

CARCO®

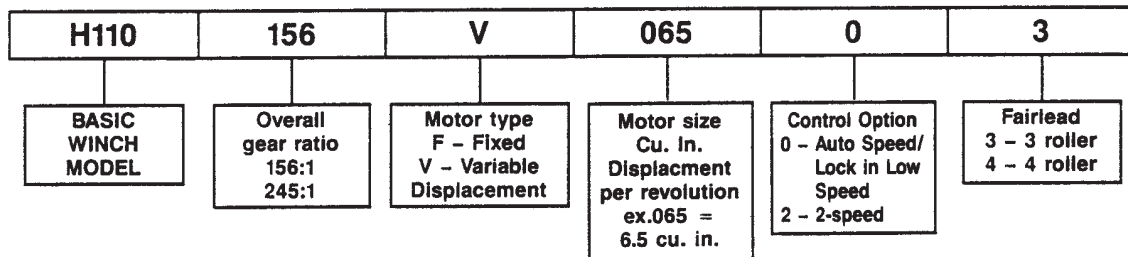
PARTS & INSTALLATION INSTRUCTIONS MANUAL

MODEL H110 FIXED DISPLACEMENT MOTOR H110XXX-F-XXX-X-X

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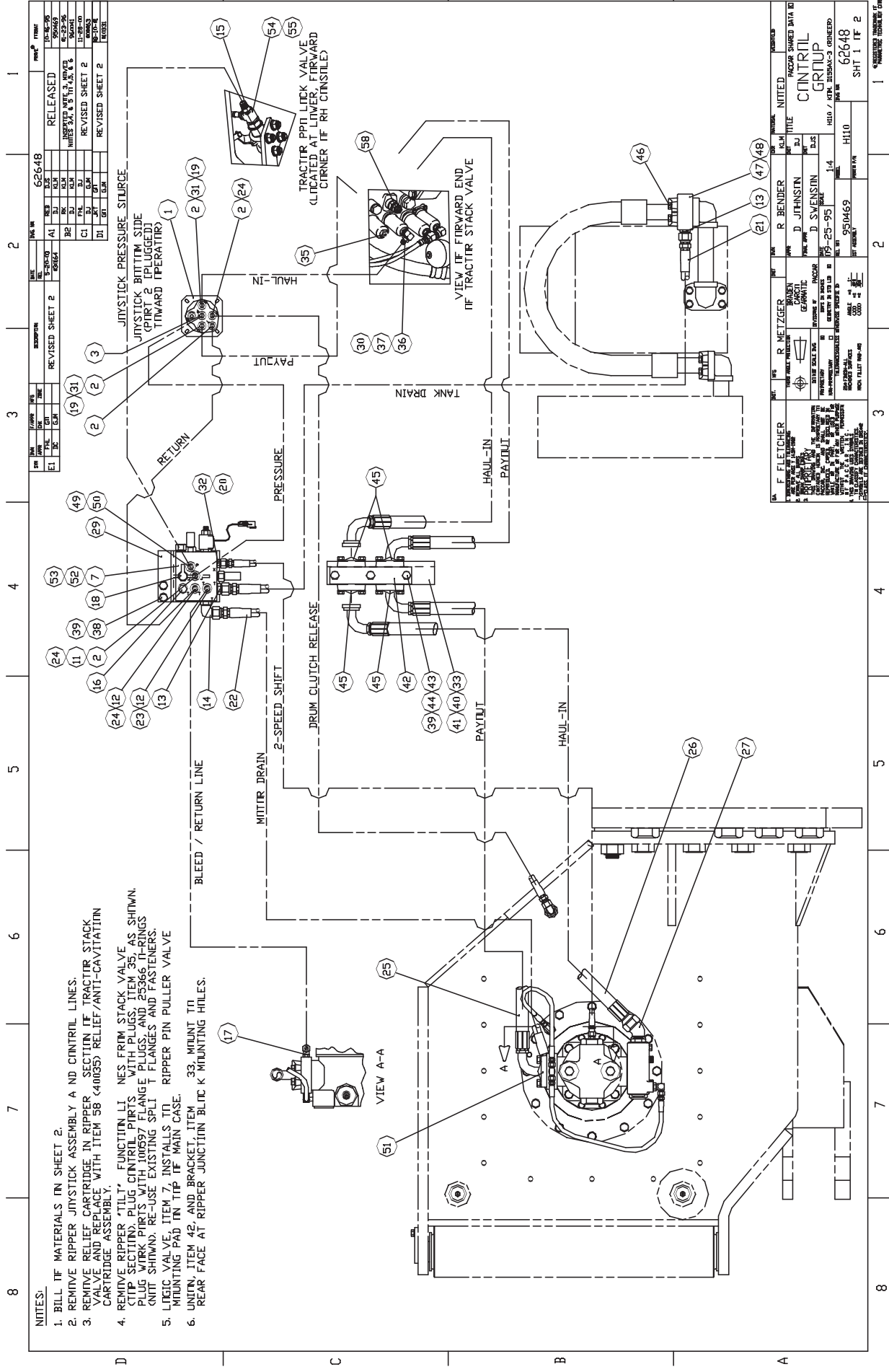
MODEL NUMBER DESCRIPTION



PACCAR WINCH DIVISIONS

NOTES:

1. BILL OF MATERIALS IN SHEET 2.
2. REMOVE RIPPER JOYSTICK ASSEMBLY AND CONTROL LINES.
3. REMOVE RELIEF CARTRIDGE IN RIPPER SECTION OF TRACTOR STACK VALVE AND REPLACE WITH ITEM 58 (410035) RELIEF/ANTI-CAVITATION CARTRIDGE ASSEMBLY.
4. REMOVE RIPPER "TILT" FUNCTION LINES FROM STACK VALVE (TOP SECTION), PLUG CONTROL PIRTS WITH PLUGS, ITEM 35, AS SHOWN. PLUG WORK PIRTS WITH 100697 FLANGE PLUGS, AND 25366 O-RINGS (NOT SHOWN). RE-USE EXISTING SPLIT FLANGES AND FASTENERS.
5. LIFT VALVE, ITEM 7, INSTALLS TO RIPPER PIN PULLER VALVE MOUNTING PAD ON TOP OF MAIN CASE.
6. MOUNT ITEM 42 AND BRACKET, ITEM 33, MOUNT TO REAR FACE AT RIPPER JUNCTION BLOCK MOUNTING HOLES.



