

GRADALL®

Illustrated Parts Manual

Models

534B-6

534B-8

S/N 8344001L thru 0144870S

P/N - 9020-7316

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JLG®

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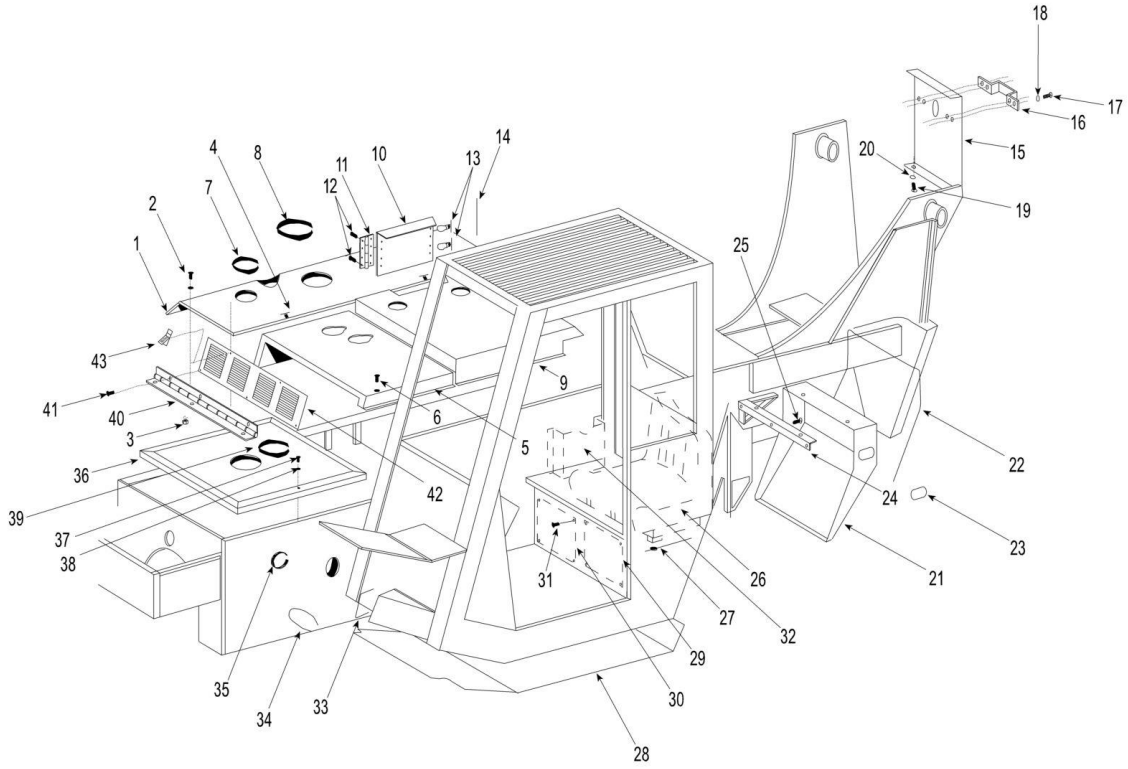
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SECTION 1 - FRAME SHROUDING AND TRIM

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-1. FRAME SHROUDING AND TRIM (SN 01444687J to Present)



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-1. FRAME SHROUDING AND TRIM (SN 01444687J to Present)

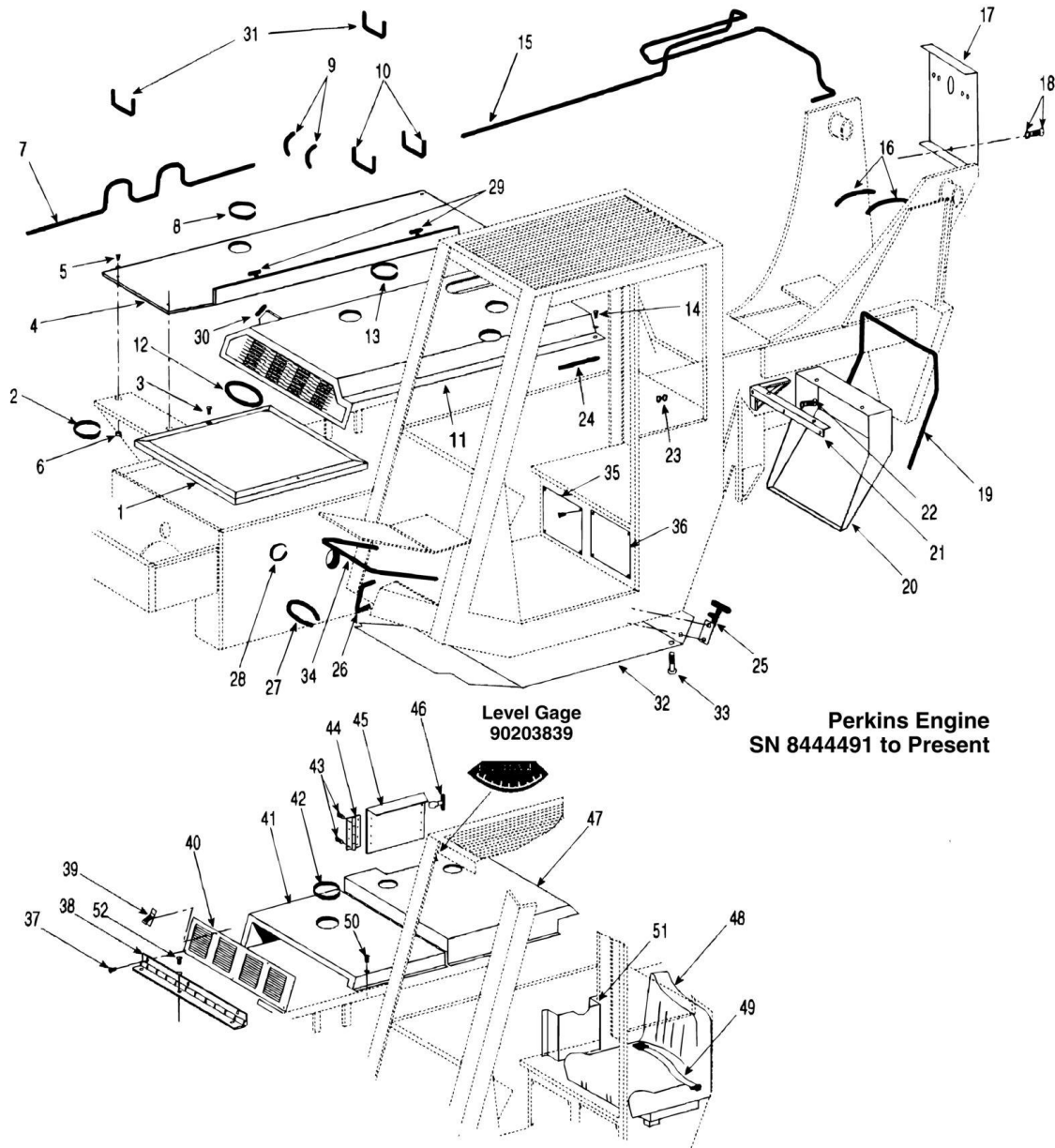
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91031260	1	TANK COVER	
2	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
2	88561111	4	FLATWASHER, 1/2	
3	88551013	4	LOCKWASHER, 1/2	
3	88521308	4	HEX LOCKNUT, 1/2-13	
4	77163020	2	TANK COVER FASTENER	
5	91036016	1	FRONT HOOD	
6	88201003	8	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
6	88551009	8	LOCKWASHER, 1/4	
6	88561107	8	FLATWASHER, 1/4	
7	90206196	25 ft	TRIM	
8	90206196	25 ft	TRIM	
9	91045027	1	REAR HOOD	
10	91031067	1	SERVICE DOOR	
11	91033077	1	DOOR HINGE	
12	88261009	8	BUTTON HD CAPSCREW, #10-24X5/8	
12	88561105	8	FLATWASHER, #10	
12	88521605	8	HEX HD LOCKNUT #10	
13	90207458	2	DRAW LATCH	
14	90206196	25 ft	TRIM	
15	90403352	1	REAR BOOM COVER	
16	91041510	1	BOOM CABLE GUARD	
17	88201067	6	HEX HD CAPSCREW, 1/2-13X1-1/2	
18	88501013	6	LOCKWASHER, 1/2	
18	88561111	6	FLATWASHER, 1/2	
19	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4	
20	88551011	2	LOCKWASHER, 3/8	
20	88561004	2	FLATWASHER, 3/8	
21	91036079	1	REAR CAB COVER	
22	90206194	25 ft	TRIM	
23	90206196	25 ft	TRIM	
24	90602885	1	REAR WINDOW BRACKET	
25	88201005	3	HEX HD CAPSCREW, 1/4-20X1, GR5	
26	90207278	1	SEAT	
27	86671164	2	SPACER	
27	77143006	4	NUT	
28	91031363	1	CAB BOTTOM COVER	
29	90205746	1	HEATER COVER	
29	77143003	4	BOLT	
29	77143006	4	NUT	
30	90205730	1	VALVE COVER	
31	77143003	4	BOLT	
31	77103044	4	CLIP NUT	
32	91033102	1	MANUAL HOLDER	
33	90206196	25 ft	TRIM	
34	90206196	25 ft	TRIM	
35	90206200	25 ft	TRIM	
36	91035096	1	MAINTENANCE DECK	
37	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
38	88561109	2	LOCKWASHER, 3/8	

SECTION 1 - FRAME SHROUDING AND TRIM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
39	90206194	25 ft	TRIM	
40	91031075	1	HINGE	
41	88321047	3	SELF-TAPPING SCREW, 1/4-20X3/8	
42	91031261	1	FRONT SERVICE DOOR	
43	90207458	2	DRAW LATCH	

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-2. FRAME SHROUDING AND TRIM WAUKESHA ENGINE AND PERKINS ENGINE (SN 8344001L through 8444490, Including 8444491)



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-2. FRAME SHROUDING AND TRIM WAUKESHA ENGINE AND PERKINS ENGINE (SN 8344001L through 8444490, Including 8444491)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602887	1	MAINTENENCE DECK	
2	90206200	25 ft	TRIM	
3	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
3	88561109	2	FLAT WASHER, 3/8	
4	90801339	1	TANK COVER (Waukesha)	
4	91031076	1	TANK COVER (SN 8444490 through 8644765)	
4	91031260	1	TANK COVER (SN 8644766 to Present)	
5	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
5	88561111	4	FLATWASHER, 1/2	
6	88551013	4	LOCKWASHER, 1/2	
6	88521308	4	HEX LOCKNUT, 1/2-13	
7	90206196	25 ft	TRIM	
8	90206196	25 ft	TRIM	
9	90206200	25 ft	TRIM	
10	90206194	25 ft	TRIM	
11	90801338	1	ENGINE COMPARTMENT COVER	
12	90206200	25 ft	TRIM	
13	90206194	25 ft	TRIM	
14	90207512	1	COVER FASTENER	
15	90206194	25 ft	TRIM	
16	90206203	25 ft	TRIM	
17	90403352	1	REAR BOOM COVER	
18	90203959	4	WING BOLT	
18	88561109	4	WASHER	
19	90206194	25 ft	TRIM	
20	90602888	1	REAR CAB COVER	
21	90602885	1	REAR WINDOW BRACKET	
22	88201005	3	HEX HD CAPSCREW, 1/4-20X1, GR5	
23	88561107	3	FLAT WASHER, 1/4	
23	88501004	3	HEX NUT, 1/4-20	
24	90206200	25 ft	TRIM	
25	90207458	2	REAR CAB COVER FASTENERS	
26	90206196	25 ft	TRIM	
27	90206196	25 ft	TRIM	
28	90206200	25 ft	TRIM	
29	77163020	2	TANK COVER FASTENERS	
30	90200755	1	WEATHER STRIP	
31	90206196	25 ft	TRIM	
32	90602886	1	CAB BOTTOM COVER	
33	77143003	7	BOLT	
34	90206196	25 ft	TRIM	
35	90205730	1	VALVE COVER	
35	77143003	4	BOLT	
35	77103044	4	CLIP NUT	
36	90205746	1	HEATER COVER	
36	77143003	4	BOLT	
36	77143006	4	NUT	
37	88261017	3	SOCKET BUTTON HD CAPSCREW, 1/4-20-7/8	
37	88561107	6	FLATWASHER, 1/4	

SECTION 1 - FRAME SHROUDING AND TRIM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
37	88521304	3	HEX LOCKNUT, 1/4-20	
38	91031075	1	HINGE	
39	83683311	2	PAWL LATCH	
39	91033214	2	DRAW LATCH (SN 8644733 to Present)	
40	91031074	1	FRONT SERVICE DOOR	
40	91031261	1	FRONT SERVICE DOOR (SN 8644733 to Present)	
41	91036016	1	FRONT HOOD	
42	90206194	25 ft	TRIM	
43	88261009	16	SOCKET BUTTON HD CAPSCRW, 10-24X5/8	
43	88561105	16	FLAT WASHER, #10	
43	88521605	16	HEX LOCKNUT, #10-24	
44	91033077	1	HINGE	
45	91031067	1	SIDE SERVICE DOOR	
46	90207458	2	DRAW LATCH	
47	91036015	1	REAR HOOD	
47	91036038	1	REAR HOOD (SN 8544539 to Present)	
48	90207278	1	SEAT	
48	88671164	2	SPACER	
48	77143006	4	NUT	
49	91033029	1	SEAT BELT	
49	88201050	2	HEX HD CAPSCREW, 7/16-14X1, GR5	
49	88501007	2	HEX NUT, 7/16-14	
50	88201003	8	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
50	88551009	8	LOCKWASHER, 1/4	
50	88561107	8	FLATWASHER, 1/4	
51	91033102	1	MANUAL HOLDER	
51	88301193	4	RDHD MACH. SCREW, #10-32X1/2	
52	88321047	3	SELF TAPPING SCREW, 1/4-20X3/8	

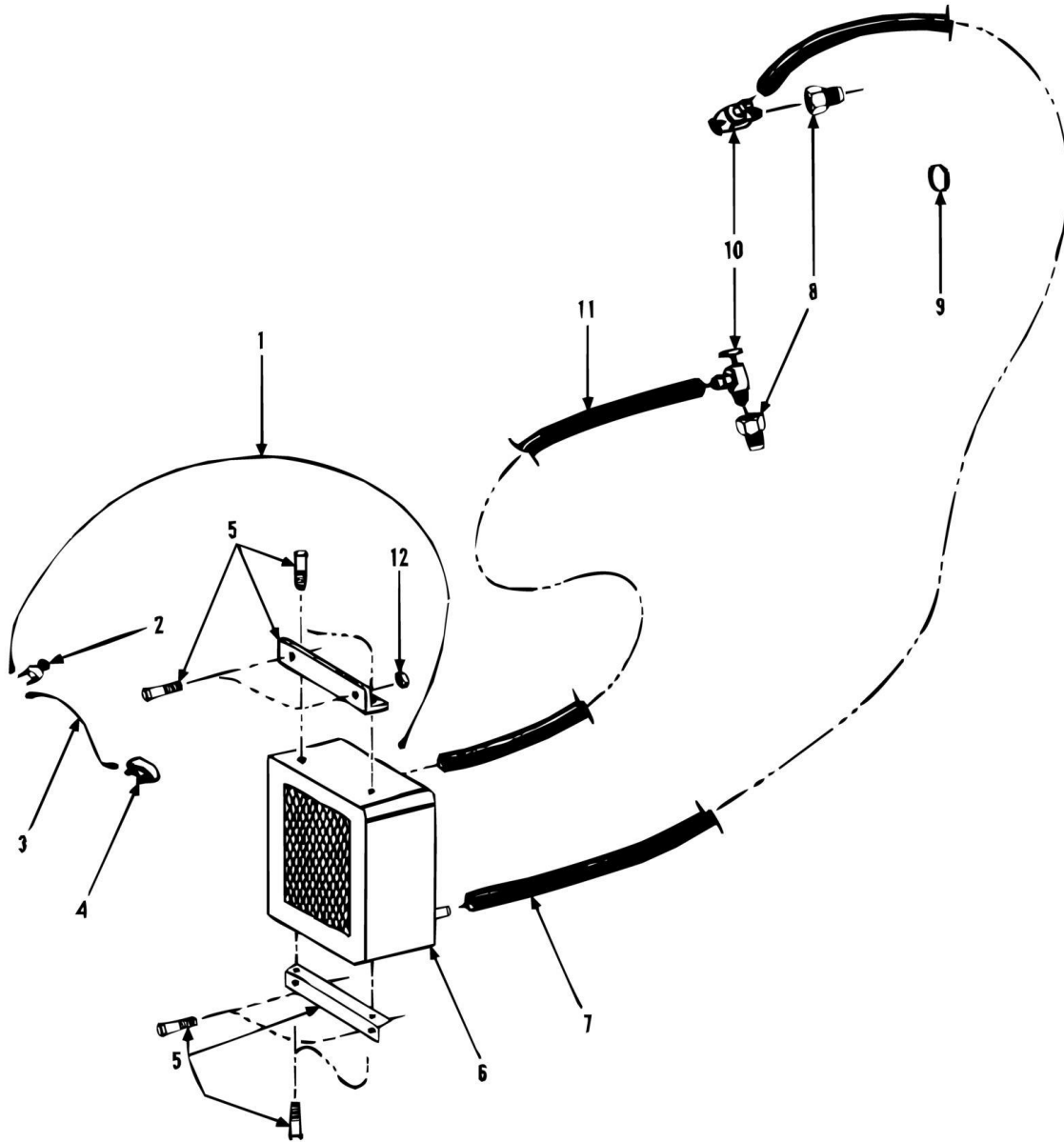
SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-3. CAB ENCLOSURE, WIPER AND DEFROSTER (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90403036	1	FRONT WINDOW	
2	90205846	1	RIGHT SIDE WINDOW	
3	90403034	1	TOP WINDOW	
4	90403035	1	REAR WINDOW	
5	90403033	1	LEFT SIDE WINDOW	
6	90206019	AR	WINDOW HOLD DOWN BAR	
7	90206017	1	HOLD DOWN BAR (left top)	
8	90206018	3	HOLD DOWN BAR	
9	90206613	1	SUPPORT ANGLE (window top cab)	
9	88201031	2	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
9	88551011	2	LOCKWASHER, 1/2	
10	90200755	50 ft	WEATHERS STRIPPING (bulk)	
11	90206100	AR	RUBBER GLAZING STRIP	
12	90027319	AR	SELF TAPPING SCREW, 1/4-14X1-1/4 (window bar hold down)	
13	91033464	1	WINDSHIELD WIPER ARM	
14	91033465	1	WIPER BLADE	
15	90206023	1	WIPER MOTOR	
15	90027214	1	WIPER SHAFT GROMMET (not shown)	
16	90206025	1	WIPER MOTOR MOUNTING ANGLE	
16	88201003	1	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
16	88501004	1	HEX NUT, 1/4-20	
17	90200680	1	DEFROSTER FAN	
17	88321015	4	SELF TAPPING SCREW	
18	90203840	1	DOOR PULL HANDLE	
18	88321039	2	SELF TAPPING SCREW, #10-32X1/2	
19	90203627	1	HANDLE	
19	88201031	1	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
20	90801238	1	DOOR ASSY	
20	91034033	1	DOOR LATCH	
21	90205886	1	DOOR HOLD PLUNGER	
22	90205888	1	PLUNGER SOCKET	
23	88301309	4	FLAT HD MACHINE SCREW, 1/4-20X3/4	
23	88521304	4	HEX NUT, 1/4-20	
24	90403082	1	DOOR POST	
24	88201039	4	HEX HD CAPSCREW, 3/8-16X2, GR5	
24	88501006	4	HEX NUT, 3/8-16	
25	90403032	1	DOOR TROUGH	
25	90027319	3	SELF TAPPING SCREW, 1/4 NC X 1	
26	90410229	1	DOOR WINDOW	
26	83661145	8 ft	WEATHER STRIPPING (bulk)	

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-4. HEATER AND PIPING WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)



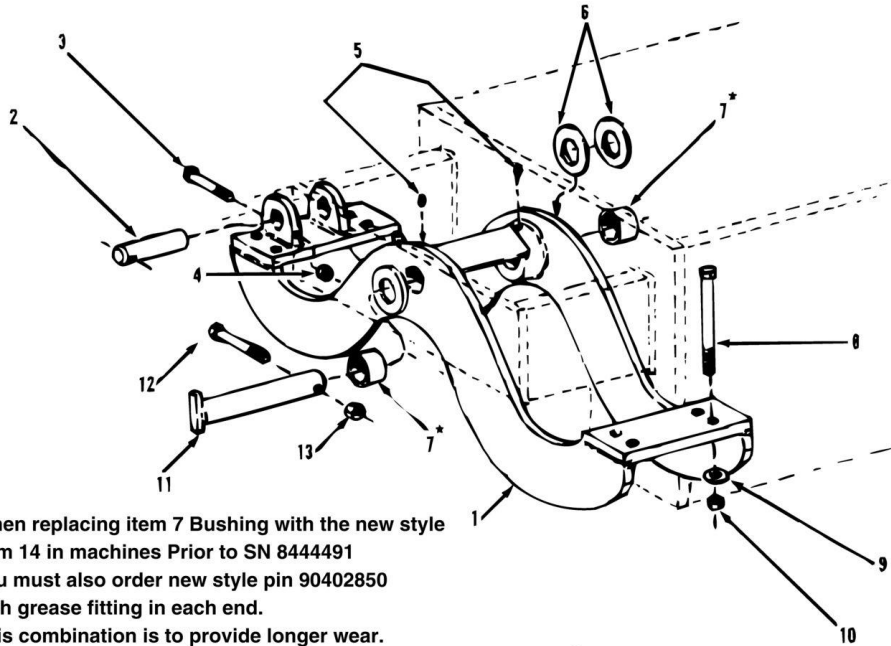
SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-4. HEATER AND PIPING WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)

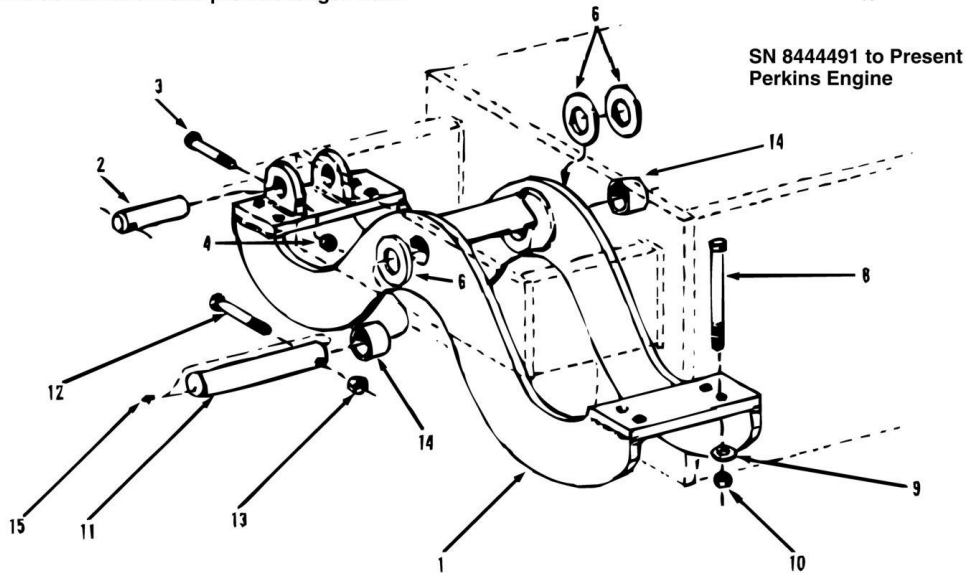
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90206134	1	JUMPER WIRE	
2	91034098	1	SWITCH (comes with heater)	
3	90206133	1	JUMPER WIRE	
4	90206131	1	CIRCUIT BREAKER	
5	90205731	2	MOUNTING BRACKET	
5	88201005	8	HEX HD CAPSCREW 1/4-20x1 GR5	
6	90200679	1	HEATER (includes item #2 switch)	
7		Ref	HOSE, 5/8IN ID	
8	88711383	2	REDUCING BUSHING 1/2x3/8	
9	86683193	4	CLAMP	
10	24641328	2	SHUT-OFF VALVE	
11		Ref	HOSE, 5/8IN ID	
12	88501004	4	HEX NUT, 1/4-20	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-5. FRONT AXLE AND MOUNTING WAUKESHA ENGINE (SN 8344001L through 8444490)



NOTE: When replacing item 7 Bushing with the new style item 14 in machines Prior to SN 8444491 you must also order new style pin 90402850 with grease fitting in each end. This combination is to provide longer wear.



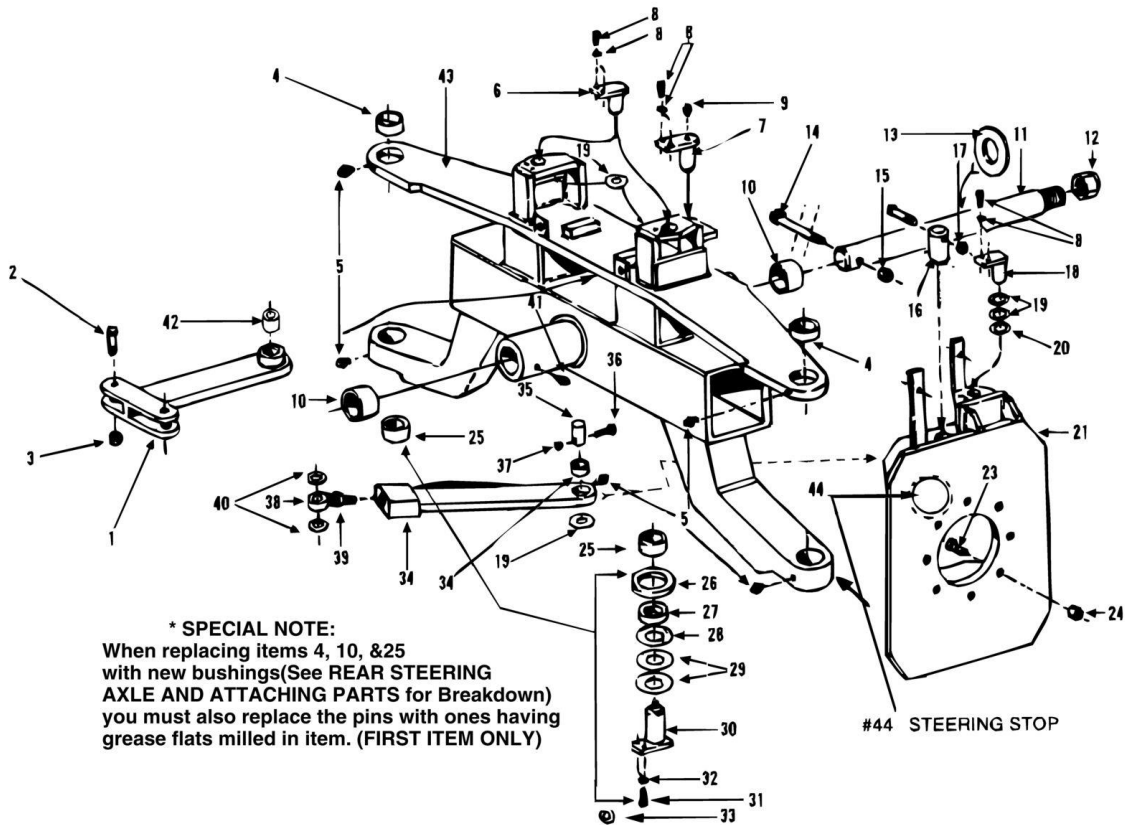
SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-5. FRONT AXLE AND MOUNTING WAUKESHA ENGINE (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90801303	1	FRONT AXLE CRADLE	
2	90206847	1	SWAY CYLINDER ROD PIN	
3	88201119	1	HEX HEAD CAPSCREW 3/4-10x4, GR5	
4	88501012	1	HEX NUT 3/4-10	
5	88671008	2	LUBE FITTING-STRAIGHT 1/4-28	
6	90205891	2	SPACER	
7	90205489	2	BUSHING	
8	90041002	8	HEX HEAD CAPSCREW 1-8x9-1/2	
9	90027475	8	WASHER	
10	88521216	8	HEX LOCKNUT 1-8	
11	90402850	1	FRAME PIN	
11	91031243	1	FRAME PIN (SN 8544706 to Present)	
12	83201031	1	HEX HEAD CAPSCREW 1-8x5, GR8	
13	88521016	1	HEX LOCKNUT 1-8	
14	91031096	2	BUSHING	
15	88671001	2	LUBE FITTING-STRAIGHT 1/8	

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-6. REAR STEERING AXLE AND ATTACHING PARTS (SN 8344001L through 8444490)



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-6. REAR STEERING AXLE AND ATTACHING PARTS (SN 8344001L through 8444490)

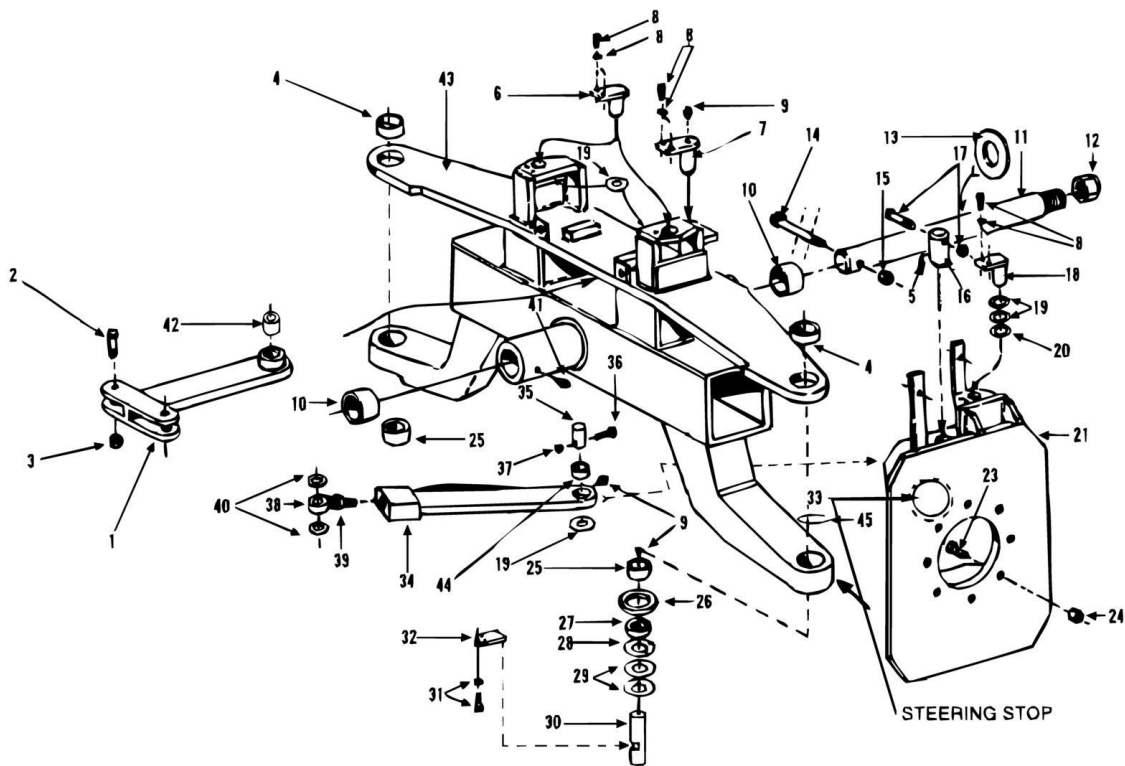
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602826	1	ARM, IDLER	
2	83201074	2	CAPSCREW, HEX HEAD 1-8x4	
3	88521216	2	NUT, 1-8	
4	90205462	2	BUSHING, UPPER FRAME	
5	88671008	8	FITTING, GREASE	
6	90207419	2	PIN, STEERING CYLINDER BASE	
7	90206895	1	PIN, IDLER ARM MOUNT	
8	83201011	10	CAPSCREW, 3/8-16x1	
8	90027470	10	WASHER, 3/8	
9	88671022	2	FITTING, GREASE	
10	90205482	2	BUSHING	
11	90403196	1	PIN, REAR AXLE TO FRAME (Prior to SN 8344200L)	
11	90410287	1	PIN, REAR AXLE TO FRAME (SN 8444135 to Present)	
12	90022234	1	NUT, HEX SELF LOCKING	
13	90206846	AR	SHIM, 1/8	
13	91031009	AR	SHIM, 1/16	
14	90020247	1	CAPSCREW, 1-1/4-7x6	
15	85101098	1	LOCKNUT, 1-1/4-7	
15	88561119	1	WASHER	
16	90206897	2	PIN, STEERING KNUCKLE TO FRAME (upper)	
17	88201077	2	CAPSCREW, 1/2-13x4	
17	88501008	2	NUT, HEX 1/2-13	
18	90206895	2	PIN, STEERING CYLINDER	
19	90203139	AR	SHIM, 1/16	
20	90201918	2	BEARING, THRUST, 1/8	
21	90801312	1	KNUCKLE, L.H. STEER (shown)	
22	90801311	1	KNUCKLE, R.H. STEER (not shown)	
23	83201062	16	BOLT, TORQUE HUB MOUNT (grade 8)	
23	90027472	16	WASHER, HARDENED	
24	88501110	16	NUT, 5/8-11	
25	90205465	2	BUSHING, LOWER FRAME	
26	90207484	AR	FELT, 1/2	
26	90207485	AR	FELT, 1/4	
27	90206542	2	BEARING, THRUST	
28	90200253	2	WASHER, THRUST	
29	90203039	AR	SHIM, 1/16	
29	90203040	AR	SHIM, 1/8	
30	90206900	2	PIN, STEERING, KNUCKLE TO FRAME (lower)	
31	83201026	4	CAPSCREW, 1/2-13x1-1/2	
32	85401340	4	WASHER, 1/2	
33	90203168	AR	WIRE, SAFETY LOCK 50 FT	
34	90403184	2	ARM	
34	90206375	2	BUSHING	
35	90206896	2	PIN	
36	88201041	2	CAPSCREW, 3/8-16x2-1/2	
37	88521306	2	NUT, HEX	
38	90201902	2	BUSHING, SELF ALIGNING	
39	88501420	2	NUT, LOCK 1-1/4-12	
40	90205653	4	SHIM	
41	88671001	2	FITTING, GREASE	

SECTION 1 - FRAME SHROUDING AND TRIM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
42	90205340	1	BUSHING	
43	90801306	1	AXLE, WELDMENT	
44	88201097	2	CAPSCREW, 5/8-11x2	
44	88501110	2	NUT, 5/8-11	

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-7. REAR STEERING AXLE AND ATTACHING PARTS PERKINS ENGINE ONLY (SN 8444491G through 8644030G)



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-7. REAR STEERING AXLE AND ATTACHING PARTS PERKINS ENGINE ONLY (SN 8444491G through 8644030G)

