

GRADALL[®]

Illustrated Parts Manual

Models
522D LoPro
524D LoPro

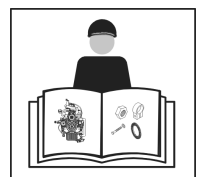
S/N 0191001

P/N - 9148-4013

Revised July 6, 2007



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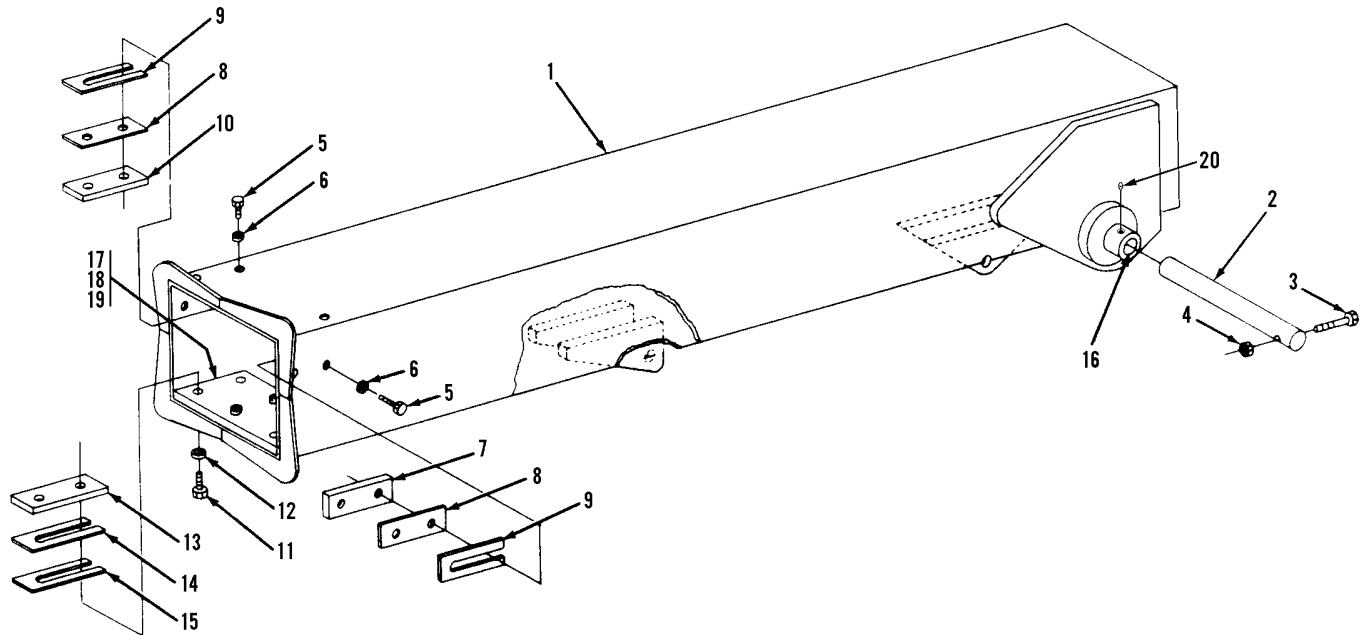