REV	DATE	BY	CHK	APP	DESCRIPTION
1	01/23/95	EL	EL		REVISED SHEET 2
2	02/01/95	EL	EL		REVISED SHEET 2
3	02/01/95	EL	EL		REVISED SHEET 2
4	02/01/95	EL	EL		REVISED SHEET 2
5	02/01/95	EL	EL		REVISED SHEET 2
6	02/01/95	EL	EL		REVISED SHEET 2
7	02/01/95	EL	EL		REVISED SHEET 2
8	02/01/95	EL	EL		REVISED SHEET 2

REV	DATE	BY	CHK	APP	DESCRIPTION
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2	02/01/95	EL	EL		REVISED SHEET 2
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4	02/01/95	EL	EL		REVISED SHEET 2
5	02/01/95	EL	EL		REVISED SHEET 2
6	02/01/95	EL	EL		REVISED SHEET 2
7	02/01/95	EL	EL		REVISED SHEET 2
8	02/01/95	EL	EL		REVISED SHEET 2

JOYSTICK PRESSURE STURCE
JOYSTICK BITTUM SIDE
(FIRST 2 PLUGGED
TINWARD (OPERATOR))

TRACTOR PIN LOCK VALVE
(LOCATED AT LOWER FORWARD
CORNER OF RH COUNSOLE)

TANK DRAIN

VIEW OF FORWARD END
OF TRACTOR STACK VALVE

DRUM CLUTCH RELEASE

VIEW A-A

NO	REV	DATE	BY	CHK	APP	DESCRIPTION
1	01/23/95	EL	EL			REVISED SHEET 2
2	02/01/95	EL	EL			REVISED SHEET 2
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7	02/01/95	EL	EL			REVISED SHEET 2
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4	02/01/95	EL	EL			REVISED SHEET 2
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8	02/01/95	EL	EL			REVISED SHEET 2

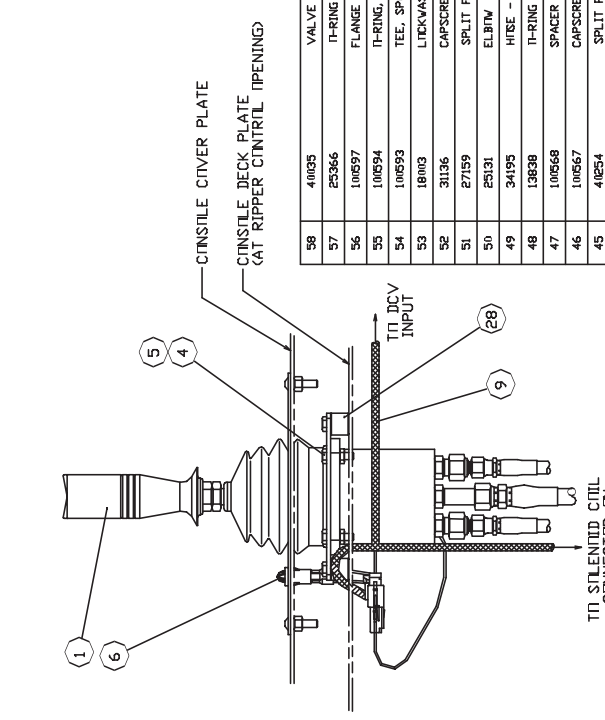
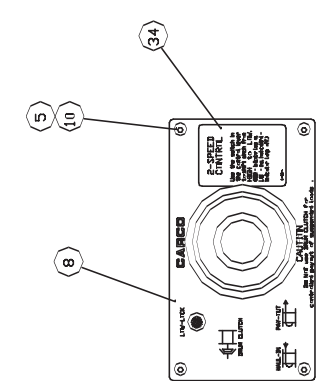
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1	01/23/95	EL	EL			REVISED SHEET 2
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6	02/01/95	EL	EL			REVISED SHEET 2
7	02/01/95	EL	EL			REVISED SHEET 2
8	02/01/95	EL	EL			REVISED SHEET 2

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REV	DATE	BY	CHK	DESCRIPTION	DATE	BY	CHK	DESCRIPTION
				100% TEST WAS 100% GO				

REV	DATE	BY	CHK	DESCRIPTION	DATE	BY	CHK	DESCRIPTION
				100% TEST WAS 100% GO				

QTY	PART NUMBER	DESCRIPTION	QTY	PART NUMBER	DESCRIPTION
2	41095	VALVE ASSEMBLY	2	25366	FLANGE PLUG
2	25366	FLANGE PLUG	2	10694	TI-RING, METRIC
2	10694	TI-RING, METRIC	1	10693	TEE, SPL
1	10693	TEE, SPL	2	31136	LICKWASHER
2	31136	LICKWASHER	2	27159	SPLIT FLANGE KIT, 1 1/4 C/DIE 61
2	27159	SPLIT FLANGE KIT, 1 1/4 C/DIE 61	1	25131	ELBOW
1	25131	ELBOW	1	34195	HTSE -- 4 X 910 0
1	34195	HTSE -- 4 X 910 0	1	13838	TI-RING
1	13838	TI-RING	1	10668	SPACER
1	10668	SPACER	4	10667	CAPSCREW, METRIC
4	10667	CAPSCREW, METRIC	4	41254	SPLIT FLANGE KIT, 1" C/DIE 61
4	41254	SPLIT FLANGE KIT, 1" C/DIE 61	3	11788	HEX NUT
3	11788	HEX NUT	3	29520	CAPSCREW
3	29520	CAPSCREW	1	41022	UNIT
1	41022	UNIT	4	11028	LICKWASHER
4	11028	LICKWASHER	4	10666	CAPSCREW, METRIC
4	10666	CAPSCREW, METRIC	5	11026	LICKWASHER
5	11026	LICKWASHER	2	10665	CAPSCREW, METRIC
2	10665	CAPSCREW, METRIC			



QTY	PART NUMBER	DESCRIPTION	QTY	PART NUMBER	DESCRIPTION
2	10657	TI-RING, METRIC	2	25864	ADAPTER
2	10656	ELBOW, 90° MET RIC	1	71019	ELBOW
2	10658	PLUG, METRIC	2	71010	ADAPTER
1	10660	DECAL, 2 SPEED	1	25856	ELBOW
1	10637	BRACKET	1	31426	UNIT, 90°
1	31284	ADAPTER	1	104750	WIRING HARNESS
2	27452	ADAPTER, REDUCER	1	41008	INSTRUCTION PLAT E
2	10070	ADAPTER, METRIC	1	80139	VALVE ASSY, LIQD SENSE
1	10647	BRACKET	1	29846	INDICATOR LIGHT
1	41033	CONTROLLER MOUNT ING PLATE	8	11761	HEX NUT
1	41047	ELBOW, -12 X 45 \$	4	11759	CAPSCREW
1	10650	HTSE -- -16 X 34, 00	1	29847	ADAPTER, LING
1	10648	HTSE -- -16 X 42, 00	1	25863	ADAPTER
3	41001	HTSE -- -6 X 910, 0	1	86476	JIMSTICK & TERM NATION ASSY
1	75885	HTSE -- -4 X 45,0 0			
1	41029	HTSE -- -8 X 75,0 0			
1	10663	HTSE -- -8 X 108, 00			
1	10662	HTSE -- -4 X 72, 00			
2	10077	HTSE -- -4 X 27,0 0			
1	41004	ADAPTER, QUICK D ISCONNECT			
1	76649	ELBOW			
2	26686	PLUG			
1	25864	ADAPTER			
1	71019	ELBOW			
2	71010	ADAPTER			
1	25856	ELBOW			
1	31426	UNIT, 90°			
4	104750	WIRING HARNESS			
1	41008	INSTRUCTION PLAT E			
1	80139	VALVE ASSY, LIQD SENSE			
1	29846	INDICATOR LIGHT			
8	11761	HEX NUT			
4	11759	CAPSCREW			
1	29847	ADAPTER, LING			
1	25863	ADAPTER			
1	86476	JIMSTICK & TERM NATION ASSY			

