

# CARCO®

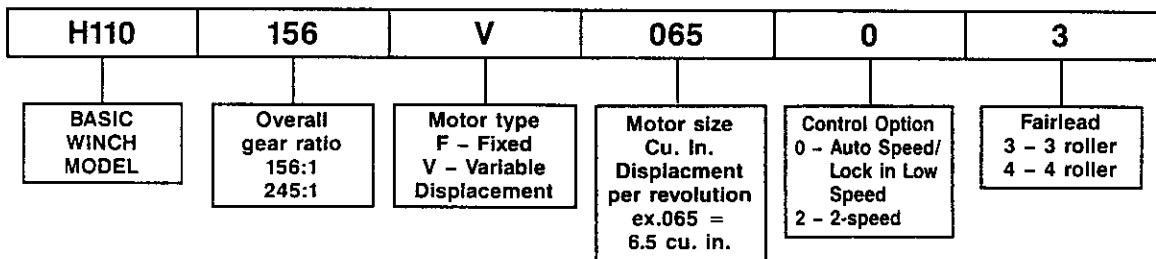
## PARTS & INSTALLATION INSTRUCTIONS MANUAL MODEL H110 FOR

### CATERPILLAR D7H – SERIES II w/DIFFERENTIAL STEERING SINGLE PUMP SYSTEM

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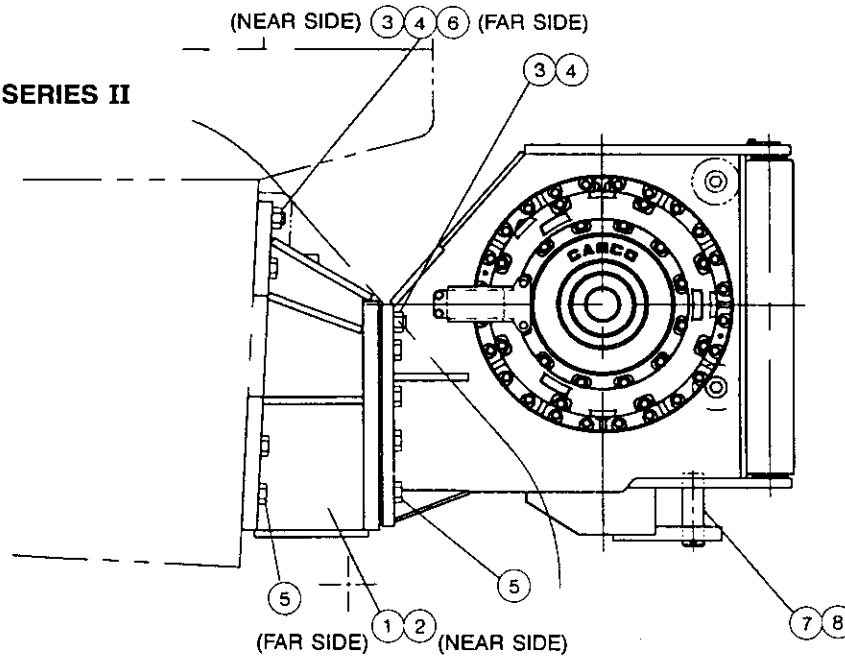
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#### MODEL NUMBER DESCRIPTION



## **PACCAR WINCH DIVISIONS**

**MODEL H110  
MOUNTING GROUP  
CATERPILLAR D7H – SERIES II**



**INSTRUCTIONS:**

**⚠ CAUTION**

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

NOTE: Refer to the appropriate Caterpillar service manuals for additional information regarding steps 1 & 2.

1. Drain hydraulic oil into a suitable container. Recycle or dispose of drain oil in an environmentally responsible manner. Securely install hydraulic reservoir drain plug after oil has drained.
2. Remove and discard the ripper hose junction block (if equipped) from the tapped mounting pad on the bottom of the fuel tank.
3. Clean all paint, oil, grease, rust and dirt from the mounting surfaces of the winch adapter brackets and tractor.
4. Apply Loc-tite 242 to the threads and install studs, item 3 & 6, into the top four locations on the rear face of the tractor and into the top location in each winch adapter. The longer studs, item 6, must be

installed in the top; RH location on the tractor rear face. Install the winch adapters onto the studs on the rear of the tractor. Install the motor union bracket (item 36 control group) onto the top RH studs, item 6.

5. Apply Loc-tite 242 to the threads of the studs, item 3, and capscrews, item 5, then tighten to 1,100 lb•ft (1,490 N•m) torque.

**⚠ WARNING**

Winch weighs approximately 4,050 lb (1,890 kg). Use a hoist with sufficient capacity.

6. Install winch onto studs on adapters.
7. Apply Loc-tite 242 to threads of studs, item 6, and capscrews, item 5, then tighten to 1,110 lb•ft (1,490 N•m) torque.

**⚠ CAUTION**

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

ITEM	PART NO.	DESCRIPTION	QTY.
1	29752	MACHINE ADAPTER, RH	1
2	29753	MACHINE ADAPTER, LH	1
3	33458	STUD, (1/4 - 7 x 4/4 - 1/4 LG. THD G8)	4
4	70176	NUT, (1/4 - 7)	6
5	31039	CAPSCREW, HEX HEAD (1/4 - 7 x 3/4 G8)	18
6	33460	STUD, (1/4 - 7 x 4/2 G8)	2
7	29961	DRAWBAR PIN	1
8	70148	COTTER PIN (3/8 x 3)	2
	29427	CABLE FERRULE 1 in. (25 mm)	1
	29428	CABLE FERRULE 1 1/8 in. (28 mm)	1
	29429	CABLE FERRULE 1 1/4 in. (32 mm)	1

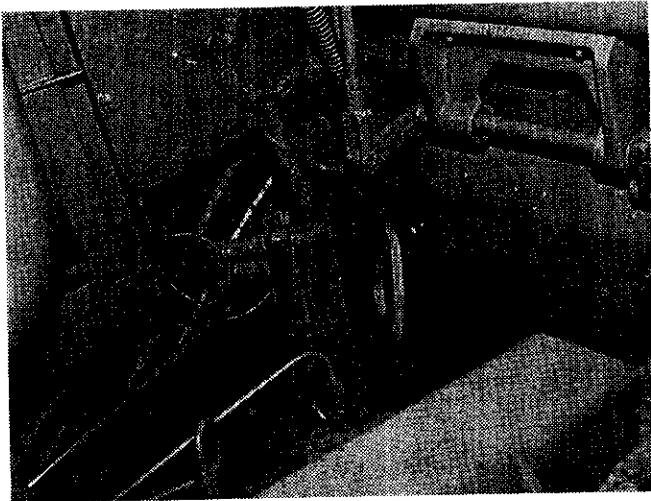
## INSTRUCTIONS:

### CAUTION

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

NOTE: Refer to the appropriate Caterpillar service manuals for additional information regarding steps 1, 2, 3, 4.

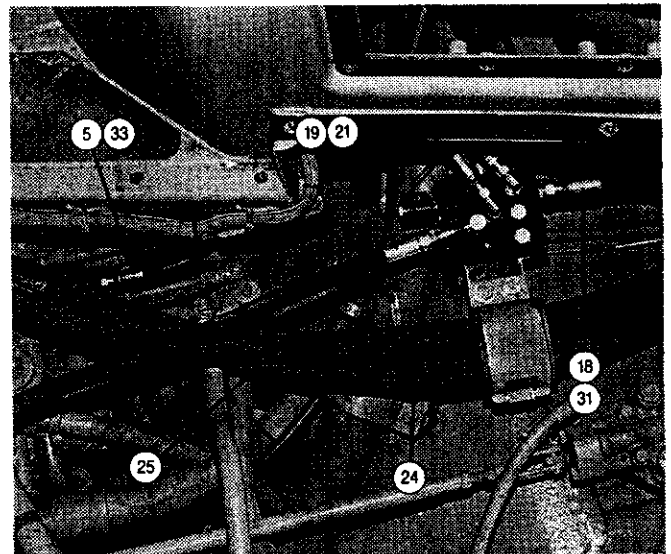
1. Remove the cab floor plates, console inside cover plate, operator's seat and seat base plate to gain access to the hydraulic piping.



2. From the engine side, remove the three capscrews which secure the baffle to the crossmember above the flywheel housing. Move the baffle forward and toward the left hand side to gain access to the implement valve.
3. Remove and cap all hoses attached to the implement valve. With a suitable hoist, remove the implement valve from the tractor and place it on a clean work surface.



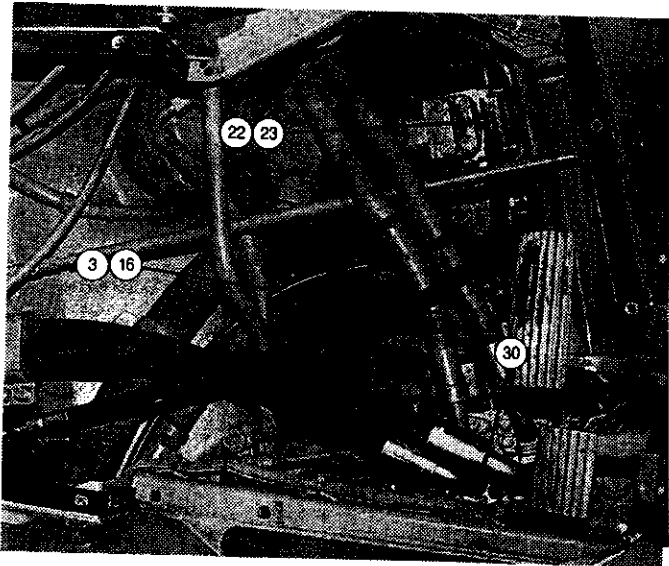
4. Remove the nuts from the through-studs on the inlet section end of the implement valve. Slide the inlet and steering sections off of the through-studs. Replace the standard ripper control section with the pilot operated winch control section, item 39. Install the steering and inlet sections back onto the through studs and tighten the nuts in accordance with the Caterpillar service instructions.
5. Install the reworked implement valve into the tractor. Install all hoses onto the main control valve.
6. Into the front (engine side) of the new winch control section, install a -6 size 90° elbow, item 3 with the elbow toward the center of the tractor. Install hose, item 16 onto the elbow and route the hose around the valve down the center of the tractor.