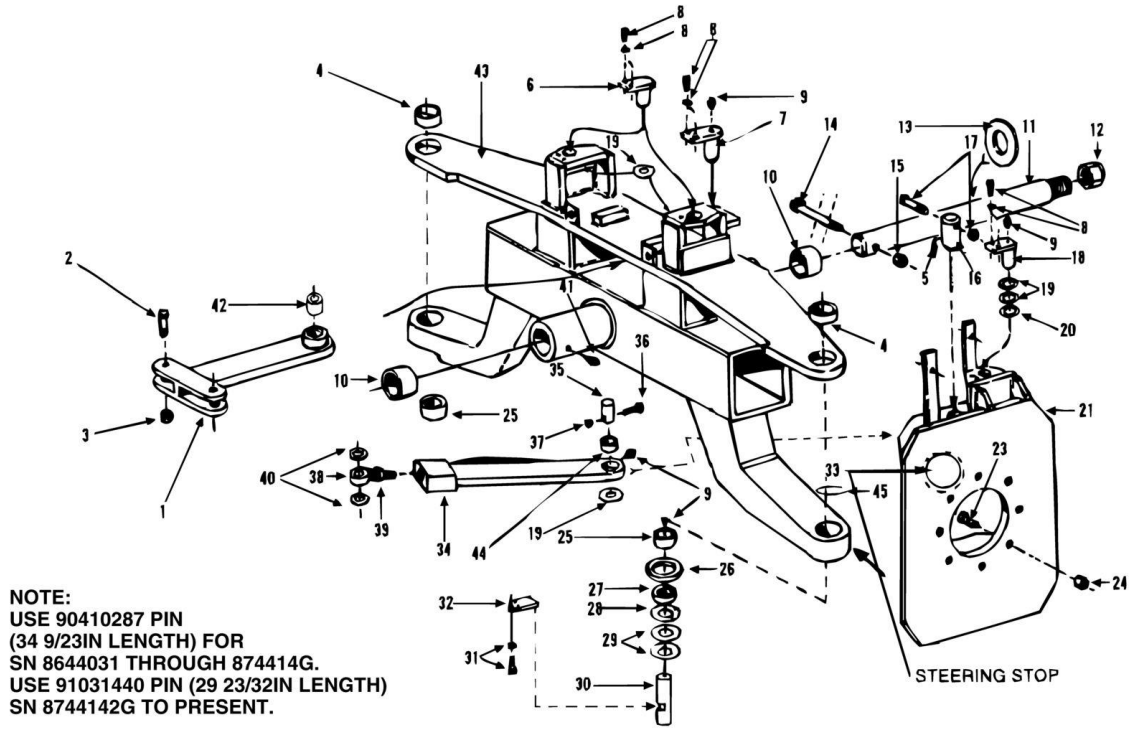
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035128	1	AXLE REBUILD KIT (consists of items 4, 6, 7, 10, 16, 18, 20, 25, 28, 29, 30, 32, 35, 40, 42 & 44)	
	91035122	1	STEERING KNUCKLE KIT (consists of items 4, 16, 25 thru 30 & 32)	
1	90602826	1	IDLER ARM	
2	83201040	2	HEX HD CAPSCREW, 1-8x4-1/4, GR8	
3	88521316	2	HEX LOCKOUT, 1-8	
4	91031374	2	BUSHING	
5	88671001	4	LUBE FITTING- STRAIGHT 1/8	
6	90207419	2	PIN (steering cylinder base)	
7	90206895	1	PIN (idler arm mount)	
8	83201024	10	HEX HD CAPSCREW, 3/8-16X1, GR8	
9	88671022	12	LUBE FITTING-90, 1/8	
10	91031369	2	BUSHING	
11	90410287	1	PIN (rear axle to frame)	
12	90022234	1	SELF LOCKING HEX NUT	
13	90206846	AR	SHIM, 1/8	
13	91031009	AR	SHIM, 1/16	
14	90020247	1	HEX HD CAPSCREW, 1-1/4-7X6	
15	85101098	1	HEX LOCKNUT, 1-1/4-7	
15	88561119	1	FLATWASHER, 1-1/4	
16	91031340	2	PIN (steering, knuckle to frame)	
17	88201077	2	HEX HD CAPSCREW, 1/2-13x4, GR5	
17	88501008	2	HEX NUT, 1/2-13	
18	90206895	2	PIN (steering cylinder rod)	
19	90203139	AR	SHIM, 1/16	
20	90201918	2	THRUST BEARING, 1/8	
21	90801312	1	STEERING KNUCKLE (left)	
22	90801311	1	STEERING KNUCKLE (right)	
23	83201062	16	CAPSCREW, (torque hub mount) GR8	
23	90027472	16	WASHER	
24	88501110	16	HEX NUT, 5/8-11	
25	91031391	2	BUSHING	
26	90207484	AR	FELT, 1/2	
26	90207485	AR	FELT, 1/4	
27	90206542	2	THRUST BEARING	
28	90200253	2	THRUST WASHER	
29	90203039	AR	SHIM, 1/16	
29	90203040	AR	SHIM, 1/8	
30	91031344	2	PIN (steering knuckle to frame)	
31	83201129	6	HEX HD CAPSCREW, 1/2-13x1-1/4, GR8	
31	85401340	6	WASHER, 1/2	
32	91031345	2	KEY PLATE	
33	83201102	2	HEX HD CAPSCREW, 5/8-11x2	
33	88501110	2	HEX NUT, 5/8-11	
34	90403184	2	ARM	
35	90206896	2	PIN	
36	88201041	2	HEX HD CAPSCREW, 3/8-16x2-1/2, GR5	
37	88521306	2	HEX LOCKNUT, 3/8-16	
38	90207842	2	SELF ALIGNING BUSHING	

SECTION 1 - FRAME SHROUDING AND TRIM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
39	88501420	2	HEX LOCKNUT, 1-1/4-12	
40	90205653	4	SHIM	
41	88671018	2	LUBE FITTING - 45, 1/8	
42	90205340	1	BUSHING	
43	90801306	1	AXLE WELDMENT	
44	91031397	2	BUSHING	
45	88581144	2	RETAINING RING	

SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-8. REAR STEERING AXLE AND ATTACHING PARTS (SN 8644031G to Present)



SECTION 1 - FRAME SHROUDING AND TRIM

FIGURE 1-8. REAR STEERING AXLE AND ATTACHING PARTS (SN 8644031G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91065036	1	AXLE REBUILD KIT (consists of items 4, 7, 16, 18, 19, 20, 25 thru 30, 32, 35, 40, 42 & 44)	
	91035122	1	STEERING KNUCKLE KIT (consists of items 4, 16, 25 thru 30 & 32)	
1	90602826	1	IDLER ARM	
2	83201040	2	HEX HD CAPSCREW, 1-8x4-1/4, GR8	
3	88521316	2	HEX LOCKOUT, 1-8	
4	91031374	2	BUSHING	
5	88671001	4	LUBE FITTING- STRAIGHT 1/8	
6	90207419	2	PIN (steering cylinder base)	
7	90206895	1	PIN (idler arm mount)	
8	83201024	10	HEX HD CAPSCREW, 3/8-16X1, GR8	
8	90027470	10	WASHER, 3/8	
9	88671022	12	LUBE FITTING- 90, 1/8	
10	91031369	2	BUSHING	
11	See Note	1	REAR AXLE MOUNTING PIN	
12	90022234	1	SELF LOCKING HEX NUT	
13	90206846	AR	SHIM, 1/8	
13	91031009	AR	SHIM, 1/16	
14	90020247	1	HEX HD CAPSCREW, 1-1/4-7X6	
15	85101098	1	LOCKNUT, 1-1/4-7	
15	88561119	1	FLATWASHER, 1-1/4	
16	91031340	1	PIN (steering, knuckle to frame)	
17	88201077	2	HEX HD CAPSCREW, 1/2-13x4, GR5	
17	88501008	2	HEX NUT, 1/2-13	
18	91036043	2	PIN (steering cylinder rod)	
19	90203139	AR	SHIM, 1/16	
20	90201918	2	THRUST BEARING, 1/8	
21	91030003	1	STEERING KNUCKLE (left)	
22	91030004	1	STEERING KNUCKLE (right)	
23	83201062	16	CAPSCREW, (torgue hub mount) GR8	
23	99027472	16	WASHER	
24	88501110	16	HEX NUT, 5/8-11	
25	91031391	2	BUSHING	
26	90207484	AR	FELT, 1/2	
26	90207485	AR	FELT, 1/4	
27	90206542	2	THRUST BEARING	
28	90200253	2	THRUST WASHER	
29	90203039	AR	SHIM, 1/16	
29	90203040	AR	SHIM, 1/8	
30	91031344	2	PIN (steering knuckle to frame)	
31	83201129	6	HEX HD CAPSCREW, 1/2-13x1-1/4, GR8	
31	85401340	6	WASHER, 1/2	
32	91031345	2	KEY PLATE	
33	83201102	2	HEX HD CAPSCREW, 5/8-11x2, GR8	
33	88501110	2	HEX NUT, 5/8-11	
34	90403184	2	ARM	
35	90206896	2	PIN	
36	88201041	2	HEX HD CAPSCREW, 3/8-16x2-1/2, GR5	
37	88521306	2	HEX LOCKNUT, 3/8-16	
38	90207842	2	SELF ALIGNING BUSHING	

SECTION 1 - FRAME SHROUDING AND TRIM

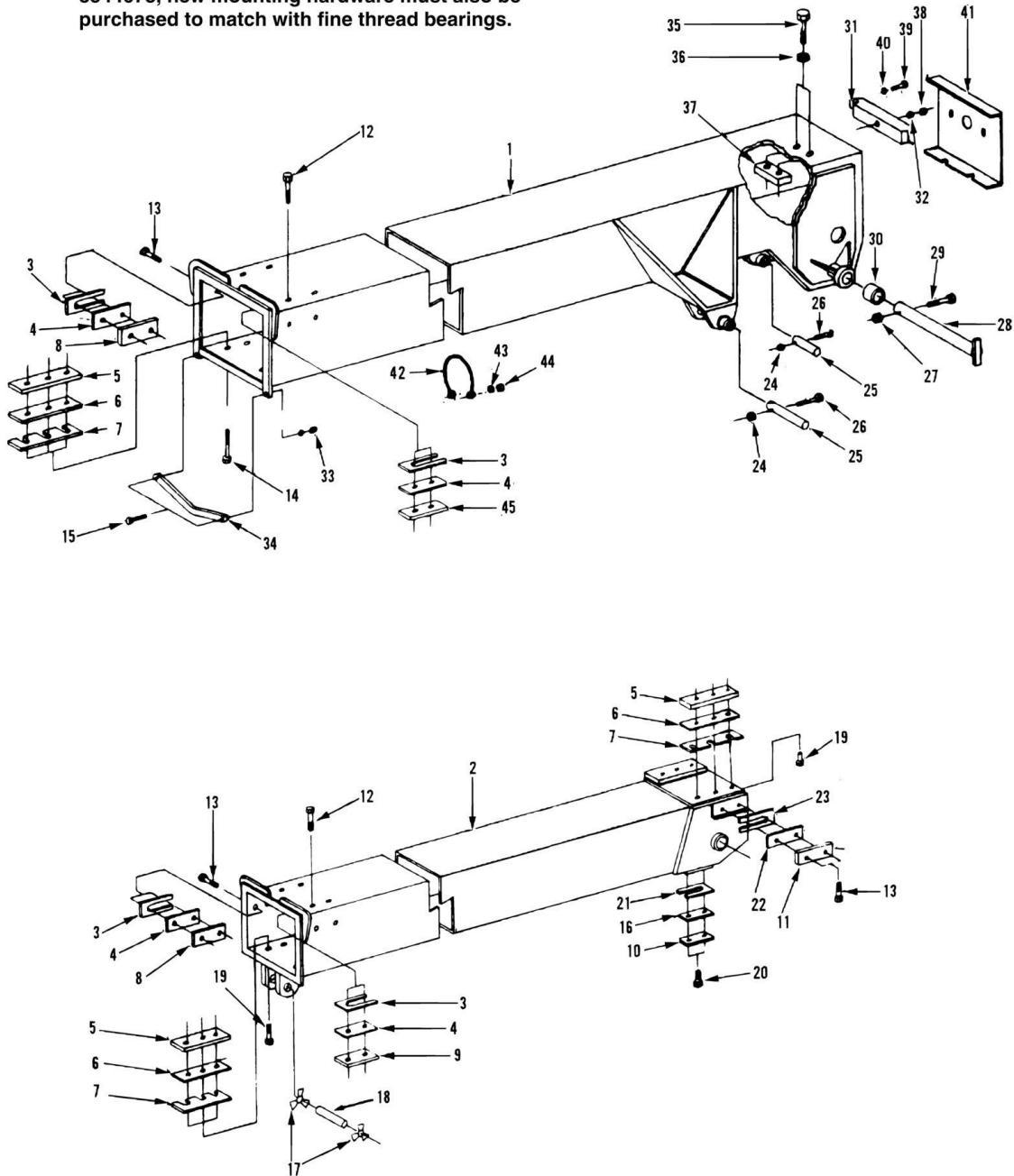
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
39	88501420	2	HEX JAM NUT, 1-1/4-12	
40	90205653	4	SHIM	
41	88671018	2	LUBE FITTING - 45, 1/8	
42	90205340	1	BUSHING	
43	90801306	1	AXLE WELDMENT	
44	91031397	2	BUSHING	
45	88581144	2	RETAINING RING	

SECTION 2 - BOOM

SECTION 2 - BOOM

FIGURE 2-1. 1ST & 2ND BOOM SECTIONS (SN 8344001L to Present)

NOTE: When ordering items no. 2,4,6,10,23,
& 27 bearings for machines Prior to SN
8544678, new mounting hardware must also be
purchased to match with fine thread bearings.



SECTION 2 - BOOM

FIGURE 2-1. 1ST & 2ND BOOM SECTIONS (SN 8344001L to Present)

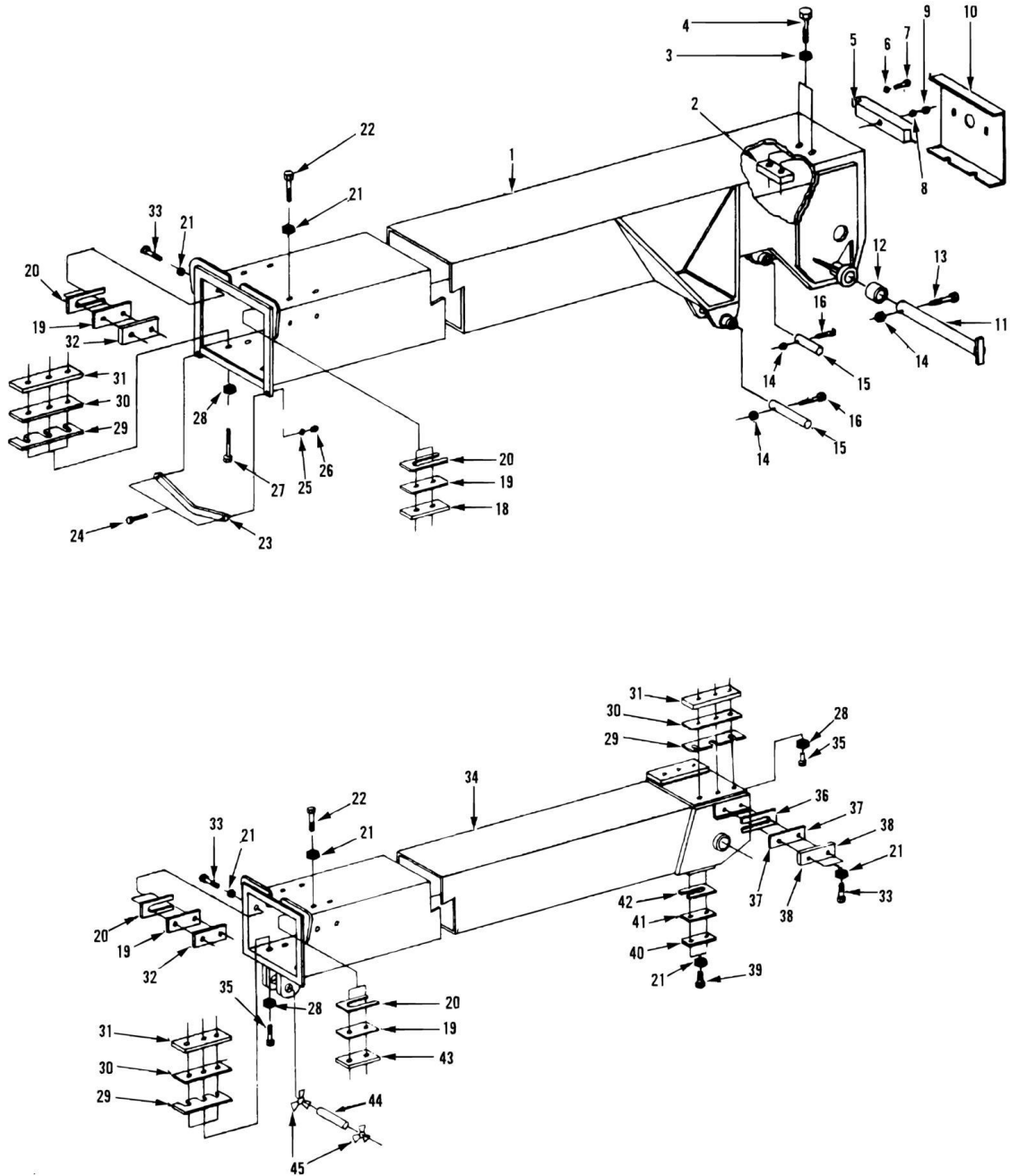
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036035	1	1ST BOOM SECTION (Prior to SN 8744142G)	
1	91035148	1	1ST BOOM SECTION (SN 8744142G to Present)	
1	91036070	1	BOOM WELDMENT	
1	91031384	2	BUSHING	
2	91036036	1	2ND BOOM SECTION	
3	90205870	12	SLOTTED SHIM	
4	91031236	12	PUNCHED HOLE SHIM	
5	91033190	6	BEARING	
6	91031237	12	PUNCHED HOLE SHIM	
7	90205497	12	SLOTTED SHIM	
8	91033186	4	BEARING	
9	91033189	2	BEARING	
10	91033188	2	BEARING	
11	91033184	2	BEARING	
12	88201533	8	HEX HD CAPSCREW, 3/8-24x7/8 GR5	
13	88201532	12	HEX HD CAPSCREW, 3/8-24x3/4 GR5	
14	88201566	6	HEX HD CAPSCREW, 1/2-20x1-1/2 GR5	
15	88201067	2	HEX HD CAPSCREW, 1,2-13x1-1/2 GR5	
16	91031234	2	PUNCHED HOLE SHIM	
17	90028935	2	SNAP RING	
18	90207352	1	CROWD CYLINDER ROD PIN	
19	88201563	12	HEX HD CAPSCREW, 1/2-20x7/8 GR5	
20	88201534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	
21	90207029	2	SLOTTED SHIM	
22	91031235	4	PUNCHED HOLE SHIM	
23	90207030	4	SLOTTED SHIM	
23	91031383	2	SHIM	
24	88501010	3	HEX NUT, 5/8-11	
25	90206892	3	CROWD BASE AND LIFT ROD PIN	
26	88201105	3	HEX HD CAPSCREW, 5/8-11X4, GR5	
27	88501010	1	HEX NUT, 5/8-11	
28	90403280	1	BOOM BASE PIN	
29	88201106	1	HEX HD CAPSCREW, 5/8-11x4-1/2 GR5	
30	91031369	2	BUSHING	
31	90602842	1	STRONGBACK	
32	90028965	1	HEX NUT, 1-8	
33	88501008	2	HEX NUT, 1/2-13	
34	90403212	1	CROWD CYLINDER HANGER	
35	85081016	2	CAPSCREW	
36	05101441	2	HARDENED WASHER	
37	91031163	1	STOP BAR	
38	88501116	1	HEAVY HEX JAM NUT, 1-8	
39	88501069	2	HEX HD CAPSCREW, 1/2-13x2, GR5	
40	85401340	2	WASHER	
41	90403352	1	BOOM COVER	
41	88561109	4	FLATWASHER, 3/8	
41	90203959	4	WING BOLT	
42	90207575	1	TIE DOWN CORD	
43	88561109	2	FLAT WASHER, 3/8	
44	88501004	2	HEX NUT, 1/4-20	

SECTION 2 - BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45	91033185	2 Ref	BEARING NOTE: For service replacement of 1st section boom on units with serial number 8744142G thru 0144297J machine 0144263J, provide 91035148 1st section boom, consisting of 91036070 weldment and two 91031384 bushings.	

SECTION 2 - BOOM

FIGURE 2-2. 1ST & 2ND BOOM SECTIONS (SN 0144298J to Present, Including 0144263J)



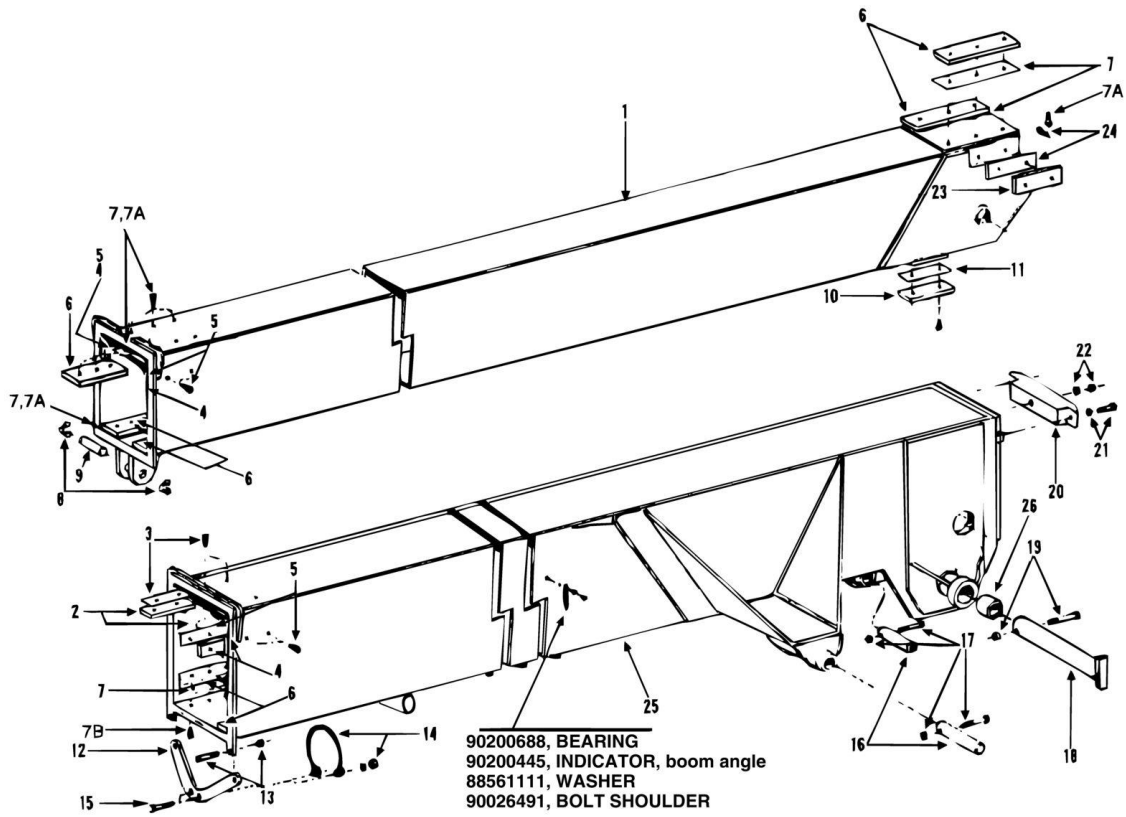
SECTION 2 - BOOM

FIGURE 2-2. 1ST & 2ND BOOM SECTIONS (SN 0144298J to Present, Including 0144263J)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036070	1	1ST BOOM SECTION	
2	91031163	1	STOP BAR	
3	05101441	2	HARDENED WASHER	
4	83201053	3	HEX HD CAPSCREW, 1-8X3, GR8	
5	90602842	1	STRONG BACK	
6	85401340	2	WASHER	
7	88201069	2	HEX HD CAPSCREW, 1/2-13X2, GR5	
8	90028965	1	HEX NUT, 1-8	
9	88501116	1	HEAVY HEX JAM NUT, 1-8	
10	90403352	1	BOOM END COVER	
10	88561109	4	FLAT WASHER, 3/8	
10	90203959	4	WING BOLT	
11	91031389	1	BOOM BASE PIN	
12	91031371	2	BUSHING	
13	83481645	1	HEX HD CAPSCREW, 5/8-11X6, GR8	
14	88501010	4	HEX LOCKNUT, 5/8-11	
15	90206892	3	CROWD BASE AND LIFT ROD PIN	
16	83201044	3	HEX HD CAPSCREW, 5/8-11X4, GR8	
18	91033185	2	BEARING PAD	
19	91031236	12	PUNCHED HOLE SHIM	
20	90205870	12	SLOTTED SHIM	
21	88561109	48	FLAT WASHER, 3/8	
22	88201533	8	HEX HD CAPSCREW, 3/8-24X7/8, GR5	
23	90403212	1	CROWD CYLINDER HANGER	
24	88201067	2	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
25	88551013	2	LOCKWASHER, 1/2	
26	88501008	2	HEX NUT, 1/2-13	
27	88201567	6	HEX HD CAPSCREW, 1/2-20X1-3/4, GR5	
28	88561111	18	FLAT WASHER, 1/2	
29	90205497	12	SLOTTED SHIM	
30	91031237	12	PUNCHED HOLE SHIM	
31	91033190	6	BEARING PAD	
32	91033186	4	BEARING PAD	
33	88201532	12	HEX HD CAPSCREW, 3/8-24X3/4, GR5	
34	91036036	1	2ND BOOM SECTION	
35	88201563	12	HEX HD CAPSCREW, 1/2-20X7/8, GR5	
36	90207030	4	SLOTTED SHIM	
37	91031235	4	PUNCHED HOLE SHIM	
38	91033184	2	BEARING PAD	
39	88201534	2	HEX HD CAPSCREW, 3/8-24X1, GR5	
40	91033188	2	BEARING PAD	
41	91031234	2	PUNCHED HOLE SHIM	
42	90207029	2	SLOTTED SHIM	
43	91033189	2	BEARING PAD	
44	90207352	1	CROWD CYLINDER PIN	
45	90028935	2	SNAP RING	

SECTION 2 - BOOM

FIGURE 2-3. 1ST & 2ND BOOM SECTIONS (SN 8544556 to Present)



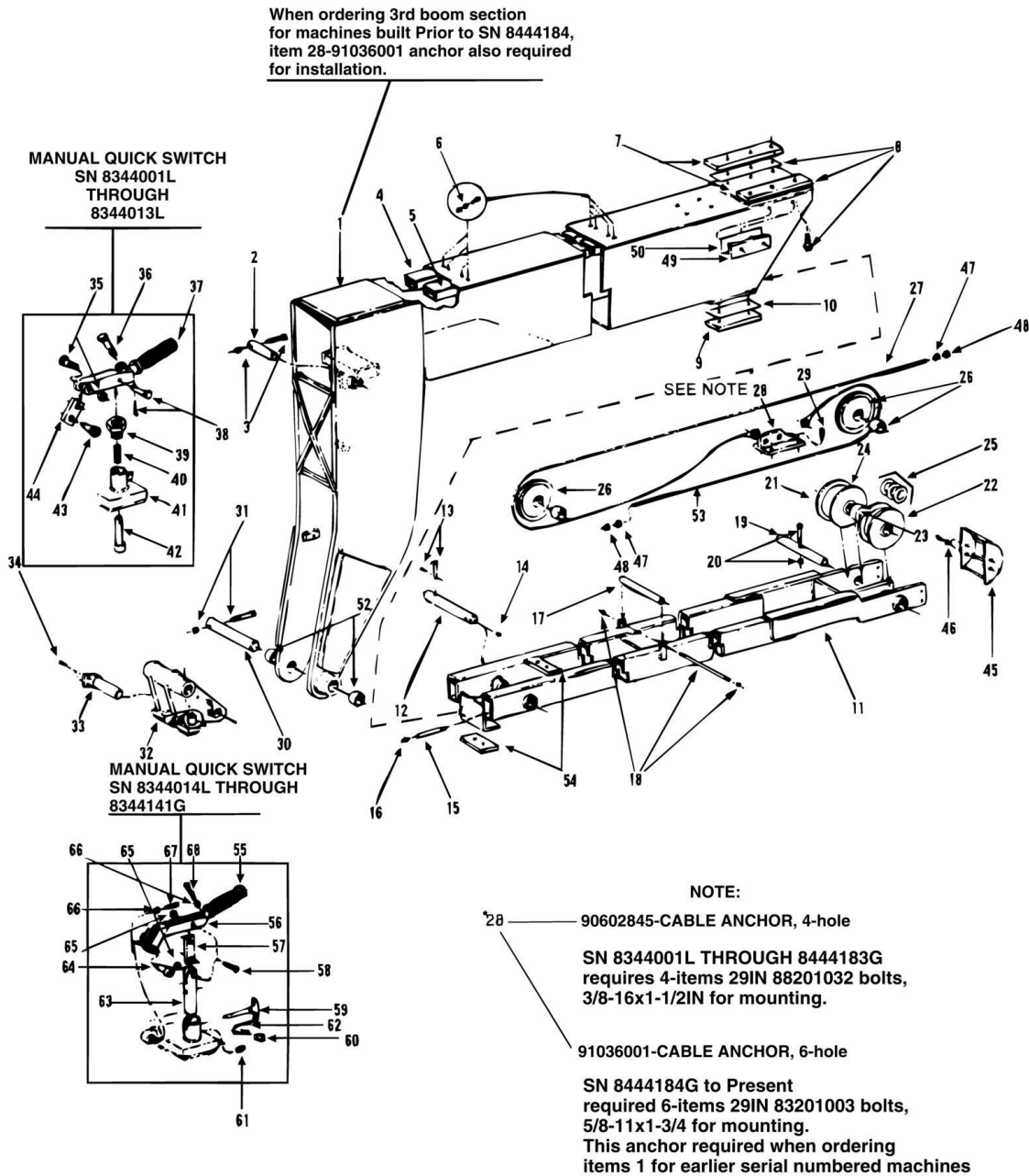
SECTION 2 - BOOM

FIGURE 2-3. 1ST & 2ND BOOM SECTIONS (SN 8544556 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036036	1	2ND BOOM SECTION, 3S BOOM	
2	90205298	2	BEARING	
3	90205870	2	SHIM	
3	88201035	4	HEX HD CAPSCREW 3/8-16x1	
4	90206238	4	FRONT SIDE BEARING	
5	90205870	AR	SHIM	
5	88201033	8	HEX HD CAPSCREW, 3/8-16X3/4	
6	90402801	8	BEARING	
7	90205497	AR	SHIM	
7A	88201064	18	HEX HD CAPSCREW, 3/8-16x7/8	
7B	88201068	6	HEX HD CAPSCREW, 3/8-16x1-3/4	
7B	90203168	2	SAFETY WIRE FOR 90028963 CAPSCREW	
8	90028935	2	RETAINING RING	
9	90207352	1	CROWD CYLINDER ROD PIN	
10	90206873	2	BEARING	
11	90207029	AR	SHIM	
11	88201035	4	HEX HD CAPSCREW, 3/8-16X1	
12	90403212	1	CROWD CYLINDER, HANGER	
13	88201067	2	HEX HD CAPSCREW, 1/2-13X1-1/2	
13	88551013	2	LOCKWASHER, 1/2	
13	88501008	2	HEX NUT, 1/2-13	
14	90207575	1	CYLINDER TIE DOWN CORD	
15	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4	
15	88561111	2	WASHER	
15	88501004	2	HEX NUT, 1/4-20	
16	90206892	3	CROWD BASE AND LIFT ROD PIN	
17	88201105	3	HEX HEAD CAPSCREW, 5/8-11x4	
17	88501010	3	HEX NUT, 5/8-11	
18	90403280	1	BOOM BASE PIN	
18	88671001	1	GREASE FITTING	
19	83481182	1	HEX HD CAPSCREW, 5/8-11x5-1/4 GR8	
19	88501010	1	HEX NUT, 5/8-11	
20	90602842	1	STRONG BACK	
21	88201069	1	HEX HD CAPSCREW, 1/2-13X2	
21	85401340	2	WASHER	
22	90028965	1	HEX NUT, 1-8	
22	88501116	1	HEX JAM NUT, 1-8	
23	90207027	2	BEARING	
24	90207030	AR	SHIM	
24	88201033	4	HEX HD CAPSCREW, 3/8-16X3/4	
25	91036035	1	1ST SECTION, 3S BOOM	
26	90205482	2	BUSHING	
26	91031092	2	BUSHING, STARTING SERIAL 8444491 REPLACES 90205482 WHEN NEW STYLE PIN IS USED.	