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				100% TEST WAS 100% GO				

REV	DATE	BY	CHK	DESCRIPTION	DATE	BY	CHK	DESCRIPTION
				100% TEST WAS 100% GO				

62648
SHT 2 IF 2

REFERENCE NOTES:

TRACTOR DATA:
 PUMP TYPE: PISTON
 VALVE SPILL: TANDEM CENTER
 VALVE CONTROL: PILOT CONTROL

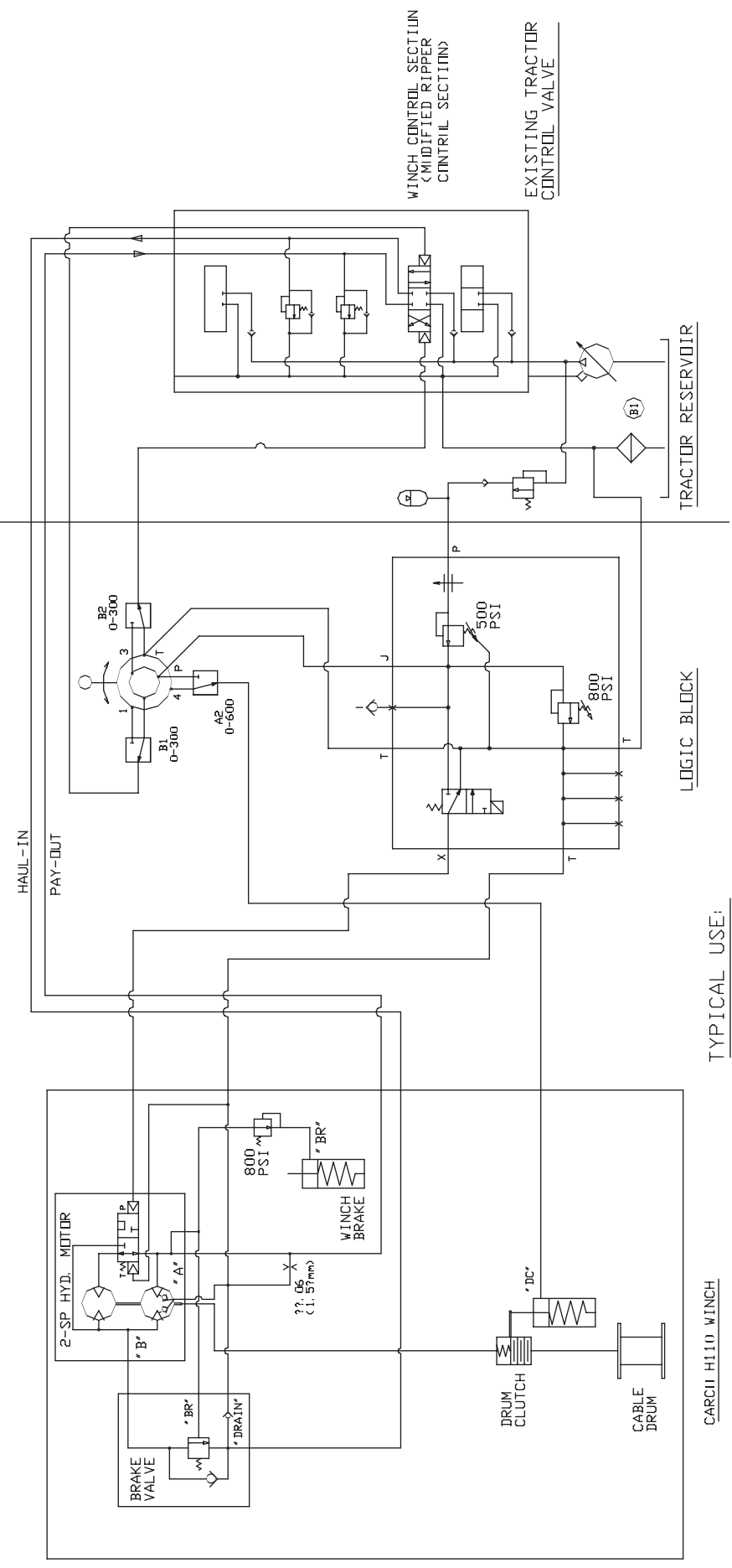
WINCH DATA:
 LOGIC BLOCK: SUN
 MOTOR TYPE: VANE, 2-SPD
 CONTROL LEVER: JOYSTICK

NOTE:

TYPICAL SCHEMATIC FOR 2-SPD VANE MOTOR WITH EXISTING TANDEM CENTER RIPPER VALVE AND LOAD SENSE TRACTOR SYSTEM

WINCH HYDRAULIC SYSTEM

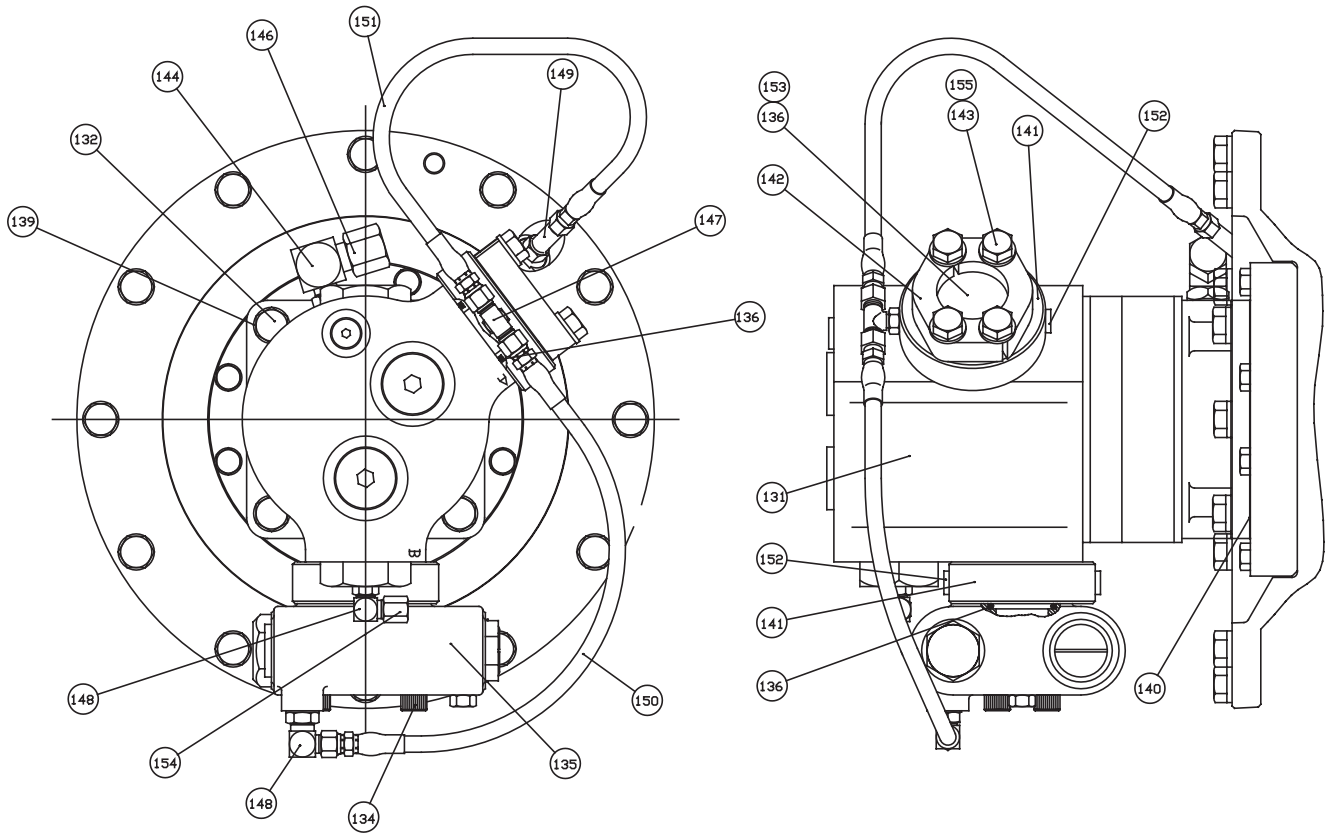
TRACTOR HYDRAULIC SYSTEM



CARCU H110 WINCH

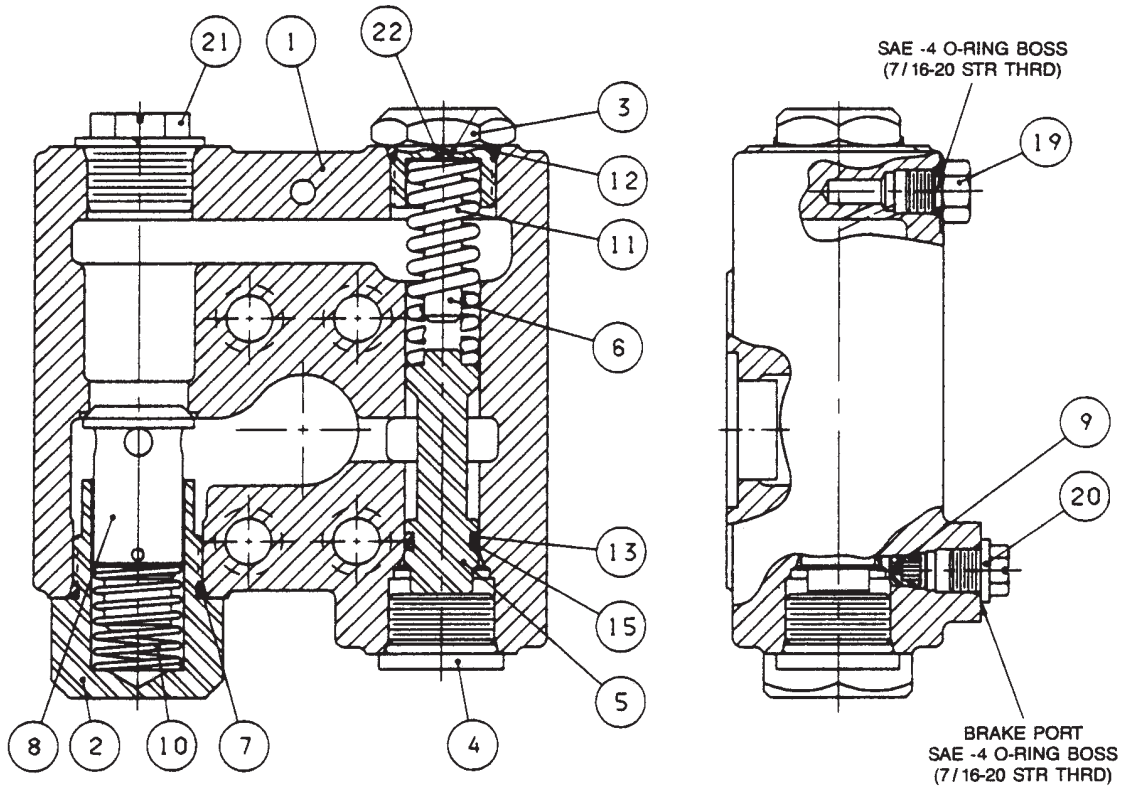
TYPICAL USE:

H110 / KIMATSU D155AX-3



ITEM	PART NO.	DESCRIPTION	QTY.
	29728	HYDRAULIC MOTOR (19 CU. IN. DISPLACEMENT)	1
131	29320	HYDRAULIC MOTOR (15 CU. IN. DISPLACEMENT)	1
132	13938	CAPSCREW, HEX HEAD (1/2 - 13 X 1 1/4 GD5)	4
134	29399	CAPSCREW, SOCKET HEAD (7./16 - 14 X 2 3/4 GD8)	4
135	82142	BRAKE VALVE ASSEMBLY (SEE PAGE 10)	1
136	13838	O-RING	2
139	11026	LOCKWASHER (1/2)	4
140	13684	GASKET	1
141	29389	ADAPTER BLOCK	1
142	76478	SHIPPING COVER	1
143	22695	CAPSCREW, HEX HEAD (7/16 - 14 X 1 3/4 GD5)	4
144	25963	ADAPTER	1
146	75281	CAP (-6)	1
147	25554	TEE (-4 ORB - JIC)	1
148	25302	ELBOW, 90° (-4 ORB - JIC)	1
150	25935	HOSE, 14 IN. (356 MM)	1
151	25952	HOSE, 20 IN. (508 MM)	1
152	27675	PLUG (-4 ORB)	1
153	25864	ADAPTER (-4 ORB - JIC)	1
154	70182	CAP (-4)	1