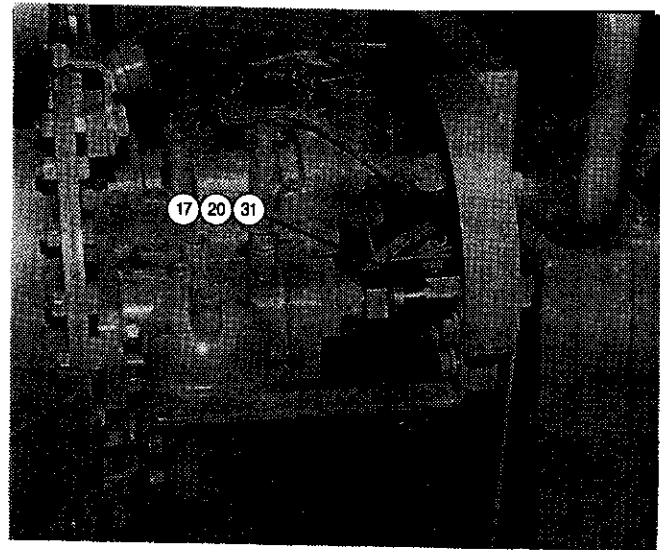
7. Fasten the load sense valve assembly, item 34, to the mounting bracket, item 38, with capscrews and lockwashers, items 11 and 47. Install hose adapters items 3, 4, 6, 12, 15, 21 and 31 as shown in the photo above and Figure 1 on page 6. Install the finished load sense valve sub assembly to the winch motor (formerly ripper) hose support bracket on top of the tractor transmission housing.
8. Install the console instruction plate, item 14, onto the joystick valve with fasteners, items 1 and 2. Place the joystick sub-assembly onto the tractor console cover into the hole normally used for the ripper control lever. Mark the mounting bolt hole locations and drill  $\frac{5}{16}$  in. (8 mm). Install fasteners, items 1 and 2 into the instruction plate and console. Mark the location of the "low-lock" indicator light onto the console cover.

**MODEL H110  
HYDRAULIC CONTROL GROUP**

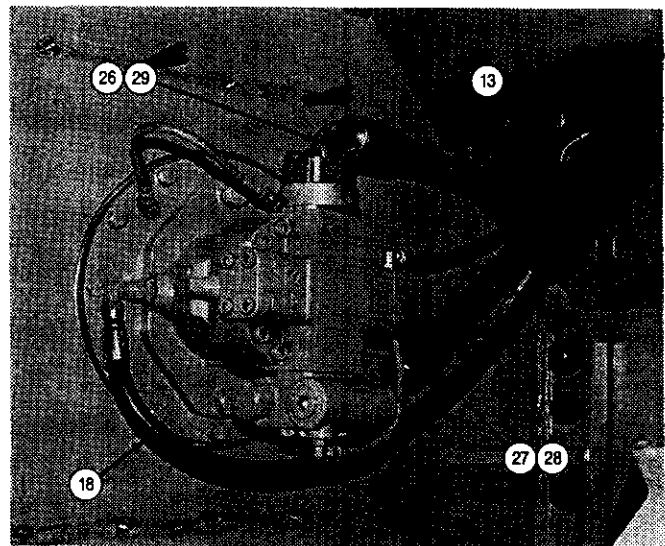
9. Remove the joystick instruction plate sub-assembly from the console cover. Drill a 3/4 in. (19 mm) hole into the tractor console cover (not the stainless steel instruction plate). Install four hose adapters, item 4, into the joystick valve ports 1-3-4 and T and one long straight adapter, item 10, into the center "P" port. Port 2 is plugged. Refer to Figure 2 on page 6.



10. Remove the pump pressure tap from the pump discharge elbow and install a -6 ORFS tee, item 22, with a run directed toward the center of the tractor. Install hose, item 19, from the pump pressure port to the load sense valve pressure port "P". Install quick disconnect pressure tap, item 23, to the remaining run of the tee, item 22.
11. Install hose, item 7, from the load sense valve port "J" to the joystick valve pressure port "P" adapter, item 10, located in the center of the valve. Install hose, item 16, from the joystick valve port 4 to the drum clutch release hose using elbow, item 32, at the winch end when necessary to achieve safe house routing that will not bind or chafe the hoses.
12. Install hose, item 33, from the rear (pay-out) joystick port 3 to the rear pilot port of the new implement valve section, where the straight adapter, item 5 has been installed.
13. Install hose, item 7, from the load sense valve "T" port elbow adapter, item 3, to the offset "T" port of the joystick valve. Install hose, item 16, from the front, haul-in pilot port of the new implement valve section to the front, port 1 of the joystick valve.



14. Remove the steering motor lubrication return line from the filter housing. Install the modified swivel tee, item 20, with adapter 31 onto the filter port then install the motor return line to the swivel tee.
15. Install hose, item 17, from the -8 size load sense valve "T" port adapter, item 31, to the swivel tee adapter, item 31, on the steering motor lubrication return line filter port installed in step 14 above.
16. Install the -8 size hose, item 18, from the winch motor case drain port to the remaining -8 port adapter, item 31, on the load sense valve block.
17. Install hose, item 13, from the load sense valve "X" port adapter, item 5, to the winch motor end "X" port.

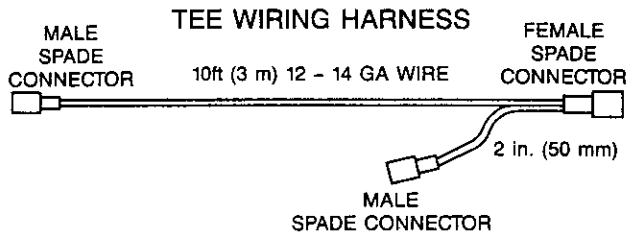


18. Use fasteners 40, 41, 42 and 43 to install the motor hose union block, item 37, to the mounting bracket, item 36, previously installed in step 4 of the winch mounting group. Install hose, item 24, from the rear

**MODEL H110  
HYDRAULIC CONTROL GROUP**

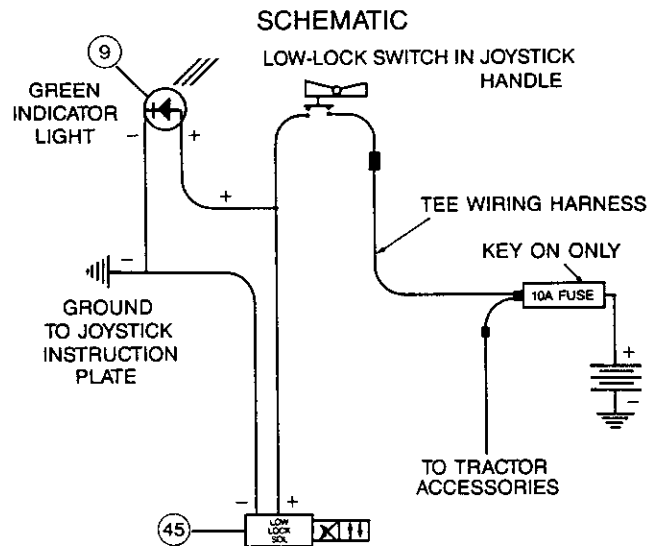
work port (pay-out) of the winch section implement valve to the RH port of the union block, item 37. The modified narrow split-flange clamps, item 30, must be used on the implement valve work ports. Install hose, item 26, from the RH union block port to the top (pay-out) motor port.

19. Install hose, item 25, from the front work port (haul-in) of the winch section of the implement valve to the LH port of the union block, item 37. Install hose, item 27, from the LH union block port to the adapter, item 28, installed in the brake valve on the motor haul-in port.
20. Remove cover panels as required to gain access to the back side of the tractor fuse panel. The rear 10 amp fuse is powered when the key switch is turned on. Remove the wire with the female spade connector from the protected side of the fuse holder and install the fabricated tee harness described below. The tee harness is not furnished with the winch and must be fabricated by the installer.



Install the existing wiring harness wire to the short spade connector of the tee. Carefully route the remaining wire to the RH console and connect it to one of the joystick rocker switch wires.

21. Attach the remaining rocker switch wire to one wire of the solenoid valve, item 45, and to the plus (+) lead from the LED indicator light, item 9, installed in the instruction plate.



22. Route the remaining solenoid valve wire and the negative (-) lead from the indicator light to a good ground location such as the joystick valve mounting screws.