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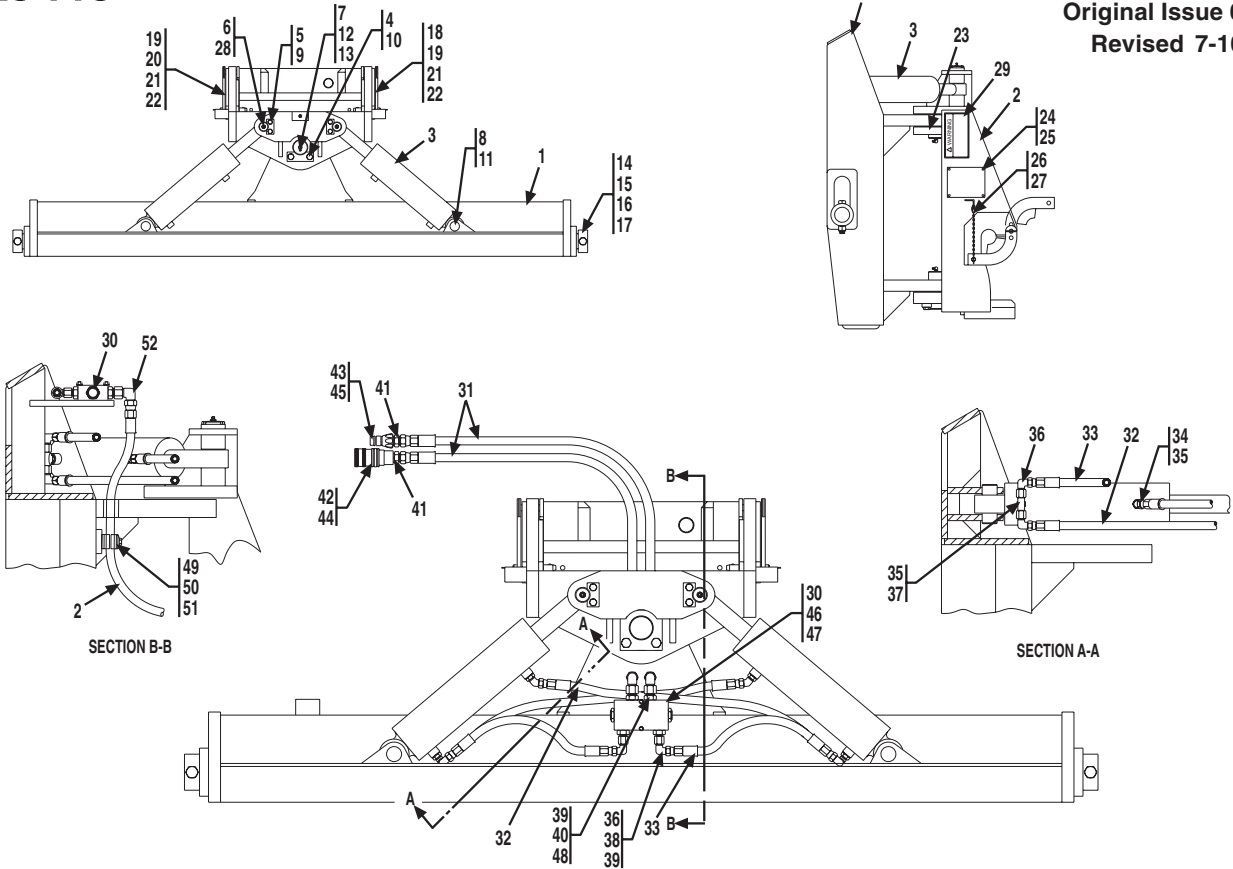
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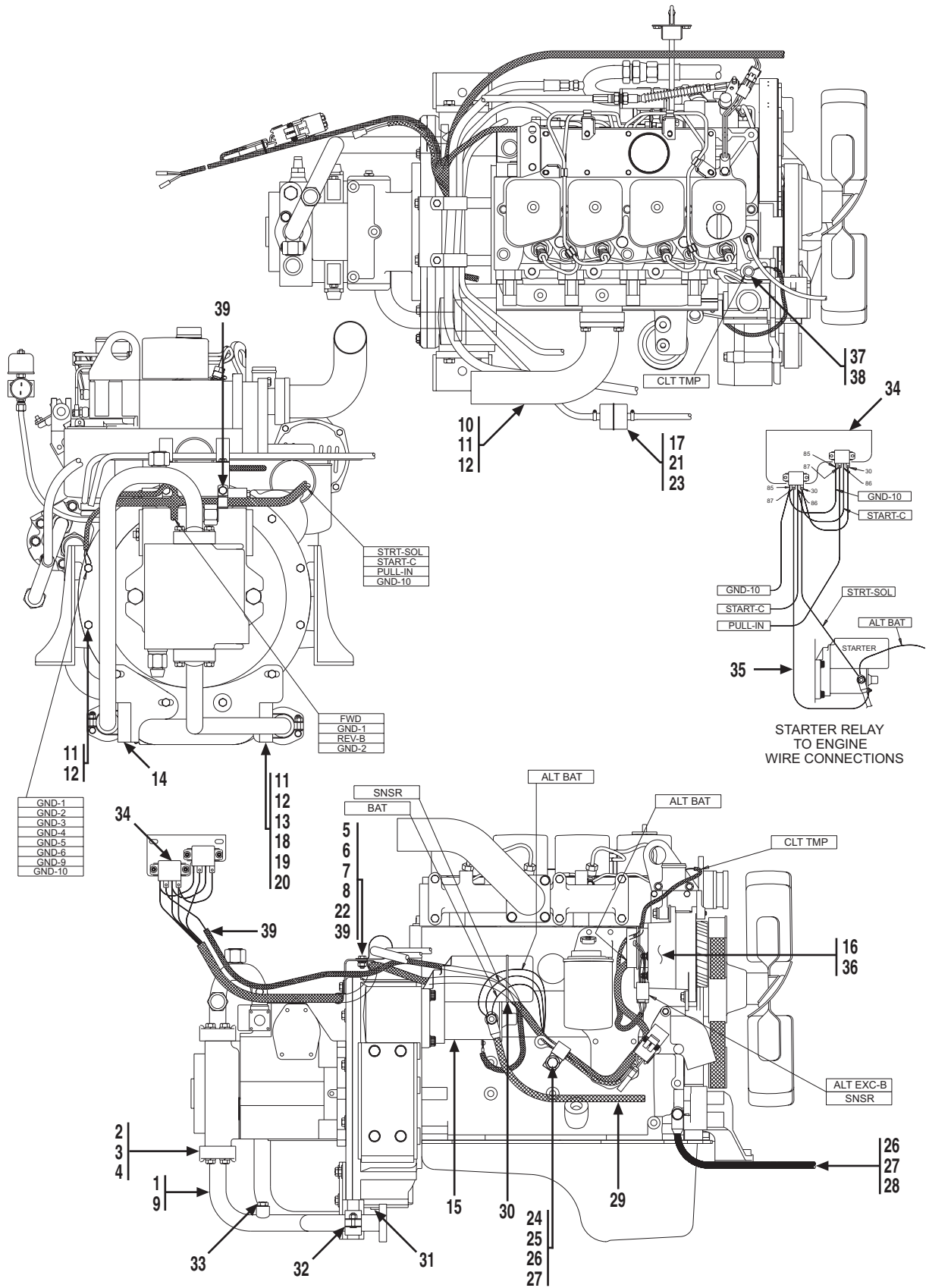
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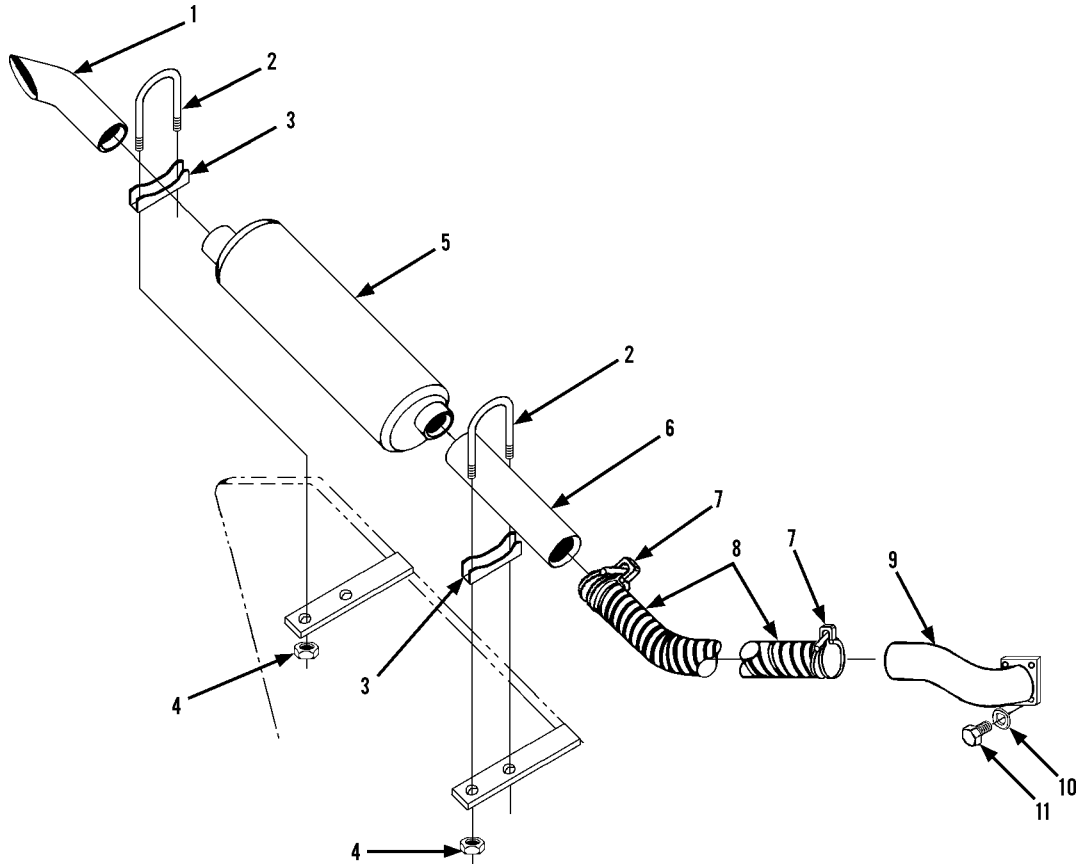