SECTION 2 - BOOM

FIGURE 2-4. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)



SECTION 2 - BOOM

FIGURE 2-4. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)

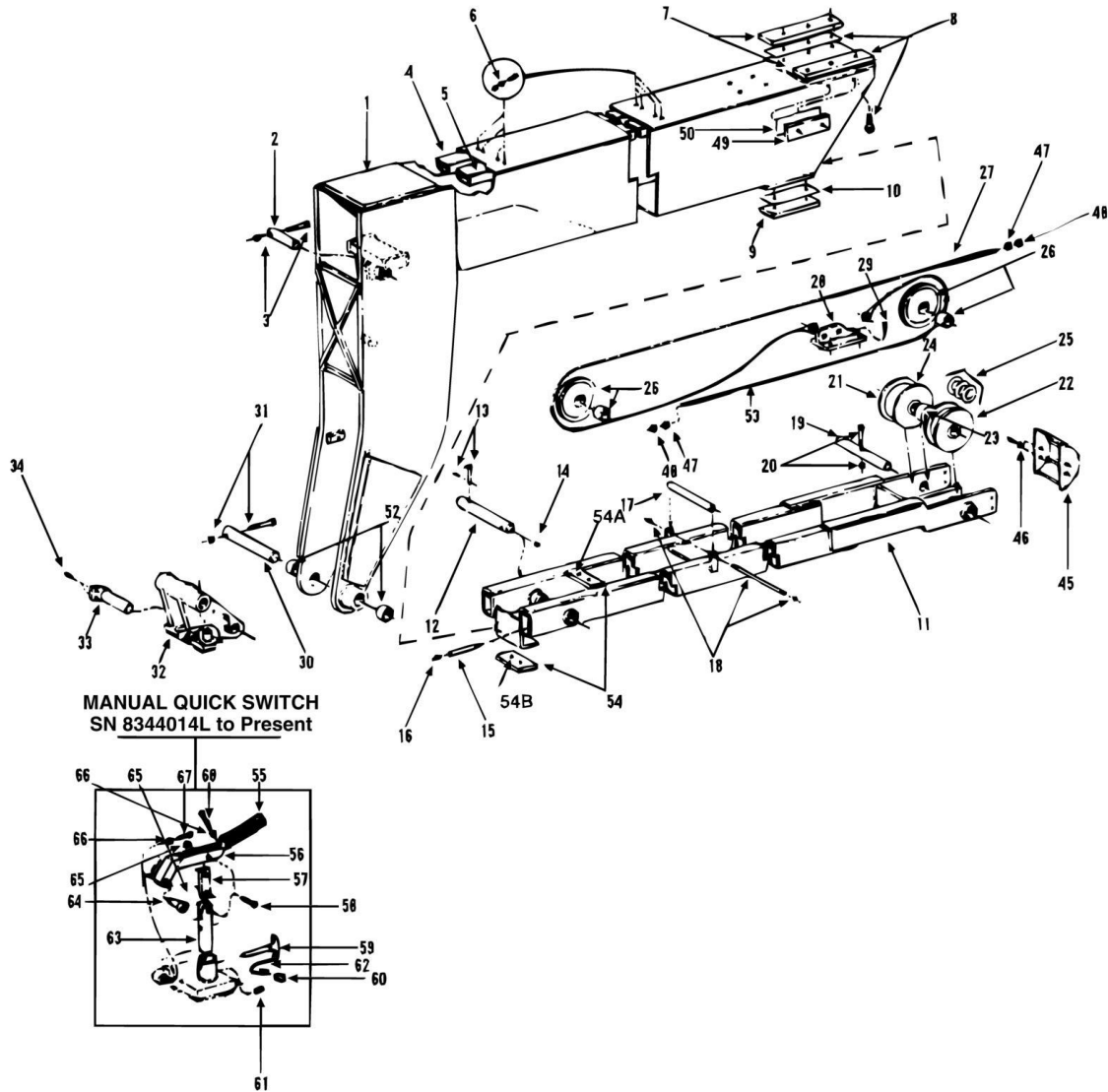
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036037		3RD BOOM SECTION	
2	90206892	1	TILT CYLINDER BASE PIN	
3	88201105	1	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	88501010	1	HEX NUT, 5/8-11	
4	90403350	1	HOSE SUPPORT WELDMENT	
5	90403203	1	HOSE SUPPORT WELDMENT	
6	88501005	12	HEX NUT, 5/16-18	
6	88561108	12	FLAT WASHER, 5/16	
7	91033190	2	BEARING (top rear)	
8	90205497	4	SLOTTED SHIM	
8	91031237	4	PUNCHED HOLE SHIM	
8	88201564	6	HEX HD CAPSCREW, 1/2-20X1, GR5	
8	88561111	6	FLAT WASHER, 1/2	
9	91033184	2	BEARING (lower rear)	
10	90207030	4	SLOTTED SHIM	
10	91031235	4	PUNCHED HOLE SHIM	
10	88201536	4	HEX HD CAPSCREW, 3/8-24X1-1/2, GR5	
10	88561109	4	FLATWASHER, 3/8	
11	90801349	1	PUSH BEAM	
12	90207621	1	PIN	
13	90021608	1	CLEVIS PIN	
13	88631310	1	COTTER PIN 3/32x1	
14	88711284	1	HEX SOCKET PIPE PLUG, 3/4	
15	88701035	1	NIPPLE, 1/8x12	
16	90028740	1	GREASE FITTING	
17	90207215	0	ROLLER (not required) (SN 8444459 to Present)	
18	90207302	1	STUD	
18	88521305	2	HEX LOCKNUT 5/16-18	
19	90207710	1	PIN	
20	88201045	1	HEX HD CAPSCREW, 3/8-16X3-1/2, GR5	
20	88501106	1	HEAVY HEX JAM NUT, 3/8-16	
21	91043101	1	SHEAVE	
22	91043100	1	SHEAVE	
23	90206046	4	BUSHING	
24	90207043	1	SPACER (if item 21 is not used)	
25	90200253	AR	SHIM	
25	90203039	AR	SHIM	
25	90203040	AR	SHIM	
26	91035147	2	SHEAVE ASSEMBLY (includes sheave and bushing)	
26	91031373	2	CABLE SHEAVE	
26	91031374	2	BUSHING	
27	90206886	1	EXTEND CABLE (includes pins)	
28		Ref	SEE NOTE	
29		Ref	SEE NOTE FOR ITEM 28	
30	91041365	1	PIN (boom to male coupler)	
31	88201107	1	HEX HD CAPSCREW, 5/8-11X5, GR5	
31	88521310	1	HEX LOCKNUT, 5/8-11	
32	90602838	1	MALER COUPLER	
33	90207046	1	TILT CYLINDER ROD PIN	
34	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	

SECTION 2 - BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
35	88201069	1	HEX HD CAPSCREW, 1/2-13X2, GR5	
35	88521308	1	HEX LOCKNUT, 1/2-13	
36	90403232	1	HANDLE ASSEMBLY	
36	88201068	1	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
37	90206976	1	HANDLE GRIP	
38	90021561	1	CLEVIS PIN	
38	88631310	1	COTTER PIN 3/32x1	
39	90206983	1	SPRING RETAINER	
40	90206901	1	SPRING	
41	90206906	1	OIL CUP	
42	90207527	1	PLUNGER	
43	88251036	1	SOCKET HD SHOULDER SCREW, 1/2x3/4 (5/16-18 thread)	
44	90206980	1	LINK	
45	90403384	1	CABLE AND HOSE RETAINER	
46	88201033	4	HEX HD CAPSCREW, 3/8-16x3/4 GR5	
46	88561109	4	FLAT WASHER, 3/8	
47	90028965	2	NUT	
48	88501116	2	HEAVY HEX JAM NUT 1-8	
49	91033186	2	BEARING (side)	
50	90205870	4	SLOTTED SHIM	
50	91031236	4	PUNCHED HOLE SHIM	
51	88201532	4	HEX HD CAPSCREW, 3/8-24x3/4 GR5	
51	88561109	4	FLAT WASHER, 3/8	
52	91031136	2	BUSHING	
53	90206887	1	RETRACT CABLE (includes pin)	
54	91033187	2	BEARING	
54	91031111	4	SLOTTED SHIM	
54	91031233	4	PUNCHED HOLE SHIM	
54A	88201533	2	HEX HD CAPSCREW, 3/8-24x7/8 GR5	
54B	88201532	2	HEX HD CAPSCREW, 3/8-24x3/4 GR5	
54B	88561109	4	FLAT WASHER, 3/8	
55	90206976	1	HANDLE GRIP	
56	90602906	1	HANDLE WELDMENT	
57	90207894	1	LINK	
58	88201038	2	HEX HD CAPSCREW, 3/8-16x1-3/4 GR5	
59	90207902	1	RELEASE PIN	
60	91033039	1	CONNECTION LINK	
61	88671008	1	LUBE FITTING STRAIGHT 1/4-28	
62	90203288	1	CHAIN	
63	90403441	1	PLUNGER	
64	88251037	1	SOCKET HD SHOULDER SCREW, (1/2x1 (3/8-16 thread)	
66	88501104	2	HEAVY HEX JAM NUT, 1/4-20	
67	88201003	1	HEX HD CAPSCREW, 1/4-20x3/4 GR5	
68	88201007	1	HEX HD CAPSCREW, 1/4-20x1-1/2 GR5	
		Ref	NOTE: When ordering items number 7,9,49 & 54, bearings for machines new mounting hardware must also be purchased to match with fine thread bearings. (Prior to SN 8544678)	

SECTION 2 - BOOM

FIGURE 2-5. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8544556 to Present)



SECTION 2 - BOOM

FIGURE 2-5. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8544556 to Present)

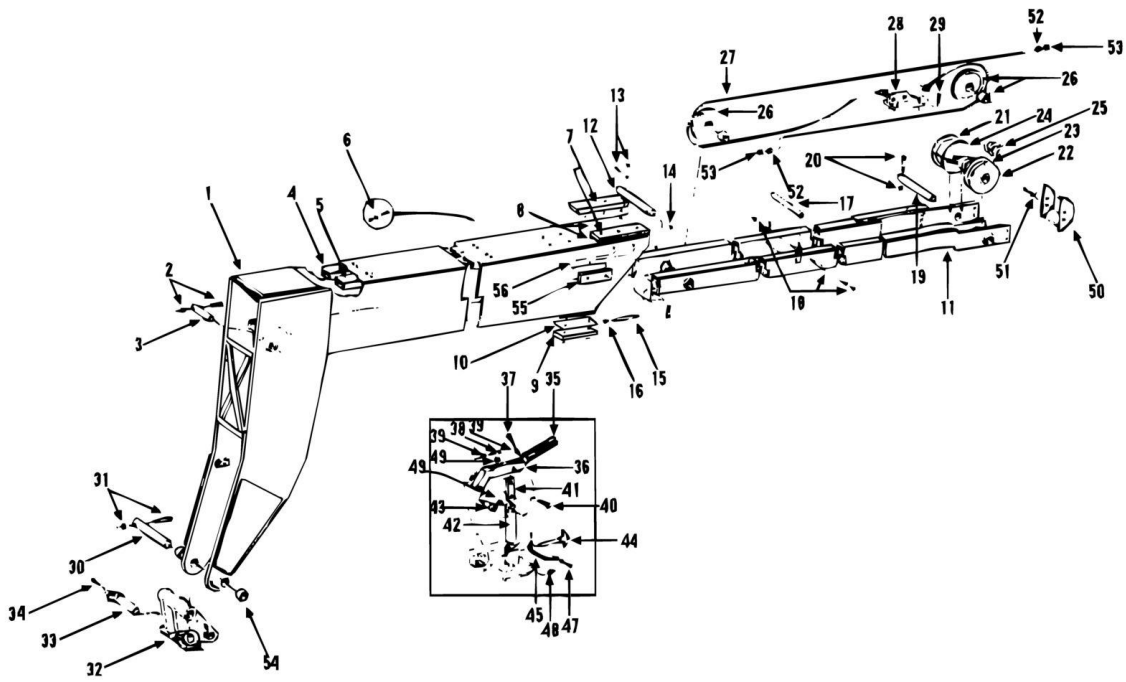
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036037	1	3RD SECTION 3S BOOM	
2	90206892	1	TILT CYLINDER BASE END PIN	
3	88201105	1	5/8-11x4 HEX HD CAPSCREW	
3	88521310	1	5/8-11 LOCKNUT	
4	90403350	1	HOSE SUPPORT WELDMENT	
5	90403203	1	HOSE SUPPORT WELDMENT	
6	77143006	6	5/16-18 WHIZ LOCK NUT	
7	91033190	2	BEARING, TOP GEAR	
8	90205497	4	SHIM, SLOTTED	
8	91031237	4	SHIM, PUNCHED HOLE	
8	88201564	6	BOLT, 1/2x20-1IN	
8	90021470	6	BEARING, TOOTH LOCK	
9	91033184	2	BEARING, LOWER REAR	
10	90207030	4	SHIM, SLOTTED	
10	91031235	4	SHIM, PUNCHED HOLE	
10	88201536	4	BOLT, 3/8-24x1 1/2	
10	90021469	4	WASHER, TOOTH LOCK	
11	90801349	1	PUSH BEAM	
12	90207621	1	FRONT PIN	
13	90021608	1	CLEVIS PIN	
13	88631310	1	COTTER PIN	
14	88711284	1	PLUG	
15	90028941	1	GREASE TUBE	
16	90028740	1	GREASE FITTING	
16	88521305	2	5/16-18 HEX NUT	
19	90207710	1	REAR PIN	
20	88201045	1	3/8-16x3-1/2 HEX HD CAPSCREW	
20	88501106	1	3/8-16 HEX JAM NUT	
21	90602852	1	SHEAVE	
22	90602830	1	SHEAVE	
23	90206046	4	BUSHING	
24	90207043	1	SPACER (if item 21, sheave, is not used)	
25	90200253	AR	WASHER	
25	90203039	AR	THRUST WASHER	
25	90203040	AR	THRUST WASHER	
26	90403182	2	CABLE SHEAVE	
26	90205407	2	BUSHING	
27	90206886	1	EXTEND CABLE (includes pins)	
28	91036001	1	CABLE ANCHOR	
29	83201022		5/8-11x2-1/4 BOLT	
29	77141077	6	FLAT WASHER	
30	90207042	1	BOOM TO MALE COUPLER PIN	
31	88201107	1	5/8-11x5 HEX HD CAPSCREW	
31	88521310	1	5/8-11 HEX NUT	
32	90602838	1	MALE COUPLER	
33	90207046	1	TILT CYLINDER ROD END PIN	
34	88201065	2	1/2-13x1 HEX HD CAPSCREW	
45	90403384	1	CABLE AND HOSE RETAINER	
46	88201033	4	3/8-16x3/4 HEX HD CAPSCREW	
46	88561109	4	WASHER	

SECTION 2 - BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	88551011	4	LOCKWASHER	
47	90028965	2	NUT	
48	88501116	2	7/8-9 NUT	
49	91033186	2	BEARING, SIDE	
50	90205870	4	SHIM, SLOTTED	
50	91031236	4	SHIM, PUNCHED HOLE	
51	88201532	4	BOLT, 3/8-24x3/4 (not shown-items 49)	
51	90021469	4	WASHERS, TOOTH LOCK	
52	90205475	2	BUSHING	
53	90206887	1	RETRACT CABLE, INCLUDES PIN	
54	91033187	2	BEARING	
54	91031111	4	SHIM, SLOTTED	
54	91031233	4	SHIM, PUNCHED HOLE	
54A	88201533	2	BOLT, 3/8-24x7/8	
54B	88201532	2	BOLT, 3/8-24x3/4	
54B	90021469	4	WASHERS, TOOTH LOCK	
55	90206976	1	HANDLE GRIP	
56	90602906	1	HANDLE WELDMENT	
57	90207894	1	LINK	
58	88201038	2	3/8-16x1-3/4 HEX HD CAPSCREW	
59	90207902	1	RELEASE PIN	
60	91033039	1	CONNECTION LINK	
61	88671008	1	GREASE FITTING	
62	90203288	1	CHAIN	
63	90403441	1	PLUNGER	
64	88251037	1	SHOULDER BOLT	
65	88521306	2	3/8-16 LOCKNUT	
66	88501104	2	1/4-20 LOCKNUT	
67	88201003	1	1/4-20x3/4 HEX HD CAPSCREW	
68	88201007	1	1/4-20x1-1/2 HEX HD CAPSCREW	

SECTION 2 - BOOM

FIGURE 2-6. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)



SECTION 2 - BOOM

FIGURE 2-6. 3RD BOOM SECTION, PUSH BEAM AND CABLE (SN 8344001L to Present)

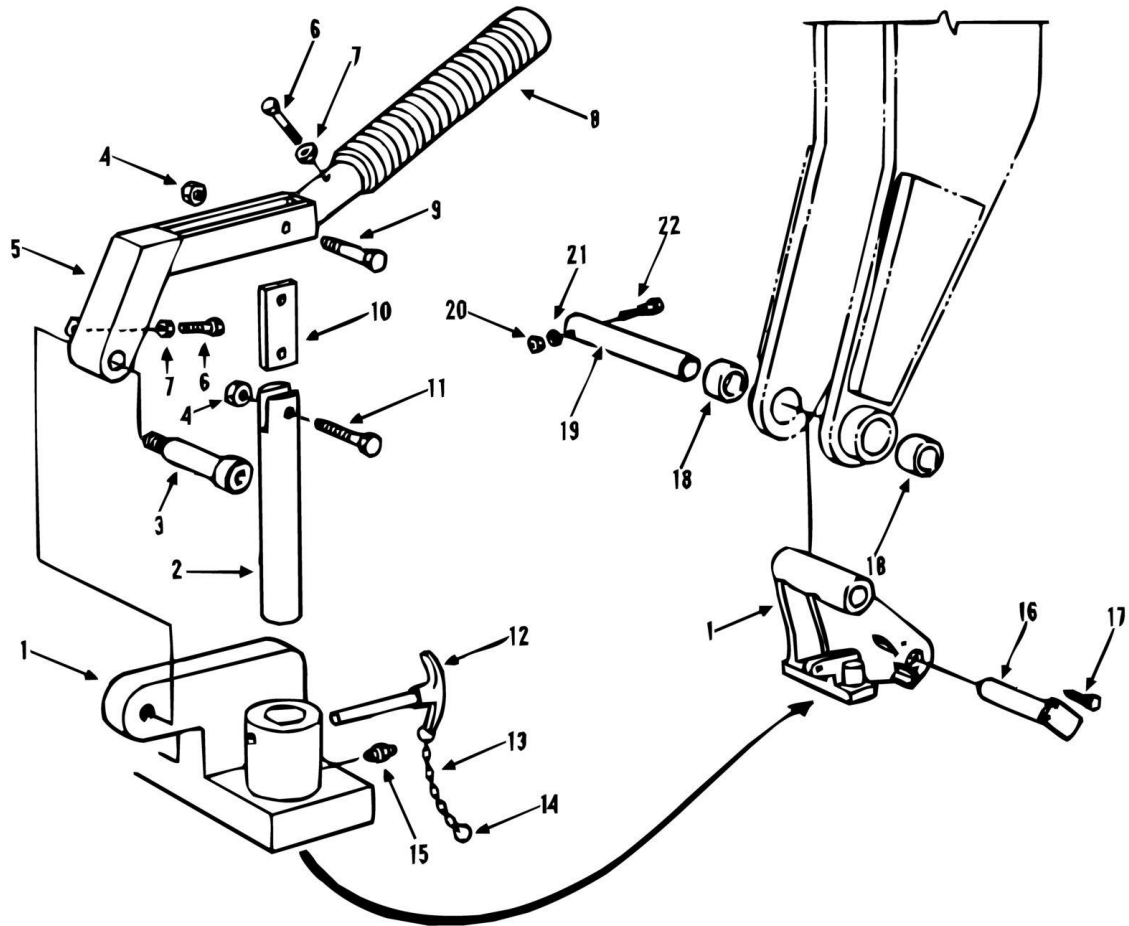
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90801296	1	3S BOOM, 3RD SECTION	
2	90206892	1	PIN, TILT CYLINDER BASE END	
3	90020199	1	CAPSCREW, HEX HD 5/8-11x4	
3	90021101	1	NUT, HEX 5/8-11	
4	90403350	1	TUBE, AUXILARY HOSE	
5	90403203	1	TUBE, TILT HOSE	
6	90021095	12	NUT, HEX 5/16-18	
6	90021455	12	WASHER	
7	90402801	2	BEARING, REAR TOP	
8	90205497	AR	SHIM (use as required)	
8	90203167	6	BOLT, SPECIAL	
9	90207027	2	BEARING, REAR LOWER	
10	90207029	2	SHIM	
10	90200007	4	CAPSCREW, HEX HD 3/8-16x1	
11	90801349	1	BEAM, PUSH	
12	90207621	1	PIN, FRONT	
13	90201608	1	PIN, CLEVIS	
13	90207221	1	PIN, COTTER	
14	90027264	1	PLUG	
15	90028941	1	GREASE TUBE	
16	90028740	1	FITTING, GREASE	
17	90207215	1	ROLLER, HOSE SUPPORT	
18	90207302	1	STUD	
18	90022224	2	NUT, HEX 5/16-18	
19	90207710	1	PIN, REAR	
20	90020085	1	CAPSCREW, HEX HD 3/8-16X3-1/2	
20	90021117	1	NUT, HEX JAM 3/8-16	
21	90602852	1	SHEAVE	
22	90602830	1	SHEAVE	
23	90206046	4	BUSHING	
24	90207043	1	SPACER, (if item 21 is not used)	
25	90200253	AR	SHIM	
25	90200253	AR	SHIM	
25	90203039	AR	SHIM	
25	90203040	AR	SHIM	
26	90403182	2	CABLE SHEAVE	
26	90205407	2	NEEDLE BEARING	
27	90206886	1	CABLE, INCLUDES PINS	
28	90602845	1	ANCHOR, CABLE	
29	90020121	4	CAPSCREW, HEX HD 3/8-16x1 1/2	
30	90207042	1	PIN, BOOM TO MALE COUPLER	
31	90020219	1	CAPSCREW, HEX HEAD 5/8-11x5	
31	90021101	1	NUT, HEX 5/8-11	
32	90602838	1	COUPLER, MALE	
33	90207046	1	PIN, TILT CYLINDER ROD PIN	
34	90029976	2	CAPSCREW, HEX HD 1/2-13x1	
35	90206976	1	GRIP, HANDLE	
36	90602906	1	HANDLE	
37	90020017	1	CAPSCREW, HEX HD 1/4-20x1 1/2	
38	90020009	1	CAPSCREW, HEX HD 1/4-20x1 1/4	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
39	90021113	2	NUT, 1/4-20	
40	90020021	2	CAPSCREW, HEX HD 3/8-16x1 1/2	
41	90207894	1	LINK	
42	90403441	1	PLUNGER	
43	90026523	1	BOLT, SHOULDER	
44	90207902	1	HANDLE	
45	90203288	1	WELDMENT, CHAIN	
47	90029976	1	CAPSCREW, HEX HD 1/2-13x1	
47	90027471	1	WASHER, 1/2	
48	90022218	1	FITTING, GREASE	
49	90022225	2	NUT, 3/8-16	
50	90403384	1	RETAINER, CABLE AND HOSE RETAINER	
51	90026019	4	CAPSCREW, HEX HD 3/8-16x3/4	
51	90021456	4	WASHER, 3/8	
52	90028965	2	NUT, CABLE END	
53	90021203	2	NUT, CABLE END JAM	
54	90205475	2	BUSHING	
55	90206238	2	BEARING, TOP SIDE	
56	90205870	AR	SHIM	
56	90026019	4	BOLT, 3/8-16x3/4	

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FIGURE 2-7. (91045006) QUICK SWITCH ASSEMBLY (SN 8744142G to Present)



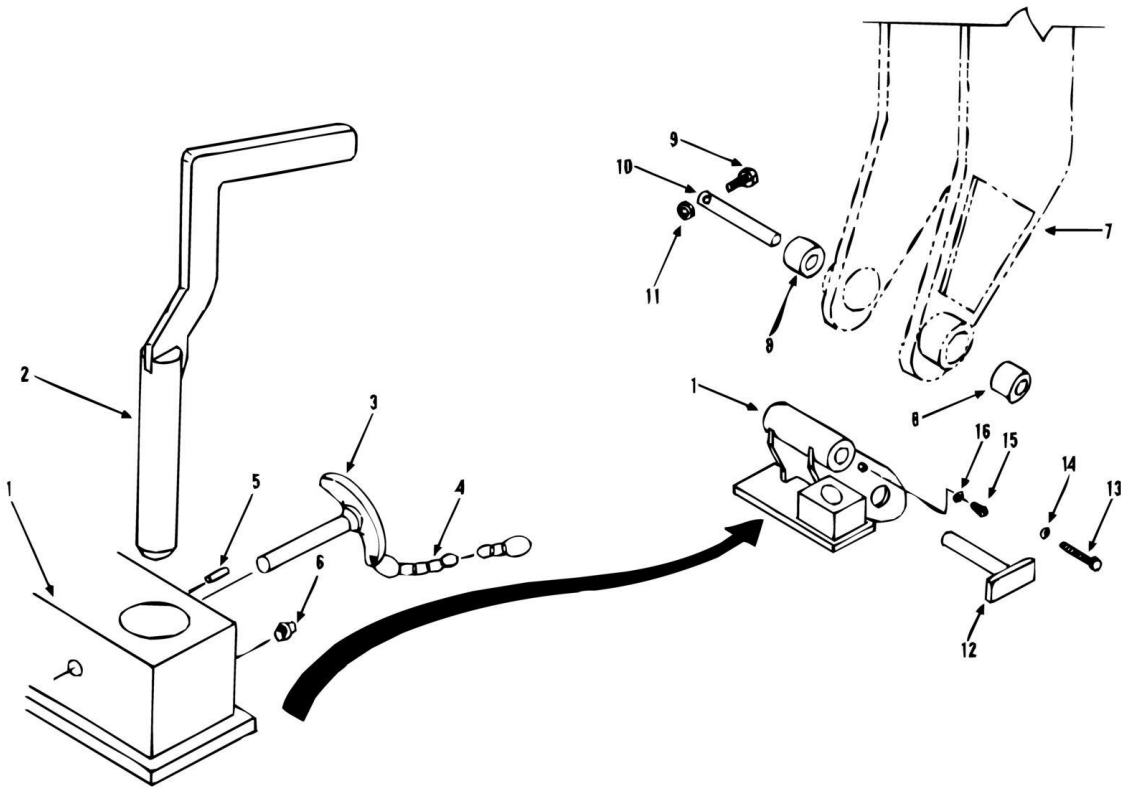
SECTION 2 - BOOM

FIGURE 2-7. (91045006) QUICK SWITCH ASSEMBLY (SN 8744142G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045006	1	QUICK SWITCH ASSY (includes all items except items 16 thru 22)	
1	91046027	1	QUICK SWITCH WELDMENT	
2	91041091	1	PLUNGER	
3	88251037	1	SOCKET HD SHOULDER SCREW, 1/2x1 (3/8-16 THREAD)	
4	88521306	2	HEX LOCKNUT, 3/8-16	
5	90602906	1	HANDLE WELDMENT	
6	88201005	2	HEX HD CAPSCREW, 1/4-20x1-1/2, GR5	
7	88501104	2	HEX NUT, 1/4-20	
8	90206979	1	HANDLE GRIP	
9	88201037	1	HEX HD CAPSCREW, 3/8-16x1-1/2, GR5	
10	90207894	1	LINK	
11	88201038	1	HEX HD CAPSCREW, 3/8-16x1-3/4. GR5	
12	90207902	1	QUICK RELEASE PIN	
13	1033038	1	JACK CHAIN, 8IN LONG, SIZE 12	
14	91033039	1	CHAIN CONNECTION	
15	88671008	1	LUBE FITTING STRAIGHT 1/4-28	
16	90207046	1	TILT CYLINDER ROD END PIN	
17	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
18	91031136	2	BUSHING	
19	91041365	1	HEAD PIN	
20	88521010	1	HEX LOCKNUT, 5/8-11	
21	88551013	2	LOCKWASHER, 1/2	
22	86641057	1	HEX HD CAPSCREW	

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FIGURE 2-8. QUICK SWITCH ASSEMBLY (SN 0144698J to Present)



SECTION 2 - BOOM

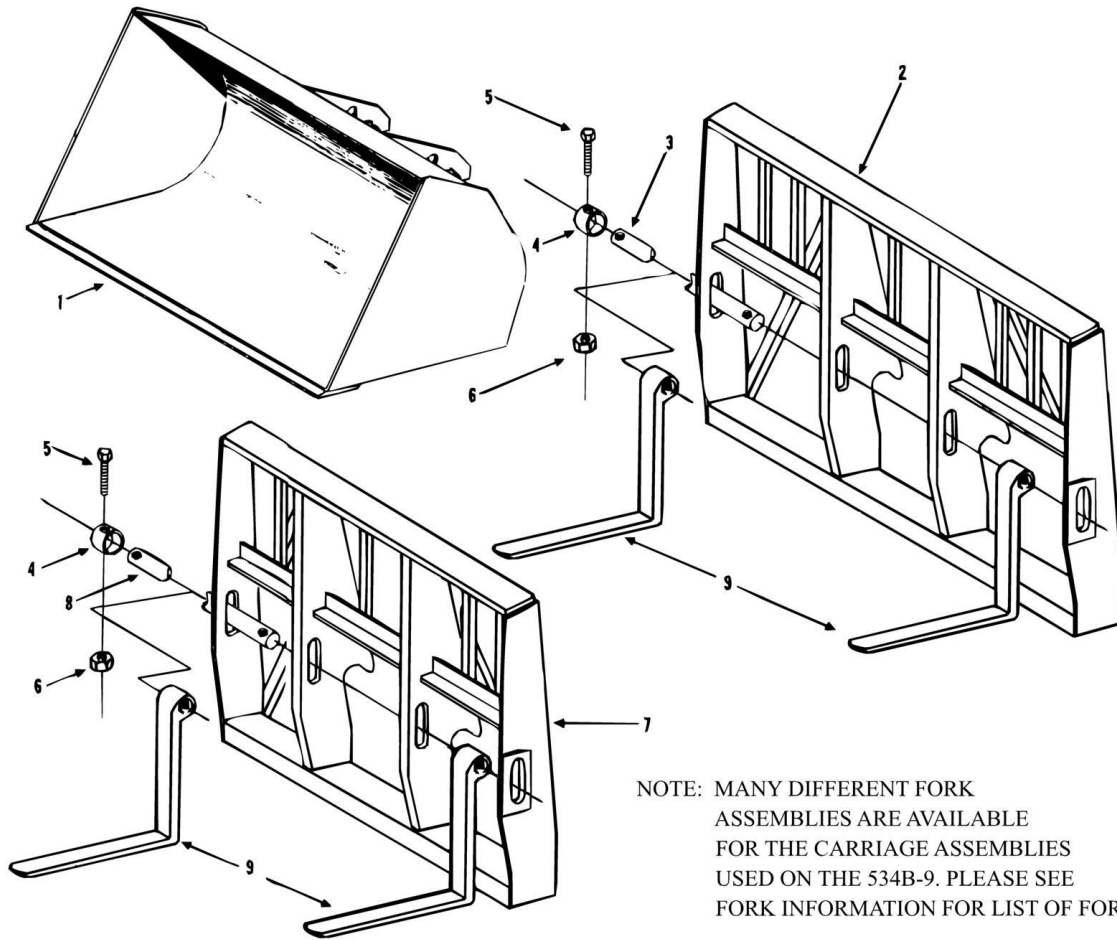
FIGURE 2-8. QUICK SWITCH ASSEMBLY (SN 0144698J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045095	1	QUICK SWITCH ASSEMBLY	
1	91046074	1	QUICK SWITCH WELDMENT	
2	91086073	1	PLUNGER WELDMENT	
3	90207902	1	QUICK RELEASE PIN	
4	91033038	1	JAC CHAIN, 8IN LONG, SIZE 12	
5	88631509	1	ROLL PIN, 1/4INX2	
6	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
7	91046020	REF	FOURTH BOOM SECTION WELDMENT	
8	91031136	REF	BUSHING	
9	88641057	1	HEX HD CAPSCREW	
10	91041365	1	HEAD PIN	
11	88521010	1	HEX LOCKNUT, 5/8-11	
12	90207046	1	TILT CYLINDER ROD END PIN	
13	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
14	88551013	2	LOCKWASHER, 1/2	
15	88301090	1	RD HD MACH SCREW #10-24x1/2	
16	88561105	1	FLATWASHER #10	

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FIGURE 3-1. CARRIAGE ASSEMBLY (SN 8344001L to Present)



NOTE: MANY DIFFERENT FORK ASSEMBLIES ARE AVAILABLE FOR THE CARRIAGE ASSEMBLIES USED ON THE 534B-9. PLEASE SEE FORK INFORMATION FOR LIST OF FORKS.

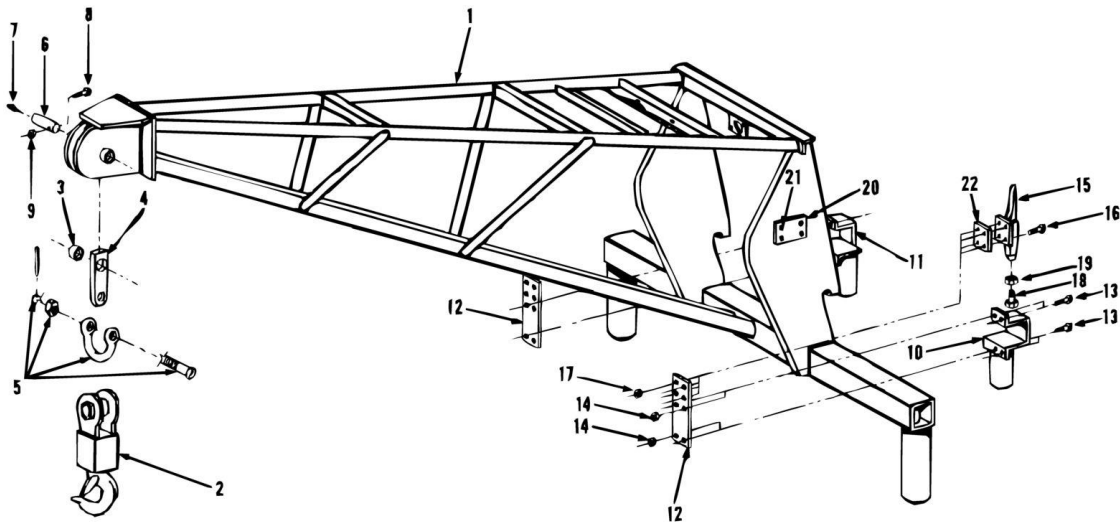
SECTION 3 - ATTACHMENTS

FIGURE 3-1. CARRIAGE ASSEMBLY (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90455049	1	60IN BUCKET	
2	90801314	1	66IN CARRIAGE	
3	90402478	1	66IN FORK PIN	
4	90200003	2	FORK PIN COLLAR	
5	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
6	88521310	2	HEX LOCKNUT, 5/8-11	
7	90801315	1	48IN CARRIAGE	
8	90402477	1	48IN FORK PIN	
9	90802132	2	PALLET FORK, 1-3/4X5X42 6000# CAPACITY	
9	90802221	2	PALLET FORK, 2X4X48 6000# CAPACITY	
9	90802164	2	PALLET FORK, 1-3/4X5X60 6000# CAPACITY	
9	90600390	2	CUBING FORK, 2X2X50 3000# CAPACITY (USES 2 90410246 SPACERS)	
9	90601819	2	PALLET FORK, 1-3/4X6X48 8000# CAPACITY	
9	90601818	2	PALLET FORK, 2X6X60 8000# CAPACITY	
9	90453002	2	PALLET FORK, 2X4X48 8000# CAPACITY	

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FIGURE 3-2. (90455011) TRUSS BOOM (SN 8344001L to Present)



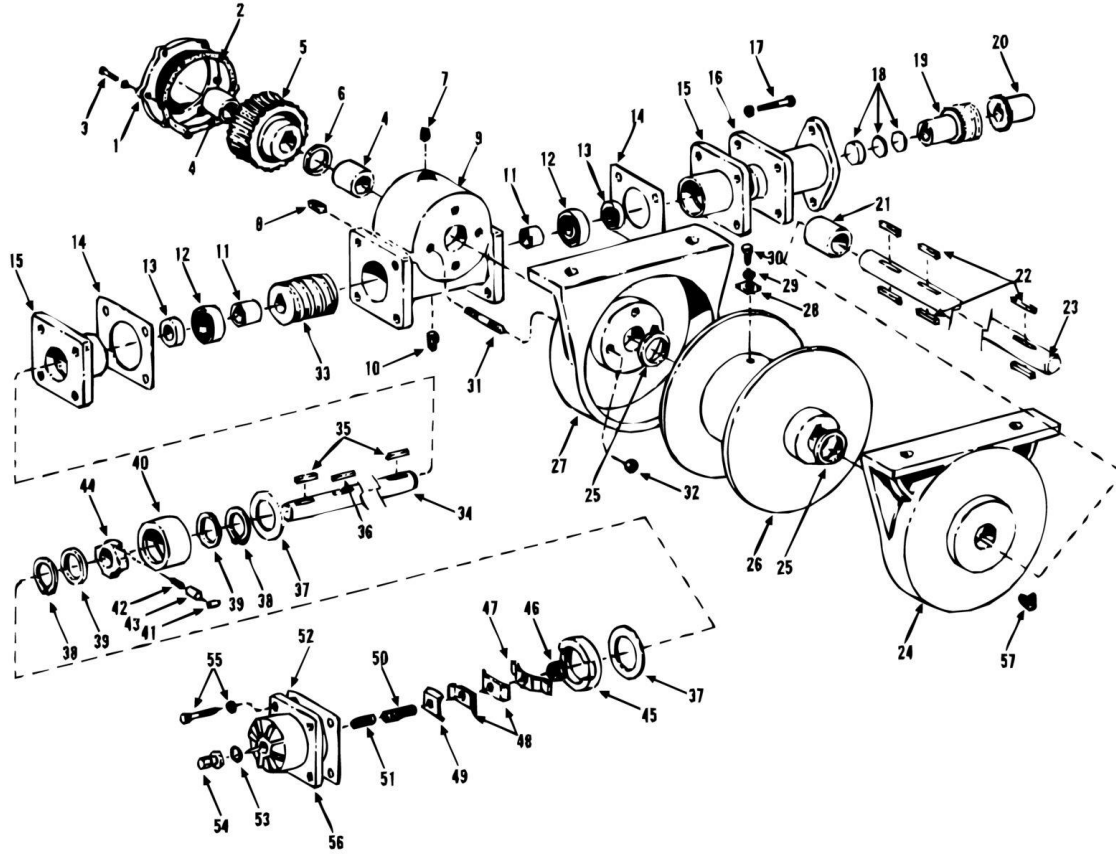
SECTION 3 - ATTACHMENTS

FIGURE 3-2. (90455011) TRUSS BOOM (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455011	1	TRUSS BOOM, (includes all items)	
1	90801353	1	TRUSS BOOM WELDMENT	
2	90453040	1	SWIVEL HOOK	
3	90206046	1	BUSHING	
4	90451053	1	HANGER	
5	90453041	1	SHACKLE, (includes attachment hardware)	
5		Ref	BOLT	
5		Ref	NUT	
5		Ref	COTTER PIN	
6	90402948	1	PIN	
7	88671001	1	LUBE FITTING, STRAIGHT, 1/8	
8	88201073	1	HEX HD CAPSCREW, 1/2-13X3, GR5	
9	88501008	1	HEXNUT, 1/2-13	
10	90602905	1	SLIDER BRACKET	
11	90602904	1	SLIDER BRACKET	
12	90403437	2	SLIDER BAR	
13	88201036	8	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
14	88501006	8	HEX NUT, 3/8-16	
15	90207884	2	LOCKING CLAMP	
16	88201021	8	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
17	88501005	8	HEX NUT, 5/16-18	
18	88201035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
19	88501106	2	HEAVY HEX JAM NUT, 3/8-16	
20	90153001	1	SERIAL NO PLATE	
21	88341022	4	DRIVE SCREW, #10X3/8	
22	90451047	2	SPACER	

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FIGURE 3-3. WINCH-TRUSS BOOM (SN 8344001L to Present)



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FIGURE 3-3. WINCH-TRUSS BOOM (SN 8344001L to Present)

