER
49	5P-2566	CAPSCREW, HEX HEAD (1/2-13 X 1 1/2 PLTD.)	2	2
50	8T-4223	WASHER (1/2 PLTD.)	2	2
103	126-0836	ROLLER, VERTICAL (30.44 IN.)	2	2
104	126-0835	ROLLER SHAFT, VERTICAL	2	2
105	126-0794	ROLLER BUSHING	6	8
106	126-0834	ROLLER, HORIZONTAL	1	2
107	126-0833	ROLLER SHAFT, HORIZONTAL (Early Design)	1	2
	228-0767	ROLLER SHAFT, HORIZONTAL (Current Design)		
108	4L-6454	CAPSCREW, HEX HEAD (3/8-16 X 1 PLTD.)	2	2
109	8T-4896	WASHER, HARDENED (3/8 PLTD.)	2	2
110	126-2452	SPRING WASHER	1	2
111	7X-0365	CAPSCREW, HEX HEAD (3/4-10 X 1 1/2 PLTD.)	1	2
112	126-0806	WASHER,ROLLER	6	8
113	3B-8489	GREASE FITTING (Early Design)	5	6
		GREASE FITTING (Current Design)	6	8
114	126-0853	HOSE GUARD	1	1
115	1A-1460	CAPSCREW, HEX HEAD (1/2-13 X 2 PLTD.)	2	2
137	126-0848	MOTOR COVER	1	1
138	5P-2566	CAPSCREW, HEX HEAD (1/2-13 X 1 1/2 PLTD.)	11	11
139	8T-4223	WASHER (1/2 PLTD.)	11	11
156	123-4417	S/N DATA PLATE - CARCO (NOT SHOWN)	1	1
157	7H-4543	DRIVE SCREW (NOT SHOWN)	4	4
158	6V-9807	UNION, 90, -6 ORFS TO -6 ORFS	1	1
159	6V-9829	CAP, -6 ORFS	1	1
160	5P-1076	WASHER, HARDENED (1/2 PLTD.)	2	2
161	126-0860	DRAW BAR PIN (NOT SHOWN)	1	1
162	3B-5320	COTTER PIN (3/8 X 3) (NOT SHOWN)	2	2
---	171-7267	FOURTH ROLLER KIT (INCLUDES ITEMS 105, 106, 107, 110, 111, 112, 113)	----	----

**CABLE FERRULES**



---	131-7402	FERRULE - 1 IN. (25 mm)
---	131-7403	FERRULE - 1 1/8 (27 mm)
---	131-7404	FERRULE - 1 1/4 (32 mm)

FERRULES FOR USE WITH STANDARD 6 STRAND, IWRC WIRE ROPE ONLY