Item	Part No.	Qty.	Description Of Part
1	9108-6101	1	FIRST BOOM SECTION
2	9108-1148	1	BOOMBASE PIN
3	8820-1107	1	HEX HD CAPSCREW, 5/8-11X5
4	8852-1010	1	HEX LOCKNUT, 5/8-11
5	8820-1532	8	HEX HD CAPSCREW, 3/8-24X3/4, GR5, (torque to 32-37 ft lbs)
	8820-1533	AR	HEX HD CAPSCREW, 3/8-24X7/8, GR5, (torque to 32-37 ft lbs)
6	9002-7470	8	HARDENED FLATWASHER, 3/8
7	9103-3186	2	BEARING PAD
8	9103-1236	4	SPACER
9	9020-5870	4	SHIM
10	9103-3189	2	BEARING PAD
11	8820-1568	4	HEX HD CAPSCREW, 1/2-20X2, GR5, (torque to 68-78 ft lbs)
	8820-1569	AR	HEX HD CAPSCREW, 1/2-20X2-1/4, GR5, (torque to 68-78 ft lbs)
12	9002-7471	4	HARDENED FLATWASHER, 1/2
13	9108-3063	2	BEARING PAD
14	9108-1172	2	SPACER
15	9108-1171	2	SHIM
16	9108-3298	2	BUSHING
17	9108-1397	1	BEARING PLATE
18	8820-1607	2	HEX HD CAPSCREW, 3/4-16X1-1/4, GR5
19	9002-7473	2	WASHER
20	8867-1001	2	LUBE FITTING, STRAIGHT, 1/8