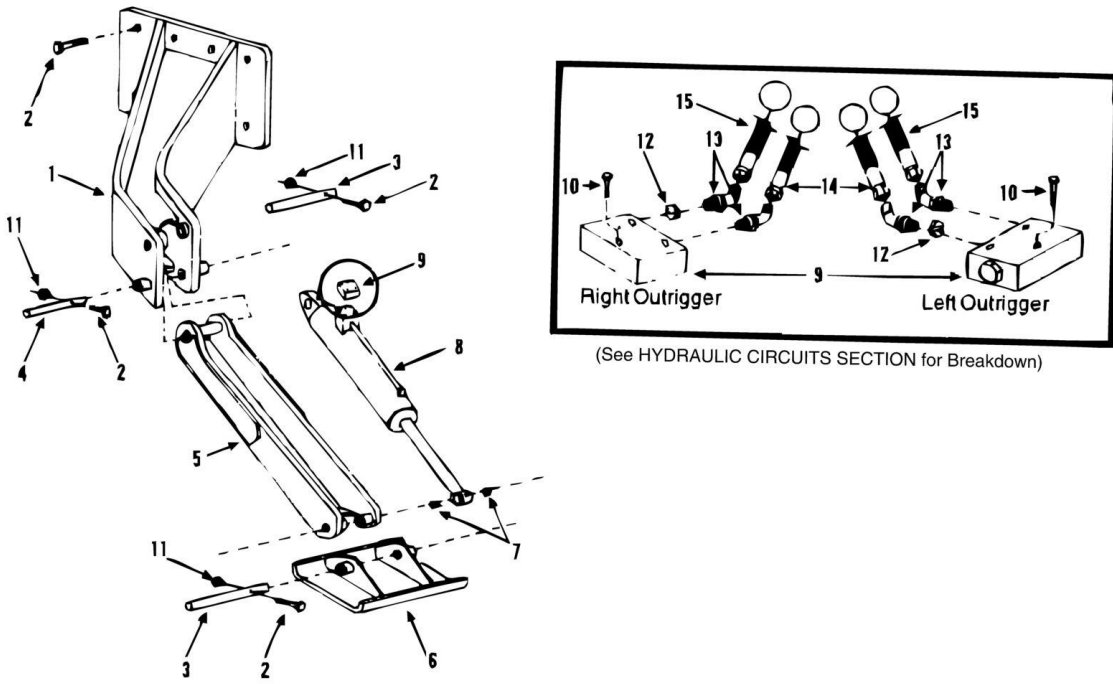
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90207878	1	TRUSS BOOM WINCH (includes all items)	
1	90208147	1	GEAR CASE COVER	
2	90208171	1	GEAR CASE GASKET	
3	88201035	6	HEX HD CAPSCREW, 3/8-16x1, GR5	
4	90208154	2	BUSHING	
5	90208150	1	WORM GEAR	
6	90208174	1	BUSHING	
7	90208168	1	OIL FILL PLUG	
8	90208185	1	OIL LEVEL PLUG	
9	90208142	1	GEAR CASE	
10	90208186	1	OIL DRAIN PLUG	
11	90208156	2	COLLAR	
12	90208183	2	BEARING	
13	90208189	2	OIL SEAL	
14	90208170	2	BEARING HUB GASKET	
15	90208188	2	BEARING HUB	
16	90208180	1	MOTOR MOUNT ADAPTER	
17	88201037	4	HEX HD CAPSCREW, 3/8-16x1-1/2 GR5	
17	88551011	4	LOCK WASHER, 3/8	
18	90208187	AR	COUPLER SPACER	
19	90208181	1	COUPLER WINCH SHAFT	
20	90208182	1	COUPLER MOTOR SHAFT	
21	90208153	1	LOCK SEAT BUSHING	
22	90208152	6	CABLE DRUM SHAFT KEY	
23	90208148	1	CABLE DRUM SHAFT	
24	91404384	1	LOCK SEAT	
25	90208173	2	WASHER	
26	90208145	1	CABLE DRUM	
27	90208143	1	LOCK SEAT	
28	90208169	1	WIRE ROPE LOCK	
29	88551011	1	LOCKWASHER, 3/8	
30	88201036	1	HEX HD CAPSCREW, 3/8-16x1-1/4 GR5	
31	90208155	4	STUD BOLT, 1/2-13X1-1/2	
32	88501008	4	HEX NUT, 1/2-13	
33	90208151	1	WORM	
34	90208149	1	WORM SHAFT	
35	90208176	2	WORM SHAFT KEY	
36	90208177	1	WORM SHAFT KEY	
37	90208164	2	BRAKE LINING	
38	90208184	2	LOCK RING (V.C. type)	
39	90208175	2	SEAL	
40	90208158	1	BRAKE HOUSING	
41	90208163	1	ROLLER	
42	90208179	1	BRAKE DRUM SPRING	
43	90208162	1	SPRING SEAT	
44	90208159	1	BRAKE DRUM	
45	90208157	1	BRAKE PLATE	
46	88501006	1	HEX NUT, 3/8-16	
47	90208165	1	BRAKE PLATE	
48	90208166	2	BRAKE PLATE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
49	90208167	1	FIXING PLATE	
50	90208160	1	ADJUSTING BOLT	
51	90208178	1	SPRING	
52	90208190	1	BRAKE COVER GASKET	
53	90208172	1	O-RING	
54	90208161	1	ADJUSTING NUT	
55	88201037	8	HEX HD CAPSCREW, 3/8-16x1-1/2 GR5	
55	88551011	4	LOCKWASHER, 3/8	
56	90208146	1	BRAKE DRUM	
57	88671001		LUBE FITTING - STRAIGHT 1/8	

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FIGURE 3-4. OUTRIGGERS



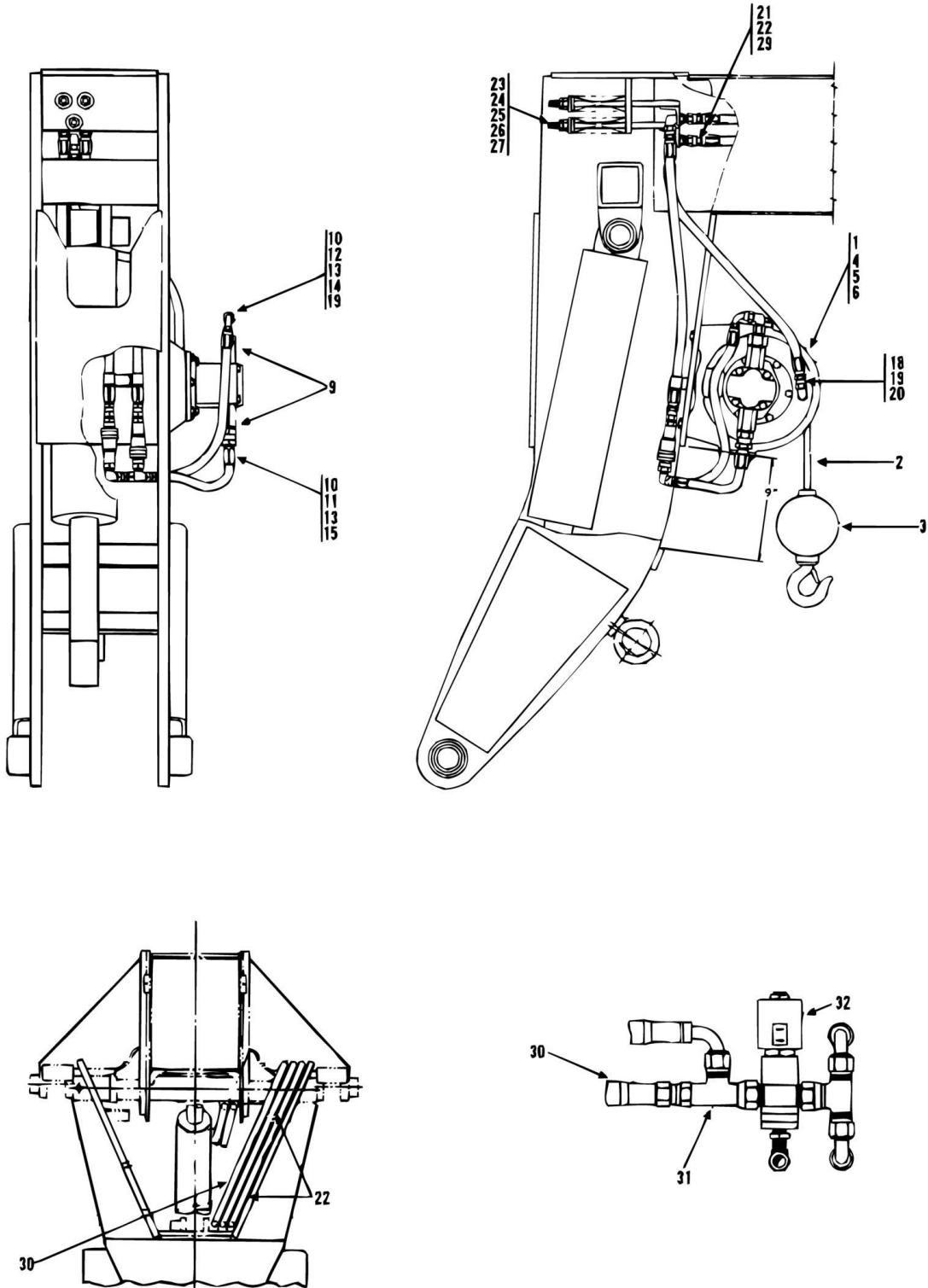
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FIGURE 3-4. OUTRIGGERS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036029	1	LEFT OUTRIGGER BRACKET	
1	91036030	1	RIGHT OUTRIGGER BRACKET	
2	85081016	11	HEX HD CAPSCREW	
2	05101441	11	SPECIAL WASHER	
3	91031141	4	SHOE PIN	
4	91031140	2	ARM PIN	
5	91036041	2	ARM WELDMENT	
6	91036032	2	OUTRRIGER SHOE	
7	91031136	4	BUSHING	
8		Ref	CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
9	91043258	2	DUAL P.O. CHECK, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
10	88201040	6	HEX HD CAPSCREW, 3/8-16X2-1/4 GR5	
10	88551011	6	LOCKWASHER, 3/8	
11	88521206	6	HEX LOCKNUT, 3/8-16	
12	91033201	2	ORIFICE CHECK, (barrel side only)	
13	88662085	4	ELBOW, 45, (includes o-ring)	
13	88591205	4	O-RING	
14	84717527	2	HOSE ASSY	
15	84717528	2	HOSE ASSY	

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FIGURE 3-5. WINCH ASSEMBLY



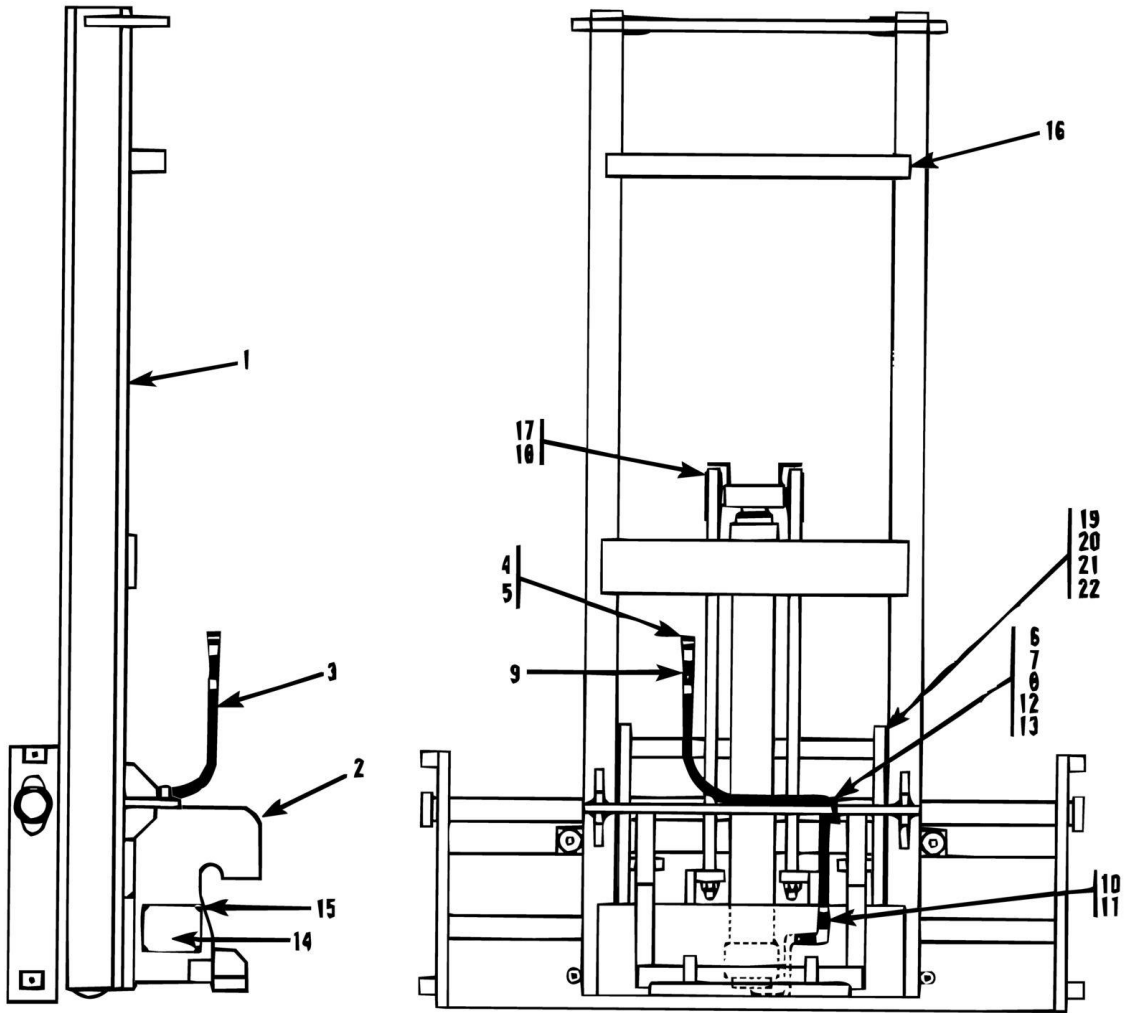
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FIGURE 3-5. WINCH ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033196	1	WINCH	
2	90207882	1	CABLE	
3	90201443	1	HOOK AND BALL	
4	88201069	4	HEX HD CAPSCREW, 1/2-13X2, GR5	
5	88551013	4	LOCKWASHER, 1/2	
6	88501008	4	HEX NUT, 1/2-13	
7	91031007	1	BAR (not shown)	
8	91021009	1	RING (not shown)	
9	91033161	2	FLOW REGULATOR	
10	88661113	2	MALE ELBOW - 90, 1/2x1/2 TUBE	
11	90204245	1	HYDRAULIC COUPLER - FEMALE	
12	90204244	1	HYDRAULIC COUPLER - MALE	
13	91033230	2	REDUCER	
14	77133226	1	HOSE ASSEMBLY	
15	77133459	1	HOSE ASSEMBLY	
16	91043126	1	DUST CAP (not shown)	
17	91043125	1	DUST PLUG (not shown)	
18	88661011	1	MALE CONNECTOR 1/4X1/2 TUBE	
19	88662106	2	ELBOW - 90, (swivel nut)	
20	84717252	1	HOSE ASSEMBLY	
21	90027180	1	90, BULKHEAD FITTING	
22	90206888	1	HOSE ASSEMBLY	
23	90403249	1	HOSE TAKE-UP	
24	90200313	1	SPRING	
25	90207041	1	SPRING RETAINER	
26	88501008	1	HEX NUT, 1/2-13	
27	88501108	1	HEAVY HEX JAM NUT, 1/2-13	
28	91043101	1	HOSE TAKE-UP SHEAVE	
29	88661065	1	UNION, 1/2 TUBE	
30	84716377	1	HOSE ASSEMBLY	
31	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
32	91035067	1	SOLENOID VALVE ASSEMBLY	

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FIGURE 3-6. 6 FT VERTICAL MAST



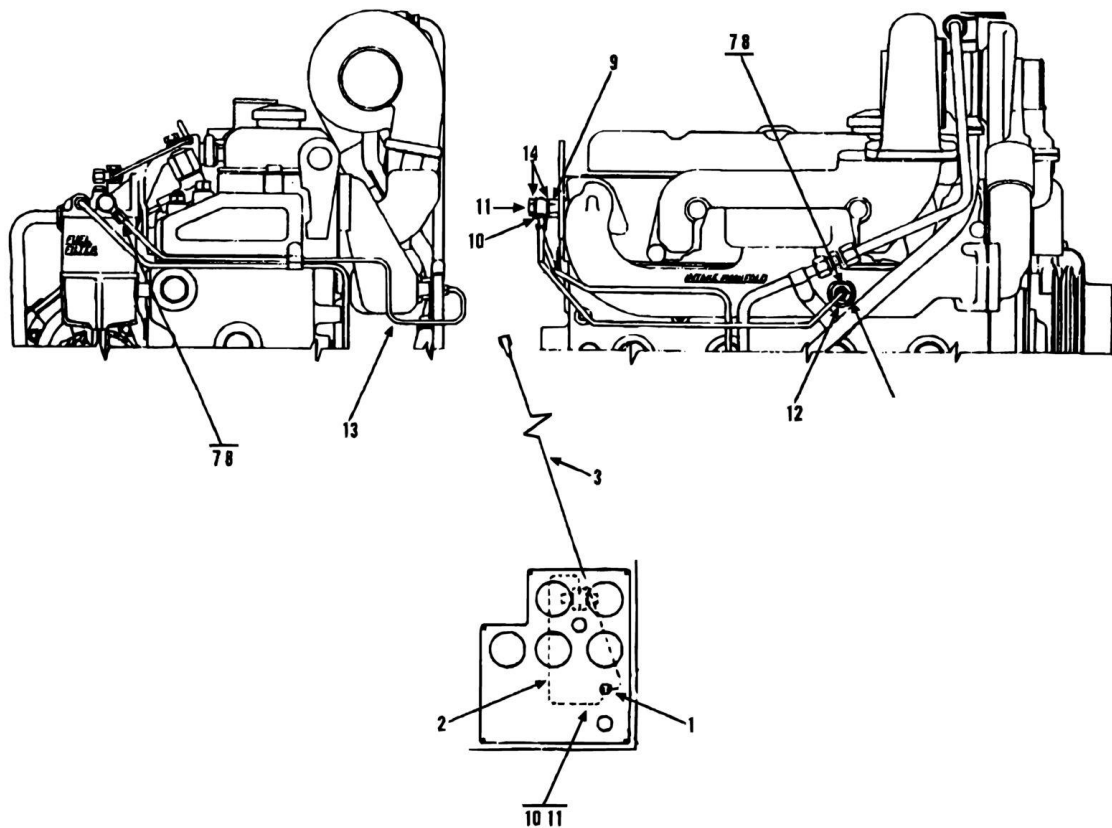
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FIGURE 3-6. 6 FT VERTICAL MAST

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455035	1	6 FT MAST ASSY, (48in carriage), (includes all items)	
	90455037	1	6 FT MAST ASSY, (66in carriage), (includes all items)	
	91033243	1	6K CAPACITY CHART, (located in cab)	
	91033242	1	8K CAPACITY CHART, (located in cab)	
1	90453031	1	CARRIAGE WELDMENT - 48IN	
1	90453032	1	CARRIAGE WELDMENT - 66IN	
2	90456002	1	ADAPTER WELDMENT	
3	84717640	1	HOSE ASSY	
4	91163138	1	MALE HYDRAULIC COUPLING (Prior to SN 2005283-01)	
4	91403414	1	MALE HYDRAULIC COUPLING, (SN 2005283-01 to Present)	
5	91043126	1	DUST CAP	
6	24431386	2	CLAMP	
7	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
8	88561004	2	FLAT WASHER, 3/8	
9	88661013	1	MALE CONNECTOR, 1/2X1/2 TUBE (Prior to SN 2005283-01)	
9	88662006	1	CONNECTOR, (includes 88591205 o-ring), (SN 2005283-01 to Present)	
10	88661016	1	MALE CONNECTOR, 5/8X1/2 TUBE	
11	88661180	1	FEMALE ELBOW, 90, 1/2X1/2 TUBE	
12	88501006	2	HEX NUT, 3/8-16	
13	88551011	2	LOCKWASHER, 3/8	
14	90153001	1	SERIAL NO PLATE	
15	88341022	4	DRIVE SCREW, #10X3/8	
16	90451039	1	STOP TUBE	
17	91034372	2	RETAINING RING	
18	91034373	2	CHAIN ROLLER	
19	91034374	6	LOAD ROLLER, (inside carriage frame)	
20	91034375	AR	SHIM	
21	91034376	4	SIDE THRUST ROLLER, (small outside roller)	
22	91034377	2	SCREW	

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FIGURE 3-7. GLOW PLUG INSTALLATION



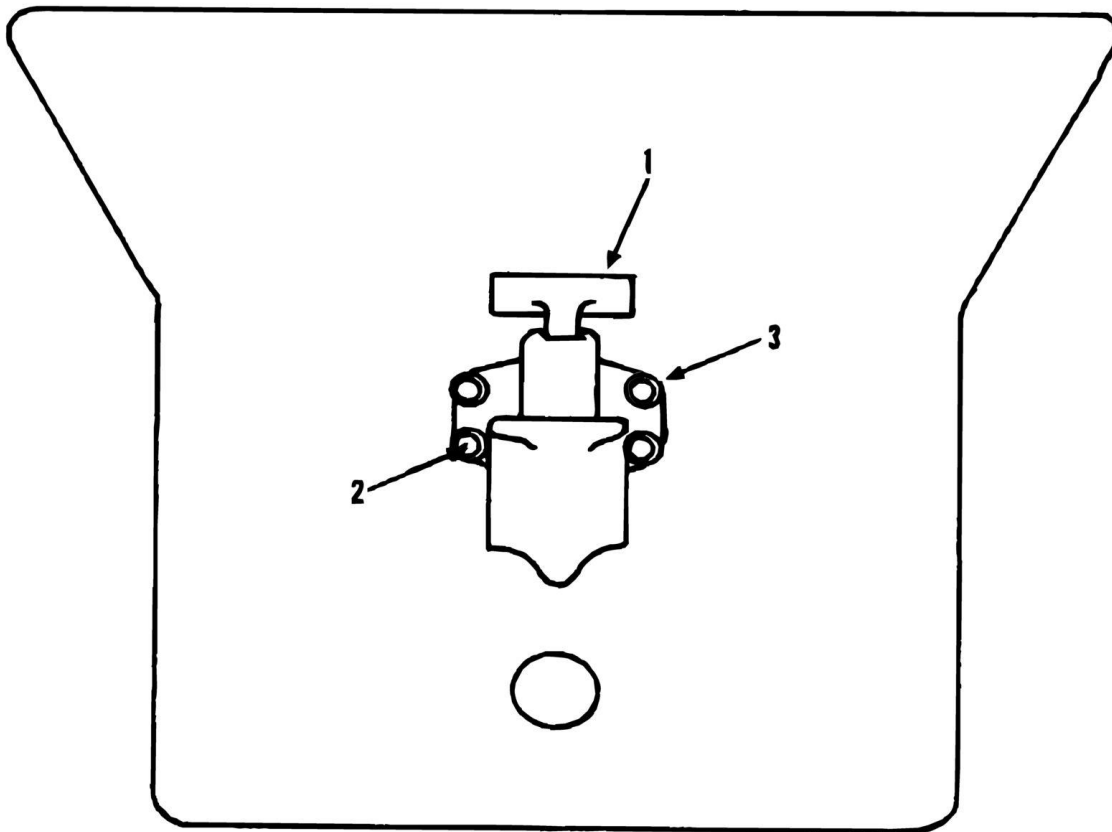
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FIGURE 3-7. GLOW PLUG INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035105		GLOW PLUG INSTALLATION (includes all items below)	
1	24771004	1	PUSH BUTTON SWITCH	
2	91031277	1	JUMPER WIRE	
3	91031278	1	JUMPER WIRE	
4	91033251	1	BUTTON DECAL	
5	91033252	1	INSTRUCTION DECAL	
6	91033250	1	GLOW PLUG KIT (consists of items 7 thru 14)	
7	Kit	2	TUBE NUT	
8	Kit	2	RUBBER FERRULE	
9	Kit	1	VALVE	
10	Kit	1	CONNECTOR	
11	Kit	1	BOLT	
12	Kit	1	HEATER	
13	Kit	1	TUBE	
14	Kit	3	WASHER	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	
		Ref	NOTE: SWITCH ASSEMBLY, SWITCH PLATE, AND DECAL SHEET, WHICH ARE PART OF THE ABOVE KIT, ARE NOT USED IN THIS INSTALLATION.	

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FIGURE 3-8. PINTLE HOOK INSTALLATION



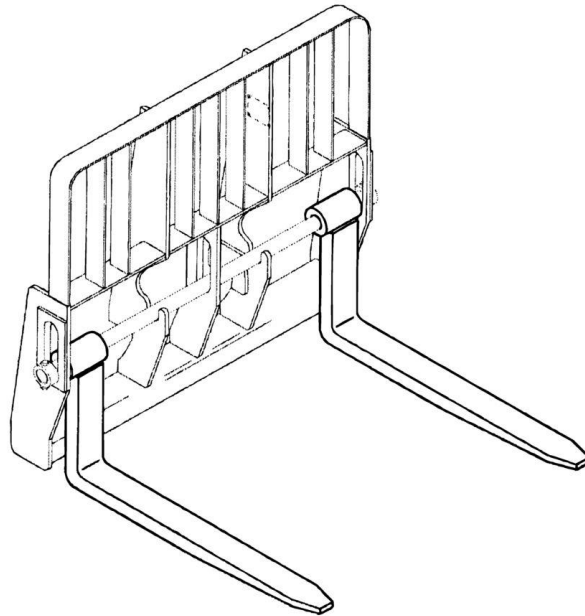
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FIGURE 3-8. PINTLE HOOK INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90200602	1	PINTLE HOOK	
2	88201068	4	HEX HD CAPSCREW, 1/2-13X1-3/4, GR.5	
3	88551013	4	LOCKWASHER 1/2	

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FIGURE 3-9. ATTACHMENTS AND ACCESSORIES FORK INFORMATION



NOTE: FORKS RATED LESS THAN THE ATTACHMENT OR MACHINE'S CAPACITY DECREASE CAPACITY OF THE ATTACHMENT OR MACHINE TO THAT OF THE FORKS. FORKS RATED MORE THAN THE ATTACHMENT OR MACHINE'S CAPACITY DO NOT INCREASE ATTACHMENT OR MACHINE'S CAPACITY.

NOTE: PLEASE CONSULT THE GRADALL PARTS DEPARTMENT TO DETERMINE THE CORRECT FORKS APPLICABLE TO YOUR SPECIFIC CARRIAGE ASSEMBLY AND APPLICATION.

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FIGURE 3-9. ATTACHMENTS AND ACCESSORIES FORK INFORMATION

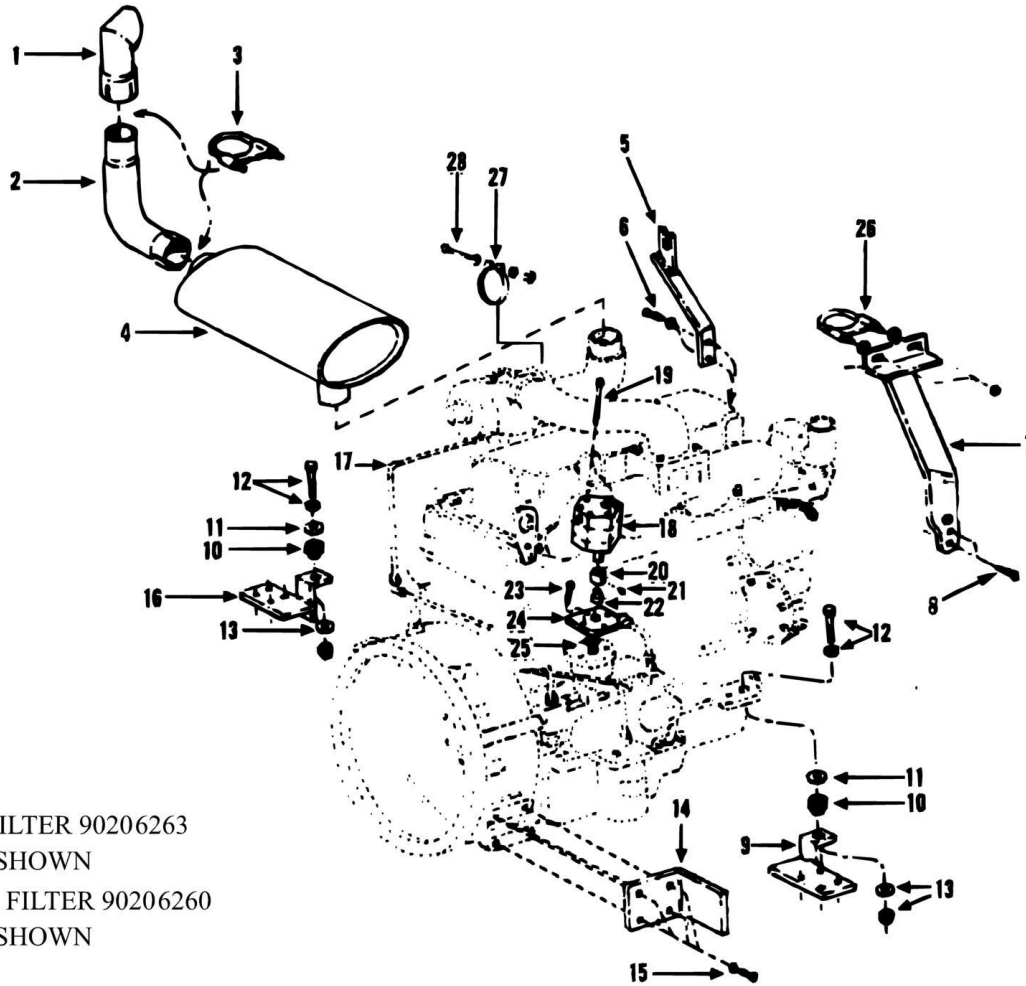
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90600390	2	48IN CUBING FORK, 2X2, 3000 lbs, (B, C, and D series)	
	90601819	2	48IN PALLET FORK, 1-3/4X6, 9000 lbs, (B, C, and D series)	
	90453002	2	48IN PALLET FORK, 2X4, 3000 lbs, (B, C, and D series)	
	90553005	2	48IN PALLET FORK, 2X6, 3000 lbs, (B, C, and D series)	
	90553008	2	48IN PALLET FORK, 2X2, 3000 lbs, (used on 6ft swing mast only, P/N 90455047)	
	90601015	2	60IN PALLET FORK, 2X6, 3000 lbs, (B, C, and D series)	
	90063269	2	60IN PALLET FORK, 2X6, 3000 lbs, (B, C, and D series)	
	90453045	2	60IN PALLET FORK, 2X2, 10,000 lbs, (used on 6ft swing mast only, P/N 90455054)	
	90553018	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C, and D series)	
	91123132	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C, and D series)	
	90600832	2	48IN FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)	
	90601873	2	48IN FORK, 2-1/4X7, 15,000 lbs, (used on the 542, 552, & 554)	
	90600833	2	60IN PALLET FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)	
	90601219	2	60IN FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)	
	90601874	2	60IN FORK, 2-1/4X7, 15,000 lbs, (used on the 542, 552, & 554)	

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FIGURE 4-1. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



*OIL FILTER 90206263
NOT SHOWN
FUEL FILTER 90206260
NOT SHOWN

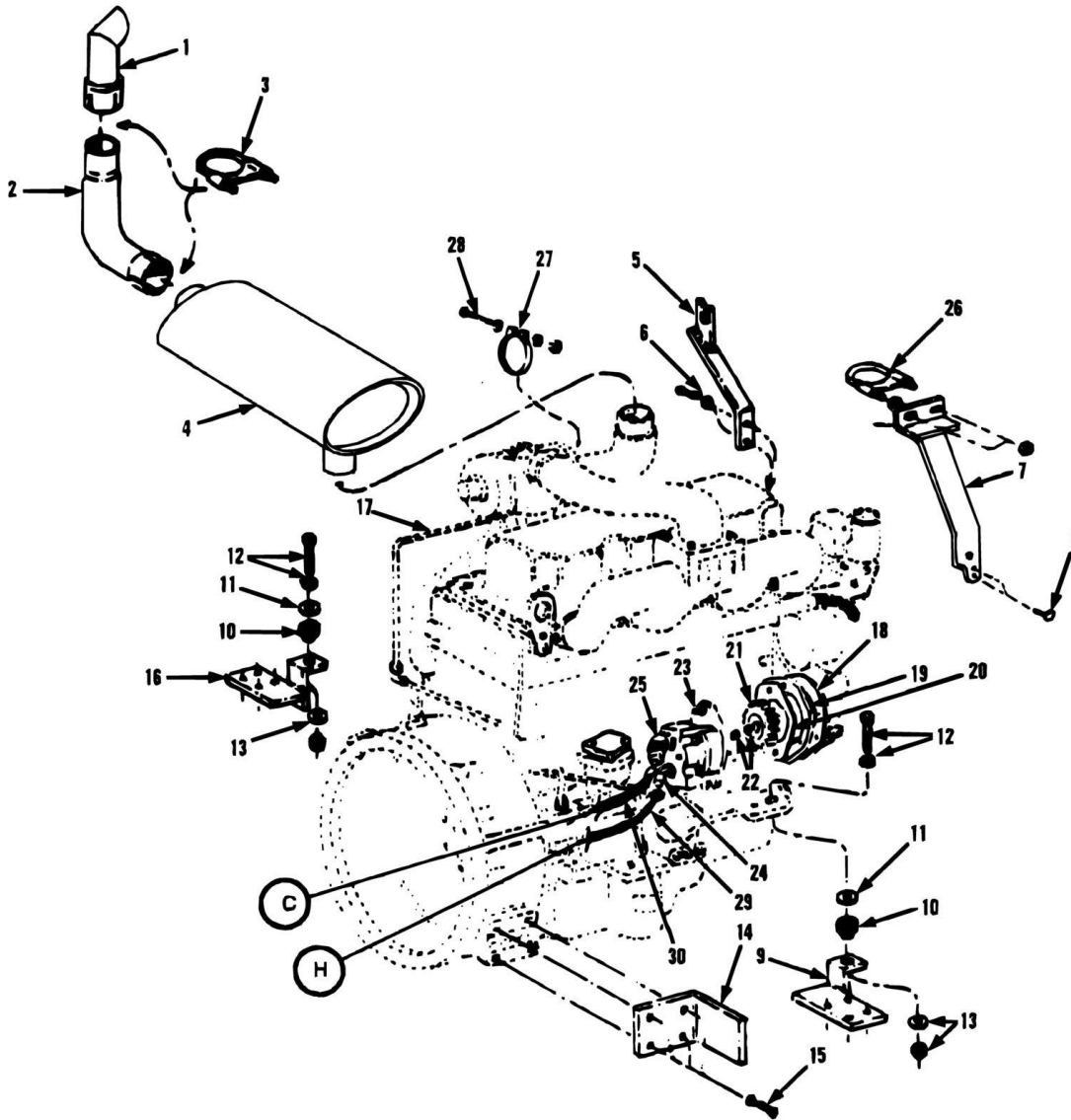
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205861	1	STACK CAP	
2	90206634	1	EXHAUST ELBOW	
3	24921332	2	EXHAUST CLAMP	
4	90207291	1	MUFFLER	
5	90205971	1	ACCELERATOR CABLE BRACKET	
6	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
6	88561109	2	FLATWASHER, 3/8	
7	90403079	1	MUFFLER MOUNTING BRACKET	
8	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
9	90403174	1	ENGINE MOUNT BRACKET, (left)	
10	90205032	2	CENTER BONDED COMPRESSION MOUNT	
11	90205654	2	SPECIAL WASHER	
12	88201073	2	HEX HD CAPSCREW, 1/2-13X3, GR5	
12	85401340	2	WASHER, 1/2	
13	90205031	2	SPECIAL WASHER	
14	90403431	1	OIL FILTER GUARD	
15	88201065	4	HEX HD CAPSCREW, 1/2-13X3, GR5	
15	88561111	4	FLATWASHER, 1/2	
16	90403175	1	ENGINE MOUNT BRACKET, (right)	
17		Ref	WAUKESHA DIESEL ENGINE, (For parts information see separate engine manual)	
18	90403305	1	PILOT PUMP	
19	88201030	2	HEX HD CAPSCREW, 5/16-18X3-1/2, GR5	
20	90207250	1	ADAPTER	
21	90028751	1	SET SCREW	
22	90207251	1	DOWEL	
23	88211069	2	SOCKET HD CAPSCREW, 3/8-16X3/4, GR8	
24	90207249	1	ADAPTER PLATE	
25	90207284	1	GASKET	
26	90205866	1	EXHAUST PIPE CLAMP	
27	90207818	1	CLAMP	
27	91001002	1	GASKET	
28	88201029	1	HEX HD CAPSCREW, 5/16-18X3-1/4, GR5	
28	88521005	1	HEX LOCKNUT, 5/16-18	
28	88561108	1	FLAT WASHER, 5/16	
29	91034057	1	STARTER, (not shown)	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