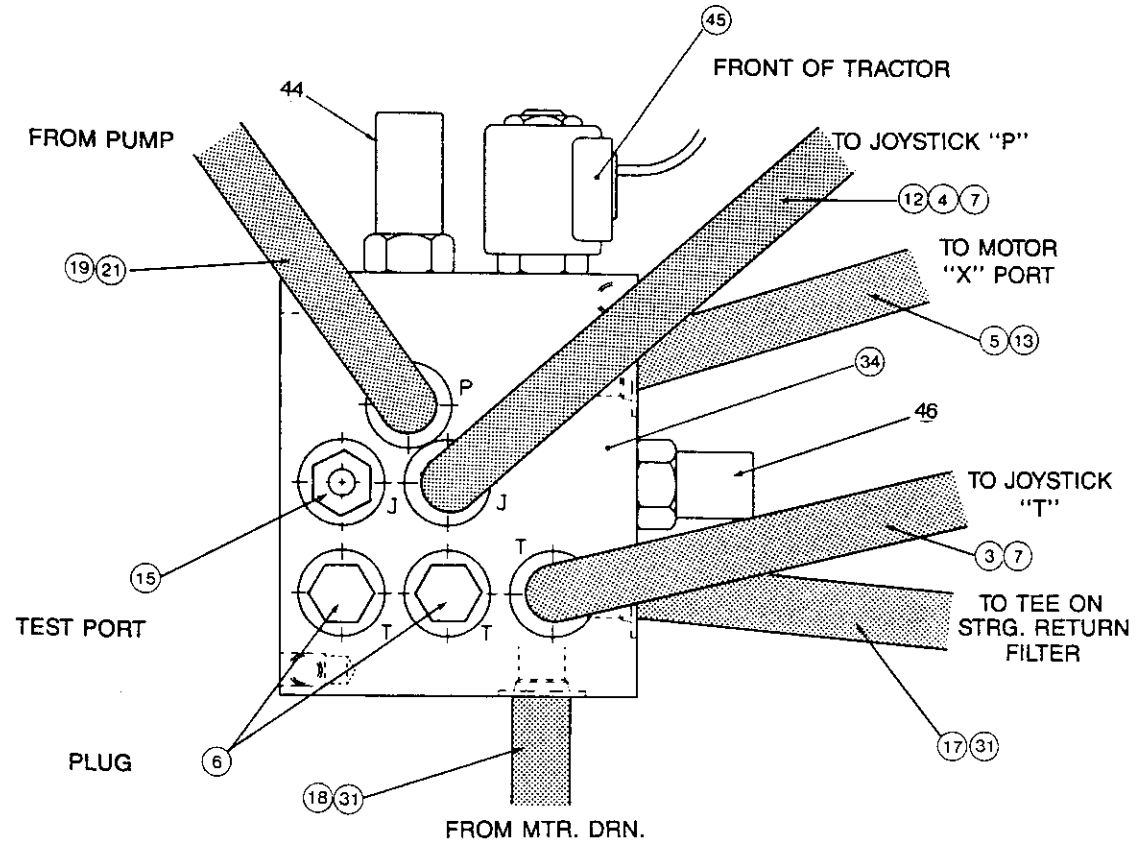
Turn the tractor master switch on. Turn the starter key switch on (**DO NOT START ENGINE**). Pressing the rocker switch should cause the indicator light and the solenoid valve to activate.

23. Check all hydraulic connections for tightness. Make certain all hoses and wires are routed and secured to avoid chafing.
24. Fill the hydraulic reservoir to the proper level with recommended oil. Refer to the Caterpillar oil specifications.
25. Start the engine and operate at low throttle to purge air from lines. Operate winch in all functions and refill hydraulic reservoir as required. Check for leaks and take corrective action as required. Install the baffle, removed in step 2, to the crossbar above the flywheel housing.
26. Record winch and tractor serial numbers on delivery report form(s). Conduct winch operator training as required.