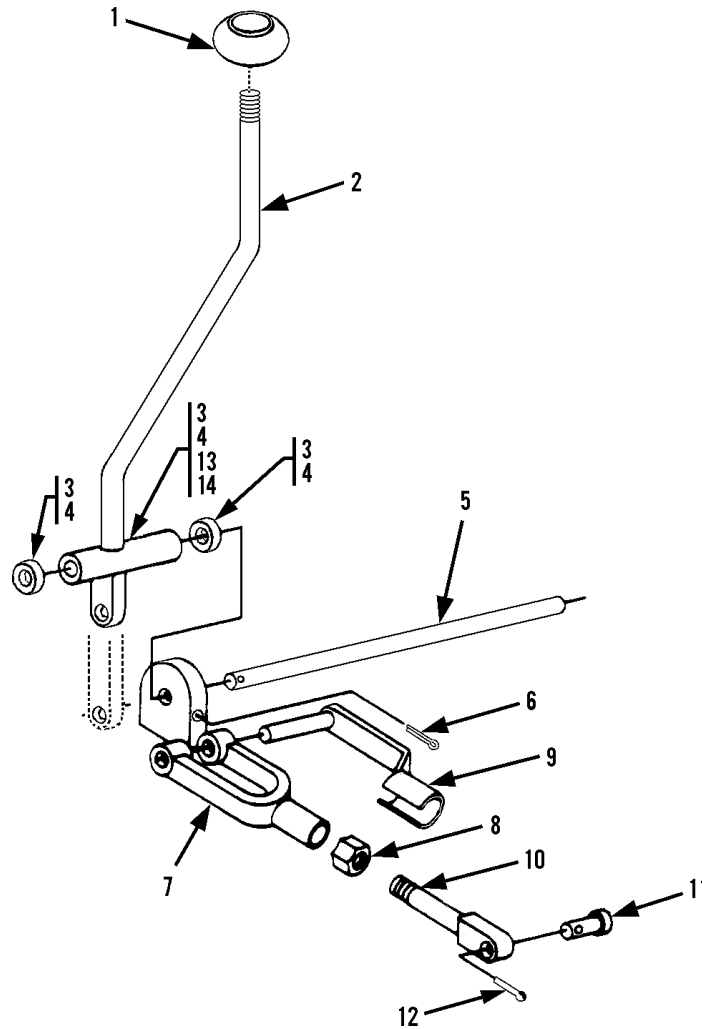


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9045-5044	1	100° SWING FORK ASSEMBLY, (includes all items)	31	8471-8067	2	HOSE ASSEMBLY
1	9104-6061	1	CARRIAGE WELDMENT	32	9020-4097	2	HOSE ASSEMBLY
2	9104-6062	1	PIVOT WELDMENT	33	7713-3201	2	HOSE ASSEMBLY
3	9045-3034	2	HYDRAULIC CYLINDER	34	8866-2084	2	ELBOW, 45 DEGREE, (includes item 35)
4	9104-1322	2	LOCKING PLATE	35	8859-1204	6	O-RING
5	9141-1073	2	LOCKING PLATE	36	8866-2105	6	ELBOW, 90 DEGREE, (swivel nut)
6	9104-1324	2	PIVOT PIN	37	8866-2152	2	BRANCH TEE, (includes item 35)
7	9104-1325	2	PIVOT PIN	38	8866-2018	2	CONNECTOR, (includes item 39)
8	9104-1326	2	PIVOT PIN	39	8859-1205	4	O-RING
9	8320-1024	4	HEX HD CAPSCREW, 3/8-16X1, GR8	40	9104-1361	2	FITTING
10	8320-1026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	41	8866-1013	2	MALE CONNECTOR, 1/2X1/2 TUBE, (Before S/N 2005283-01)
11	8858-1136	4	SNAP RING		8866-2006	2	CONNECTOR, (includes 8859-1205 o-ring), (S/N 2005283-01 & After)
12	8867-1022	2	LUBE FITTING, 90 DEGREE, 1/8	42	9116-3139	1	FEMALE QUICK DISCONNECT, (Before S/N 2005283-01)
13	9104-1327	2	BUSHING		9140-3413	1	FEMALE QUICK DISCONNECT, (S/N 2005283-01 & After)
14	9055-1013	1	FORK PIN	43	9116-3138	1	MALE QUICK DISCONNECT, (Before S/N 2005283-01)
15	9020-0003	2	COLLAR		9140-3414	1	MALE QUICK DISCONNECT, (S/N 2005283-01 & After)
16	8820-1105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	44	9104-3125	1	DUST CAP
17	8852-1310	2	HEX LOCKNUT, 5/8-11	45	9104-3126	1	DUST CAP
18	9114-6053	1	LH SUPPORT BRACKET	46	8820-1008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5
19	9114-1350	2	PIN	47	8856-1002	2	FLAT WASHER, 1/4
20	9114-6054	1	RH SUPPORT BRACKET	48	9104-1362	2	ORIFICE FITTING
21	8863-1449	2	ROLL PIN, 1/8X1-1/2	49	9108-3249	1	CLAMP SET
22	9104-3221	2	DETENT PIN	50	7713-3140	1	COVER PLATE
23	9104-1356	6	SPACER	51	7713-3177	1	HEX HD CAPSCREW, 5/16X1-3/8
24	9015-3001	1	SERIAL NUMBER PLATE	52	8866-2106	2	ELBOW, 90 DEGREE, (swivel nut)
25	8834-1022	4	DRIVE SCREW, #10X3/8				
26	9103-3039	2	CHAIN CONNECTION				
27	9103-3038	24"	CHAIN				
28	8867-1008	2	LUBE FITTING, STRAIGHT, 1/4-28				
29	9114-3282	2	PINCH POINT DECAL				
30	9104-3186	1	DOUBLE PILOT CHECK VALVE				





Item	Part No.	Qty.	Description Of Part
1	9108-3560	1	TAIL PIPE
2	8368-3175	2	MUFFLER CLAMP, (includes items 3 & 4)
3		2	BRIDGE
4		4	NUT
5	9108-3250	1	MUFFLER
6	9148-3011	1	EXHAUST PIPE
7	9116-3268	2	FLEX PIPE CLAMP
8	9148-3041	1	FLEXIBLE TUBING
9	9108-6055	1	EXHAUST TUBE
10	8319-1013	4	LOCKWASHER, M10
11	8319-1021	4	HEX HD CAPSCREW, M10X1.5X30
			NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



Item	Part No.	Qty.	Description Of Part
	9138-5009	1	TILT LEVER ASSEMBLY, (includes items 1, 2 and 13)
1	9020-0638	1	KNOB
2	9138-6007	1	TILT LEVER WELDMENT
3	9002-8662	3	WAVE BEND WASHER
4	8856-1113	9	FLAT WASHER, 5/8
5	9108-1354	1	SHAFT
6	8863-1338	1	COTTER PIN, 3/16X1-3/4
7	8882-1004	1	YOKE END
8	8850-1406	1	HEX JAM NUT, 3/8-24
9	9002-7987	1	SPRING CLEVIS
10	9108-6081	1	ROD LINKAGE
11	9002-1552	1	CLEVIS PIN
12	9136-3036	1	HITCH PIN CLIP
13	9108-3136	2	BUSHING
14	9130-1020	1	SPACER