C - See HYDRAULIC CIRCUITS SECTION for Breakdown
H - See HYDRAULIC CIRCUITS SECTION for Breakdown

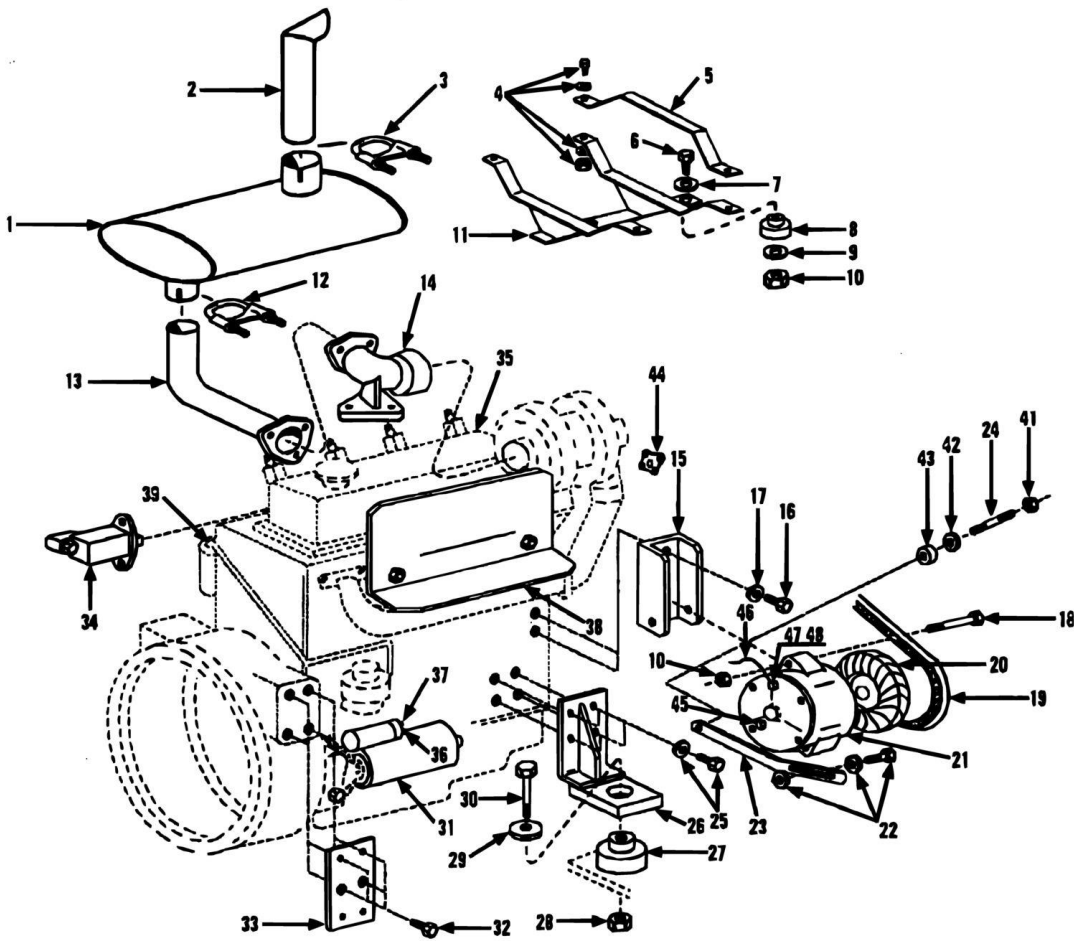
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. WAUKESHA DIESEL ENGINE MOUNTING WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205861	1	STACK CAP	
2	90206634	1	EXHAUST ELBOW	
3	24921332	2	EXHAUST CLAMP	
4	90207291	1	MUFFLER	
5	90205971	1	ACCELERATOR CABLE BRACKET	
6	88201033	2	3/8IN-16X3/4IN CAPSCREW	
6	88561109	2	3/8in WASHER	
7	90403079	1	MUFFLER MOUNTING BRACKET	
8	88201037	2	3/8IN-16X1-1/2IN CAPSCREW	
9	90403174	1	ENGINE MOUNTING BRACKET, (left)	
10	90205032	2	CENTER BONDED COMPRESSION MOUNT	
11	90205654	2	SPECIAL WASHER	
12	88201073	2	1/2IN-13X3IN CAPSCREW	
12	85401340	2	1/2IN WASHER	
13	90205031	2	SPECIAL WASHER	
13	88501008	2	1/2IN-13 NUT	
14	90403431	1	OIL FILTER GUARD	
15	88201065	4	1/2IN-13X1IN CAPSCREW	
15	88561107	4	WASHER	
16	90403175	1	ENGINE MOUNTING BRACKET, (right)	
17		Ref	WAUKESHA DIESEL ENGINE, (For parts information see separate engine manual)	
18	91034034	1	ADAPTER GASKET	
19	31034035	1	PUMP ADAPTER PLATE	
20	91034036	1	HYDRAULIC PUMP GASKET	
21	91034037	1	HYDRAULIC PUMP GEAR	
22	91034038	1	WASHER	
22	91034039	1	CASTLE NUT	
23	91033156	1	HYDRAULIC GEAR PUMP	
24	86561309	1	REDUCER/EXPANDER	
24	88591207	1	O-RING	
24	88662085	1	ELBOW, 45	
25	91033182	1	BEADED INSERT, 45	
25	88591209	1	O-RING	
26	90205866	1	EXHAUST PIPE CLAMP	
27	90207818	1	CLAMP	
28	88201029	1	5/16IN-18X3-1/4IN BOLT	
28	88521005	1	5/16IN-18 NUT	
28	88561108	2	5/16IN WASHER	
29	84717470	1	HOSE ASSEMBLY	
30	91033179	1	HOSE	
31	91033139	1	OIL PRESSURE SENDER (not shown)	
31	88712031	1	ELBOW, 45	
32	90206263		OIL FILTER (not shown)	
33	90206260		FUEL FILTER (not shown)	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. PERKINS DIESEL ENGINE MOUNTING PERKINS ENGINE ONLY (SN 8444491G to Present)



SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. PERKINS DIESEL ENGINE MOUNTING PERKINS ENGINE ONLY (SN 8444491G to Present)

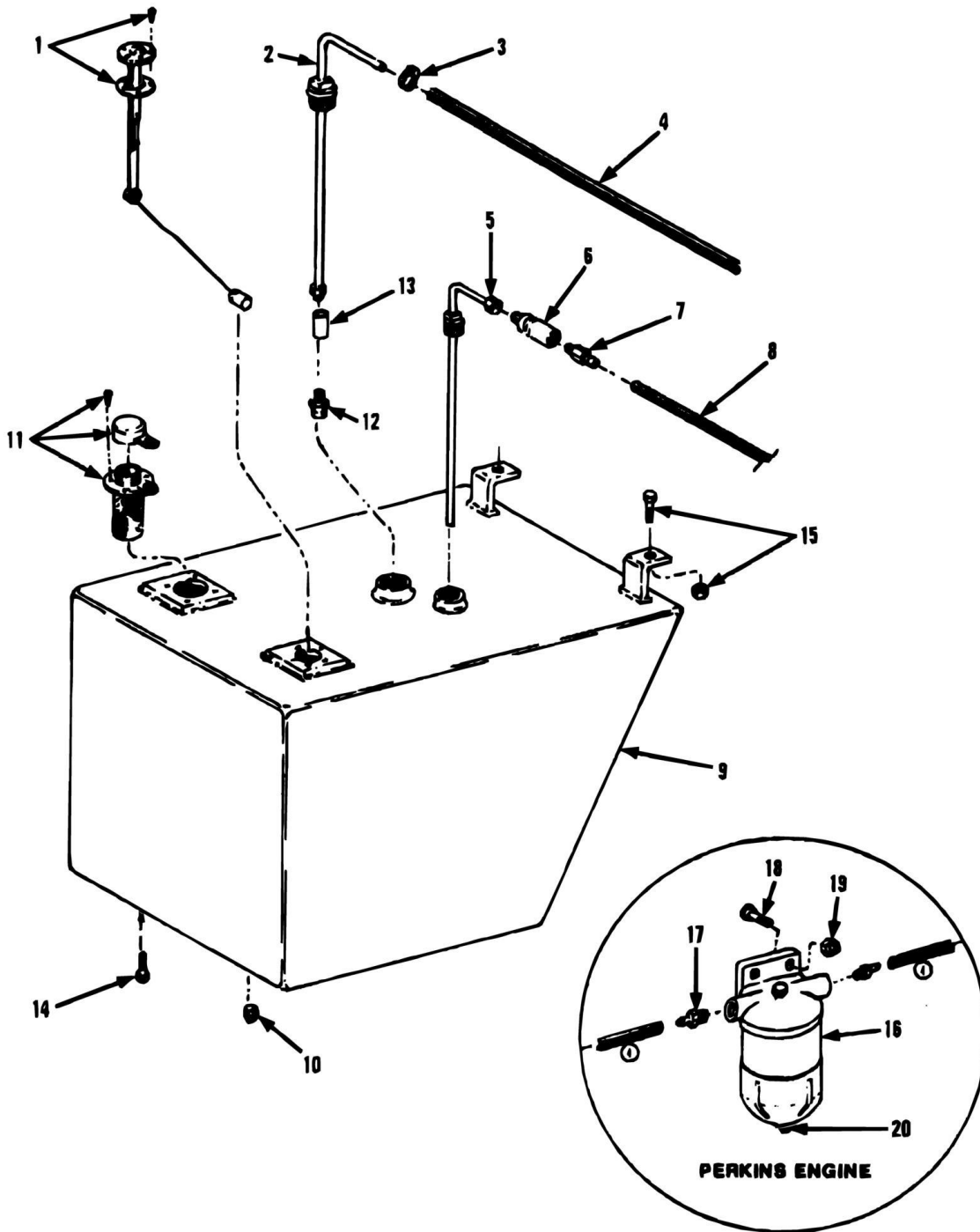
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035141	1	ENGINE AND TRANSMISSION FILTER KIT	
	90204732	1	TRANSMISSION FILTER	
	90206262	1	AIR FILTER	
	91034005	1	FUEL FILTER	
	91034006	1	OIL FILTER	
1	91033053	1	MUFFLER	
2	91033381	1	STACK CAP	
3	24921332	1	CLAMP	
4	88201009	4	HEX HD CAPSCREW, 1/4-20X2, GR5	
4	88561107	8	FLAT WASHER, 1/4	
4	88521304	4	HEX LOCKNUT, 1/4-20	
5	91031045	2	MUFFLER STRAP	
6	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
7	83681481	2	WASHER	
8	83683308	2	SHOCK MOUNT	
9	88561109	2	FLAT WASHER, 3/8	
10	88521306	3	HEX LOCKNUT, 3/8-16	
11	91036010	1	MUFFLER SUPPORT	
11	91036072	1	MUFFLER SUPPORT (SN 0144312J to Present)	
12	83683175	1	CLAMP	
13	91036011	1	HEADER PIPE	
13	91036073	1	HEADER PIPE (SN 0144312J to Present)	
13	91036099	1	HEADER PIPE (SN 0144687J to Present)	
14	91036012	1	EXHAUST MANIFOLD	
14	88201534	3	HEX HD CAPSCREW, 3/8-24X1, GRS	
14	88551011	3	LOCKWASHER, 3/8	
15	91031395	1	ALTERNATOR BRACKET	
16	88201534	2	HEX HD CAPSCREW, 3/8-24X1, GR5	
17	12001234	2	HARDENED WASHER, 3/8	
18	88201045	1	HEX HD CAPSCREW, 3/8-16X3-1/2, GR5	
19	91033248	1	FAN BELT	
20	91033074	1	ALTERNATOR FAN	
21	91033234	1	ALTERNATOR	
22	83191028	1	BOLT, M8X1.25, GR8	
22	83191011	1	LOCKWASHER, M8	
22	90027469	1	HARDENED WASHER	
23	91031404	1	ALTERNATOR ADJUSTMENT STRAP	
24	91033329	1	STUD	
25	88201549	8	HEX HD CAPSCREW, 7/16-20X1, GR5	
25	88551012	8	LOCKWASHER, 7/16	
26	91036009	2	MOTOR MOUNT	
27	90205032	2	SHOCK MOUNT	
28	88521208	2	HEX LOCKNUT, 1/2-13	
29	90205031	2	SPECIAL WASHER	
30	88201072	2	HEX HD CAPSCREW, 1/2-13X3-3/4, GR5	
31	91033323	1	STARTER MOTOR	
31	91033268	3	MOUNTING STUD	
32	88201066	2	HEX HD CAPSCREW, 1/2-13X3, GR5	
32	88551013	2	LOCKWASHER, 1/2	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
33	91031041	1	MOUNTING PLATE	
34		Ref	PILOT PUMP (See HYDRAULIC COMPONENT SECTION for Breakdown)	
35	91033258	1	PERKINS DIESEL ENGINE (see separate engine manual for parts information)	
36	91033133	2	NUT, M5X.08	
37	91033134	1	NUT, M10X1.5	
38	91031152	1	HEAT SHIELD	
39	91033136	1	1/4IN X 3IN TUBE (fuel filter)	
40	91033246	1	OIL PRESSURE SENDER (100PSI) (not shown)	
41	88501005	1	HEX NUT, 5/16-18	
42	88501010	1	LOCKWASHER, 5/16	
43	86671164	3	SPACER	
44	91033256	1	FAN BLADE SPACER	
45	83191019	1	HEX NUT, M6X1	
46	90207497	1	JUMPER WIRE	
47	83191007	1	HEX HD CAPSCREW, M8X1.25, GR8	
48	83191011	1	LOCKWASHER, M8	

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FIGURE 4-4. FUEL TANK AND LINES WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)



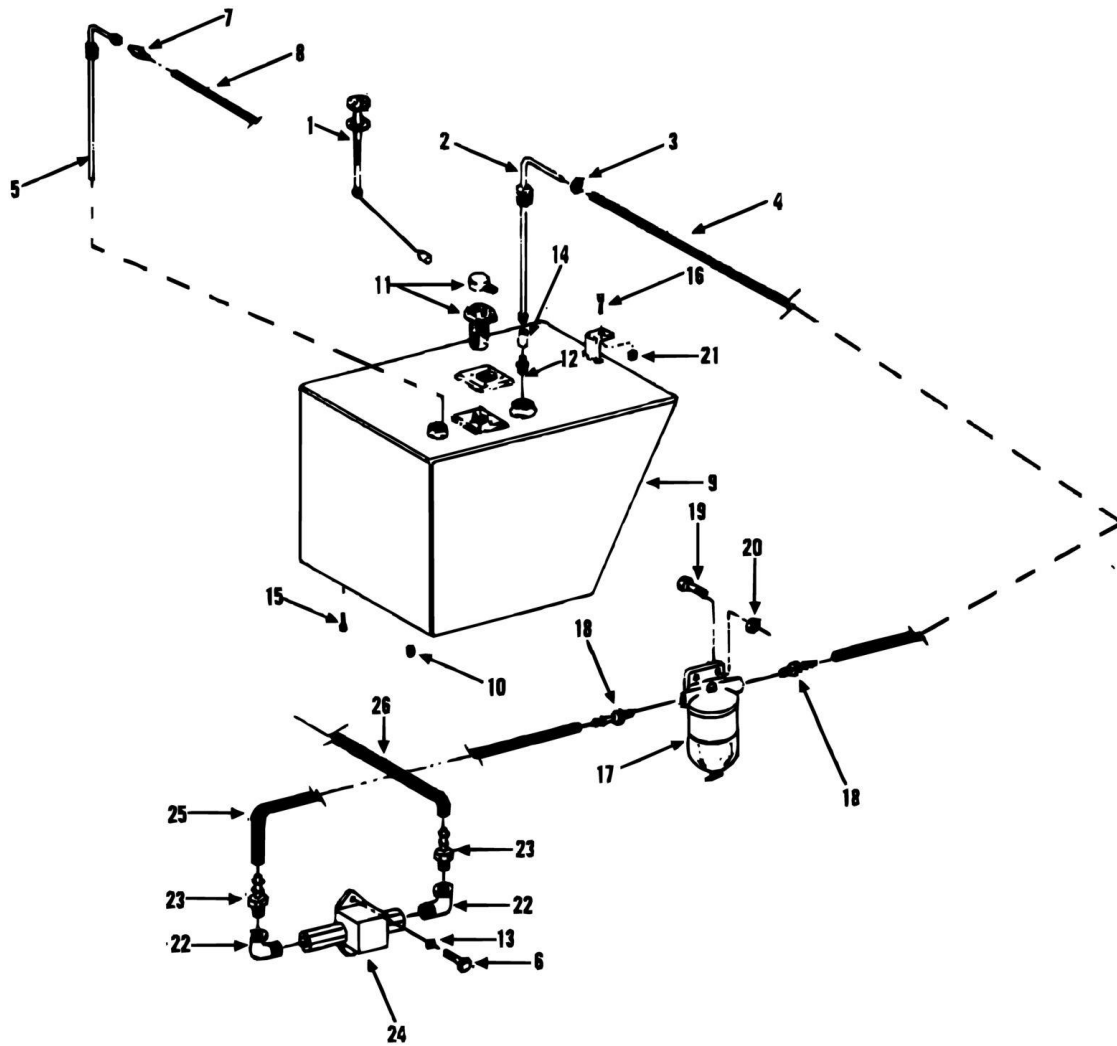
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-4. FUEL TANK AND LINES WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90400654	1	FUEL LEVEL SENDER (includes gasket and mounting hardware)	
2	91056106	1	FUEL LINE (to engine filter)	
3	83483497	AR	HOSE CLAMP	
4		Ref	HOSE 3/8IN ID (Waukesha)	
4		Ref	HOSE 5/16IN ID (Perkins)	
5	90402827	1	FUEL RETURN LINE (Diesel)	
6	86683330	1	CHECK VALVE (not used SN 8444490 to Present)	
7	90028674	1	PUSH LOCK FITTING	
8		Ref	HOSE 1/4IN ID	
9	90801199	1	FUEL TANK (SN 8344001L through 8644765)	
9	91036047	1	FUEL TANK (SN 8644766 to Present)	
10	88711255	1	SQ. HD PIPE PLUG, 1IN	
11	91003186	1	FILLER BREATHER (includes gasket and mounting hardware)	
11	86541381	1	SCREW ON GAS CAP	
12	90205223	1	SUCTION SCREEN	
13	88711212	1	PIPE COUPLING, 3/8	
14	88201065	1	HEX HD CAPSCREW, 1/2-13X1, GR5	
15	88201071	1	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5	
15	88501008	1	HEX NUT, 1/2-13	
16	91033054	1	WATER SEPARATOR	
17	91033131	2	BARB CONNECTOR	
18	88201021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
19	88521305	2	HEX LOCKNUT, 5/16-18	
20	91034396	1	SCREW ASSY (push-on type)	

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FIGURE 4-5. FUEL TANK AND LINES (SN 8644013G to Present)



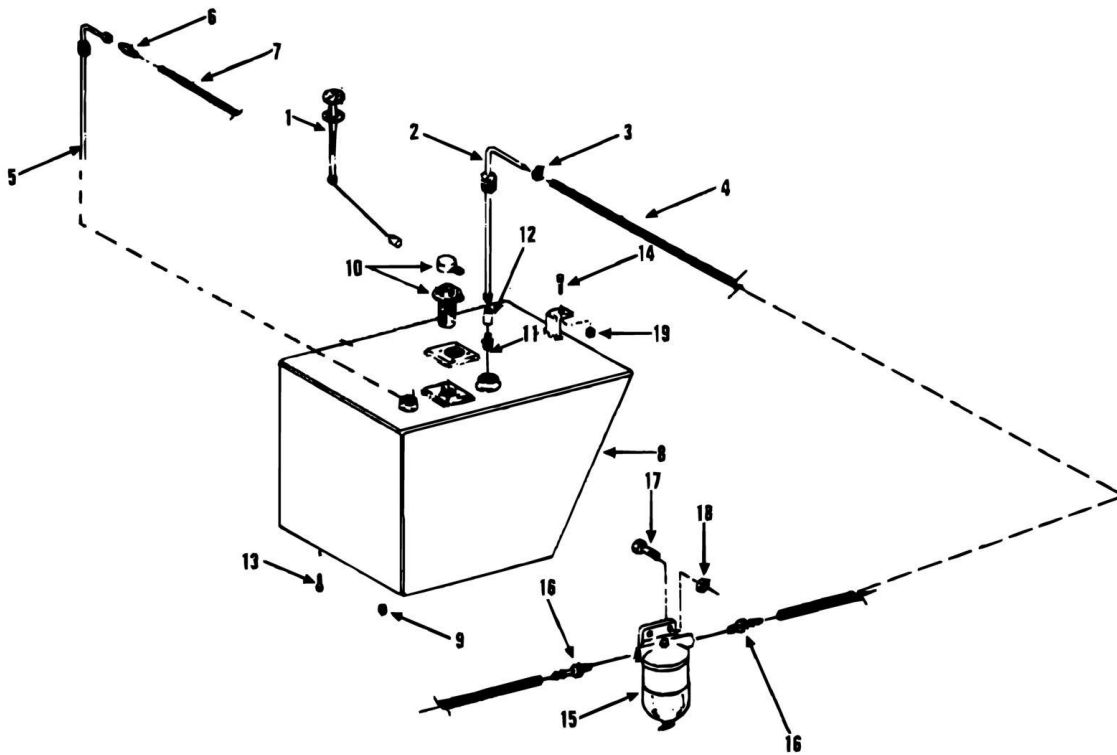
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-5. FUEL TANK AND LINES (SN 8644013G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90400654	1	FUEL LEVEL SENDER, (includes gasket and mounting hardware)	
2	91056106	1	FUEL LINE, (to engine filter)	
3	83483497	AR	HOSE CLAMP	
4	82092118	20 in	HOSE, 5/16IN ID	
5	90402827	1	FUEL RETURN LINE	
6	88201001	2	HEX HD CAPSCREW, 1/4-20X1/2, GR5	
7	90028674	1	PUSH LOCK FITTING	
8	90207422	1	HOSE, 1/4IN ID	
9	91036047	1	FUEL TANK	
10	88711255	1	SQUARE HD PIPE PLUG, 1IN	
11	91003186	1	FILLER-BREATHER, (includes cap, gasket and mounting hardware)	
11	91034224	1	RESERVIOR CAP, (with locking tab)	
12	90205223	1	SUCTION SCREEN	
13	88551009	2	LOCKWASHER, 1/4	
14	88711212	1	PIPE COUPLING, 3/8	
15	88201065	1	HEX HD CAPSCREW, 1/2-13X1, GR5	
16	88201071	1	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5	
17	91033054	1	WATER SEPARATOR	
18	91033131	2	BARB CONNECTOR	
19	88201021	2	HEX HD CAPSCREW, 5/16-18X1-1/4 GR5	
20	88521305	2	HEX LOCKNUT, 5/16-18	
21	88501008	1	HEX NUT, 1/2-13	
22	88712081	2	STREET ELBOW-90, 3/8	
23	88741801	2	HOSE NIPPLE	
24	91033270	1	PRIMER PUMP	
25	82092118	12 in	HOSE, 5/16IN ID	
26	82092118	70 in	HOSE, 5/16IN ID	

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FIGURE 4-6. FUEL TANK AND LINES (SN 0144638J to Present)



SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-6. FUEL TANK AND LINES (SN 0144638J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90400654	1	FUEL LEVEL SENDER, (includes gasket and mounting hardware)	
2	91056106	1	FUEL LINE, (to engine filter)	
3	83483497	AR	HOSE CLAMP	
4	Bulk	20 in	HOSE, 3/16IN ID	
5	90402827	1	FUEL RETURN LLINE	
6	90028674	1	PUSH LOCK FITTING	
7	90207422	1	HOSE, 1/4IN ID	
8	91036047	1	FUEL TANK	
9	88711255	1	SQUARE HD PIPE PLUG, 1IN	
10	91003186	1	FILLER-BREATHER, (includes cap, gasket and mounting hardware)	
10	91034224	AR	RESERVIOR CAP, (includes locking tab)	
11	90205223	1	SUCTION SCREEN	
12	88711212	1	PIPE COUPLING, 3/8	
13	88201065	1	HEX HD CAPSCREW, 1/2-13X1, GR5	
14	88201071	1	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5	
15	91033054	1	WATER SEPARATOR	
16	91033131	2	BARB CONNECTOR	
17	88201021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
18	88521305	2	HEX LOCKNUT, 5/16-18	
19	88501008	1	HEX NUT, 1/2-13	

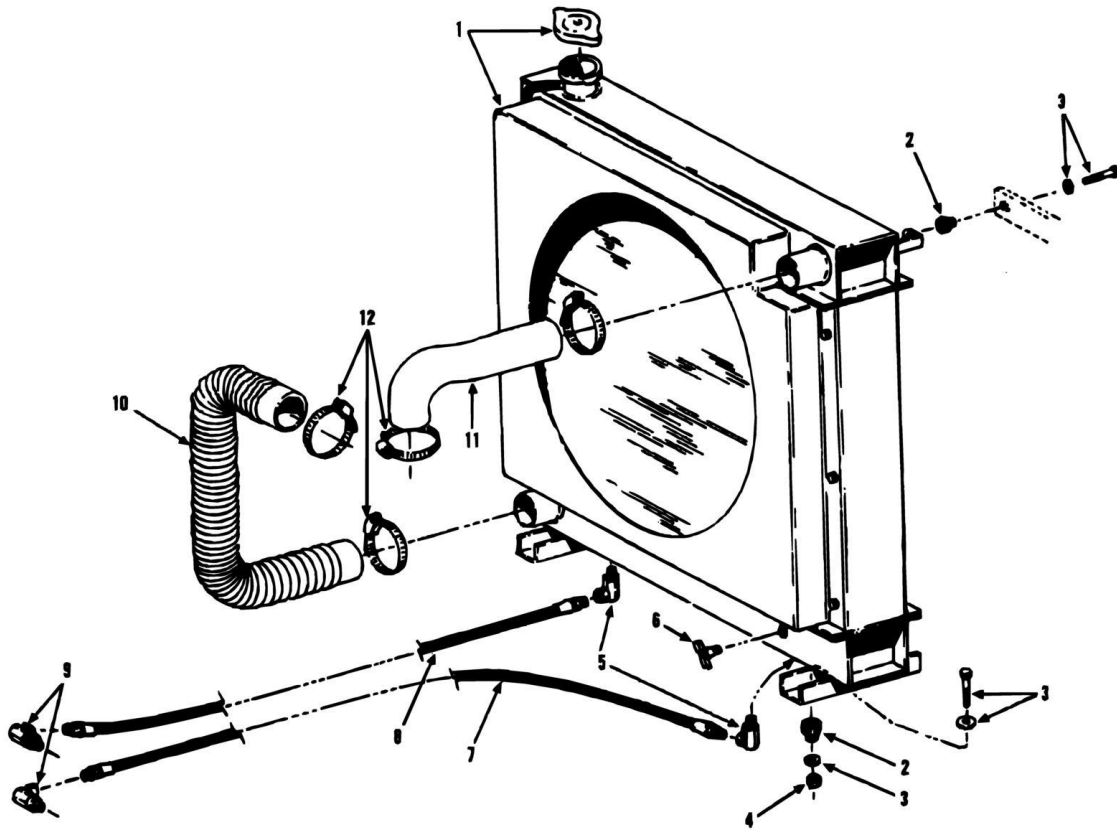
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-7. FUEL TANK AND LINES (SN 8644013G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90400654	1	FUEL LEVEL SENDER (includes gasket and mounting hardware)	
2	91056106	1	FULE LINE (to engine filter)	
3	83483497	AR	HOSE CLAMP	
4	Bulk	20 in	HOSE 5/16IN ID	
5	90402827	1	FUEL RETURN LINE (Diesel)	
6	88201001	2	HEX HD CAPSCREW, 1/4-20X1/2, GR5	
7	90028674	1	PUSH LOCK FITTING	
8		Ref	HOSE 1/4IN ID	
9	91036047	1	FUEL TANK	
10	88711255	1	SQ. HD PIPE PLUG, 1IN	
11	91003186	1	FILLER BREATHER (includes gasket and mounting hardware)	
11	86541381	1	SCREW ON GAS CAP	
12	90205223	1	SUCTION SCREEN	
13	88551009	2	LOCKWASHER, 1/4	
14	88711212	1	PIPE COUPLING, 3/8	
15	88201065	1	HEX HD CAPSCREW, 1/2-13X1, GR5	
16	88201071	1	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5	
17	91033054	1	WATER SEPARATOR	
18	91033131		BARB CONNECTOR	

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FIGURE 4-8. RADIATOR AND HOSES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)



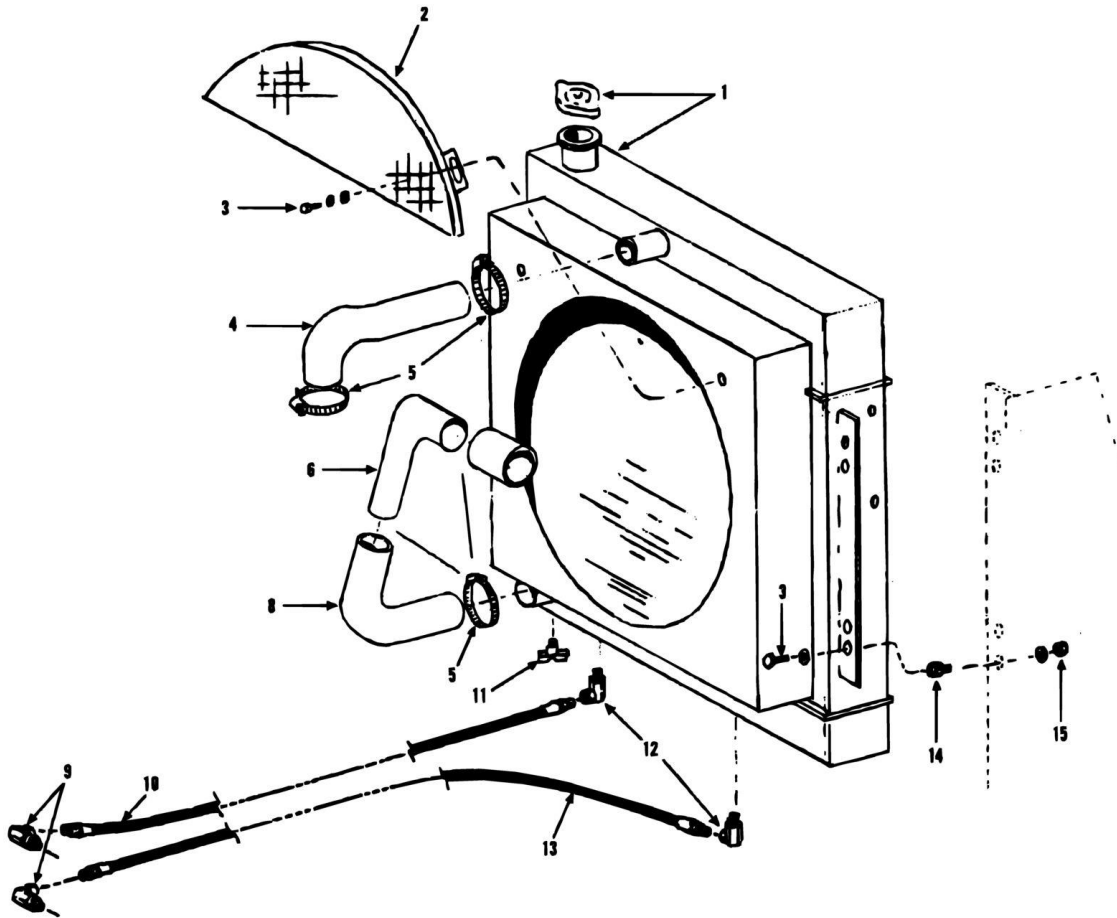
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-8. RADIATOR AND HOSES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90601917	1	RADIATOR, (no longer available)	
1		Ref	CAP	
2	90200342	4	COMPRESSION MOUNTING	
3	88201038	AR	HEX HD CAPSCREW, 3/8-16 X 1 3/4	
3	90205918	10	WASHER, 3/8IN	
4	88521206	AR	HEX LOCKNUT, 3/8-16	
5	90028492	2	ELBOW - 90	
6	90200557	1	DRAIN PETCOCK	
7	90205195	1	HIGH PRESSURE HOSE	
8	90205194	1	HIGH PRESSURE HOSE	
9	90028496	2	ELBOW - 90	
10	86671224	1	BOTTOM RADIATOR HOSE	
11	90206105	1	TOP RADIATOR HOSE	
12	84231107	4	HOSE CLAMP	

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FIGURE 4-9. RADIATOR AND HOSES PERKINS ENGINE ONLY (SN 844491 to Present)



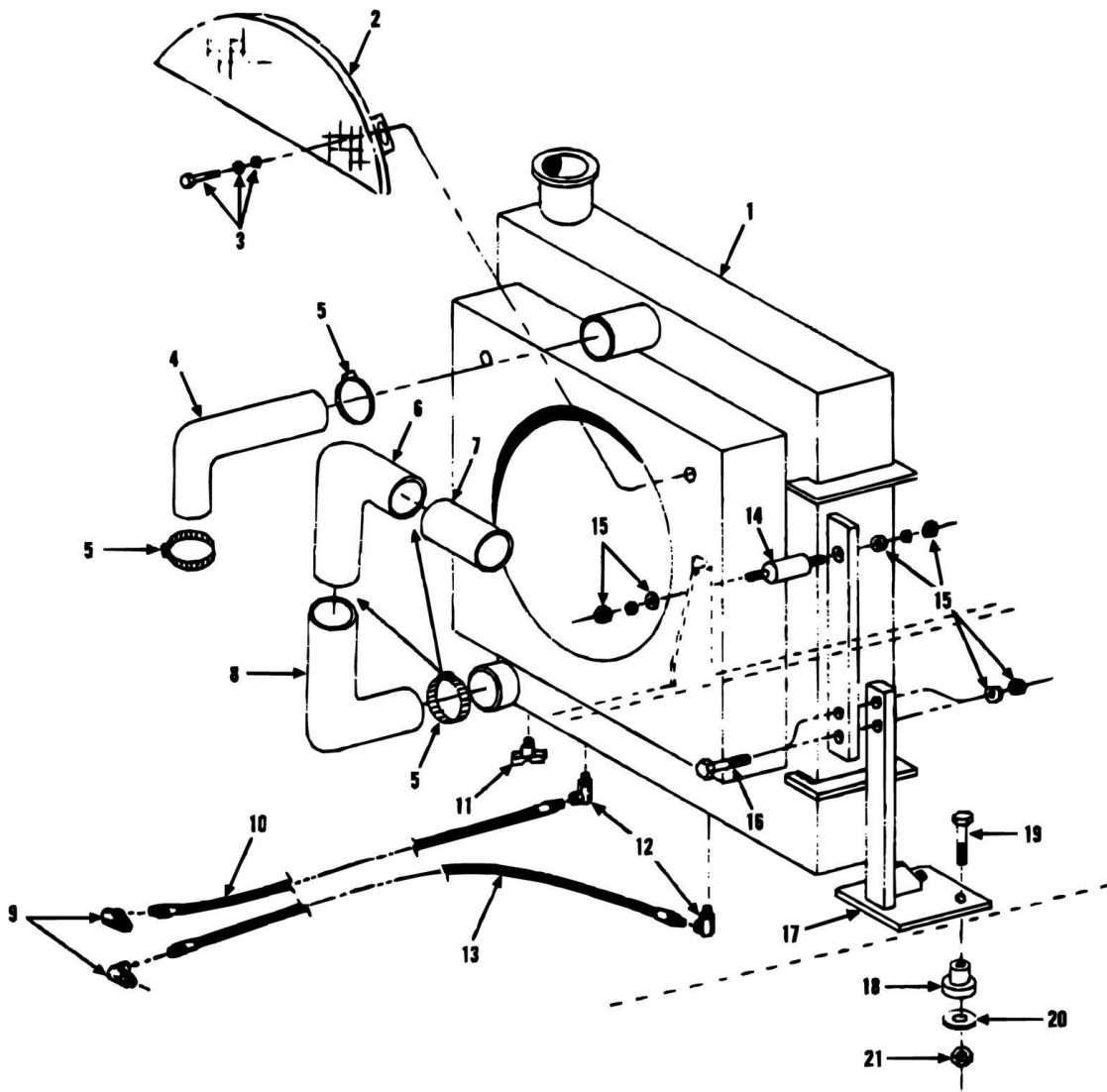
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FIGURE 4-9. RADIATOR AND HOSES PERKINS ENGINE ONLY (SN 8444491 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033048	1	RADIATOR	
2	91036033	1	FAN GUARD	
3	88201003	6	CAPSCREW, 1/4-20X3/4	
3	88551009	14	LOCKWASHER, 1/4	
3	88561107	14	FLATWASHER, 1/4	
4	91033132	1	HOSE, UPPER RADIATOR	
5	85071128	6	HOSE CLAMP	
6	91033061	1	WATER PIPE	
7	91033062	1	HOSE, CONNECTOR	
8	91033063	1	HOSE, LOWER RADIATOR	
9	90028496	2	ELBOW, 90	
10	90205194	1	HOSE, HIGH PRESSURE	
11	84521056	1	PETCOCK, DRAIN	
12	90028492	2	ELBOW, 90	
13	90205195	1	HOSE, HIGH PRESSURE	
14	91033137	4	SHOCK MOUNT	
15	88521305	4	NUT, 1/4X20	