MODEL H110  
 HYDRAULIC CONTROL GROUP  
 CATERPILLAR D7H - SERIES II - SINGLE PUMP

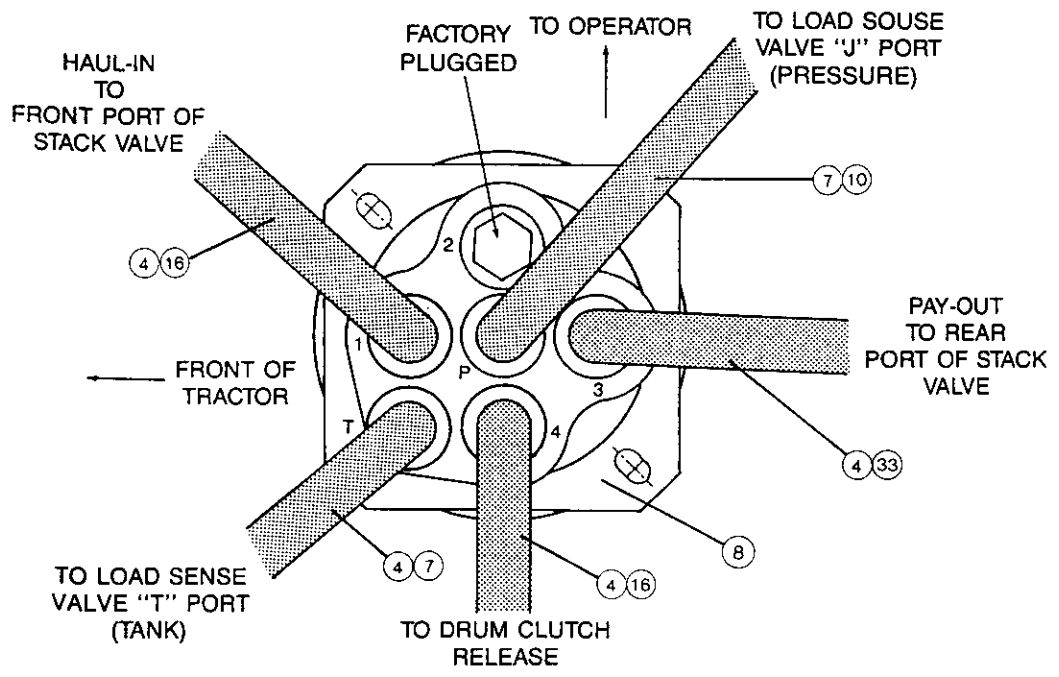
LOAD SENSE VALVE ASSEMBLY

Figure 1



JOYSTICK VALVE

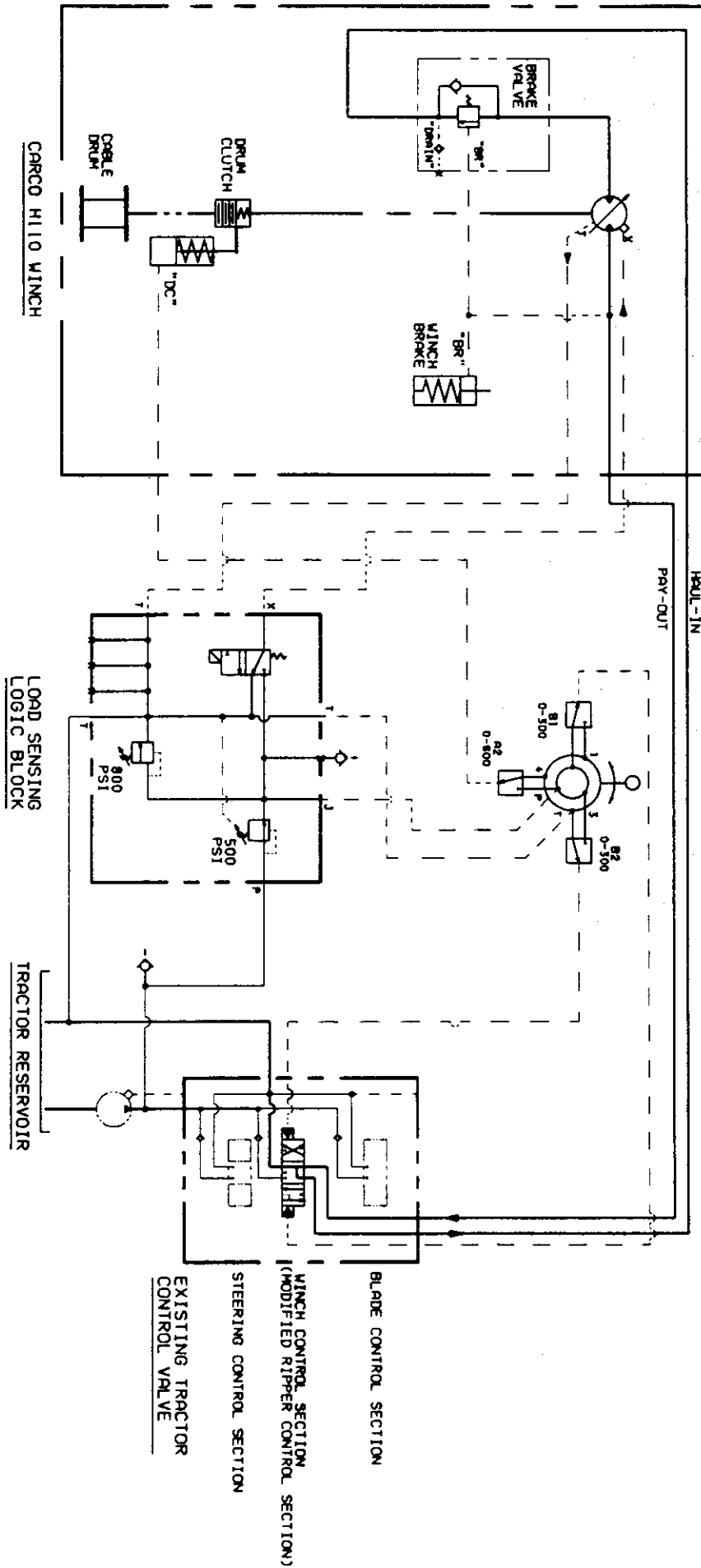
Figure 2



**MODEL H110  
HYDRAULIC CONTROL GROUP  
CATERPILLAR D7H - SERIES II - SINGLE PUMP**

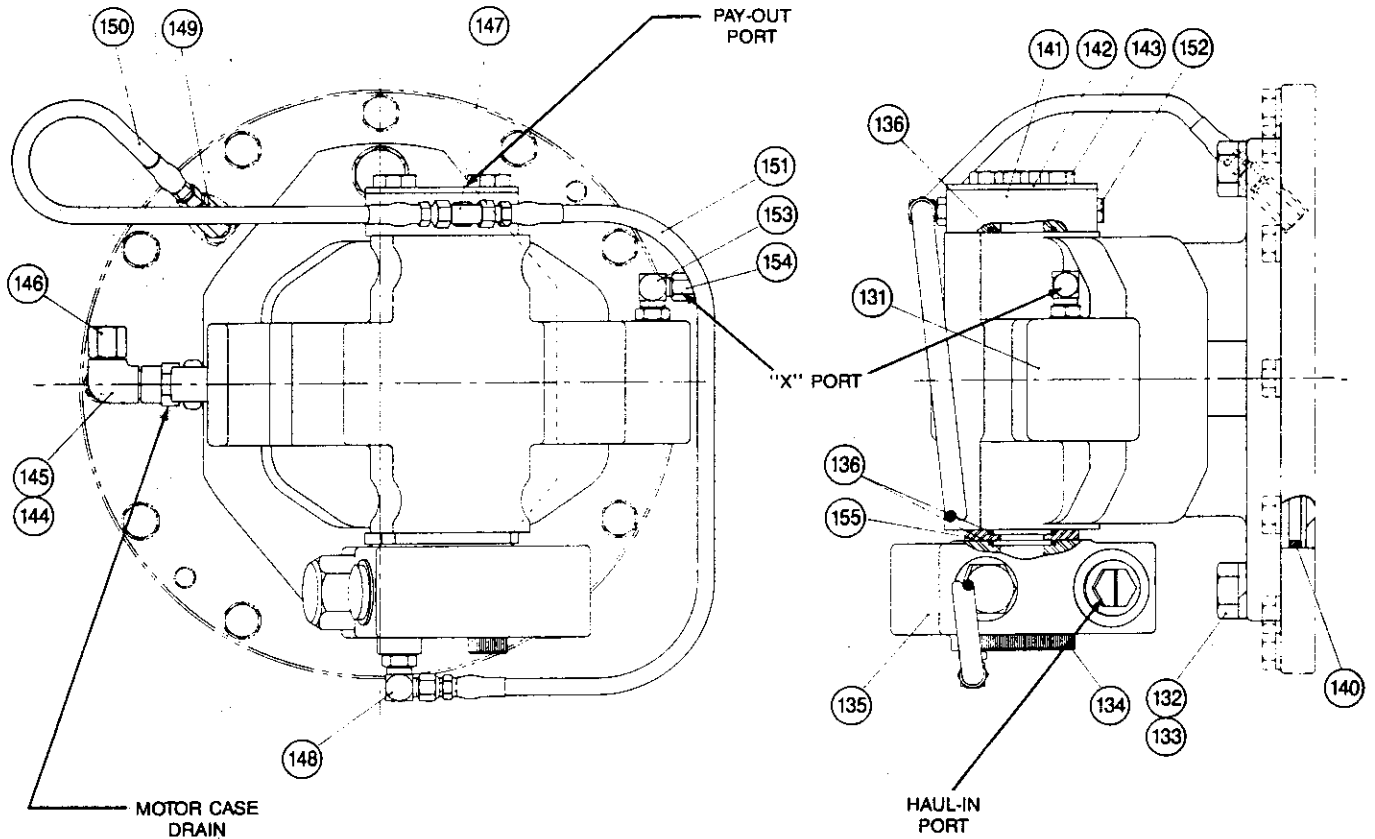
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	11759	CAPSCREW, HEX HEAD (1/4 - 20 x 1 G5)	8
2	11761	NUT, HEX (1/4 - 20)	8
3	25856	ELBOW, 90° -6 -6 JIC	2
4	25863	ADAPTER -6	6
5	31284	ADAPTER -4 -6	1
6	26686	PLUG, -6 ORB	2
7	29657	HOSE, -6 JIC 23 in. (584 mm) LOAD SENSE T TO JOYSTICK T AND LOAD SENSE J TO JOYSTICK P	2
8	29809	JOYSTICK VALVE ASSEMBLY	1
	40168	ROCKER SWITCH/SWITCH COVER BOOT FOR 29809	1
	40170	BOOT, HANDLE FOR 29809	1
	40169	HANDLE ASSEMBLY FOR 29809	1
9	29846	INDICATOR LIGHT, GREEN LED	1
10	29847	ADAPTER, LONG, STRAIGHT, -6 JIC	1
11	11024	LOCKWASHER (5/16)	2
12	31426	UNION, 90° -6 -6	1
13	34200	HOSE, -6 -4 JIC 60 in. (1,524 mm) LOAD SENSE X TO MOTOR X	1
14	40018	INSTRUCTION PLATE	1
15	40034	ADAPTER, QUICK DISCONNECT	1
16	40101	HOSE, -6 JIC 76 in. (1,930 mm) JOYSTICK HAUL-IN TO FRONT WINCH SECTION VALVE PORT & JOYSTICK DRUM CLUTCH TO DRUM CLUTCH RELEASE	2
17	40102	HOSE, -8 JIC 40 in. (1,016 mm) LOAD SENSE "T" TO STEERING FILTER TEE	1
18	40103	HOSE, -8 JIC 71 in. (1,803 mm) MOTOR CASE DRN TO LOAD SENSE "T"	1
19	40104	HOSE, -6 ORFS, HP 40 in. (1,016 mm) PUMP TEST PORT TO LOAD SENSE "P"	1
20	40106	TEE, MODIFIED TO ACCEPT ONE PC ITEM 31	1
21	40107	ELBOW, 90° -6 ORFS, LOAD SENSE "P" PORT	1
22	40108	TEE, -6 ORFS, AT PUMP PRESSURE TAP	1
23	40109	TEST PORT, -6 ORFS	1
24	40110	HOSE, -16 SPLIT FLANGE, HP 48 in. (1,219 mm) WINCH SEC. V PO TO UNION BLK	1
25	40111	HOSE, -16 SPLIT FLANGE, HP 51 in. (1,295 mm) WINCH SEC. V HI TO UNION BLK	1
26	40112	HOSE, -16 SPLIT FLANGE, HP 37.5 in. (953 mm) UNION BLK TO MOTOR PO	1
27	40113	HOSE, -16 SPLIT FLANGE, HP 39 in. (991 mm) UNION BLK TO MOTOR BRK V	1
28	40115	ADAPTER, -16 ORFS, MOTOR BRAKE VALVE HI PORT	1
29	40116	SPLIT FLANGE KIT, -16 CODE 62	5
30	40117	SPLIT FLANGE KIT MODIFIED FOR TRACTOR STACK VALVE PORTS ONLY	2
31	70100	ADAPTER -8 JIC, LOAD SENSE "T" PORTS	3
32	75635	ELBOW, 90° -6 JIC	1
33	75885	HOSE -6 JIC 45 in. (1,145 mm) JOYSTICK PO TO WINCH SEC. PO, REAR	1
34	82139	LOAD SENSE VALVE ASSEMBLY (INCLUDES ITEMS 44, 45, 46)	1
35	40118	CAPSCREW, HEX HEAD (7/16 - 14 x 2 3/4 G8) FOR PAY-OUT MOTOR PORT	4
36	40119	MOTOR HOSE UNION BLOCK, MOUNTING BRACKET	1
37	40089	UNION BLOCK	1
38	40090	LOAD SENSE VALVE MOUNTING PLATE	1
39	29936	CONTROL VALVE SECTION - MODIFIED FOR WINCH	1
40	29530	CAPSCREW, HEX HEAD (1/2 - 13 x 4 1/4 G5)	2
41	11788	NUT, HEX (1/2 - 13)	2
42	11026	LOCKWASHER, (1/2)	2
43	11073	WASHER, NARROW (1/2)	2
44	29853	PRESSURE REDUCING VALVE ASSEMBLY	1
	29874	SEAL KIT FOR 29853	1
45	29820	SOLENOID VALVE CARTRIDGE ASSEMBLY	1
	29821	SEAL KIT FOR 29820	1
	29822	SOLENOID COIL FOR 29820	1
46	29851	RELIEF VALVE CARTRIDGE	1
	29852	SEAL KIT FOR 29851	1
47	11767	CAPSCREW, HEX HEAD (5/16 - 18 x 1 G5)	2