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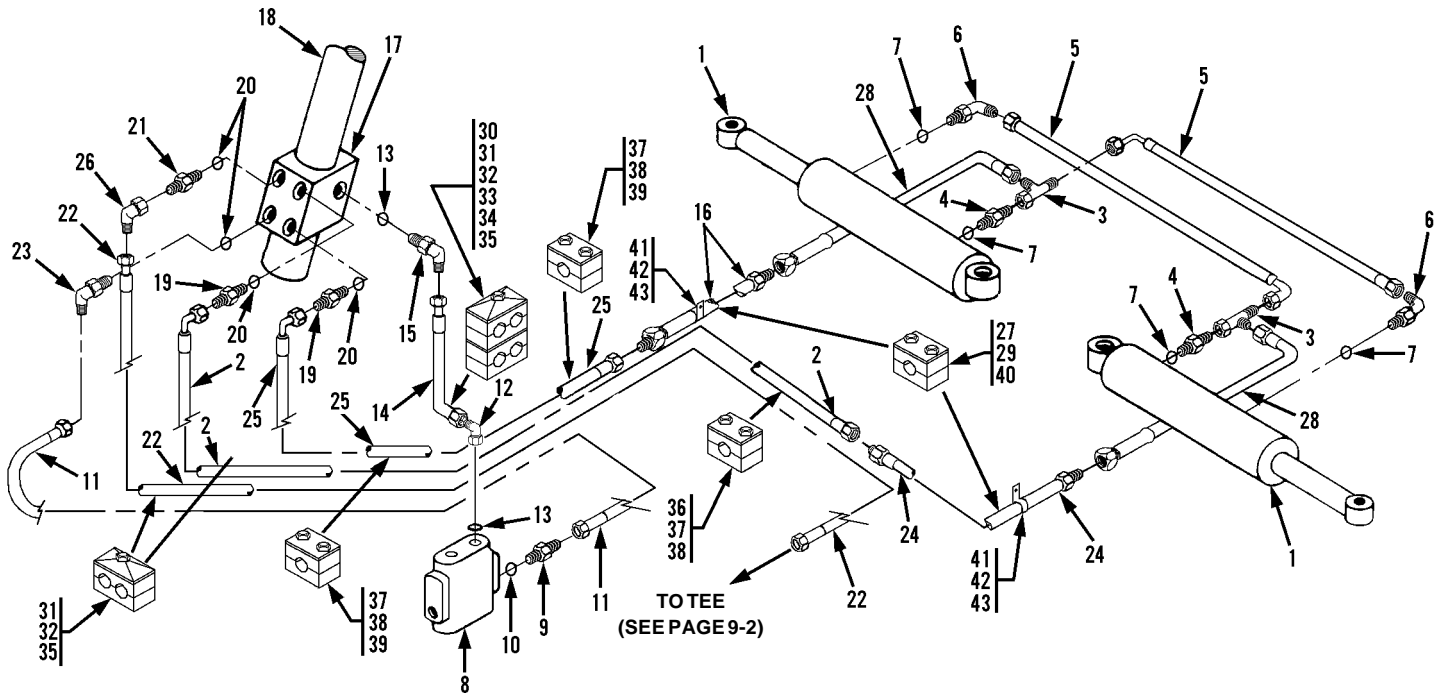
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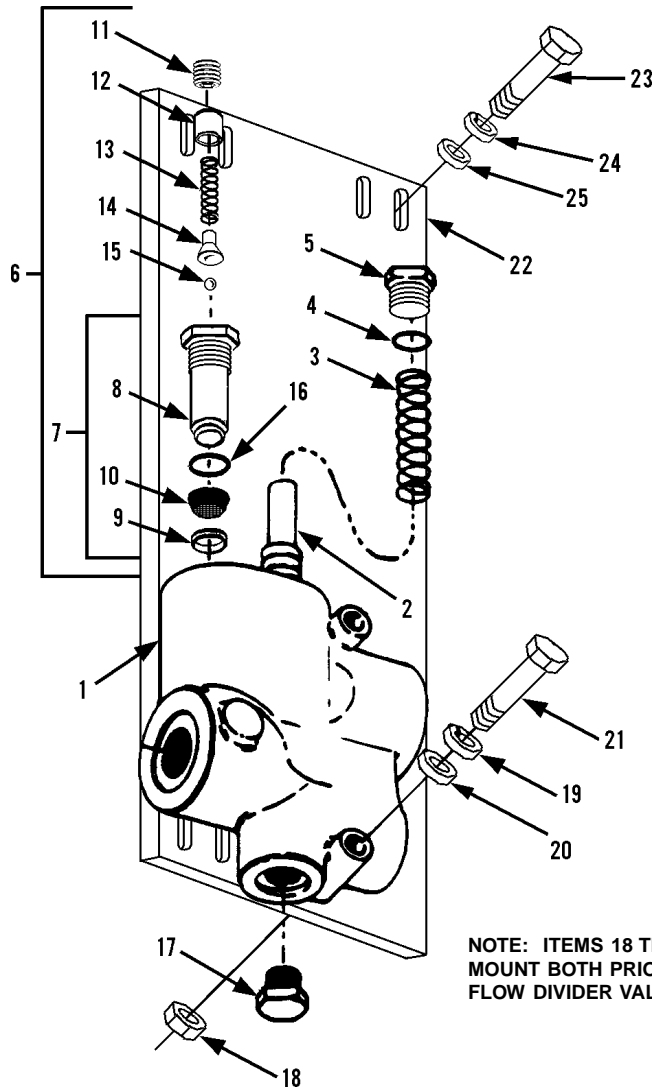
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Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	HYDRAULIC RESERVOIR, (see page 10-16 for details)	22		Ref	OIL COOLER ASSY, (see page 5-5 for details)
2	8866-2106	1	ELBOW, 90 DEGREE, (swivel nut)	23		Ref	HOSE ASSY, (see page 9-8, item 22 for details)
3	8471-8164	1	HOSE ASSY	24	8866-1345	1	TUBE END REDUCER, 3/4X3/8
4	8471-9071	1	HOSE ASSY	25	8866-1408	1	NUT
5	8362-3032	1	ELBOW, 90 DEGREE	26	8866-2227	1	SWIVEL NUT BRANCH TEE, 3/4 TUBE
6	8471-9109	1	HOSE ASSY	27	8866-2239	1	SWIVEL NUT RUN TEE, 3/8 TUBE
7	8866-1365	1	HEX CAP, 1/2 TUBE	28	9105-3426	1	STRAIGHT THREAD ADAPTER, (includes item 15)
8	8471-7839	1	HOSE ASSY	29		Ref	FRONT DRIVE MOTOR ASSY, (see page 10-15 for details)
9	8866-1364	1	HEX CAP, 3/8 TUBE	30	7713-3053	1	CLAMP SET
10	8866-1362	1	HEX CAP, 1/4 TUBE	31	7713-3052	1	COVER PLATE
11	9112-3149	1	DRAIN TUBE ASSY	32	8820-1010	2	HEX HD CAPSCREW, 1/4-20X2-1/4, GR5
12	8471-7911	1	HOSE ASSY	33	8850-1004	2	HEX NUT, 1/4-20
13	8866-2105	1	ELBOW, 90 DEGREE, (swivel nut)	34	8855-1009	2	LOCKWASHER, 1/4
14	8471-6719	1	HOSE ASSY	35	8856-1107	2	FLAT WASHER, 1/4
15	8859-1207	1	O-RING	36	8866-1013	1	MALE CONNECTOR
16	8866-2008	2	CONNECTOR, (includes item 17)	37	7149-2142	8"	FLEX LOOM
17	8859-1207	2	O-RING	38	8668-3122	2	TIE WRAP
18		Ref	HYDROSTATIC TRANSMISSION, (see page 10-14 for details)	39	9002-7187	1	TIE WRAP
19		Ref	MAIN HYDRAULIC CONTROL VALVE, (see page 10-6 for details)				
20	8866-2108	1	ELBOW, 90 DEGREE, (swivel nut)				
21	8471-9110	1	HOSE ASSY				