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FIGURE 4-10. RADIATOR AND HOSES (SN 8544551G to Present)



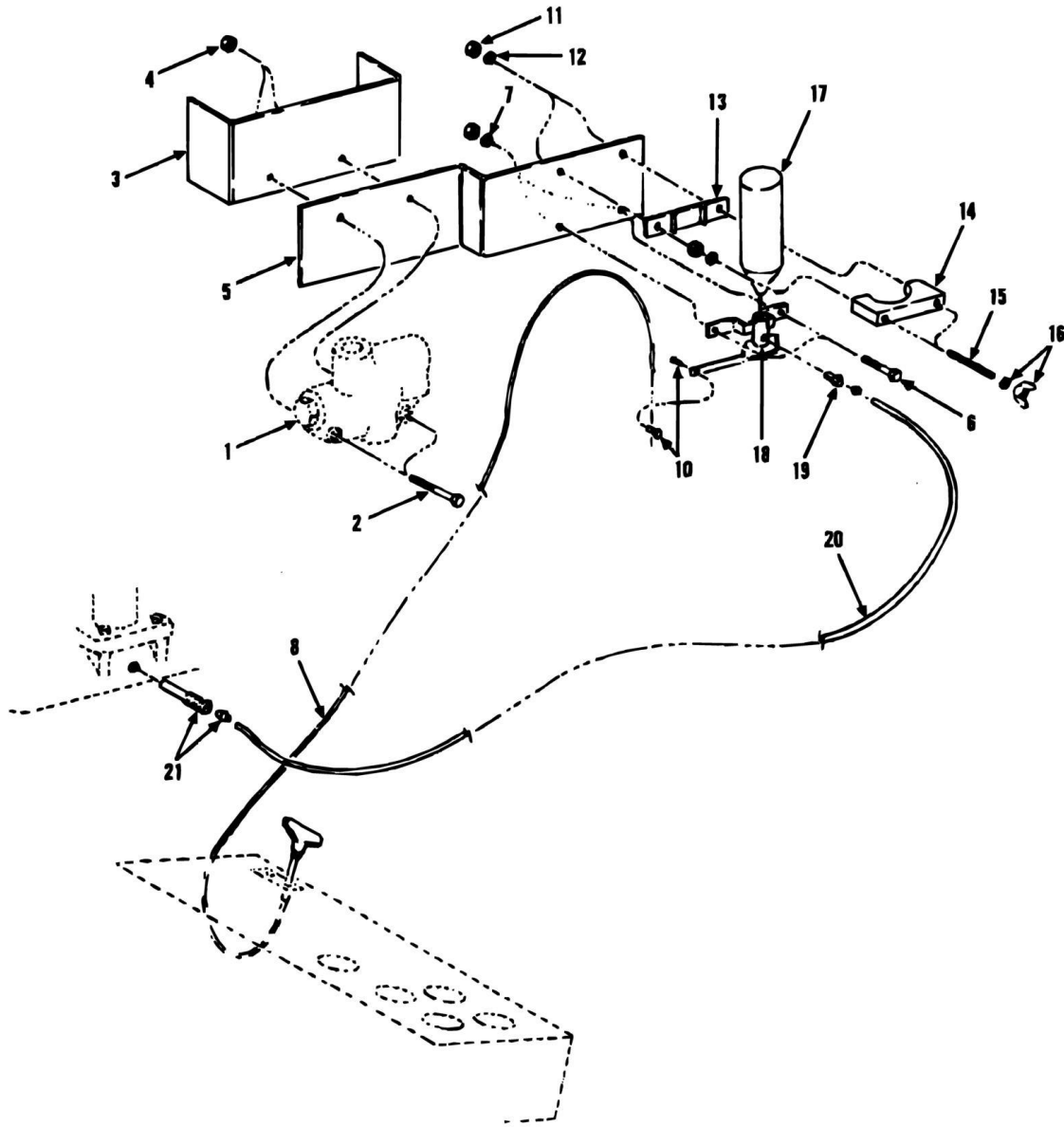
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FIGURE 4-10. RADIATOR AND HOSES (SN 8544551G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033254	1	RADIATOR (includes cap)	
1	91034160	1	CAP	
2	91036051	1	FAN GUARD	
3	88201003	2	HEX HD CAPSCREW, 1/4-20x3/4 GR5	
3	88551009	2	LOCKWASHER, 1/4	
3	88561107	2	FLAT WASHER, 1/4	
4	91033132	1	UPPER RADIATOR HOSE	
5	85041654	6	HOSE CLAMP	
6	91033061	1	LOWER WATER PIPE	
7	91033062	1	CONNECTOR HOSE	
8	91033063	1	LOWER RADIATOR HOSE	
9	88662067	2	ELBOW-90, (includes o-ring)	
9	88591207	2	O-RING	
10	84717571	1	HOSE ASSY	
11	84521056	1	DRAIN PETCOCK	
12	88661118	2	MALE ELBOW, 90, 3/4X3/4 TUBE	
13	84717570	1	HOSE ASSY	
14	91033137	2	SHOCK MOUNT	
15	88521305	8	HEX LOCKNUT, 5/16-18	
15	88561108	8	FLAT WASHER, 5/16	
16	88201022	4	HEX HD CAPSCREW, 5/16-18X1 - 1/2 GR5	
17	91006016	1	L.H. RADIATOR MOUNT	
17	91006017	1	R.H. RADIATOR MOUNT	
18	83683308	4	SHOCK MOUNT	
19	88201039	4	HEX HD CAPSCREW, 3/8-16X2, GR5	
20	90205918	4	SPECIAL WASHER	
21	88521206	4	HEX LOCKNUT, 3/8-16	
22	90207622	1	HOSE GUARD	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-11. ETHER STARTING KIT (SN 8344001L to Present)



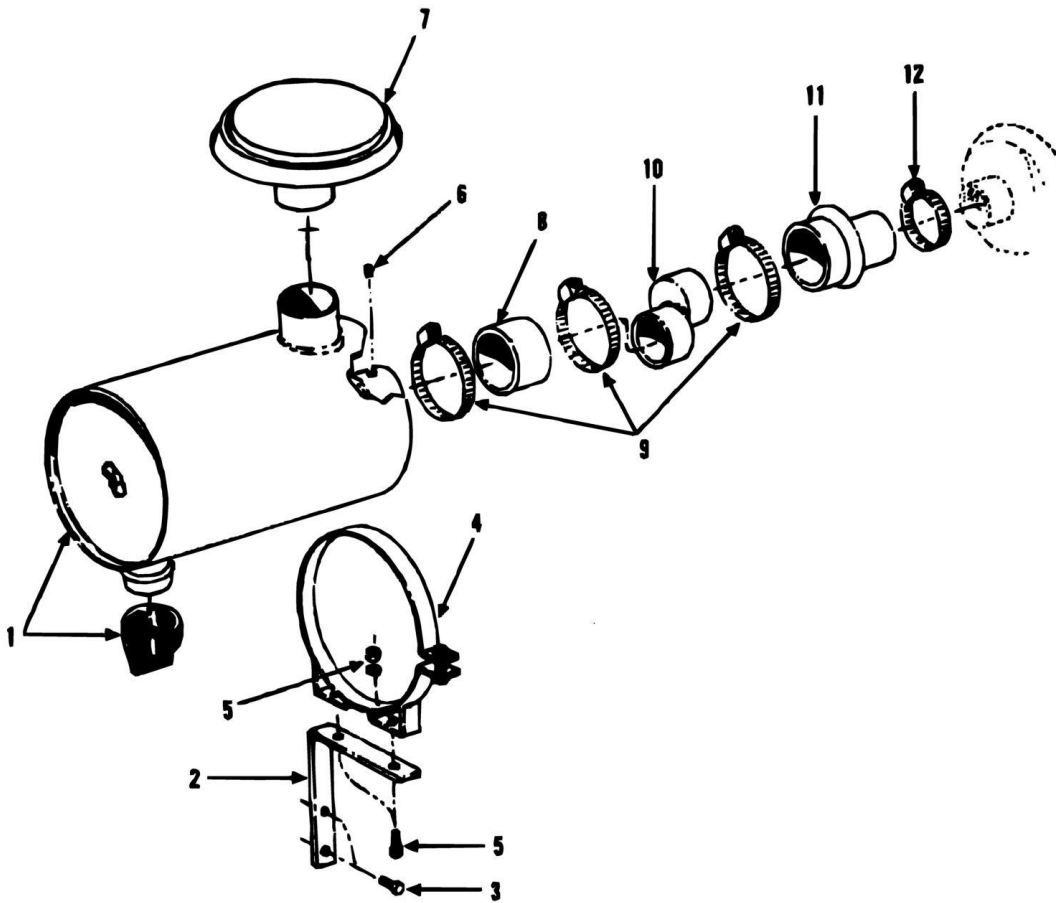
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-11. ETHER STARTING KIT (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205585		PRIORITY VALVE (2000 PSI relief setting)	
1	91033240		PRIORITY VALVE (2000 PSI relief setting)	
2	88201029	2	HEX HD CAPSCREW, 5/16-18X3 1/4, GR5	
3	90205767	1	VALVE MOUNTING BRACKET (existing)	
4	88501005	2	HEX NUT 5/16-18	
5	90403110	1	ETHER START MOUNTING BRACKET	
6	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
7	88561107	2	FLAT WASHER, 1/4	
7	88501004	2	HEX NUT, 1/4-20	
8	90200308	1	CABLE	
9	90206316	AR	ETHER START KIT (includes items 10 thru 21)	
10	N.S.S.	1	CABLE STOP	
11	N.S.S.	4	NUT	
12	N.S.S.	4	LOCKWASHER	
13	N.S.S.	1	TANK MOUNTING BRACKET	
14	N.S.S.	1	CLAMP	
15	N.S.S.	2	STUD	
16	N.S.S.	6	LOCKWASHER	
16	N.S.S.	2	WING NUT	
17	N.S.S.	1	ETHER TANK	
18	N.S.S.	1	VALVE	
19	N.S.S.	1	VALVE FITTING	
20	N.S.S.	1	HOSE	
21	N.S.S.	1	ATOMIZER	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-12. AIR CLEANER PIPING WAUKESHA DIESEL ENGINE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)



SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-12. AIR CLEANER PIPING WAUKESHA DIESEL ENGINE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205663	1	AIR CLEANER	
2	90207469	2	AIR CLEANER MOUNTING BAR	
3	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
4	77103138	2	AIR CLEANER MOUNTING BANDS	
5	88201020	4	HEX HD CAPSCREW, 5/16-18X1, GR5	
5	88521205	4	HEX LOCKNUT, 5/16-18	
5	88551010	4	LOCKWASHER, 5/16	
6	90028682	1	CAP, 1/8 NPT	
7	91033028	1	FILTER CAP	
8	90207869	1	HOSE	
9	90027713	3	CLAMP	
10	90207863	1	ADAPTER	
11	90205667	1	REDUCER	
12	85111214	1	CLAMP	

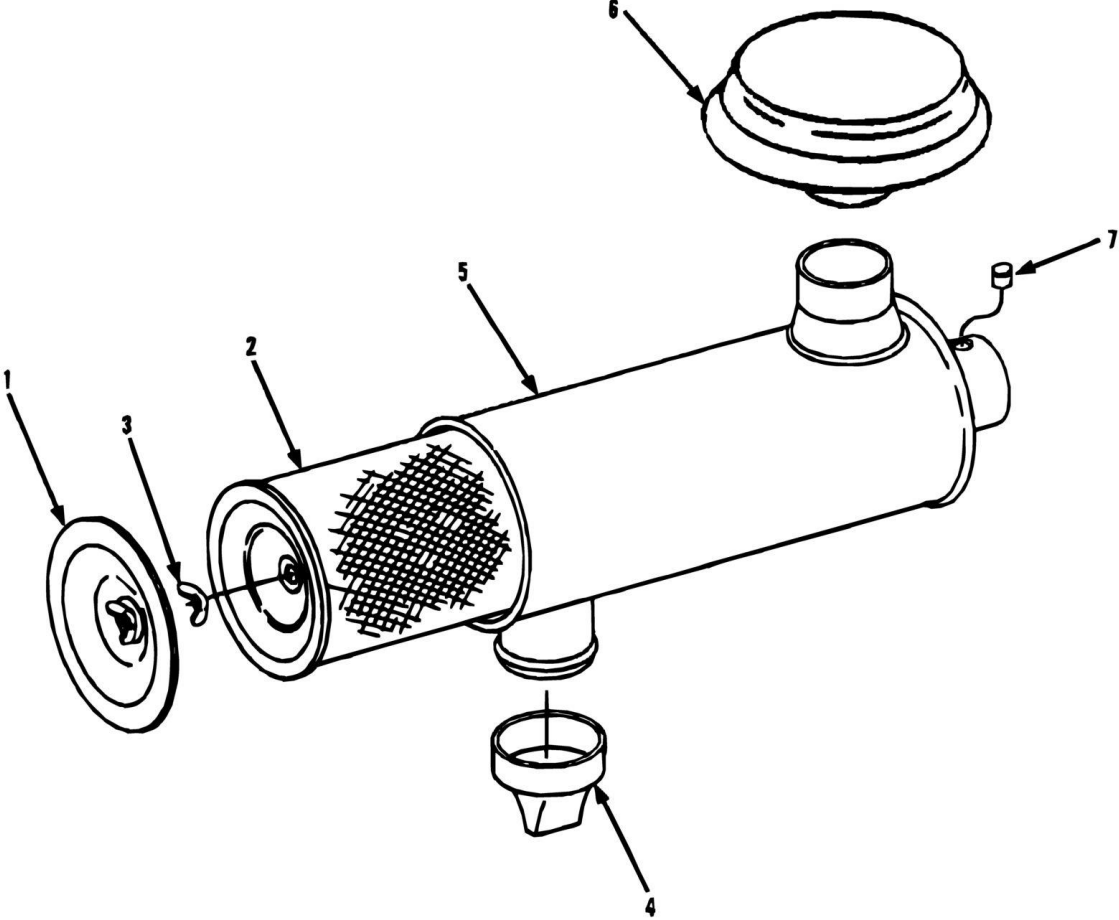
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-13. AIR CLEANER PIPING PERKINS DIESEL ENGINE (SN 8444491 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205663	1	AIR CLEANER	
2	85031160	1	CLAMP	
3	91033028	1	INLET CAP	
4	91033056	1	ELBOW - 90	
5	90027713	3	HOSE CLAMP	
6	91033060	1	INTAKE TUBE	
7	91033055	1	REDUCER	
8	91033059	1	INTAKE TUBE	
9	91033058	1	REDUCING ELBOW	
10	86883327	3	CLAMP	
11	88201020	5	HEX HD CAPSCREW, 5/16-18X1, GR5	
11	88561108	5	FLATWASHER, 5/16	
11	88521205	5	HEX LOCKNUT, 5/16-18	
12	91031042	1	AIR CLEANER BRACKET	
13	77103138	2	MOUNTING BANDS	
14	88201018	4	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
14	88551010	4	LOCKWASHER, 5/16	
15	91031154	1	BRACKET	
16	77383154	1	SERVICE INDICATOR	
17	88701023	1	NIPPLE, 1/8X3	
18	88711210	1	PIPE COUPLING, 1/8	

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FIGURE 4-14. AIR CLEANER



SECTION 4 - ENGINE AND ATTACHING PARTS

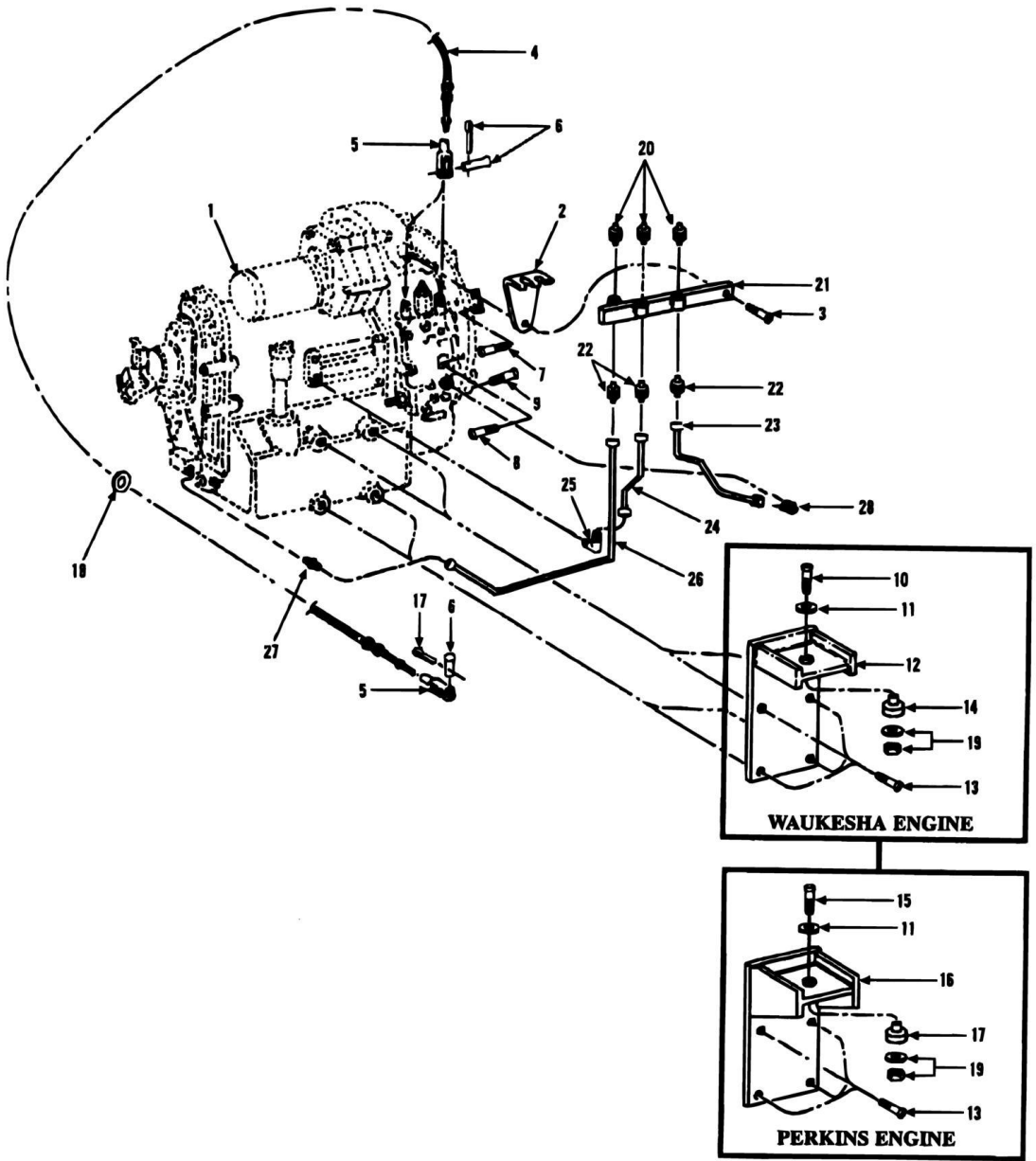
FIGURE 4-14. AIR CLEANER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90205663	1	AIR CLEANER (includes items 1 thru 5)	
1	90206606	1	COVER	
2	90206262	1	ELEMENT	
3	90201414	1	WING NUT W/SEAL	
4	90200807	1	VACUATOR	
5		Ref	BODY (not sold separately, for service, order p/n 90205663)	
6	91033028	1	AIR INLET	
7	90028682	1	CAP, 1/8IN NPT	

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FIGURE 5-1. TRANSMISSION MOUNTING AND CONTROLS (SN 8344001L to Present)



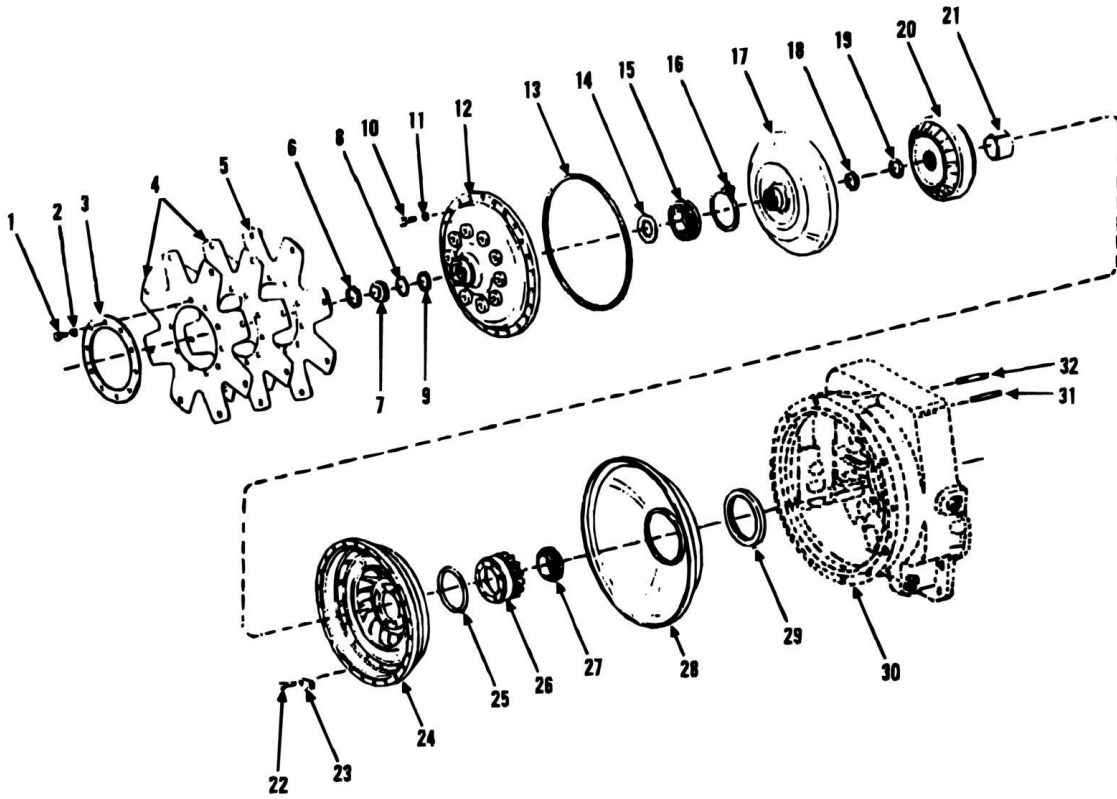
SECTION 5 - DRIVE TRAIN

FIGURE 5-1. TRANSMISSION MOUNTING AND CONTROLS (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035141	1	ENGINE AND TRANSMISSION FILTER KIT	
	90204732	1	TRANSMISSION FILTER	
	90206262	1	AIR FILTER	
	91034005	1	FUEL FILTER	
	91034006	1	OIL FILTER	
	91034326	1	TRANSMISSION O-RING KIT	
	91034327	1	TORQUE CONVERTER O-RING KIT	
1	90205166	1	TRANSMISSION	
2	90402642	1	CABLE MOUNTING BRACKET	
3	88201066	1	HEX HD CAPSCREW, 1/2-13X 1-1/4, GR5	
4	90203374	2	CONTROL CABLE	
5	88821003	4	ADJUSTABLE YOKE END	
6	90027720	4	CLEVIS AND COTTER PIN	
7	90028664	8	BOLT, 12PT 3/8X1-1/14 (waukesha)	
7	88201537	8	HEX HD CAPSCREW, 3/8-24X1-3/4, GR5 (perkins only)	
8	88201036	11	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
8	88551011	11	LOCKWASHER, 3/8	
9	90205002	1	STUD, 3/8-16X1-3/4	
9	88501006	1	HEX NUT, 3/8-16	
10	88201119	2	HEX HD CAPSCREW, 3/4-10X4, GR5	
11	90207219	2	WASHER	
12	90601946	1	MOUNTING BRACKET (left)	
12	90601947	1	MOUNTING BRACKET (right)	
13	88201110	8	HEX HD CAPSCREW, 3/4-10X1-3/4, GR5	
13	88551016	8	LOCKWASHER, 3/4	
14	90600097	2	COMPRESSION MOUNTING	
15	88201120	2	HEX HD CAPSCREW, 3/4-10X4-1/2, GR5	
16	91036008	2	MOUNTING BRACKET	
17	85071340	2	COMPRESSION MOUNTING	
18	90202303	2	CABLE GROMMET	
19	88501012	2	HEX NUT, 3/4-10	
19	88561115	2	FLAT WASHER, 3/4	
20	91035112	3	PRESSURE SWITCH	
21	90403349	1	SWITCH BRACKET	
22	2220574	3	ADPT,ST S JIC/NPTF 4-2 FG	
23	90207258	1	TUBE LINE	
24	90207257	1	TUBE LINE	
25	88743055	1	MALE ELBOW, 90, 1/4X1/4 TUBE	
26	90207256	1	TUBE LINE	
27	90028750	1	ADAPTER	
28	88743041	1	MALE ELBOW, 90, 1/8X1/4 TUBE	
29	91033283	1	TRANS TEMP SENDER (not shown)	
30	91033282	1	TRANS TEMP GAGE (not shown) (See ELECTRICAL SECTION for Breakdown)	

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FIGURE 5-2. FLEX PLATE AND TORQUE CONVERTER (SN 8344001L to Present)



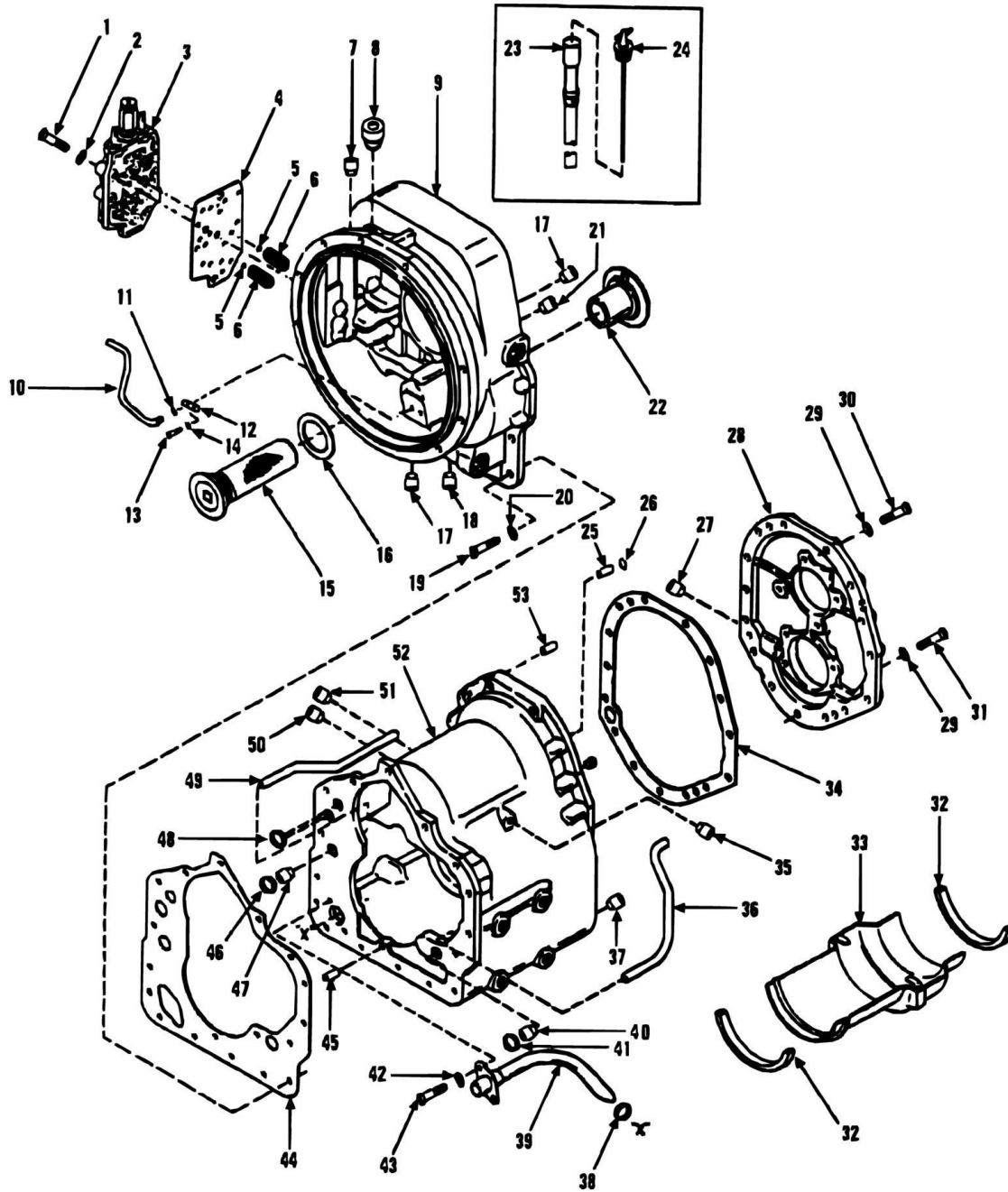
SECTION 5 - DRIVE TRAIN

FIGURE 5-2. FLEX PLATE AND TORQUE CONVERTER (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201033	10	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
2	88551011	10	LOCKWASHER, 3/8	
3	77104044	1	DRIVE PLATE BACKING RING	
4	77104043	2	DRIVE PLATE	
5	90204783	1	DRIVE PLATE ASSY	
6	90204782	1	BORE PLUG RETAINING RING	
7	90204781	1	BORE PLUG	
8	77104039	1	O-RING	
9	77104032	1	TURBINE RETAINING RING	
10	77104046	24	HEX HD CAPSCREW AND LOCK WASHER ASSY, (includes item 11)	
11		Ref	LOCKWASHER, (included with item 10)	
12	90204779	1	IMPELLER COVER	
13	77104037	1	O-RING	
14	8032594	1	BEARING RETAINING WASHER	
15	77104035	1	TURBINE HUB BEARING	
16	77104034	1	BEARING LOCATING RING	
17	77104033	1	TURBINE	
18	77104032	1	TURBINE RETAINING RING	
19	77104031	1	RETAINING RING	
20	91044048	1	REACTION MEMBER	
21	90206387	1	SPACER	
22	88201352	8	HEX HD CAPSCREW, 3/8-24X3/4, GR5	
23	77104027	4	LOCK TAB	
24	90204767	1	IMPELLER	
25	77104012	1	O-RING	
26	90206386	1	IMPELLER HUB GEAR	
27	90206385	1	IMPELLER HUB GEAR BEARING	
28	90204756	1	OIL BAFFLE ASSY	
29	90204755	1	OIL ASSY	
30		Ref	CONVERTER HOUSING, (See CONVERTER HOUSING ATTACHING PARTS for Breakdown)	
31	90206378	1	PUMP MOUNTING STUD	
32	90206379	1	PUMP MOUNTING STUD	

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FIGURE 5-3. CASE AND CONVERTER HOUSING (SN 8344001L to Present)



SECTION 5 - DRIVE TRAIN

FIGURE 5-3. CASE AND CONVERTER HOUSING (SN 8344001L to Present)

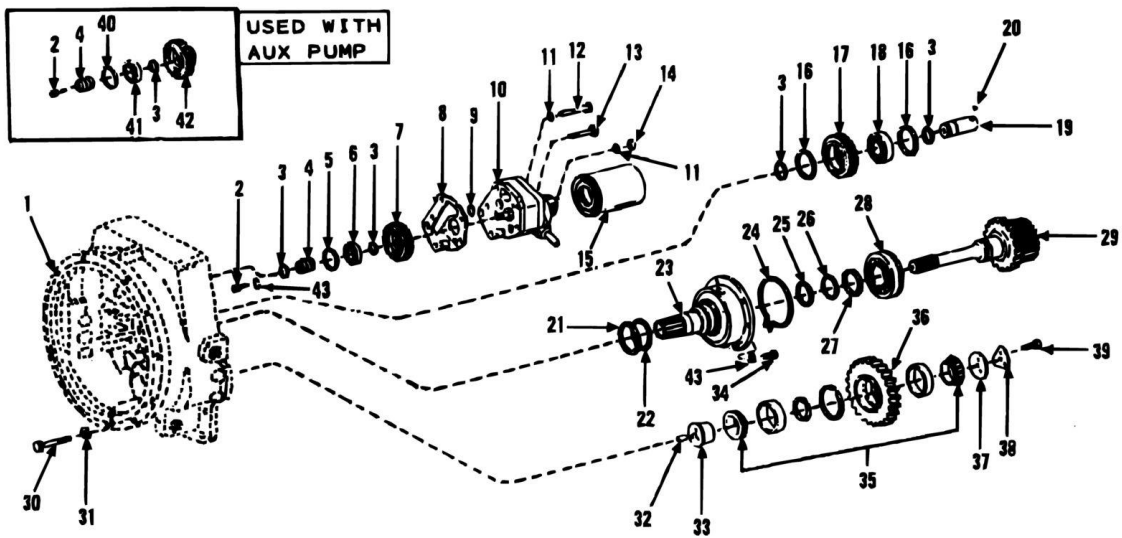
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201046	9	HEX HD CAPSCREW, 3/8-16X3-3/4, GR5	
2	88551011	9	LOCK WASHER, 3/8	
3		Ref	MODULATOR VALVE ASSY (See DRIVE SHAFT for Breakdown)	
4	77104283	1	GASKET	
5	77104284	2	DETENT BALL	
6	77104285	2	DETENT SPRING	
7	77104112	1	PIPE PLUG	
8	8032509	1	AIR BREATHER	
9	91034246	1	CONVERTER HOUSING ASSY (includes items 10 thru 14)	
10	91044050	1	LUBE BYPASS TUBE	
11	91044051	1	O-RING	
12	91044052	1	TUBE CLIP	
13	77104102	1	HEX HD CAPSCREW	
14	77104103	1	LOCKWASHER	
15	90204800	1	SCREEN ASSY	
16	90204799	1	SCREEN GASKET	
17	90027267	2	PIPE PLUG	
18	77104116	1	PIPE PLUG	
19	77104086	16	HEX HD CAPSCREW	
20	77104085	16	LOCKWASHER	
21	77104116	1	PIPE PLUG	
22	77104097	1	CONVERTER HOUSING SLEEVE	
23	90204823	1	DIPSTICK TUBE	
24	90204824	1	DIPSTICK	
25	8032522	1	Sleeve, Tube	
26	77104111	1	O-RING	
27	77104116	1	PIPE PLUG	
28	90204798	1	COVER AND PLUG ASSY (includes item 27)	
29	77104085	15	LOCKWASHER	
30	88201053	9	HEX HD CAPSCREW, 7/16-14X1-3/4, GR5	
31	77104086	6	HEX HD CAPSCREW	
32	90204806	2	OIL BAFFLE SEAL	
33	90204807	1	OIL BAFFLE	
34	90204802	1	GASKET	
35	91474192	2	PIPE PLUG	
36	90204804	1	CLUTCH LUBE TUBE	
37	77104119	1	MAGNETIC DRAIN PLUG	
38	77104057	1	O-RING	
39	90204809	1	SUCTION TUBE ASSY	
40	77104107	1	TUBE SLEEVE	
41	77104111	1	O-RING	
42	88551010	2	LOCKWASHER, 5/16	
43	88201017	2	HEX HD CAPSCREW, 5/16-18X1-5/8, GR5	
44	77104098	1	GASKET	
45	77104113	1	DOWEL PIN	
46	77104111	1	O-RING	
47	77104109	1	TUBE SLEEVE	
48	77104048	2	O-RING	
49	77104110	1	LOW SPEED CLUTCH PRESSURE TUBE	
50	77104112	1	PIPE PLUG	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
51	77104118	1	PIPE PLUG	
52	90204817	1	TRANSMISSION CASE ASSY (includes items 25, 32, 33, 36, 38, 39, 40, 42, 43, 47 & 49)	
53	77104113	2	DOWEL PIN	