**MODEL H110  
LOAD SENSE  
HYDRAULICS**





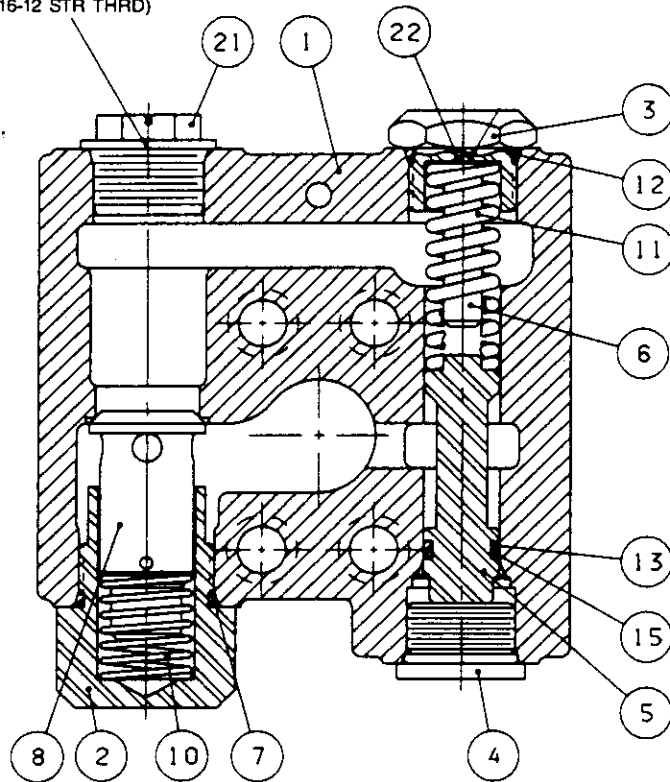
**MODEL H110  
HYDRAULIC MOTOR GROUP**



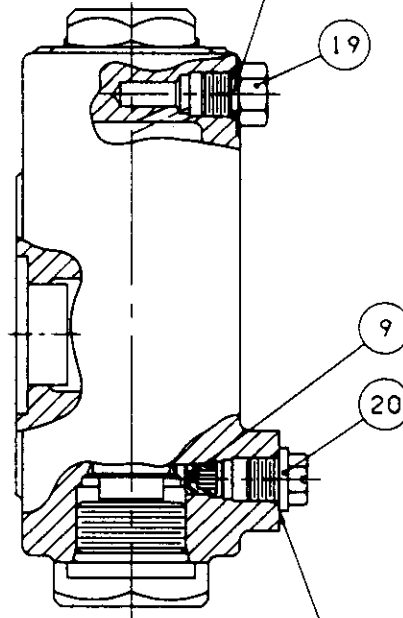
ITEM NO.	PART NO.	DESCRIPTION	QTY.
131	29830	HYDRAULIC MOTOR	1
132	31033	CAPSCREW, HEX HEAD (3/4 - 10 x 1 3/4 G8)	2
133	13435	LOCKWASHER (3/4)	2
134	29399	CAPSCREW, SOCKET HEAD (7/16 - 14 x 2 3/4 GD8)	4
135	82133	BRAKE VALVE ASSEMBLY (REFER TO PAGE 10)	1
136	25366	O-RING	2
138	29290	CAPSCREW, HEX HEAD (1/2 - 13 x 1 1/2 GD8)	11
139	11026	LOCKWASHER (1/2)	11
140	22358	O-RING, MOTOR PILOT	1
141	29395	ADAPTER BLOCK - PAY-OUT PORT	1
142	29679	SHIPPING COVER	1
143	22695	CAPSCREW, HEX HEAD (7/16 - 14 x 1 3/4 GD5)	4
144	29611	ADAPTER STRAIGHT - 10 TO - 18	1
145	29046	ELBOW, SWIVEL, 90° - 8	1
146	29908	SHIPPING CAP - 8	1
147	25554	TEE - 4	1
148	25302	ELBOW - 4	1
149	29720	ADAPTER - 4, EXTRA LONG	1
150	25935	HOSE - 14 in. (356 mm) PAY-OUT PORT TO BRAKE PORT	1
151	25952	HOSE - 20 in. (508 mm) PAY-OUT PORT TO BRAKE VALVE "BR" PORT	1
152	27675	PLUG - 4 ORB	1
153	25131	ELBOW - 6 - 4 ORB, MOTOR x PORT	1
154	70182	SHIPPING CAP - 4	1

**MODEL H110  
BRAKE VALVE ASSEMBLY**

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)

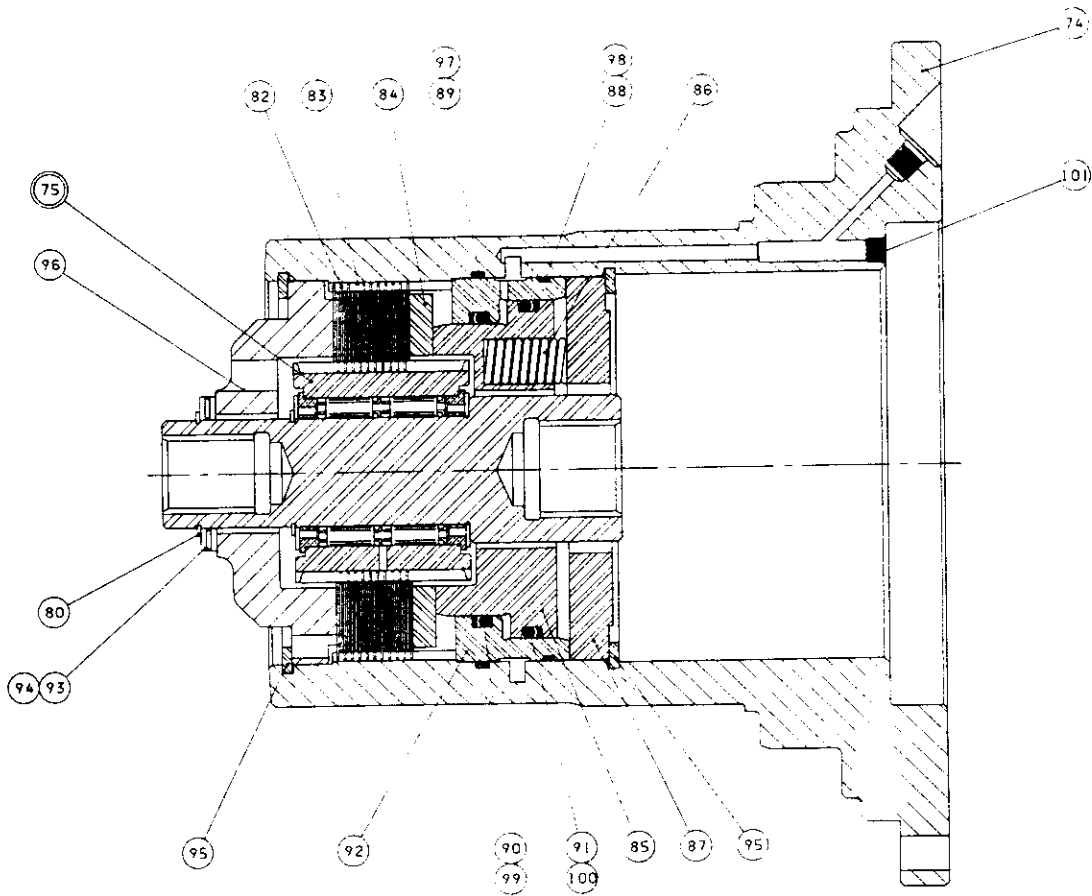
**ASSEMBLY INSTRUCTIONS:**

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

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	82133	BRAKE VALVE ASSEMBLY	
1	NSS	BRAKE VALVE HOUSING	1
2	29609	RELIEF VALVE RETAINER	1
3	24183	SPRING RETAINER	1
4	22450	PLUG	1
5	NSS	MAIN SPOOL	1
6	NSS	DAMPER PISTON	1
7	24186	O-RING	1
8	82132	CHECK POPPET/RELIEF VALVE 6000 psi (41,400 kPa)	1
9	24200	PILOT ORIFICE	1
10	24190	CHECK POPPET SPRING	1
11	24192	SPOOL SPRING	1
12	23601	O-RING	1
13	24193	O-RING	1
14	24194	O-RING	1
15	24195	BACK-UP RING	1
16	24196	BACK-UP RING	1
19	25663	PLUG - 4	1
20	25403	SHIPPING PLUG	1
21	75288	SHIPPING PLUG	1
22	25661	SHIM, MAIN SPOOL SPRING	AR