**MODEL H110
BRAKE VALVE ASSEMBLY**



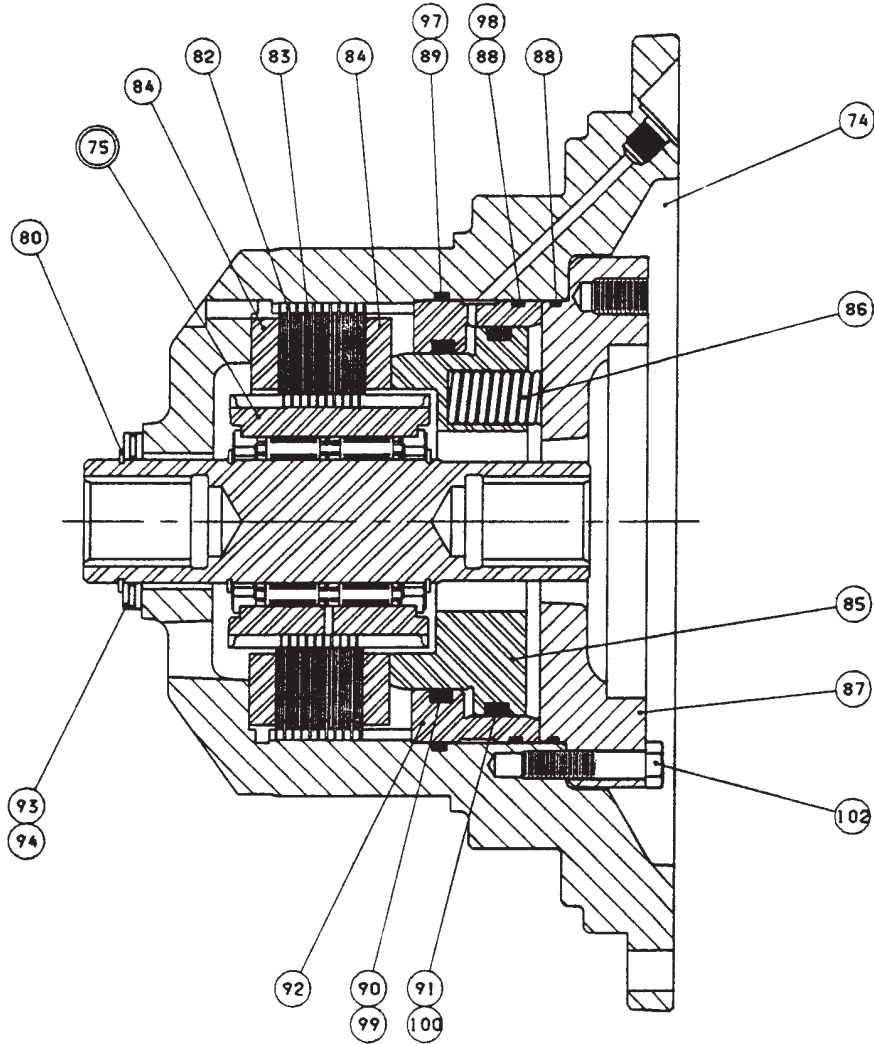
ASSEMBLY INSTRUCTIONS:

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.
3. Brake valve cracking pressure shall be 550 psi (3,800 kPa) @ 5 gpm (19 lpm). Shim as required; 85 psi (586 kPa) per .001 in (.025 mm) shim.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
	82142	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	82143	CHECK POPPET/RELIEF VALVE 3700 psi (25,500 kPa)	1
9	24200	PILOT ORIFIC	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	25487	SHIPPING PLUG	1
22	25661	SHIM, MAIN SPOOL SPRING	AR

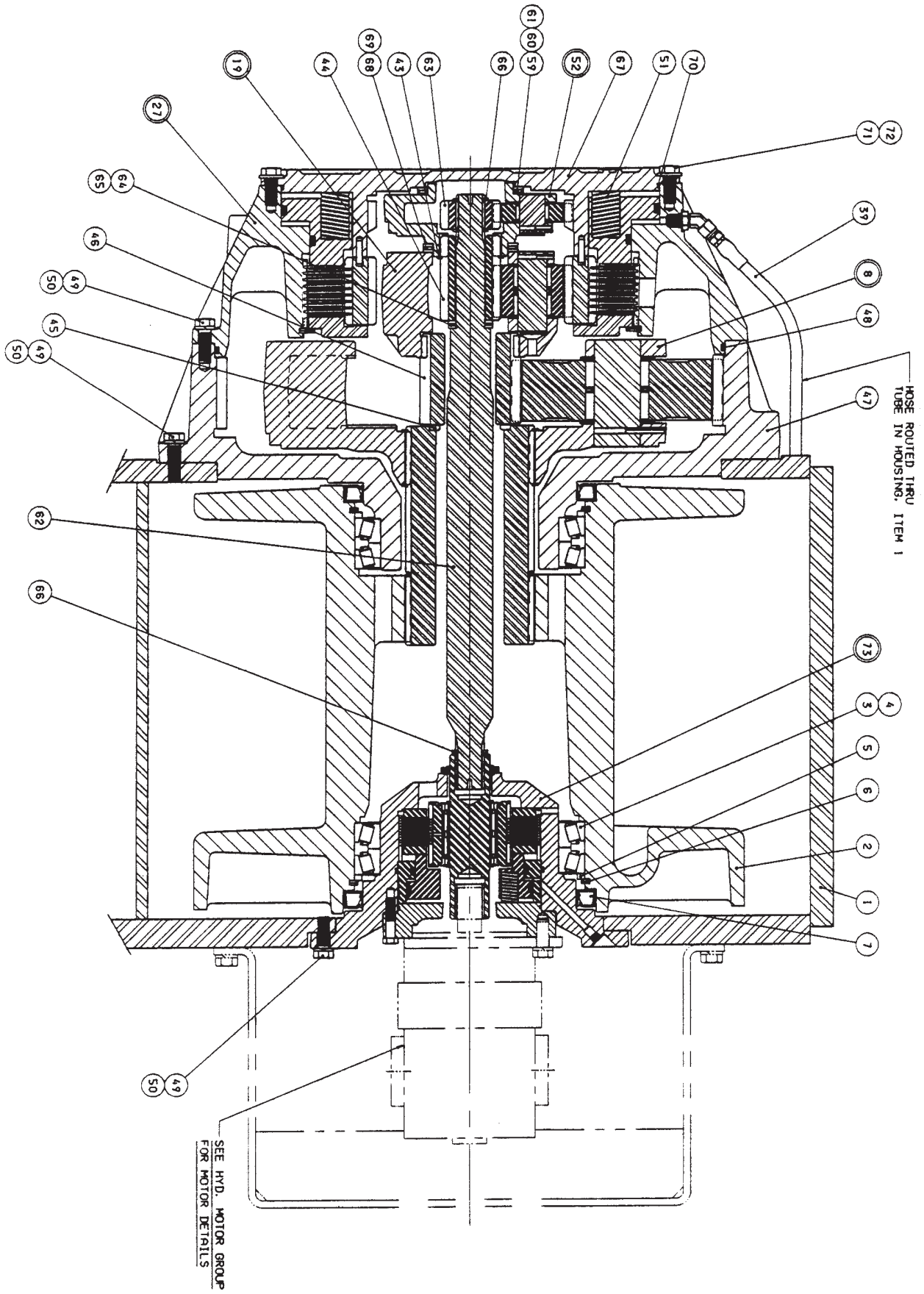
NSS - NOT SERVICED SEPARATELY
AR - AS REQUIRED

MODEL H110
BRAKE HOUSING ASSEMBLY
SAE "C"



ITEM	PART NO.	DESCRIPTION	QTY.
74	29341	BRAKE HOUSING	1
75	82068	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	2
85	29274	BRAKE PISTON	1
86	29301	SPRING	13
87	29284	SPRING RETAINER/MOTOR PILOT SAE "C"	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
97	28828	BACK-UP RING	1
98	29368	BACK-UP RING	1
99	29369	BACK-UP RING	1
100	29370	BACK-UP RING	1
102	29712	CAPSCREW, HEX HEAD (3/8 - 16 x 1 1/4 GD8)	8