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FIGURE 5-4. CONVERTER HOUSING ATTACHING PARTS (SN 8344001L to Present)



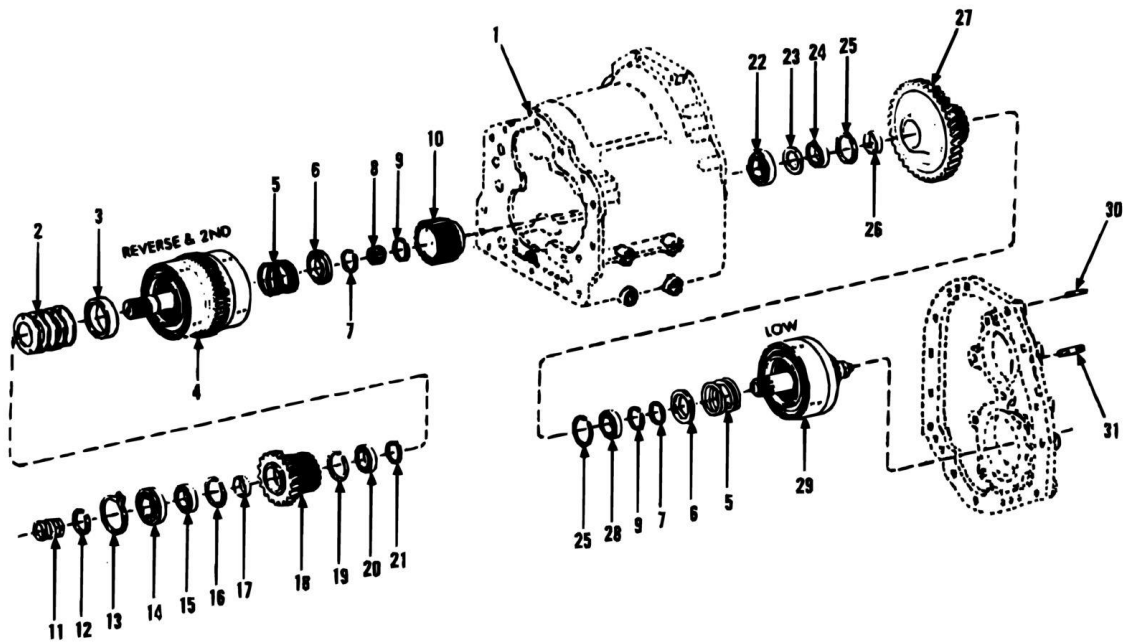
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FIGURE 5-4. CONVERTER HOUSING ATTACHING PARTS (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	CONVERTER HOUSING	
2	88201036	AR	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
3	90204733	AR	BEARING LOCATING RING	
4	90204734	AR	PUMP DRIVE BEARING SUPPORT	
5	90204735	1	BEARING RETAINING RING	
6	90204793	1	PUMP DRIVE GEAR BEARING	
7	90204737	1	PUMP DRIVE GEAR	
8	90204730	1	GASKET	
9	77104048	1	O-RING	
10	90204731	1	CHARGING PUMP ASSY	
10	91034331	1	CHARGE PUMP SEAL KIT	
11	77104085	3	LOCKWASHER	
12	90028641	1	HEX HD CAPSCREW	
13	88201062	2	HEX HD CAPSCREW, 7/16-14X4, GR5	
14	77104204	2	HEX NUT	
15	90204732	1	FILTER	
16	77104181	2	BEARING RETAINING RING	
17	90204740	1	IDLER GEAR	
18	90204741	1	IDLER STUB SHAFT BEARING	
19	90204738	1	IDLER GEAR SHAFT	
20	90205047	1	LOCK BALL	
21	90206377	1	PISTON RING	
22	77104016	1	PISTON RING EXPANDER SPRING	
23	90206376	1	STATOR SUPPORT	
24	90204749	1	SNAP RING	
25	90204748	1	PISTON RING	
26	77104164	1	BEARING RETAINING RING	
27	77104197	1	BEARING LOCATING WASHER	
28	91044053	1	TURBINE SHAFT WASHER	
29	91044054	1	HUB ASSY	
30	77104250	3	HEX HD CAPSCREW	
31	77104085	3	LOCKWASHER	
32	77104253	1	IDLER SHAFT PIN	
33	77104254	1	REVERSE IDLER SHAFT	
34	88201035	6	HEX HD CAPSCREW, 3/8-16X1, GR5	
35	77104255	1	BEARING ASSY	
36	90206382	1	REVERSE IDLER GEAR	
37	77104257	1	BEARING RETAINING PLATE	
38	77104258	1	LOCK PLATE	
39	90206384	3	HEX HD CAPSCREW	
40	90204787	1	BEARING RETAINING RING	
41	90204788	1	AUXILIARY PUMP GEAR BEARING	
42	90204790	1	AUXILIARY PUMP DRIVE GEAR	
43	88551011	AR	LOCKWASHER, 3/8	

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FIGURE 5-5. CLUTCH AND GEAR GROUP (REVERSE, 2ND AND LOW) (SN 8344001L to Present)



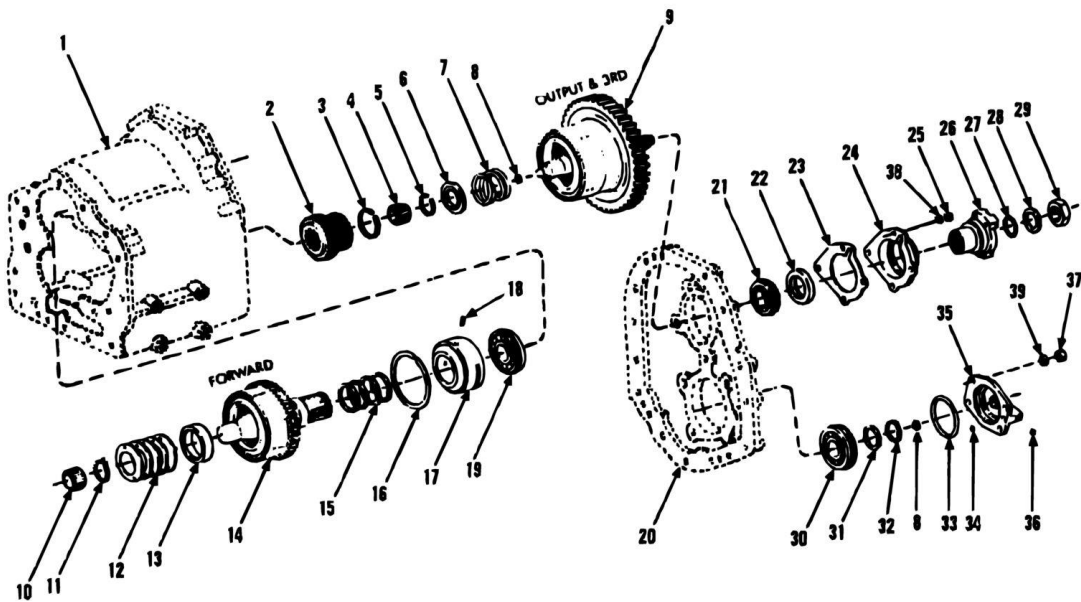
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FIGURE 5-5. CLUTCH AND GEAR GROUP (REVERSE, 2ND AND LOW) (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TRANSMISSION CASE ASSY (See CONVERTER HOUSING ATTACHING PARTS for Breakdown)	
2	77104207	5	PISTON RETURN SPRING	
3	77104208	1	RETURN SPRING SPACER	
4		Ref	REVERSE AND 2ND SHAFT DRUM AND PLUG ASSY (See MODULATOR VALVE for Breakdown)	
5	77104187	1	PISTON RETURN SPRING	
6	77104186	2	SPRING RETAINER	
7	77104185	2	SNAP RING	
8	77104231	1	REVERSE AND 2ND SHAFT REAR BEARING	
9	77104184	2	RETAINING RING	
10	77104232	1	CLUTCH DISC HUB	
11	77104219	3	PISTON RING	
12	77104220	1	RETAINING RING	
13	77104221	1	SNAP RING	
14	77104222	1	REVERSE AND 2ND SHAFT FRONT BEARING	
15	77104223	1	CLUTCH DRIVER GEAR BEARING	
16	77104224	1	RETAINING RING	
17	77104225	1	SPACER	
18	77104226	1	REVERSE CLUTCH GEAR AND HUB ASSY	
19	77104224	1	RETAINING RING	
20	77104227	1	CLUTCH DRIVEN GEAR BEARING	
21	77104206	1	SNAP RING	
22	77104158	1	LOW SPEED SHAFT FRONT BEARING	
23	77104179	1	SPACER	
24	77104180	1	LOW SPEED GEAR BEARING	
25	77104181	2	LOCATING RING	
26	77104182	1	SPACER	
27	90204874	1	LOW GEAR AND HUB ASSY	
28	77104180	1	LOW SPEED GEAR BEARING	
29		Ref	LOW CLUTCH DRUM AND BLEED VALVE ASSY (See MODULATOR VALVE for Breakdown)	
30	77104177	4	BEARING CAP STUD	
31	77104203	4	BEARING CAP STUD	

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FIGURE 5-6. CLUTCH AND GEAR GROUP (FORWARD, OUTPUT AND 3RD) (SN 8344001L to Present)



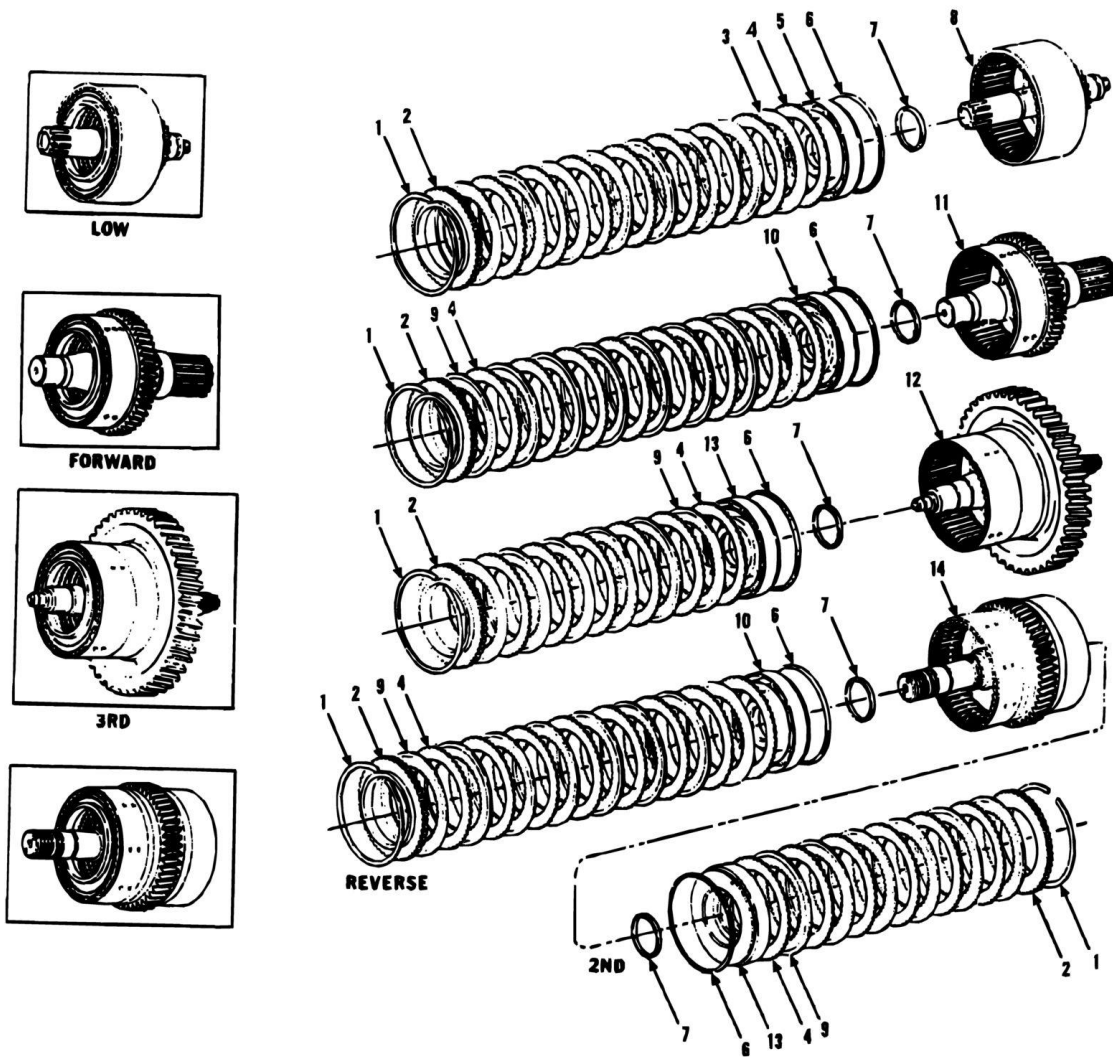
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FIGURE 5-6. CLUTCH AND GEAR GROUP (FORWARD, OUTPUT AND 3RD) (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TRANSMISSION CASE ASSY (See CONVERTER HOUSING ATTACHING PARTS for Breakdown)	
2	90204866	1	THIRD GEAR AND HUB ASSY	
3	90204864	1	RETAINING RING	
4	90204862	1	PILOT BEARING	
5	77104185	1	SNAP RING	
6	77104186	1	SPRING RETAINER	
7	77104187	1	PISTON RETURN SPRING	
8	77104198	1	PISTON RING	
9		Ref	OUTPUT SHAFT AND 3RD CLUTCH ASSY (See MODULATOR VALVE for Breakdown)	
10	77104205	1	SHAFT PILOT BEARING	
11	77104206	1	SNAP RING	
12	77104207	5	PISTON RETURN SPRING	
13	77104208	1	SPACER	
14		Ref	FOWARD SHAFT DRUM AND PLUG ASSY (See MODULATOR VALVE for Breakdown)	
15	77104211	4	PISTON RING	
16	77104212	1	RETAINER RING	
17	77104213	1	PISTON RING SLEEVE	
18	77104214	1	ROLL PIN	
19	77104215	1	FOWARD SHAFT BEARING	
20		Ref	COVER AND PLUG ASSY (See CONVERTER HOUSING ATTACHING PARTS for Breakdown)	
21	90204829	1	OUTPUT SHAFT BEARING	
22	90204831	1	OIL SEAL	
23	90206394	1	GASKET	
24	90206395	1	CAP	
25	77104142	4	HEX NUT	
26	90206396	1	OUTPUT FLANGE	
27	77104128	1	O-RING	
28	77104088	1	FLANGE WASHER	
29	77104087	1	FLANGE NUT	
30	90204842	1	LOW SPEED SHAFT BEARING	
31	77104197	1	BEARING SUPPORT WASHER	
32	77104184	1	BEARING RING	
33	77104202	1	O-RING	
34	77104199	1	O-RING	
35	90204851	1	REAR BEARING CAP AND PLUG ASSY (includes item 36)	
36	77104201	1	PIPE PLUG	
37	77104204	4	HEX NUT	
38	77104143	4	LOCKWASHER	
39	77104085	4	LOCKWASHER	

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FIGURE 5-7. CLUTCH ASSEMBLIES (SN 8344001L to Present)



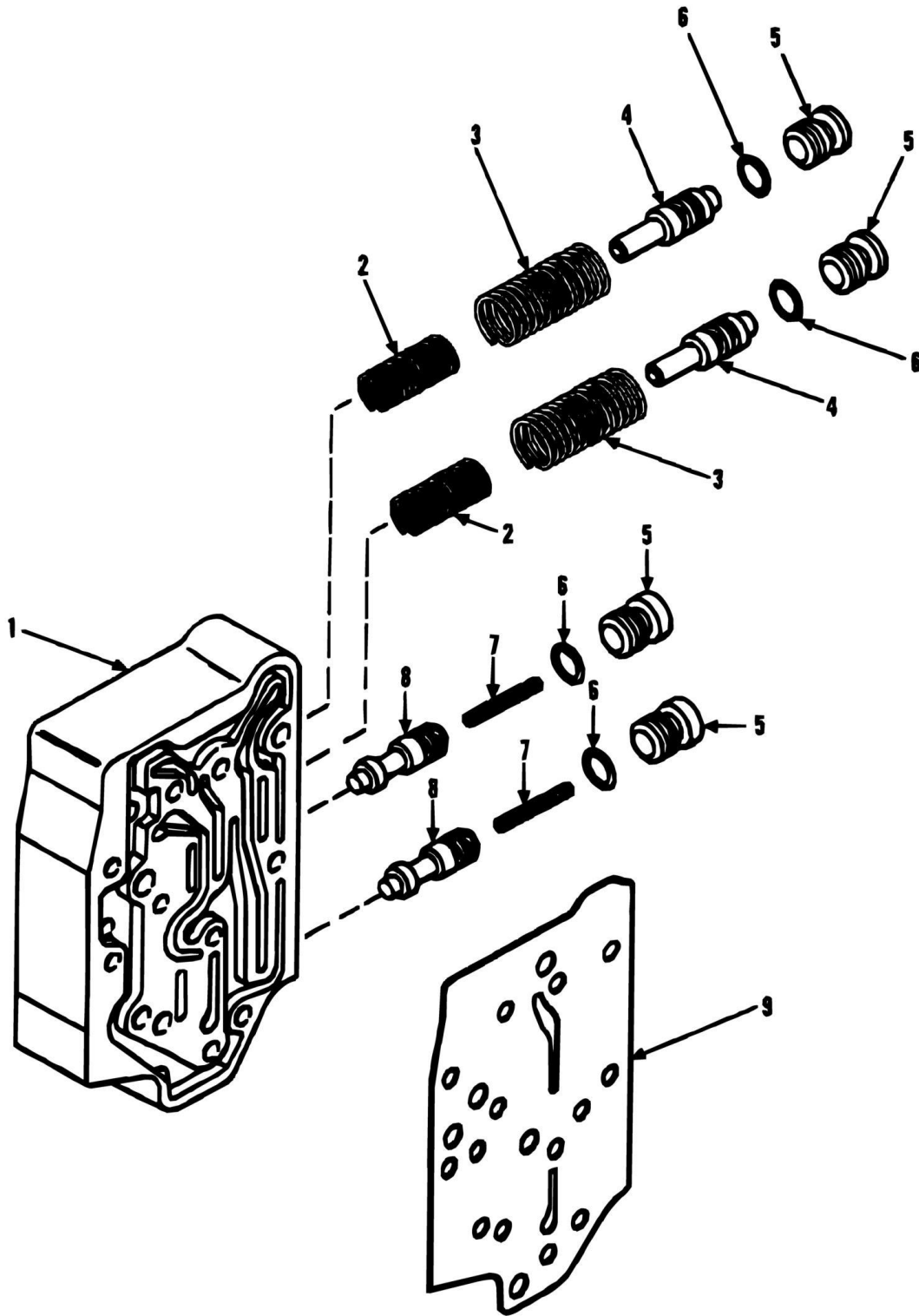
SECTION 5 - DRIVE TRAIN

FIGURE 5-7. CLUTCH ASSEMBLIES (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	77104188	5	SNAP RING	
2	77104189	5	CLUTCH DISC BREAKING PLATE	
3	77104190	8	CLUTCH INNER DISC (low)	
4	77104191	36	CLUTCH OUTER DISC	
5	77104192	1	CLUTCH PISTON (low)	
6	77104193	5	OUTER CLUTCH PISTON RING	
7	77104194	5	INNER CLUTCH PISTON SEAL	
8	90204935	1	LOW CLUTCH SHAFT, DRUM AND BLEED VALVE ASSY	
9	77104209	28	CLUTCH INNER DISC (forward, 3rd, reverse and second)	
10	90204938	2	CLUTCH PISTON (forward, reverse and 2nd)	
11	90204939	1	FORWARD SHAFT, DRUM AND PLUG ASSY	
12	90206403	1	THIRD CLUTCH SHAFT, DRUM AND PLUG ASSY	
13	77104230	2	CLUTCH PISTON (3rd & 2nd)	
14	90204944	1	REVERSE AND 2ND SHAFT, DRUM AND PLUG ASSY	

SECTION 5 - DRIVE TRAIN

FIGURE 5-8. MODULATOR VALVE (SN 8344001L to Present)



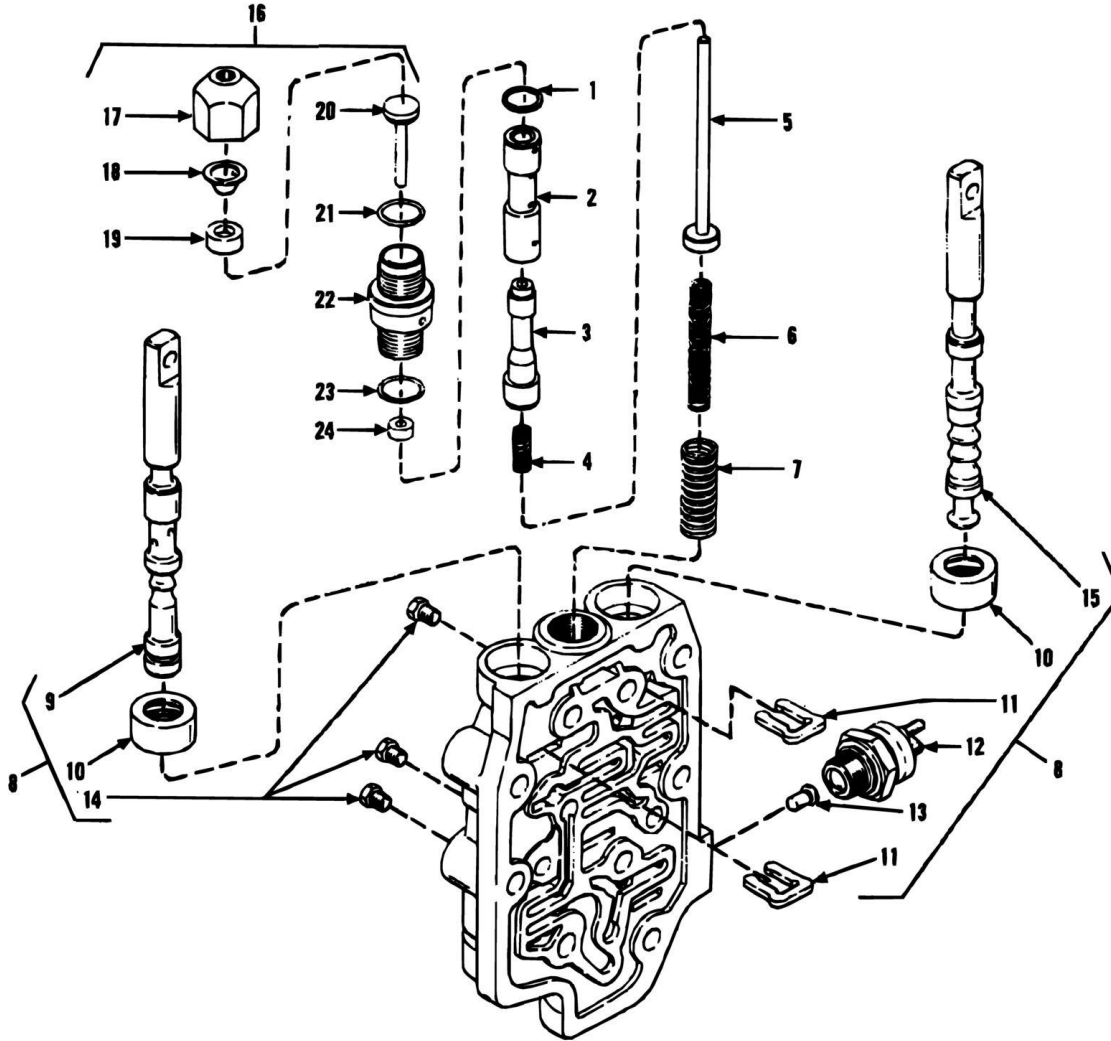
SECTION 5 - DRIVE TRAIN

FIGURE 5-8. MODULATOR VALVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90204990	1	MODULATOR VALVE (includes all items)	
1	N.S.S.	1	VALVE HOUSING	
2	90204991	2	ACCUMULATOR SPRING (inner)	
3	90204992	2	ACCUMULATOR SPRING (outer)	
4	N.S.S.	2	VALVE	
5	90205057	4	SPOOL STOP PLUG (includes item 6)	
6	90205056	4	O-RING	
7	90204822	2	REGULATOR SPRING	
8	N.S.S.	2	REGULATOR SPOOL	
9	90204820	1	GASKET, VALVE TO HOUSING	

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FIGURE 5-9. CONTROL VALVE (SN 8344001L to Present)



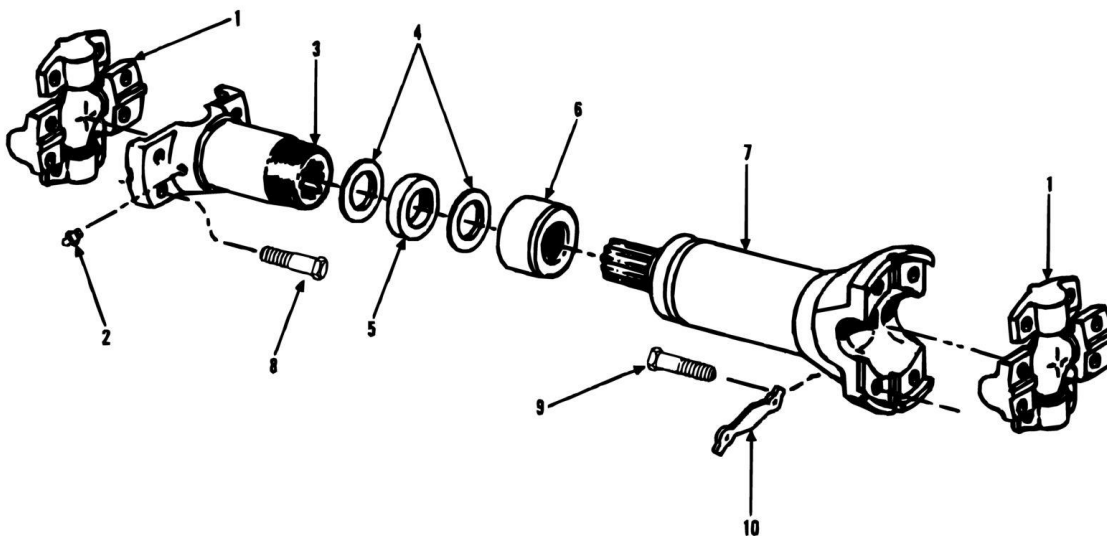
SECTION 5 - DRIVE TRAIN

FIGURE 5-9. CONTROL VALVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90204988		CONTROL VALVE (includes all items)	
1	90204957	1	RETAINING RING	
2	90204959	1	INCHING VALVE SLEEVE	
3	90204960	1	VALVE SPOOL	
4	90204962	1	BALANCING SPRING	
5	90204964	1	ROD	
6	90204966	1	RETURN SPRING (inner)	
7	90204968	1	RETURN SPRING (outer)	
8	77104272	1	VALVE HOUSING (consists of items 9 thru 15)	
9	77104273	1	SPEED SELECTOR SPOOL AND PLUG ASSY	
10	90204971	1	OIL SEAL	
11	77104277	2	SPOOL STOP	
12	77104278	1	NEUTRAL SWITCH	
13	77104279	1	SWITCH ACTUATING PIN	
14	90026763	3	PIPE PLUG 1/8-27 NPTF	
15	77104276	1	FORWARD AND REVERSE SPOOL	
16	90204955	1	INCHING SLAVE CYLINDER ASSY (consists of items 17 thru 24)	
17	90204980	1	CAP	
18	90204981	1	PISTON CUP STOP	
19	90204982	1	PISTON CUP	
20	90204983	1	PISTON	
21	90205058	1	O-RING	
22	90204984	1	PISTON HOUSING AND FILTER DISC ASSY	
23	88591013	1	O-RING	
24	90204986	1	OIL SEAL	
		Ref	NOTE: FIELD SERVICE OF ITEM 12 NEUTRAL SWITCH REQUIRES REMOVAL AND REPLACEMENT OF STUDS WITH 2 PAN HEAD SCREWS. GRADALL PART NUMBER 89981036.	

SECTION 5 - DRIVE TRAIN

FIGURE 5-10. DRIVE SHAFT (SN 8744115G to Present, Including 8744079G)



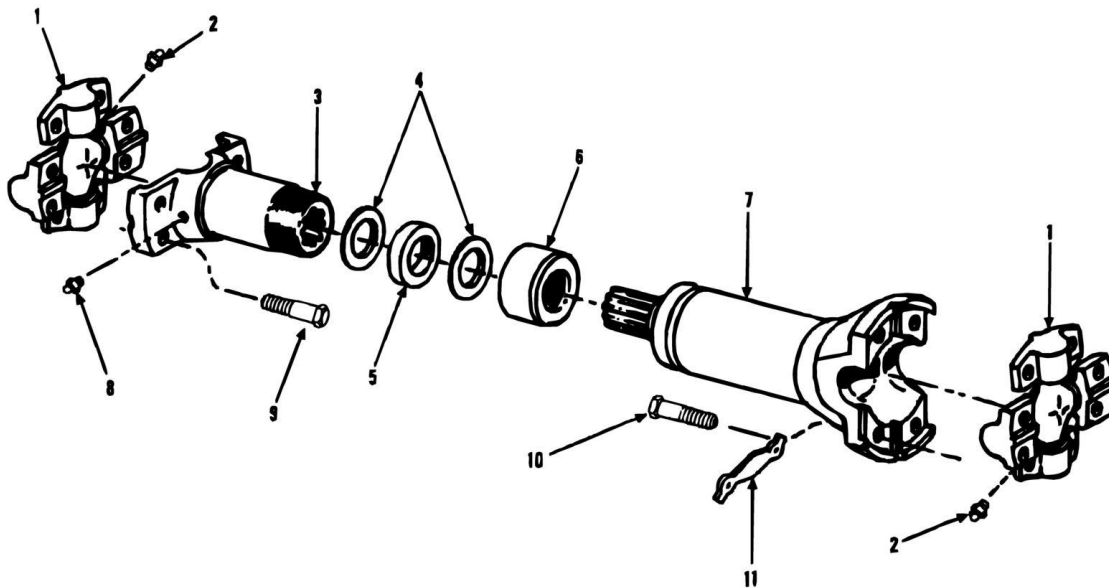
SECTION 5 - DRIVE TRAIN

FIGURE 5-10. DRIVE SHAFT (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043032	1	DRIVE SHAFT ASSY (includes all items)	
1	90201058	2	SPIDER AND BEARING ASSY	
2	88671008	1	LUBE FITTING - STRAIGHT - 1/8	
3	91044008	1	SLIP YOKE ASSY (includes items 4, 5, & 6)	
4	90206545	2	WASHER	
5	90206546	1	FELT SEAL	
6	90206544	1	CAP	
7		Ref	TUBE ASSY	
8	91044009	8	HEX HD CAPSCREW	
9	91044010	8	HEX HD CAPSCREW	
10	91031194	8	LOCKSTRAP	
	Note		NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 5-11. DRIVE SHAFT (SN 8344001L through 8744114G, Excluding 8744079G)



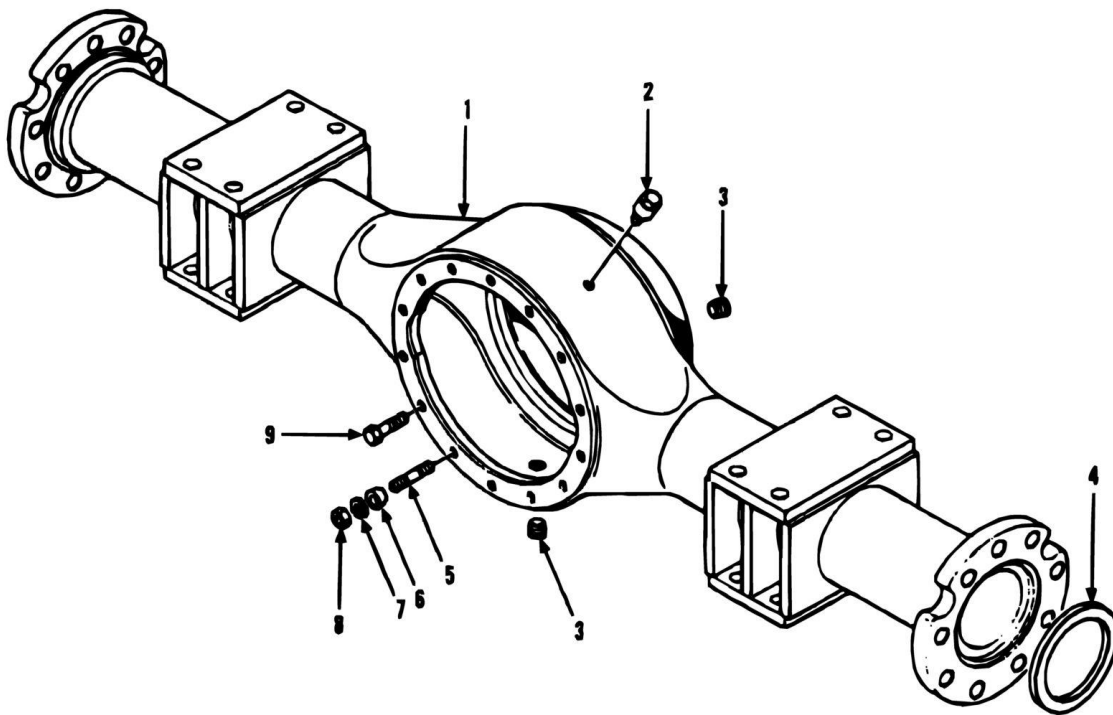
SECTION 5 - DRIVE TRAIN

FIGURE 5-11. DRIVE SHAFT (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033126	1	DRIVE SHAFT (Perkins)	
	90801286	1	DRIVE SHAFT (Waukesha) (includes items 1 thru 10)	
1	90201058	2	SPIDER AND BEARING ASSEMBLY	
2	88671008	2	LUBE FITTING - STRAIGHT 1/4-28	
3	90206543	1	SLIP YOKE	
4	90206545	2	WASHER	
5	90206546	1	FELT SEAL	
6	90206544	1	CAP	
7		Ref	TUBE ASSEMBLY	
8	88671001	1	LUBE FITTING - STRAIGHT 1/8	
9	90030029	8	HEX HD CAPSCREW, 3/8-24X1-3/4 GR8	
10	90030045	8	HEX HD CAPSCREW, 3/8-24X2-1/4 GR8	
11	91031194	8	LOCKSTRAP	
	Note		NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 5-12. FRONT AXLE HOUSING (SN 8744115G to Present, Including 8744079G)



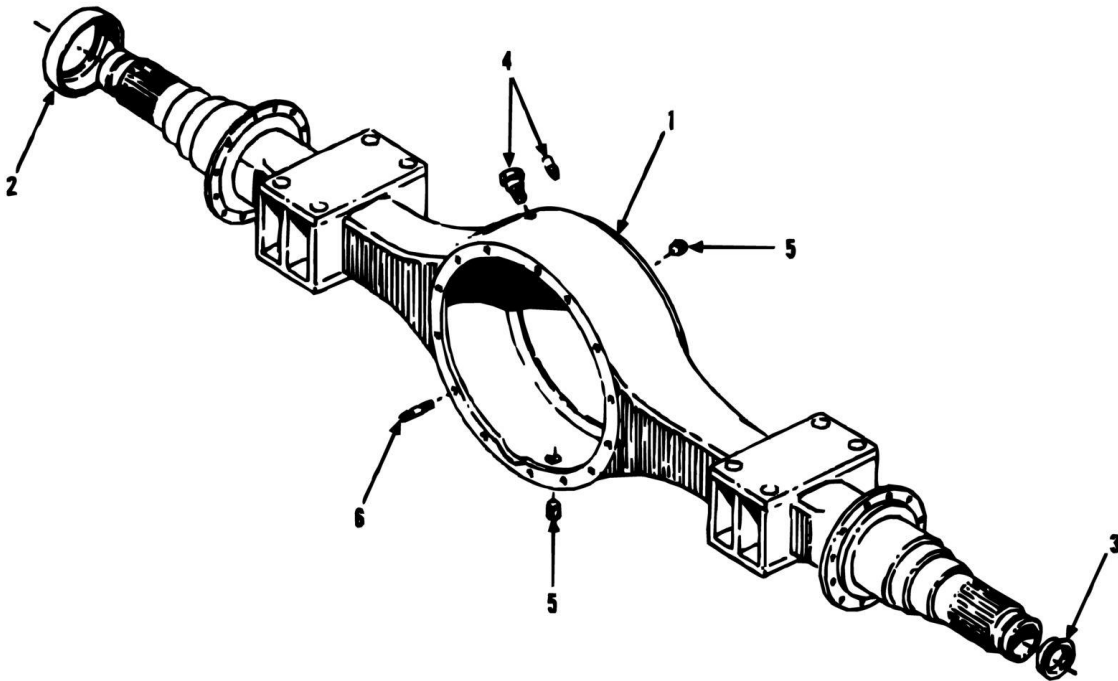
SECTION 5 - DRIVE TRAIN

FIGURE 5-12. FRONT AXLE HOUSING (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91044137	1	AXLE HOUSING	
2	90401203	1	BREATHER	
3	90401204	2	FILLER AND DRAIN PLUG	
4	91044138	2	THRUST WASHER	
5	91044139	3	STUD	
6	91044140	3	CENTERING CONE	
7	91044141	14	FLAT WASHER	
8	91044142	3	HEX NUT	
9	91044143	11	HEX HD CAPSCREW	

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FIGURE 5-13. HOUSING ASSEMBLY (SN 8344001L through 8744114G, Excluding 8744079G)



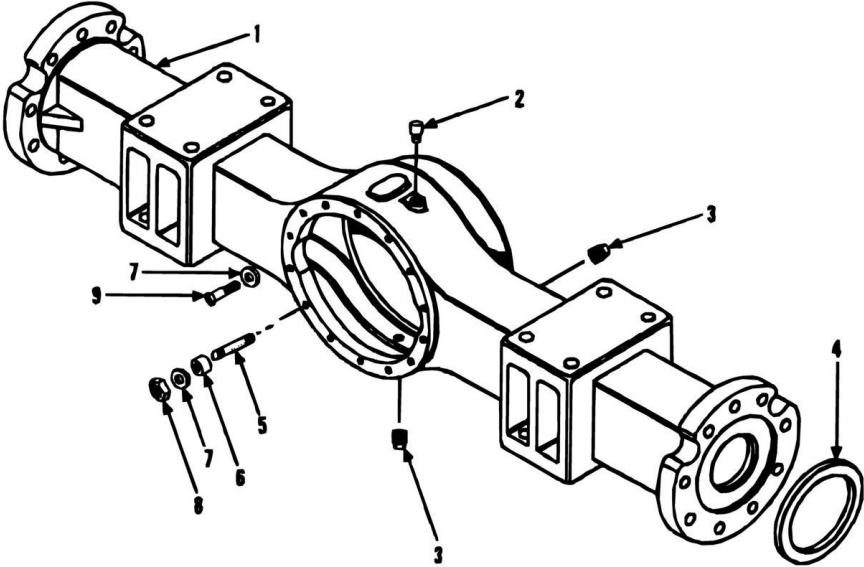
SECTION 5 - DRIVE TRAIN

FIGURE 5-13. HOUSING ASSEMBLY (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207907	1	AXLE HOUSING	
2	90207908	2	OIL SEAL DRIVER	
3	90401232	2	THRUST SPACER	
4	90401203	AR	BREATHER (large)	
4	91034078	AR	BREATHER (small)	
5	90401204	2	OIL PLUG	
6	90207909	3	STUD M10 X 50	
		Ref	NOTE: PLEASE CHECK BREATHER STYLE BEFORE ORDERING ITEM NUMBER 4 BREATHER.	