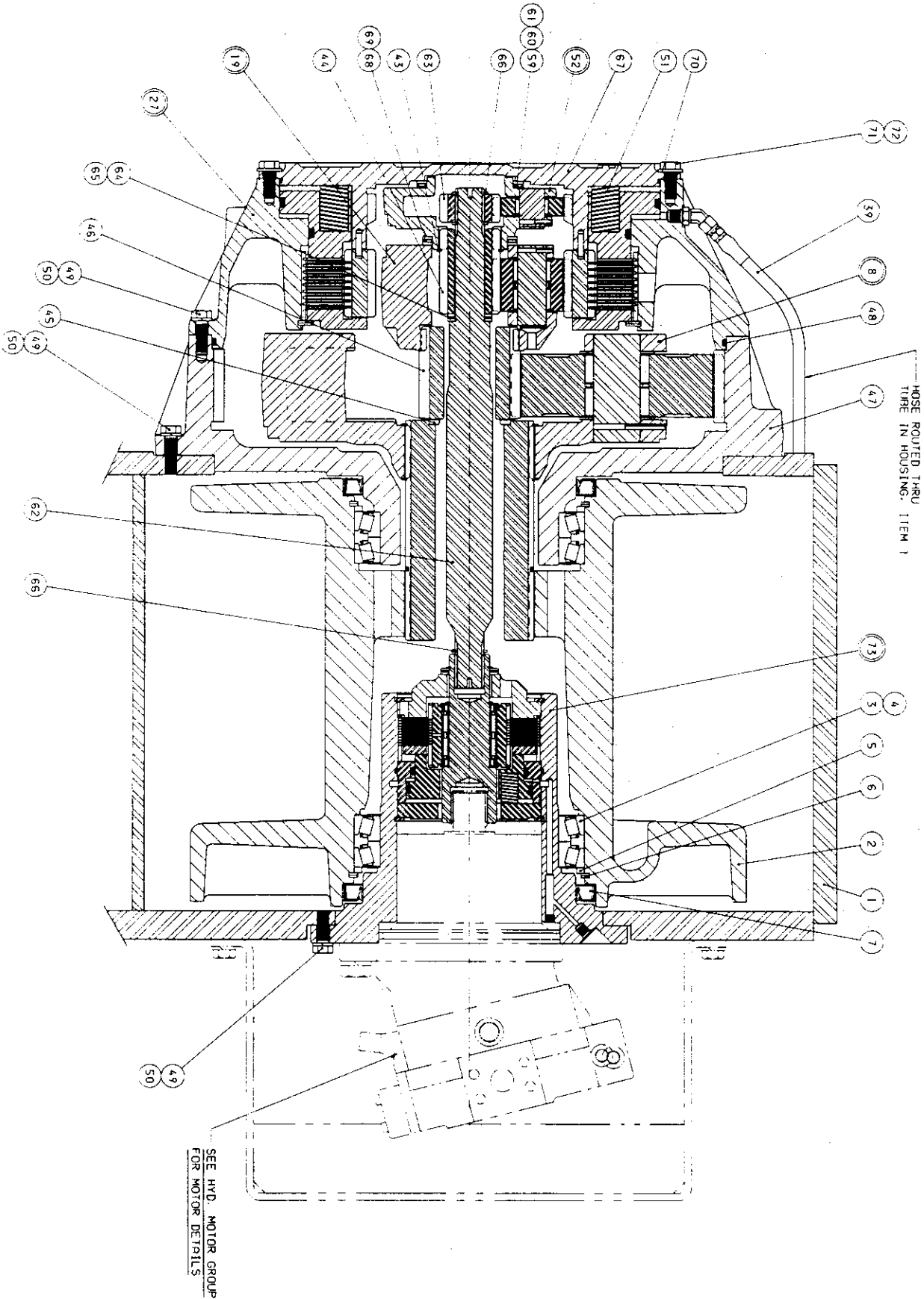
NSS - NOT SERVICED SEPARATELY  
AR - AS REQUIRED

**MODEL H110  
BRAKE HOUSING ASSEMBLY  
METRIC - REXROTH POCKET MOUNT MOTOR**



ITEM NO.	PART NO.	DESCRIPTION	QTY.
74	29342	BRAKE HOUSING	1
75	82138	OVERRUNNING BRAKE CLUTCH ASSEMBLY - REFER TO PAGE 14	1
80	12034	RETAINING RING	1
82	24490	DISC - STEEL	11
83	25530	DISC - FRICTION	10
84	24489	SPACER	1
85	29274	BRAKE PISTON	1
86	29301	SPRING	13
87	29344	SPRING RETAINER	1
88	27987	O-RING	1
89	10450	O-RING	1
90	72924	O-RING	1
91	29302	O-RING	1
92	29275	BRAKE CYLINDER	1
93	25760	THRUST BEARING RACE	2
94	29286	THRUST BEARING	1
95	21038	RETAINING RING	2
96	29345	BRAKE RETAINER	1
97	28828	BACK-UP RING	1
98	29368	BACK-UP RING	1
99	29369	BACK-UP RING	1
100	29370	BACK-UP RING	1
101	22374	PIPE PLUG (1/8 NPT)	1

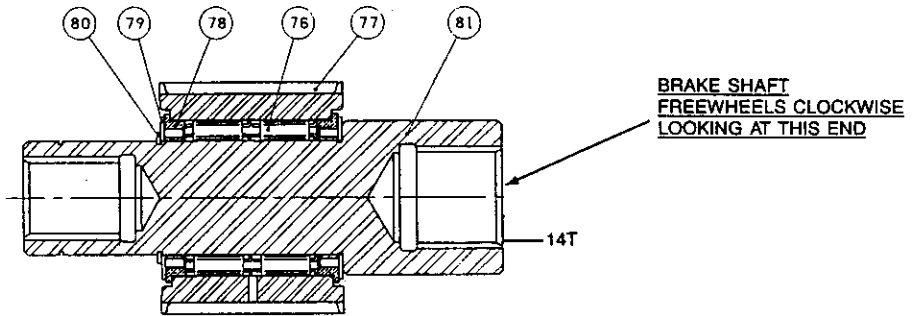
**MODEL H110  
WINCH HOUSING GROUP  
H110-156V065-XX-X-X**



**MODEL H110  
WINCH HOUSING GROUP  
H110-156V065-XX-X-X**

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	29743	WINCH HOUSING	1
2	29258	CABLE DRUM	1
3	29277	BEARING CONE	4
4	29278	BEARING CUP	4
5	29279	SPACER RING	2
6	29280	RETAINING RING	2
7	29281	OIL SEAL	2
8	82074	OUTPUT PLANET CARRIER ASSEMBLY (REFER TO PAGE 16)	1
19	82071	SECONDARY PLANET CARRIER ASSEMBLY (REFER TO PAGE 15)	1
27	82072	DRUM CLUTCH ASSEMBLY (REFER TO PAGE 17)	1
39	29909	HOSE - 34.5 in. (876 mm) DRUM CLUTCH RELEASE	1
43	13031	RETAINING RING	1
44	29293	SECONDARY SUN GEAR	1
45	29294	THRUST WASHER	1
46	29269	OUTPUT SUN GEAR	1
47	29336	OUTPUT RING GEAR	1
48	29296	O-RING	1
49	29290	CAPSCREW, HEX HEAD (1/2 - 13 x 1/2 G8)	46
50	11026	LOCKWASHER (1/2)	46
51	29305	SPRING	20
52	82090	PRIMARY PLANET CARRIER ASSEMBLY (REFER TO PAGE 14)	1
59	75024	THRUST BEARING RACE - .125 in. (3.17 mm) THICK, OUTER POSITION	1
60	18058	THRUST BEARING	1
61	26291	THRUST BEARING RACE - .062 in. (1.58 mm) THICK	1
62	29276	PRIMARY SUN GEAR INTERMEDIATE DRIVE - SHAFT	1
63	29297	PRIMARY SUN GEAR	1
64	73294	THRUST BEARING RACE - .125 in. (3.17 mm) THICK	2
65	24305	THRUST BEARING	1
66	29287	RETAINING RING	3
67	29337	PRIMARY PLANET RING GEAR/COVER 4.84:1	1
68	24485	THRUST BEARING RACE - .125 in. (3.17 mm) THICK	2
69	29559	THRUST BEARING	1
70	72113	O-RING	1
71	70793	CAPSCREW, HEX HEAD (1/2 - 13 x 1/4 G8)	10
72	27248	WASHER, HARDENED (1/2)	10
73	82137	BRAKE HOUSING ASSEMBLY (REFER TO PAGE 11)	1

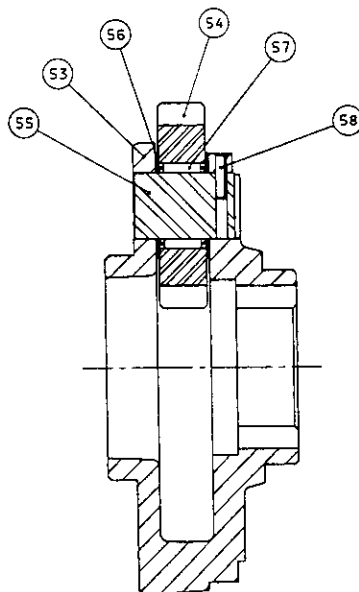
**MODEL H110  
OVERRUNNING BRAKE  
CLUTCH ASSEMBLY**



82138

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	82138	BRAKE CLUTCH ASSEMBLY - METRIC - REXROTH	1
76	24839	SPRAG CLUTCH	2
77	29283	OUTER BRAKE RACE	1
78	27684	SPRAG BEARING - BRONZE ALLOY	2
79	24581	THRUST WASHER	2
80	12034	RETAINING RING	1
81	29829	BRAKE SHAFT - METRIC - REXROTH	1

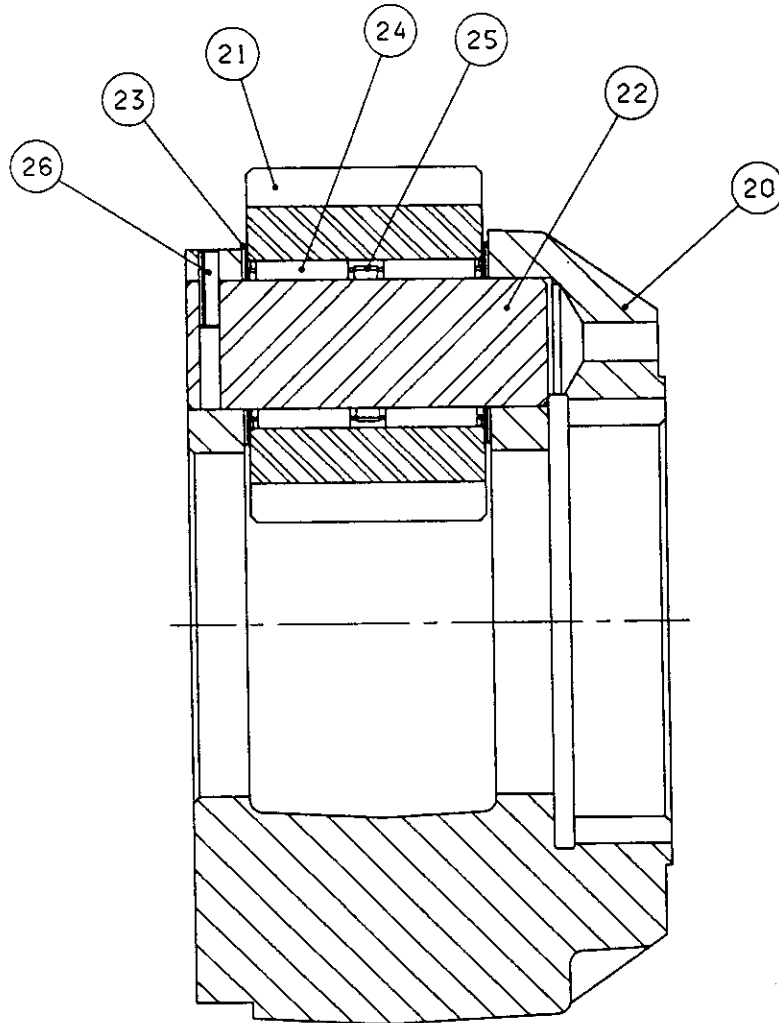
**MODEL H110  
PRIMARY PLANET ASSEMBLY**