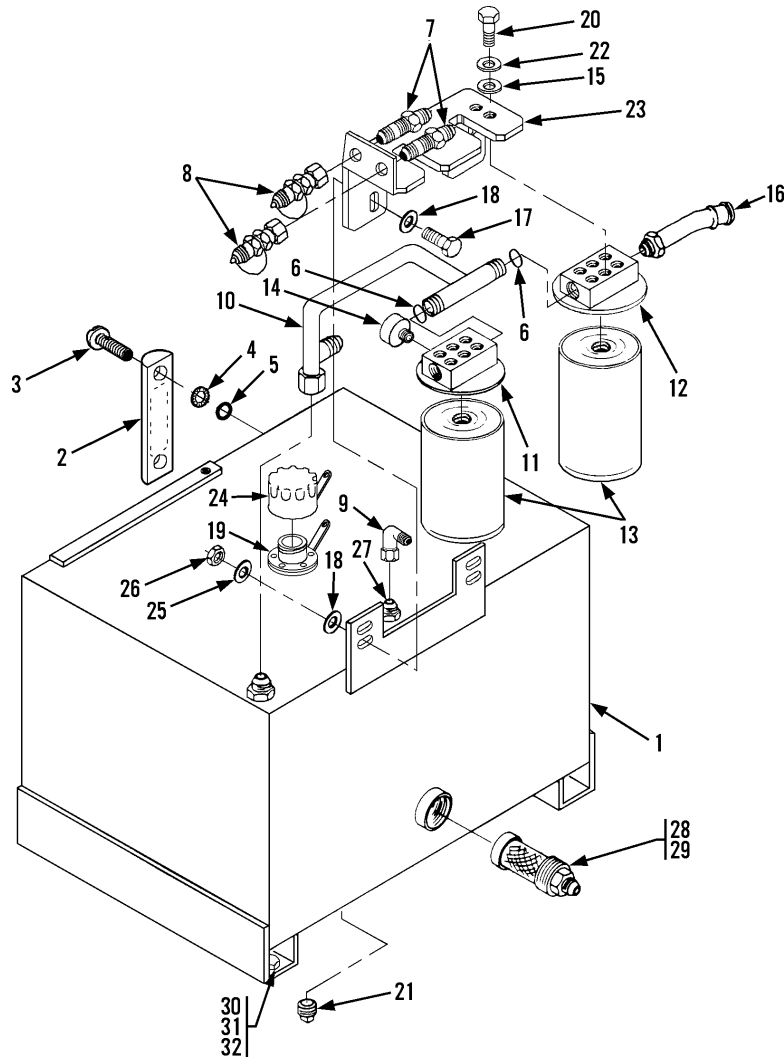


Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1		Ref	STEERING CYLINDER, (see page 10-5 for details)	20	8859-1205	4	O-RING
2	8471-9646	1	HOSE ASSY	21	8866-2018	1	CONNECTOR, (includes item 20)
3	8866-2240	2	SWIVEL NUT RUN TEE, 1/2 TUBE	22	8471-9647	1	HOSE ASSY
4	8866-2026	2	CONNECTOR, (includes o-ring)	23	8866-2065	1	ELBOW, 90 DEGREE, (includes item 20)
5	8471-8189	2	HOSE ASSY	24	9148-3021	1	L.H. TUBE ASSY
6	8866-2064	2	ELBOW, 90 DEGREE, (includes item 7)	25	8471-9042	1	HOSE ASSY
7	8859-1204	4	O-RING	26	8866-2105	1	ELBOW, 90 DEGREE, (swivel nut)
8		Ref	PRIORITY FLOW CONTROL VALVE, (see page 10-8 for details)	27	7713-3499	4	HEX HD CAPSCREW, 1/4-20X1-5/16
9	8866-2019	1	CONNECTOR, (includes item 10)	28	9002-2042	2	HOSE ASSY
10	8859-1206	1	O-RING	29	7713-3498	2	COVER PLATE
11	8471-7854	1	HOSE ASSY	30	9121-3002	1	CLAMP SET
12	8866-2062	1	ELBOW, 90 DEGREE, (includes item 13)	31	7732-3029	2	CLAMP SET
13	8859-1202	2	O-RING	32	8820-1023	2	HEX HD CAPSCREW, 5/16-18X1-3/4
14	8471-8439	1	HOSE ASSY	33	7713-3306	1	STACK BOLT
15	8866-2062	1	ELBOW, 90 DEGREE, (includes item 13)	34	7713-3390	1	SAFETY CLIP
16	9148-3022	1	R.H. TUBE ASSY	35	7713-3137	2	COVER PLATE
17		Ref	STEERING CONTROL UNIT, (see page 7-3 for details)	36	7713-3893	1	CLAMP SET
18		Ref	STEERING COLUMN, (see page 7-3 for details)	37	7713-3052	3	COVER PLATE
19	8866-2006	2	CONNECTOR, (includes item 20)	38	7713-3209	6	HEX HD CAPSCREW, 1/4-20X1-3/8
				39	7713-3073	2	CLAMP SET
				40	9103-3138	2	CLAMP SET
				41	8594-1016	2	SUPPORT CLAMP
				42	8855-1010	2	LOCKWASHER, 5/16
				43	8850-1005	2	HEX NUT, 5/16-18