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

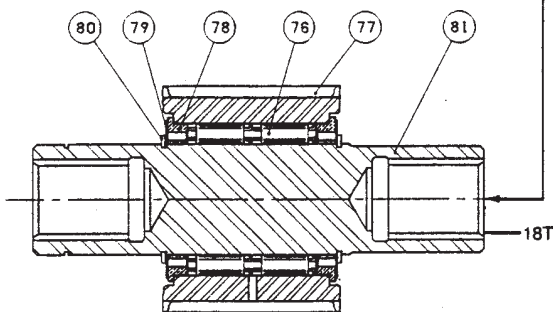


**MODEL H110
WINCH HOUSING GROUP
H110-156FXX-XX-X-X**

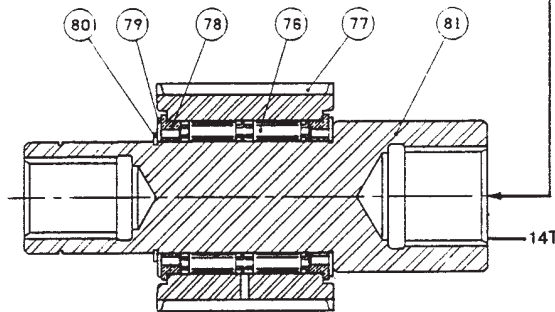
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	29743	WINCH HOUSING	1
2	29258	CABLE DRUM	1
3	29277	BEARING CONE	4
4	29278	BEARING CUP	4
5	29279	SPACER RING	2
6	29280	RETAINING RING	2
7	29281	OIL SEAL	2
8	82074	OUTPUT PLANET CARRIER ASSEMBLY (REFER TO PAGE 16)	1
19	82071	SECONDARY PLANET CARRIER ASSEMBLY (REFER 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 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	18050	THRUST BEARING	1
61	26291	THRUST BEARING RACE - .062 in. (1.58 mm) THICK	1
62	29263	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 1/4 G8)	10
72	27248	WASHER, HARDENED (1/2)	10
73	82067	BRAKE HOUSING ASSEMBLY (REFER TO PAGE 11 FOR DETAILS)	1

**MODEL H110
OVERRUNNING BRAKE
CLUTCH ASSEMBLY**

**BRAKE SHAFT
FREEWHEELS CLOCKWISE
LOOKING AT THIS END**



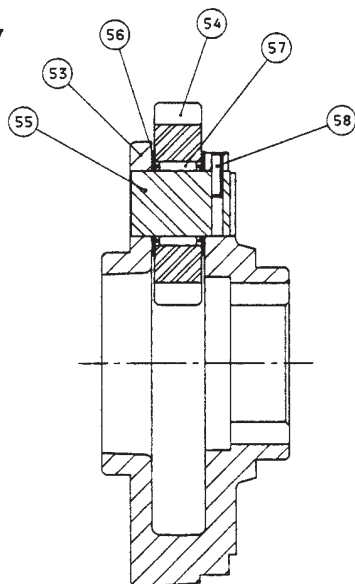
82068 - SAE "C"



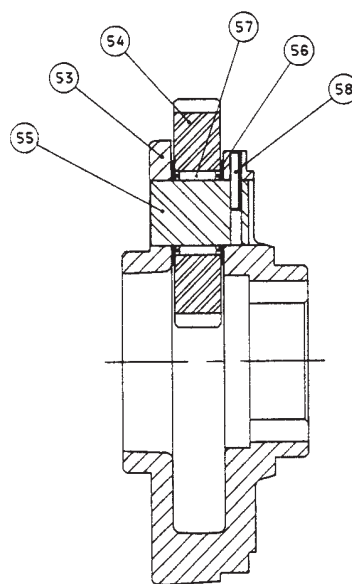
82138 - METRIC

ITEM NO.	PART NO.	DESCRIPTION	QTY.	
	82068	BRAKE CLUTCH ASSEMBLY - SAE "C" SPLINE	1	—
	82138	BRAKE CLUTCH ASSEMBLY - METRIC - REXROTH	—	1
76	24839	SPRAG CLUTCH	2	2
77	29283	OUTER BRAKE RACE	1	1
78	27684	SPRAG BEARING - BRONZE ALLOY	2	2
79	24581	THRUST WASHER	2	2
80	12034	RETAINING RING	2	1
81	29288	BRAKE SHAFT - SAE "C"	1	—
	29829	BRAKE SHAFT - METRIC - REXROTH	—	1

**MODEL H110
PRIMARY PLANET ASSEMBLY**



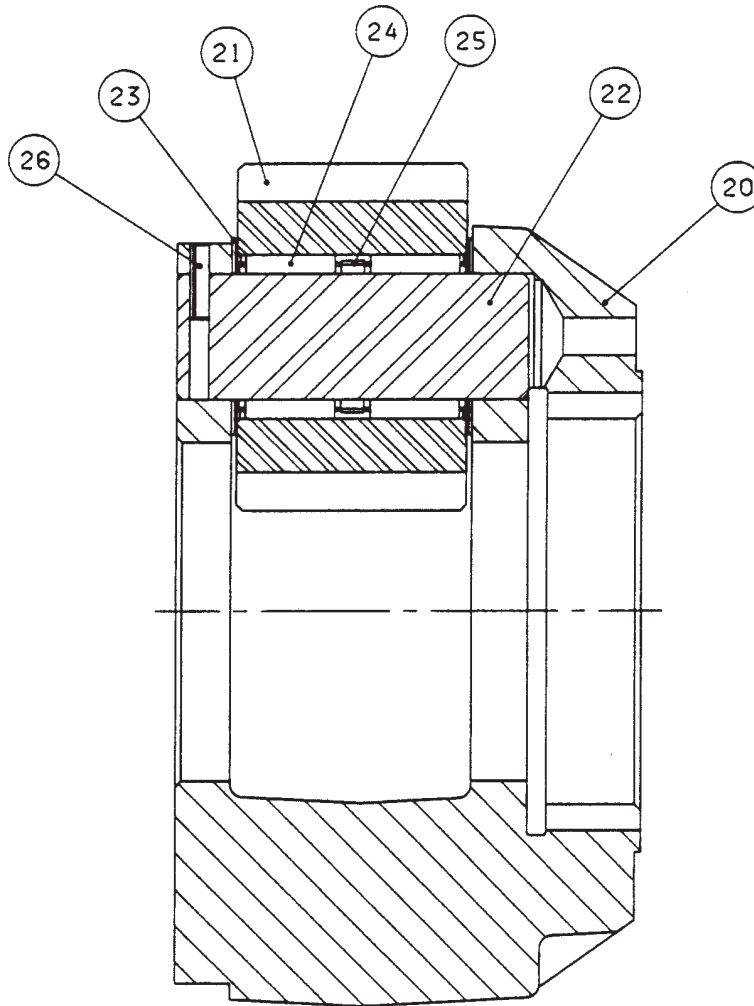
**4.84:1
82090**



**7.62:1
82130**

ITEM NO.	PART NO.	DESCRIPTION	QTY.	
52	82090	PRIMARY PLANET CARRIER ASSEMBLY - 4.84:1	1	—
	82130	PRIMARY PLANET CARRIER ASSEMBLY - 7.62:1	—	1
53	29864	PRIMARY PLANET CARRIER - 4.84:1	1	—
	29761	PRIMARY PLANET CARRIER - 7.62:1	—	1
54	24442	PRIMARY PLANET GEAR - 4.89:1, 18T	3	—
	29762	PRIMARY PLANET GEAR - 7.62:1, 36T	—	3
55	26294	PRIMARY PLANET GEAR SHAFT	3	3
56	24479	THRUST WASHER	6	6
57	24480	ROLLER BEARING	3	3
58	24113	ROLL PIN - 4.84:1	3	—
	21058	ROLL PIN - 7.62:1	—	3