82090

ITEM NO.	PART NO.	DESCRIPTION	QTY.
52	82090	PRIMARY PLANET CARRIER ASSEMBLY - 4.84:1	1
53	29864	PRIMARY PLANET CARRIER - 4.84:1	1
54	24442	PRIMARY PLANET GEAR - 4.89:1, 18T	3
55	26294	PRIMARY PLANET GEAR SHAFT	3
56	24479	THRUST WASHER	6
57	24480	ROLLER BEARING	3
58	24113	ROLL PIN - 4.84:1	3

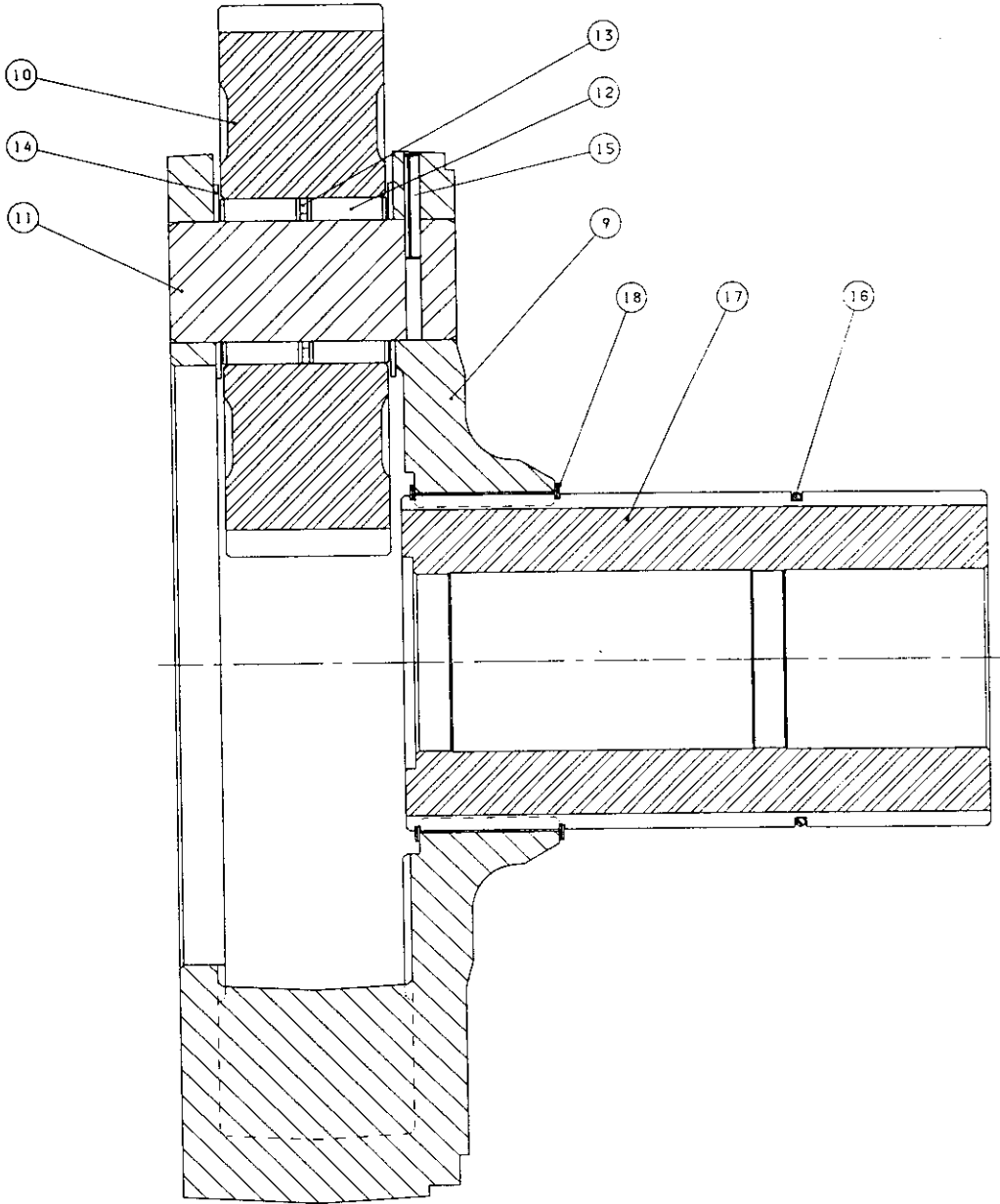
MODEL H110  
SECONDARY PLANET ASSEMBLY



82071

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	82071	SECONDARY PLANET CARRIER ASSEMBLY	1
20	29339	SECONDARY PLANET CARRIER	1
21	25288	SECONDARY PLANET GEAR, 18T	3
22	29364	SECONDARY PLANET GEAR SHAFT	3
23	11932	THRUST WASHER	6
24	25292	ROLLER BEARING	6
25	25290	BEARING SPACER	3
26	24113	ROLL PIN	3

**MODEL H110  
OUTPUT PLANET ASSEMBLY**

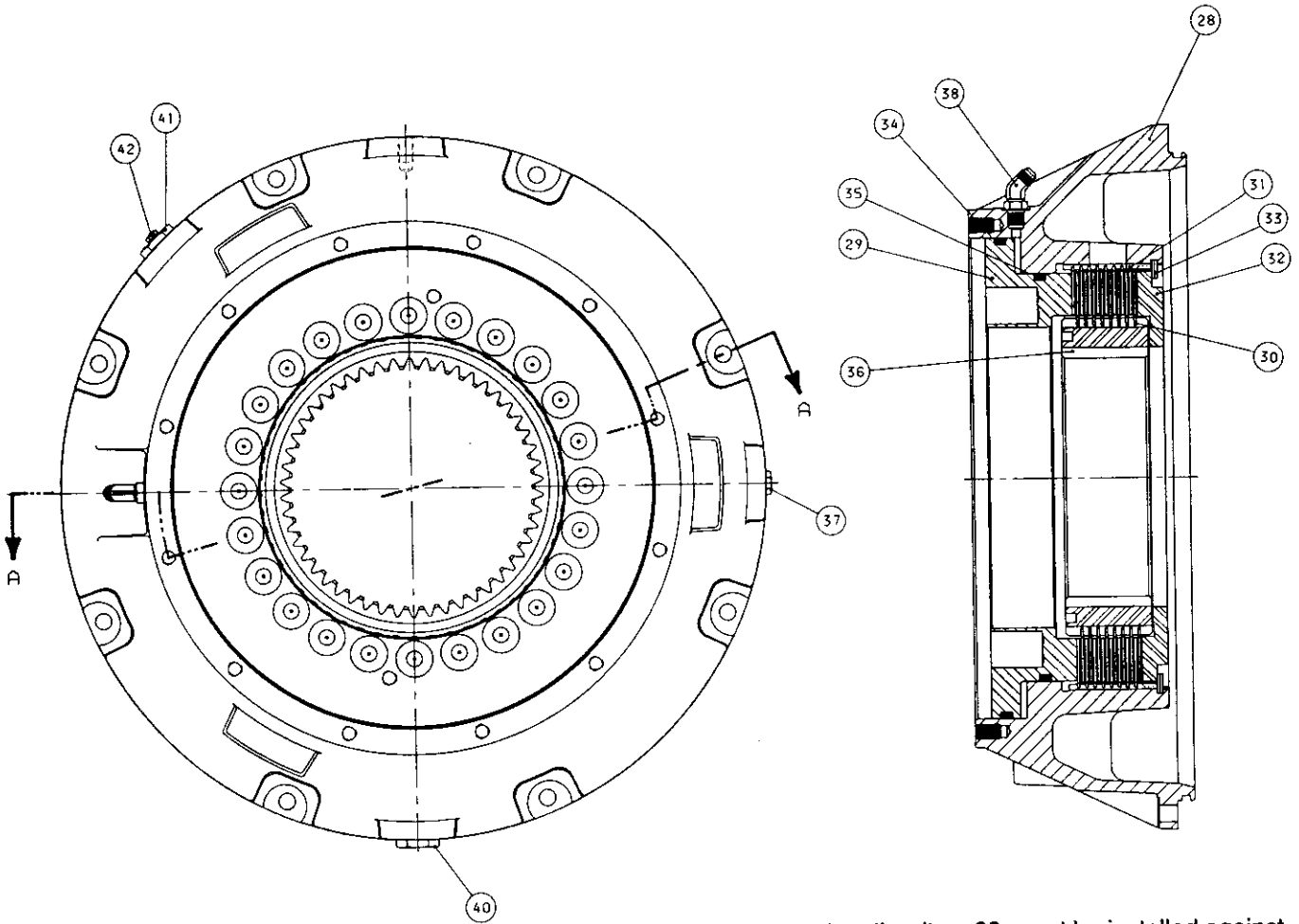


82074

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	82074	OUTPUT PLANET CARRIER ASSEMBLY	1
9	29348	OUTPUT PLANET CARRIER	1
10	29266	OUTPUT PLANET GEAR, 43T	3
11	29262	OUTPUT PLANET GEAR SHAFT	3
12	27911	BEARING ROLLER (LOOSE)	120
13	29299	BEARING SPACER	3
14	29300	THRUST WASHER	6
15	13028	ROLL PIN	3
16	29291	RETAINING RING	1
17	29322	DRUM DRIVE SHAFT	1
18	29349	RETAINING RING	2