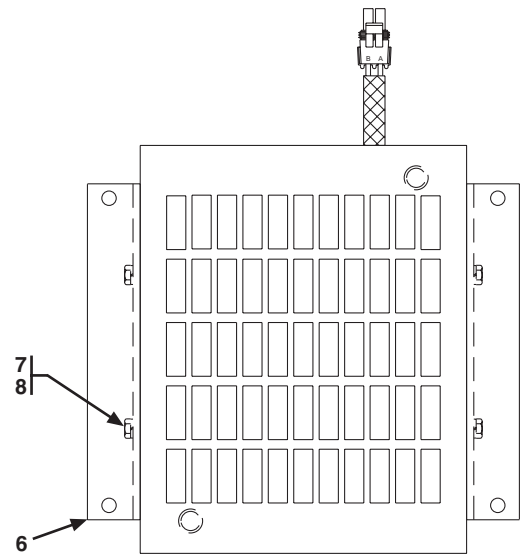
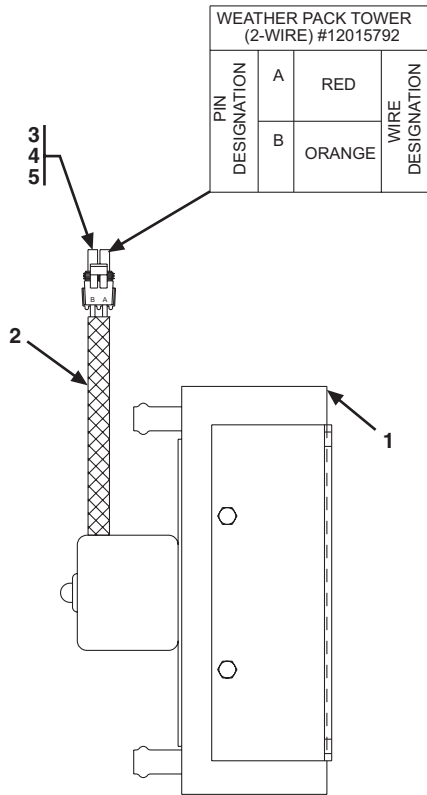


NOTE: ITEMS 18 THRU 20 INCLUDE QUANTITIES TO MOUNT BOTH PRIORITY FLOW CONTROL VALVE AND FLOW DIVIDER VALVE SHOWN ON PAGE 10-9.

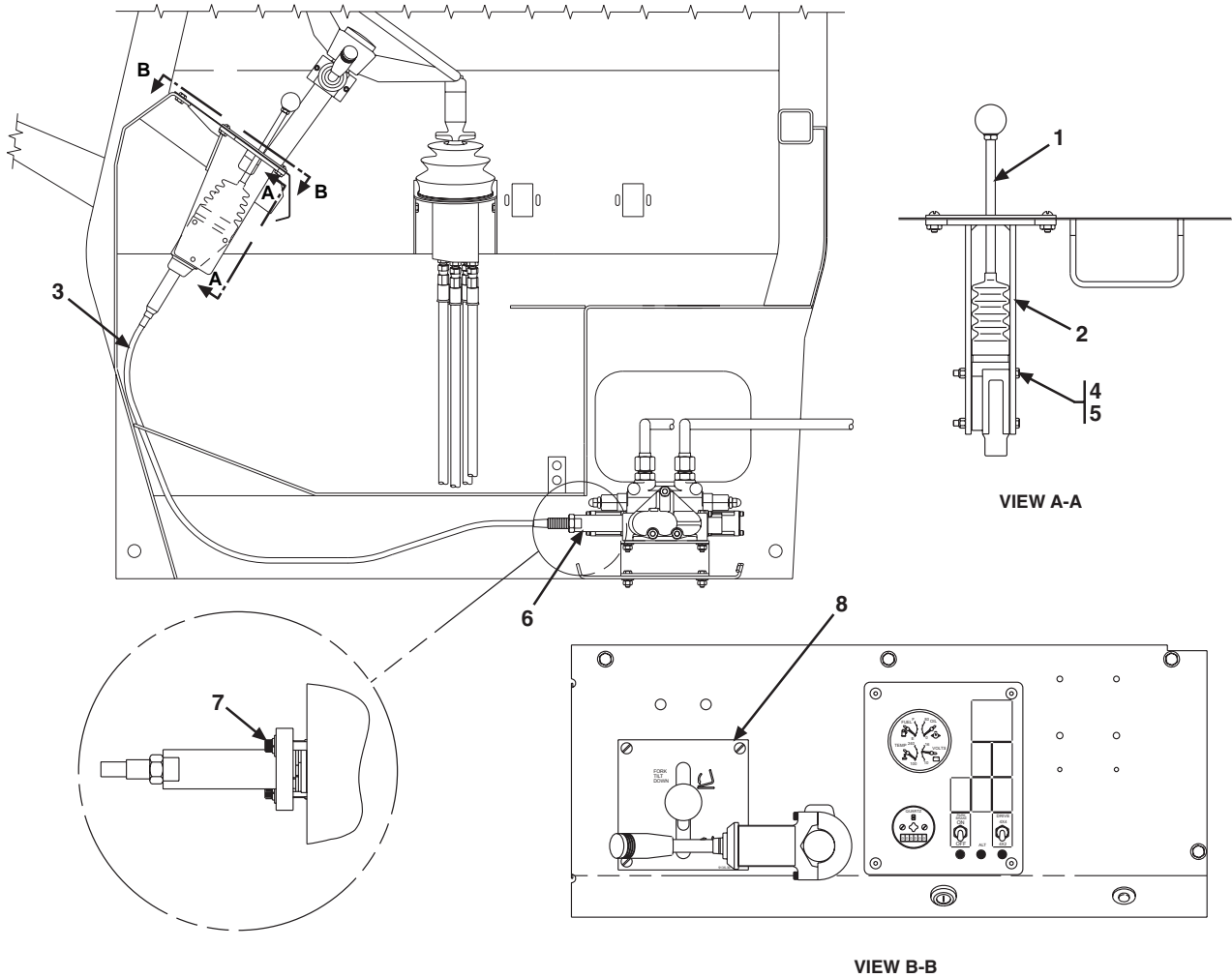
Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
	9103-3240	1	PRIORITY FLOW CONTROL VALVE, (includes items 1-17), (2500 PSI relief setting)	14		1	BALL HOLDER
1	9020-6548	1	HOUSING, (includes item 2)	15		1	BALL
2		1	SPOOL	16		1	O-RING
3		1	SPRING	17		1	PLUG
4		1	O-RING	18	8850-1005	4	HEX NUT, 5/16-18
5		1	PLUG	19	8855-1010	4	LOCKWASHER, 5/16
6	9020-6553	1	RELIEF CARTRIDGE, (includes items 7 thru 16)	20	8856-1003	4	FLAT WASHER, 5/16
7		1	RELIEF VALVE SUBBODY, (includes items 8 thru 10)	21	8820-1030	2	HEX HD CAPSCREW, 5/16-18X3-1/2, GR5
8		1	BODY	22	9112-1264	1	BRACKET
9		1	RING	23	8820-1003	4	HEX HD CAPSCREW, 1/4-20X3/4, GR5
10		1	SCREEN	24	8856-1001	4	FLAT WASHER, 3/16
11		1	RELIEF VALVE ADJUSTING SCREW	25	8855-1009	4	LOCKWASHER, 1/4
12		1	SPRING GUIDE				NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.
13		1	SPRING				