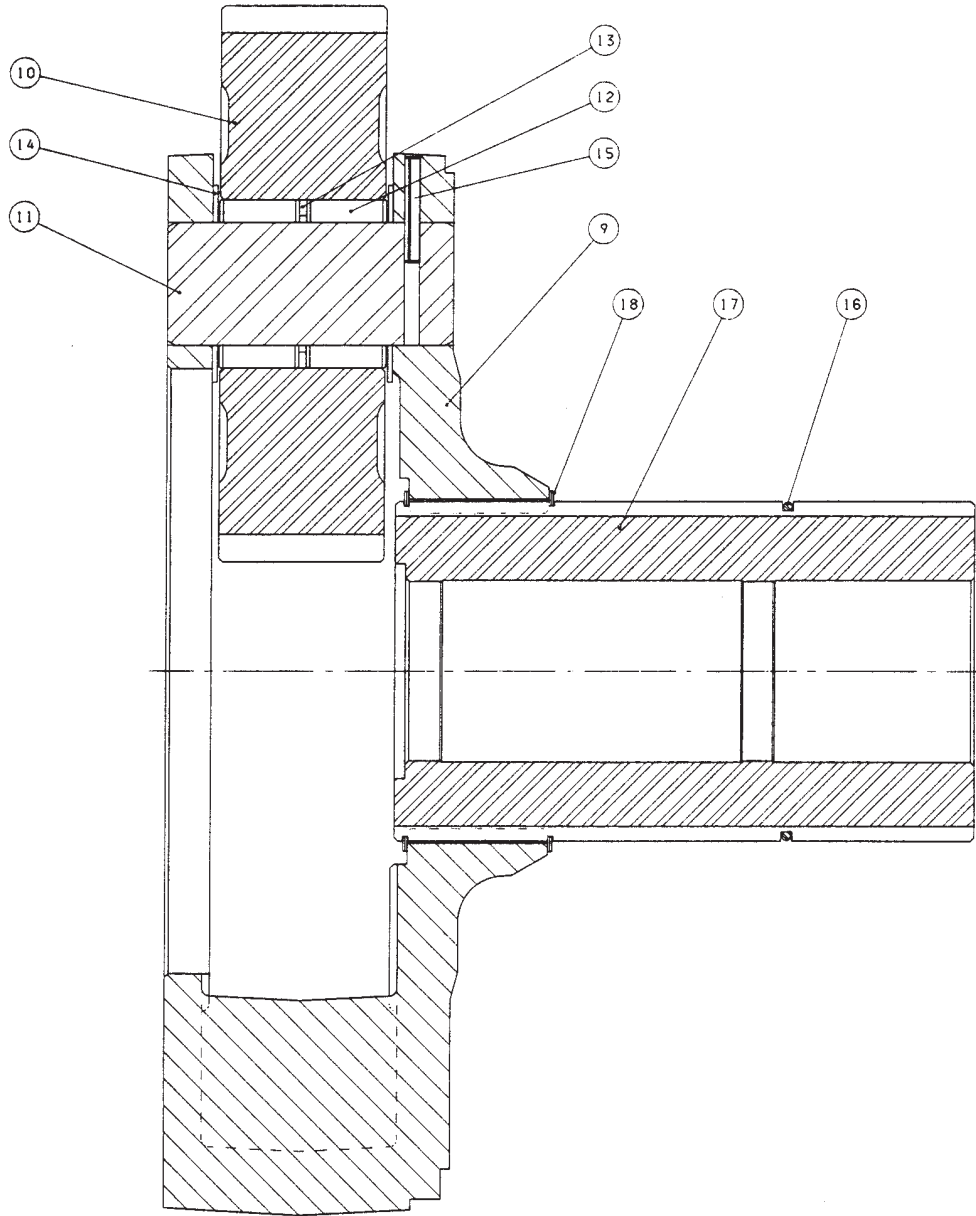
MODEL H110
SECONDARY PLANET ASSEMBLY



4.84:1

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

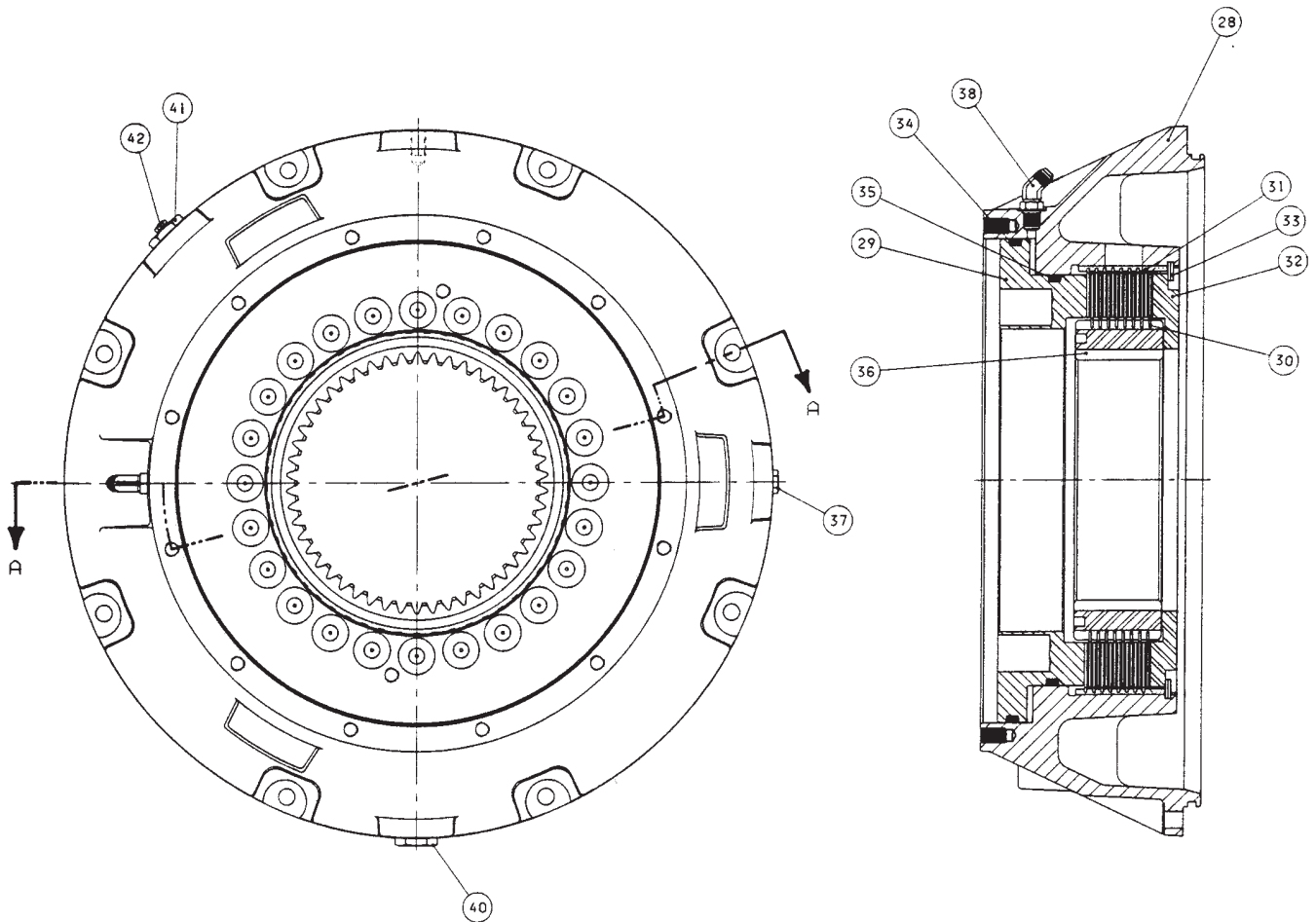
**MODEL H110
OUTPUT PLANET ASSEMBLY**



6.63:1

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

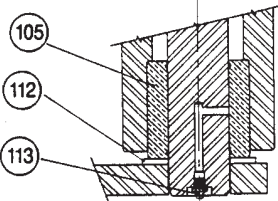
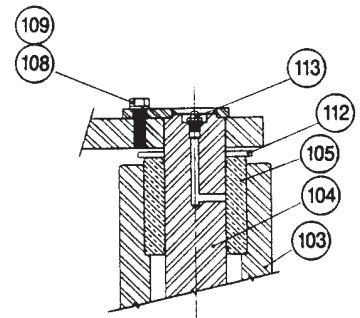
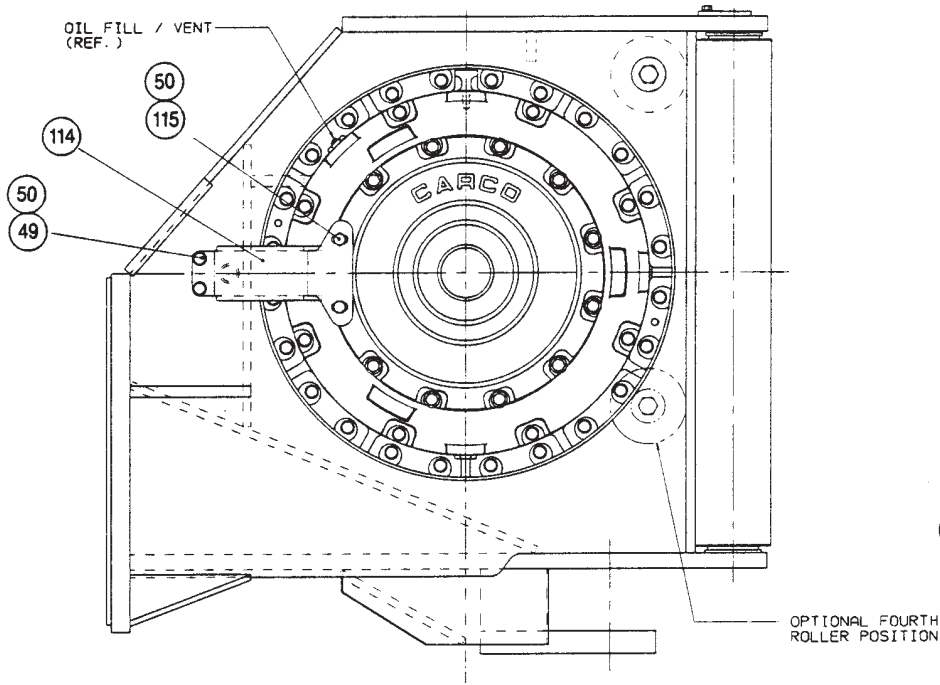
**MODEL H110
DRUM CLUTCH ASSEMBLY**