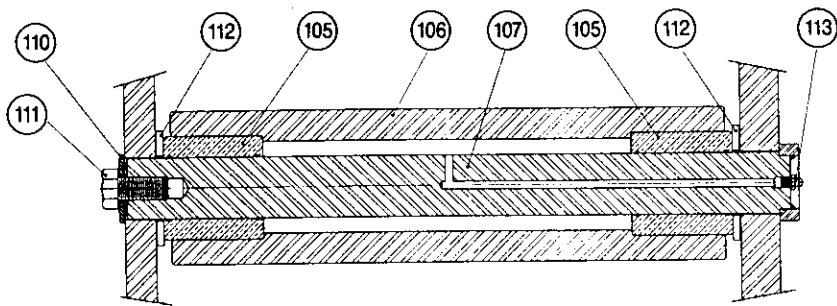
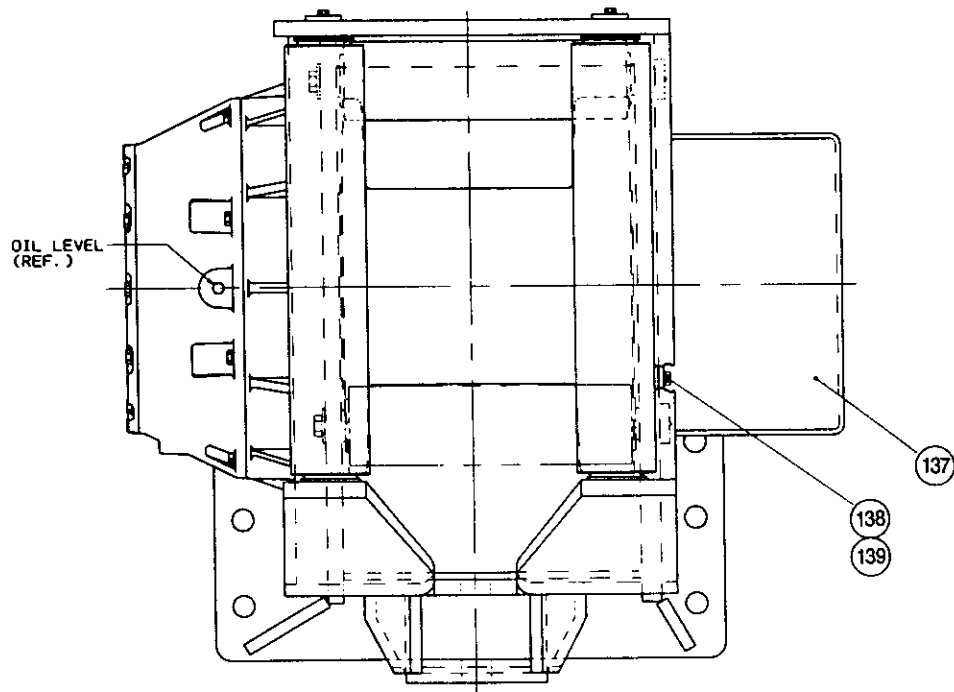
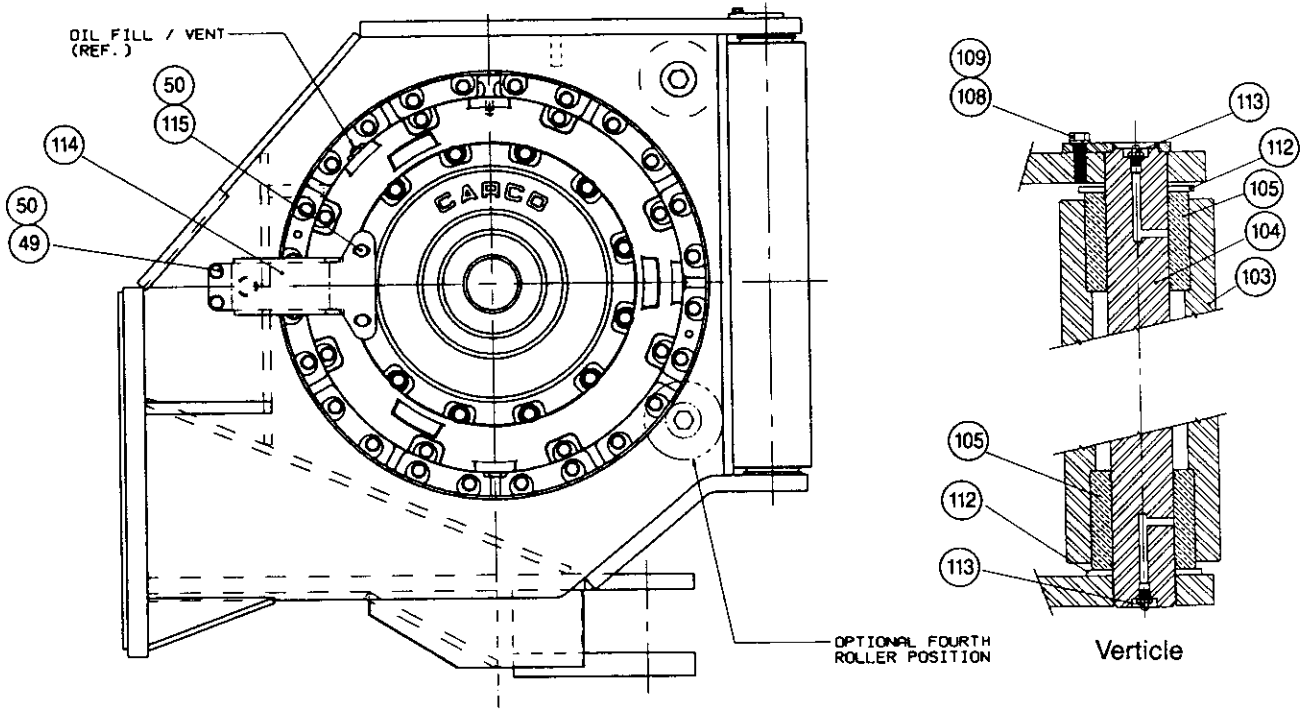
**MODEL H110  
DRUM CLUTCH ASSEMBLY**



Note: 1st friction disc, item 30, must be installed against pressure plate, item 32, and steel divider disc, item 31, must be installed against brake piston.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
27	82072	DRUM CLUTCH ASSEMBLY	1
28	29340	DRUM CLUTCH HOUSING	1
29	29309	CLUTCH PISTON	1
30	72180	DISC - FRICTION	8
31	72204	DISC - STEEL DIVIDER	8
32	29292	PRESSURE PLATE	1
33	29303	RETAINING RING	1
34	24592	O-RING	1
35	29304	O-RING	1
36	29246	CLUTCH HUB/RING GEAR	1
37	26686	PLUG - OIL LEVEL	1
38	25868	ELBOW - 6 45°	1
40	70118	PLUG - OIL DRAIN	1
41	29678	PLUG - OIL FILL	1
42	10074	VENT PLUG	1

**MODEL H110  
COVERS & FAIRLEAD GROUP**



**Horizontal**

MODEL H110  
COVERS & FAIRLEAD GROUP

ITEM NO.	PART NO.	DESCRIPTION	QTY.	
			3 ROLLER	4 ROLLER
49	29290	CAPSCREW (1/2 - 13 x 1 1/2 G8)	46	46
50	11026	LOCKWASHER (1/2)	57	57
103	29310	ROLLER - VERTICAL (EARLY 33.56 in. LONG)	2	2
	40208	ROLLER - VERTICAL (LATE 27.31 in. LONG)	—	—
104	29311	ROLLER SHAFT - VERTICAL (EARLY 36.69 in. LONG)	2	2
	40209	ROLLER SHAFT - VERTICAL (LATE 30.44 in. LONG)	2	—
105	29314	ROLLER BUSHING	6	8
106	29315	ROLLER - HORIZONTAL	1	2
107	29316	ROLLER SHAFT - HORIZONTAL	1	2
108	21961	CAPSCREW, HEX HEAD (3/8 - 16 x 1 G5)	2	2
109	18003	LOCKWASHER (3/8)	2	2
110	29680	SPRING WASHER	1	2
111	31032	CAPSCREW	1	2
112	29742	WASHER - ROLLER	6	8
113	18047	GREASE FITTING	5	6
114	29792	HOSE GUARD	1	1
115	29855	CAPSCREW, HEX HEAD (1/2 - 13 x 2 G8)	2	2
137	29682	MOTOR COVER	1	1
138	29290	CAPSCREW, HEX HEAD (1/2 - 13 x 1 1/2 G8)	11	11
—	62474	FOURTH ROLLER KIT, INCLUDES ITEMS 105, 106, 107, 110, 111, 112, 113		

Cable Ferrules:    1 in. (25 mm)    29427  
                           1 1/8 in. (28 mm)    29428  
                           1 1/4 in. (32 mm)    29429