Item	Part No.	Qty.	Description Of Part	Item	Part No.	Qty.	Description Of Part
1	9112-5069	1	HYDRAULIC RESERVOIR ASSY, (includes all items except 30, 31 & 32)	18	8856-1004	8	WASHER, 3/8
2	9114-3133	1	HYDRAULIC OIL TANK, (includes item 21)	19	9133-3023	6	SLOTTED HEX WASHER HD MACHINE SCREW, #10-32X1/2"
3	9108-3070	1	FLUID LEVEL GAUGE, (includes items 3, 4 & 5)	20	8820-1020	4	HEX HD CAPSCREW, 5/16-18X1, GR5
4		2	ROUND HD SCREW, PORTED	21		1	PLUG
5		2	LOCKWASHER	22	8856-1003	4	WASHER, 5/16
6	8859-1210	2	O-RING	23	9116-1210	1	FILTER SUPPORT
7	8866-1084	2	BULKHEAD UNION, 9/16-18X3/8 TUBE	24	9108-3069	1	FILLER BREATHER
8	9114-3172	2	MINI CHECK COUPLING	25	8855-1011	4	LOCKWASHER, 3/8
9	8866-2106	1	ELBOW, 90 DEGREES, (swivel nut)	26	8850-1006	4	HEX NUT, 3/8-16
10	9112-3150	1	TUBE ASSY	27	8866-1013	1	MALE CONNECTOR
11	9114-3218	1	RETURN FILTER, (includes one of item 13 and item 14)	28	9108-3301	1	TANK FILTER
12	9108-3518	1	SUCTION FILTER, (includes one of item 13)	29	9108-3200	1	STRAIGHT CONNECTOR
13	9114-3144	2	FILTER ELEMENT	30	8855-1015	4	LOCKWASHER, 5/8
14	9108-4022	1	COLOR CODED GAUGE	31	8820-1095	4	HEX HD CAPSCREW, 5/8-11X1-1/2, GR5
15	8362-3032	1	ELBOW, 90 DEGREES	32	8856-1008	4	FLAT WASHER, 5/8
16	9108-3519	1	BEADED INSERT, 45 DEGREES	33	8855-1010	4	LOCKWASHER, 5/16
17	8820-1036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5				
							NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.



Item	Part No.	Qty.	Description Of Part
	9112-5106	1	HEATER ASSEMBLY, (includes all items)
1	9104-3429	1	HEATER
2	8203-3996	6"	FLEX LOOM
3	8096-3057	1	TOWER
4	8096-3068	2	FEMALE PIN TERMINAL
5	8096-3067	2	CABLE SEALS
6	9103-1521	2	HEATER MOUNTING BRACKET
7	8820-1003	4	HEX HD CAPSCREW, 1/4-20X3/4, GR5
8	8855-1009	4	LOCKWASHER, 1/4



Item	Part No.	Qty.	Description Of Part
	9148-5012	1	L.H. TILT ASSEMBLY, (includes all items)
	9134-5010	1	REMOTE VALVE CONTROL ASSEMBLY, (includes items 1 thru 5)
1	9130-3019	1	REMOTE VALVE CONTROL LEVER BRACKET
2	9136-6007	1	CONTROL CABLE
3	9136-3043	1	HEX HD CAPSCREW, 1/4-20X2-3/4, GR5
4	8820-1012	3	HEX LOCKNUT, 1/4-20
5	8852-1304	3	CABLE ADAPTER BONNET
6	9112-3062	1	SOCKET HD CAPSCREW, 1/4-20X1-1/2, GR8
7	8821-1044	2	TILT GUIDE PLATE
8	9136-3040	1	

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