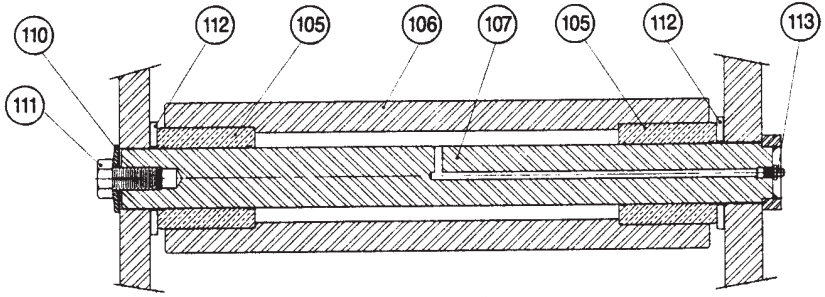
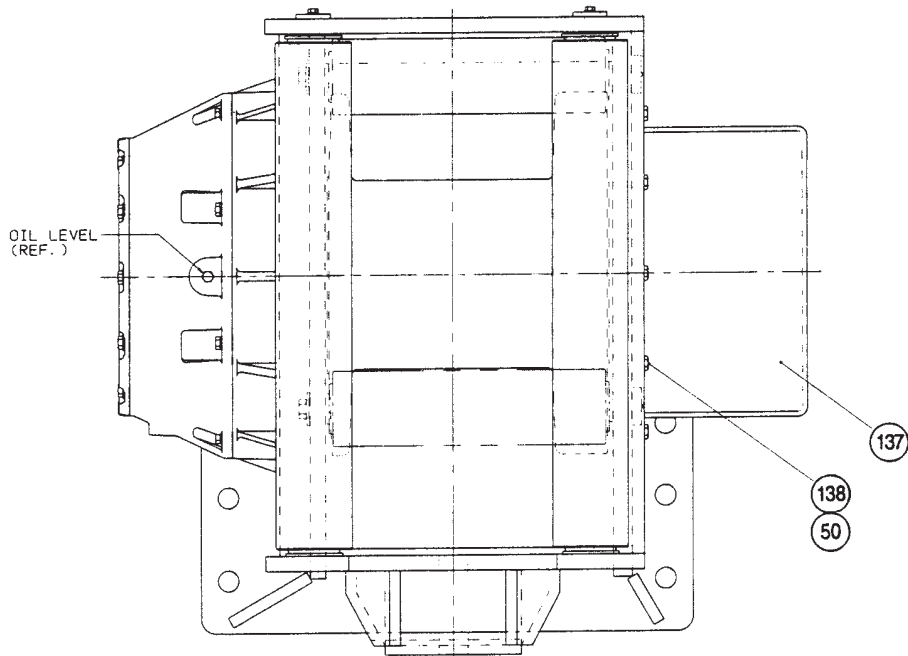
Note: 1st friction disc, item 30, must be installed against pressure plate, item 32, and steel divider disk, item 31, must be installed against brake piston.

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**



Verticle



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 - VERTICLE	2	2
104	29311	ROLLER SHAFT - VERTICLE	2	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