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FIGURE 5-14. HOUSING ASSEMBLY (SN 0144658J to Present)



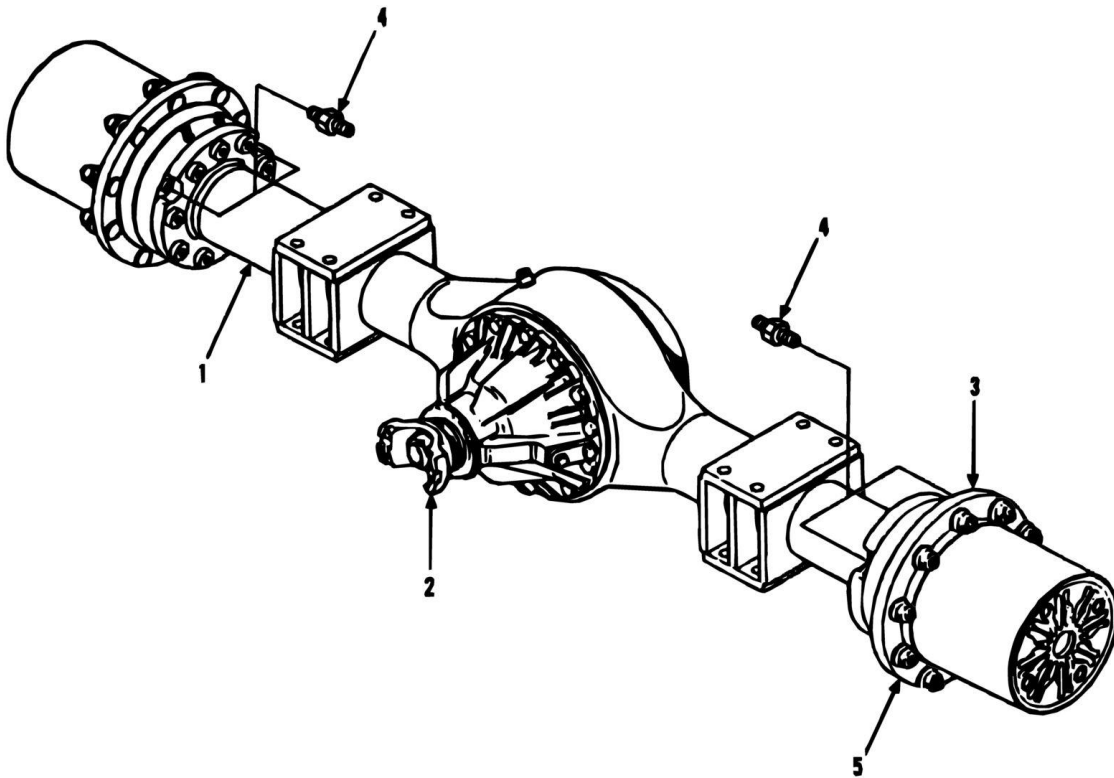
SECTION 5 - DRIVE TRAIN

FIGURE 5-14. HOUSING ASSEMBLY (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91044447	1	DIFFERENTIAL CARRIER FASTENING SET (includes items 5 thru 9)	
1	91044444	1	AXLE HOUSING	
2	91044445	1	BREATHER	
3	91044446	2	FILLER AND DRAIN PLUG	
4	91044138	2	THRUSTWASHER	
5	91044139	3	STUD	
6	91044140	3	CENTERING CONE	
7	91044141	14	FLATWASHER	
8	91044142	3	HEX NUT	
9	91044143	11	HEX HD CAPSCREW	

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FIGURE 5-15. FRONT AXLE ASSEMBLY (SN 8744114G to Present, Including 8744079G)



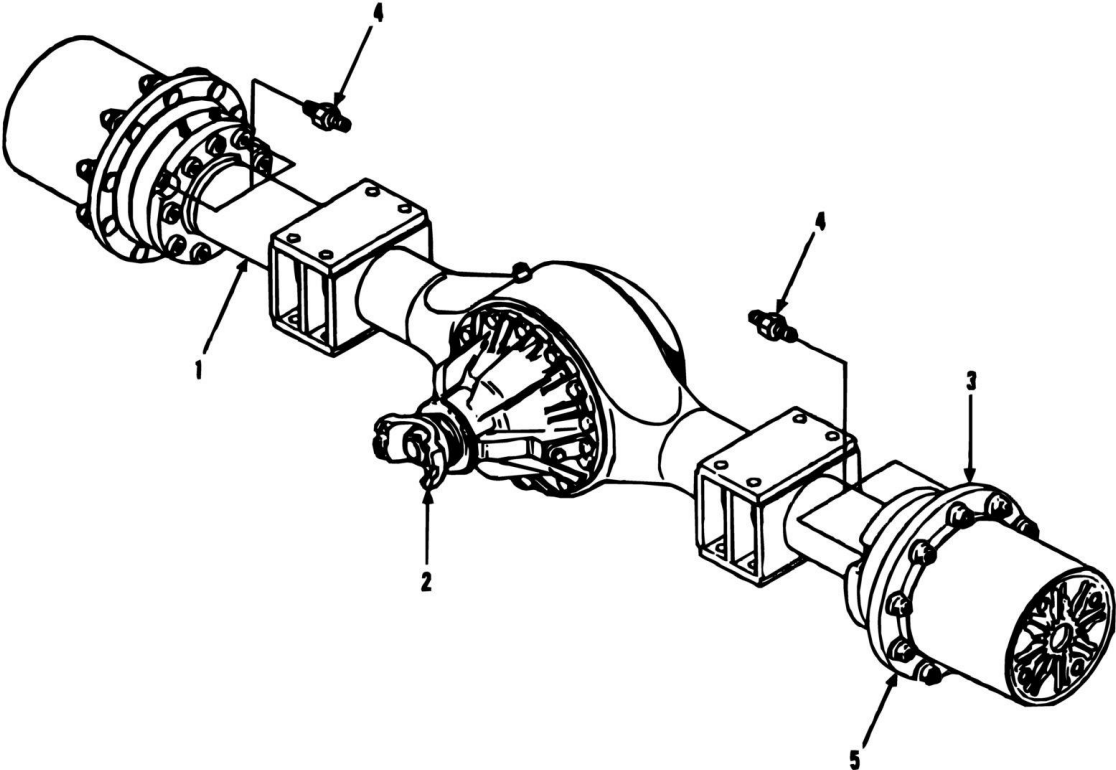
SECTION 5 - DRIVE TRAIN

FIGURE 5-15. FRONT AXLE ASSEMBLY (SN 8744114G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043071	Ref	FRONT AXLE ASSY (includes items 1 thru 4)	
1	91044137	1	AXLE HOUSING ASSY (See FRONT AXLE DIFFERENTIAL CARRIER for Breakdown)	
2	91044144	1	DIFFERENTIAL CARRIER ASSY (See AXLE SHAFT AND PLANETARY WHEEL END for Breakdown)	
3	91044165	1	AXLE SHAFT AND PLANETARY WHEEL END ASSY (See WHEELS AND TIRES for Breakdown)	
4	83193009	4	FITTING	
5	91043146	24	LUG NUT	

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FIGURE 5-16. FRONT AXLE ASSEMBLY (SN 0144658J to Present)



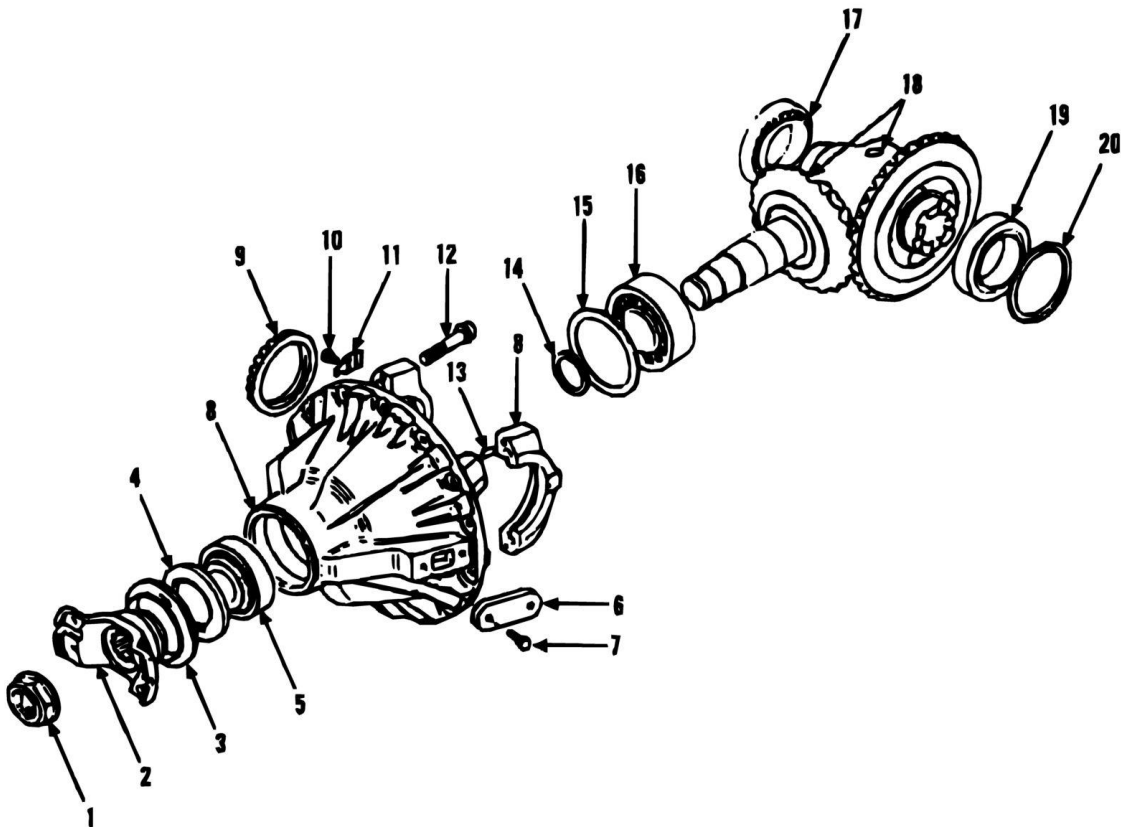
SECTION 5 - DRIVE TRAIN

FIGURE 5-16. FRONT AXLE ASSEMBLY (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043291	Ref	FRONT AXLE ASSY (includes items 1 thru 4)	
1	91044444	1	AXLE HOUSING ASSY (See FRONT AXLE DIFFERENTIAL CARRIERS for Breakdown)	
2	91044448	1	DIFFERENTIAL CARRIER ASSY (See AXLE SHAFT AND PLANETARY WHEEL END for Breakdown)	
3	91034309	1	AXLE SHAFT AND PLANETARY WHEEL END ASSY (See WHEELS AND TIRES for Breakdown)	
4	83193009	4	FITTING	
5	91043146	24	LUG NUT (lubricate and torque to 350-400 ft lbs)	

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FIGURE 5-17. FRONT AXLE DIFFERENTIAL CARRIER (SN 8744115G to Present, Including 8744079G)



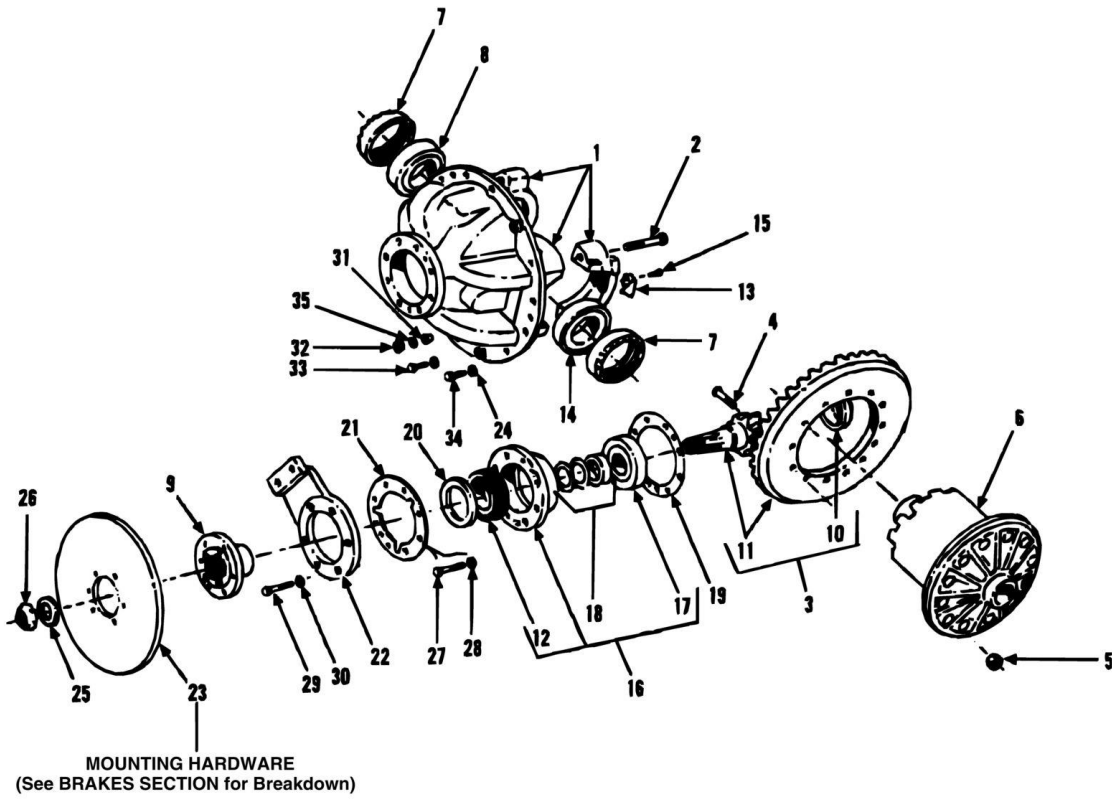
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FIGURE 5-17. FRONT AXLE DIFFERENTIAL CARRIER (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91044144	1	DIFFERENTIAL CARRIER ASSY (includes all items)	
1	91044145	1	PINION NUT	
2	91044146	1	YOKE ASSY (includes item 3)	
3	91044147	1	DUST SHIELD	
4	91044148	1	OIL SEAL	
5	91044149	1	BEARING ASSY	
6	91044150	1	COVER PLATE	
7	91044151	2	HEX HD CAPSCREW	
8	91044152	1	DIFFERENTIAL HOUSING ASSY (includes items 9 thru 13)	
9	91044153	1	ADJUSTING NUT	
10	91044154	1	ADJUSTING NUT LOCK BOLT	
11	91044155	1	ADJUSTING NUT LOCK	
12	91044156	4	DIFFERENTIAL CAP BOLT	
13	91044157	4	LOCATING PIN	
14	91044158	1	SHIM KIT	
15	91044159	1	SHIM KIT	
16	91044160	1	BEARING ASSY	
17	91044161	1	BEARING ASSY	
18	91044162	1	DIFFERENTIAL ASSY	
19	91044163	1	BEARING ASSY	
20	91044164	1	ADJUSTING SHIM KIT	

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FIGURE 5-18. DIFFERENTIAL CARRIER (SN 8344001L through 8744114G, Excluding 8744079G)



90210079 Dust cap for
item #9 input yoke.

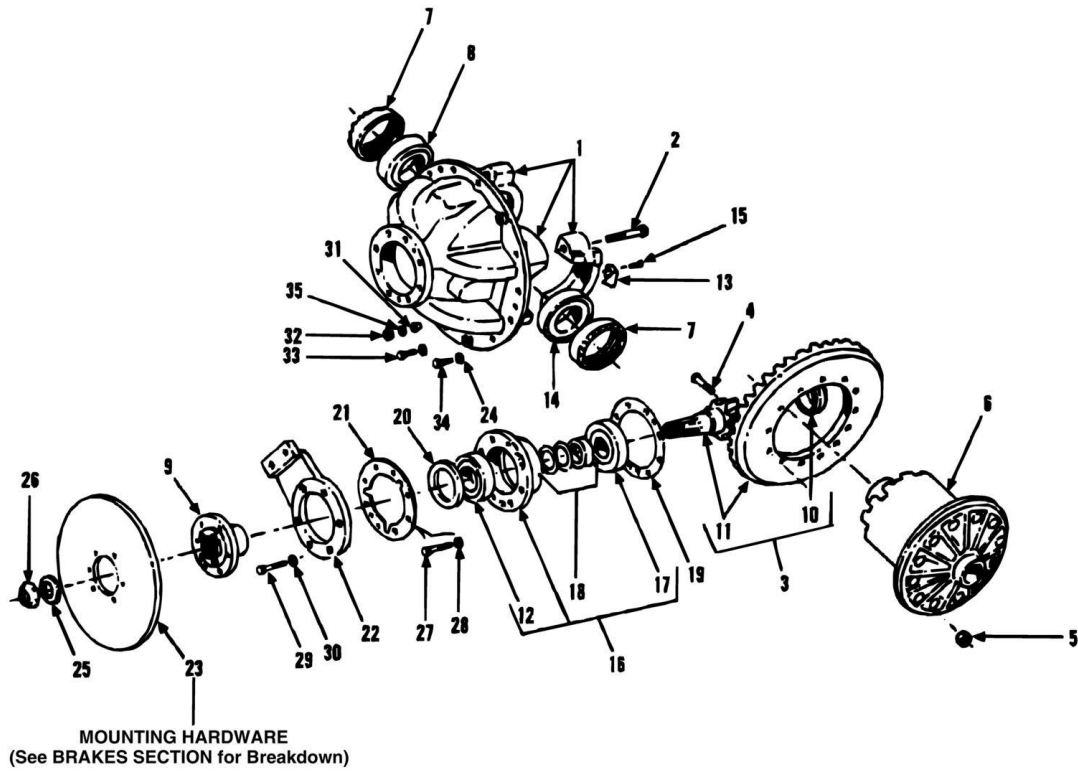
SECTION 5 - DRIVE TRAIN

FIGURE 5-18. DIFFERENTIAL CARRIER (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91034077	1	DROP UNIT (includes all items except nos 9 & 22)	
1	90207910	1	DIFFERENTIAL CARRIER CASE ASSY	
2	90207911	4	BEARING CAP BOLT	
3	90207212	1	GEAR SET ASSY 6 X 37 (includes items 10 & 11)	
4	90207913	12	RING GEAR BOLT	
5	90207914	12	RING GEAR NUT	
6	90207915	1	STOP-GLISS ASSY	
7	90207916	2	DIFFERENTIAL ADJUSTING NUT	
8	90207917	1	DIFFERENTIAL BEARING	
9	90410247	1	INPUT YOKE	
10	90207918	1	NOSE BEARING	
11	90207919	1	GEAR SET 6 X 37	
12	90207920	1	BEARING	
13	90207921	2	DIFFERENTIAL ADJUSTING NUT LOCK	
14	90207922	1	DIFFERENTIAL BEARING	
15	90207923	2	BOLT, HM 10 X 1.50 X 20	
16	90207924	1	BEARING CAGE ASSY (includes items 12,17 & 18)	
17	90207925	1	BEARING	
18	90207926	1	SHIM KIT	
19	90207927	1	SHIM KIT	
20	90210080	1	PINION SEAL	
21	90210081	1	GASKET	
22	90210039	1	BRAKE BRACKET	
23	90610038	1	BRAKE DISC	
24	90401294	11	WASHER W-10	
25	90207932	1	PINION WASHER	
26	83483419	1	PINION NUT	
27	90401326	1	BOLT HM 12 X 1.50	
28	90401288	1	WASHER W-12	
29	90208133	5	BOLT HM 14 X 1.50	
29	90208134	1	BOLT HM 12 X 1.5	
30	90203877	5	WASHER W-14	
31	90207935	3	CENTERING CONE	
32	90207936	3	NUT	
33	90207937	2	BOLT HM 10 X 1.50 X 40/20	
34	90207938	9	BOLT HM 10 X 1.50 X 30/20	
35	90207939	3	WASHER	

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FIGURE 5-19. FRONT AXLE DIFFERENTIAL CARRIER (SN 0144658J to Present)



90210079 Dust cap for
item #9 input yoke.

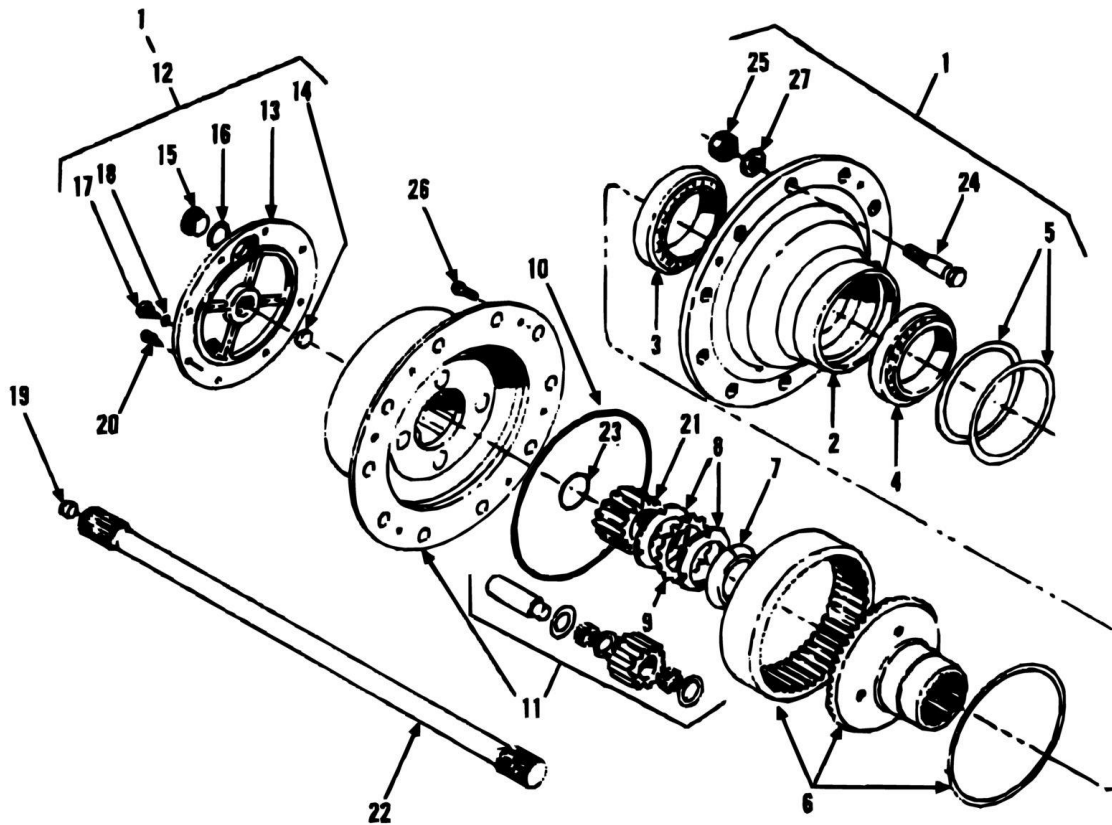
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FIGURE 5-19. FRONT AXLE DIFFERENTIAL CARRIER (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91044448	1	DIFFERENTIAL CARRIER ASSY (includes all items)	
1	91044145	1	PINION NUT	
2	91044452	1	FLANGE ASSY (includes item 3)	
3	91044147	1	DUST SHIELD	
4	91044451	1	OIL SEAL	
5	91044450	1	TAPER BEARING KIT	
6	91044150	1	COVER PLATE	
7	91044151	2	HEX HD CAPSCREW	
8	91044152	1	DIFFERENTIAL HOUSING ASSY (includes items 9 thru 13)	
9	91044153	1	ADJUSTING NUT	
10	91044154	1	ADJUSTING NUT LOCK BOLT	
11	91044155	1	ADJUSTING NUT LOCK	
12	91044156	4	DIFFERENTIAL CAP BOLT	
13	91044157	4	LOCATING PIN	
14	91044158	1	SHIM KIT	
15	91044159	1	SHIM KIT	
16	91044161	1	BEARING ASSY	
17	91044449	1	DIFFERENTIAL AND BEVEL GEAR SET	
18	91044163	1	BEARING ASSY	
19	91044164	1	ADJUSTING SHIM KIT	

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FIGURE 5-20. AXLE SHAFT AND PLANETARY WHEEL END (SN 8344001L through 8744114G, Excluding 8744079G)



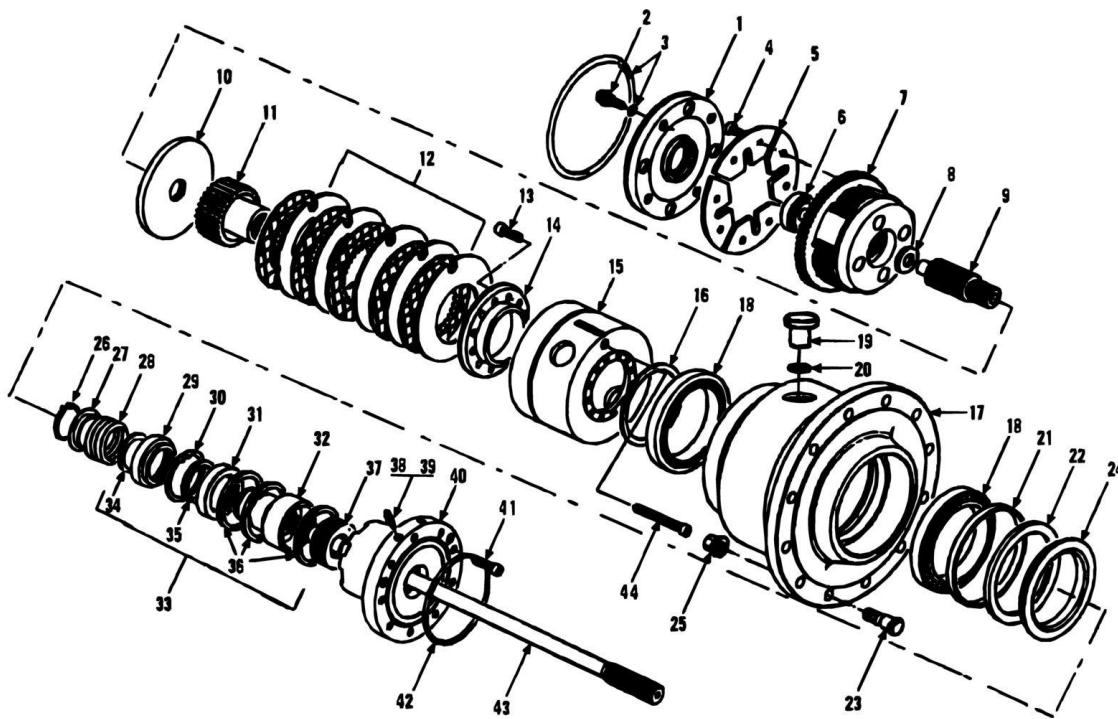
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**FIGURE 5-20. AXLE SHAFT AND PLANETARY WHEEL END (SN 8344001L through 8744114G,
Excluding 8744079G)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207940	-	PLANETARY WHEEL END ASSY	
2	90207941	1	HUB	
3	90201833	1	BEARING	
4	90201834	1	BEARING	
5	90201805	2	OIL SEAL (134.5 X 155.6 X 9.52)	
6	90201836	1	RING GEAR AND CARRIER ASSY	
7	90201837	1	CONE	
8	90201838	2	NUT	
9	90201839	1	LOCKWASHER	
10	90201840	1	SEAL (257 X 263)	
11	90207942	1	PLANETARY CARRIER ASSY	
12	90201842	1	COVER ASSY (includes items 13 thru 18)	
13	90401254	1	COVER	
14	90401255	1	THRUST BUTTON	
15	90401256	1	PLUG	
16	90401257	1	GASKET	
17	90401258	1	PLUG	
18	90401259	1	GASKET	
19	90203891	1	SHIM KIT	
20	90203845	8	BOLT H8 X 1.25 1R25	
21	90201846	1	SUN GEAR	
22	90207943	1	AXLE SHAFT	
23	90201848	2	SNAP RING	
24	90207944	10	WHEEL STUD	
25	90201853	10	WHEEL NUT	
26	90201849	3	BOLT (CHC F-90-M10 X 1.5 X 25)	
27	90201854	10	WASHER	

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FIGURE 5-21. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 0144658J to Present)



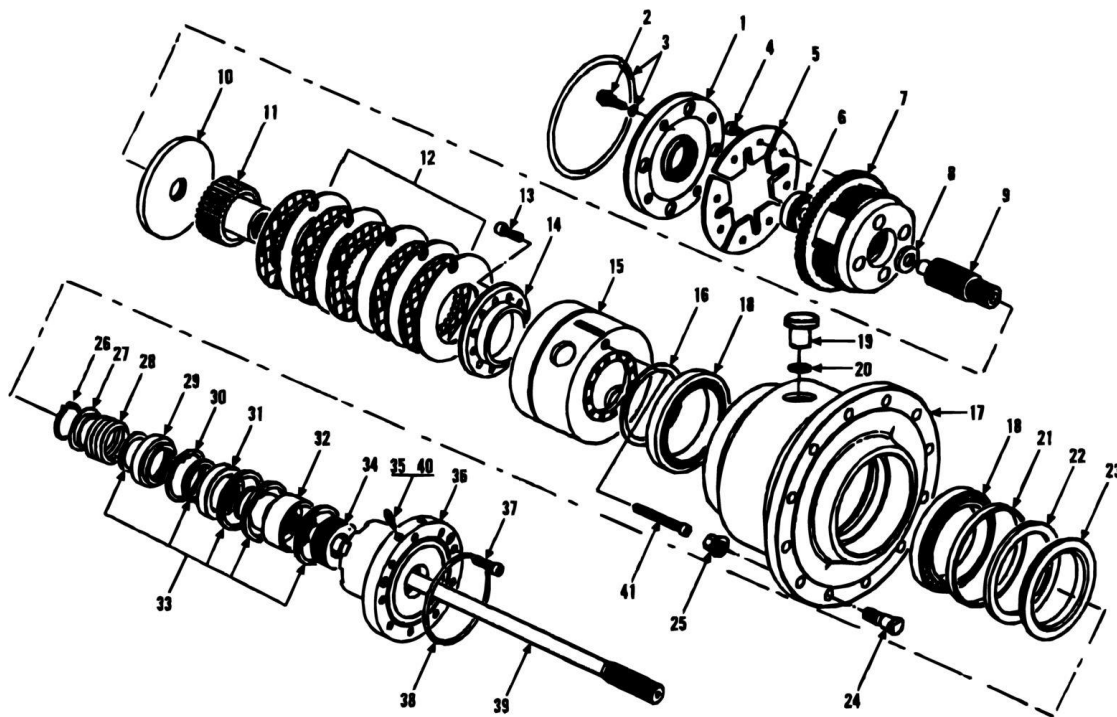
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FIGURE 5-21. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91034309	1	BRAKE WHEEL ASSY (includes all items)	
1	91044166	1	COVER ASSY (includes items 2 thru 6)	
2	91044167	1	HEX HD CAPSCREW	
3	91044168	1	O-RING KIT	
4	91044169	4	HEX HD CAPSCREW	
5	91044170	4	SECTOR PLATE	
6	91044171	1	BEARING ASSY	
7	91044460	1	PLANETARY CARRIER ASSY	
8	91044173	4	SPACER	
9	91044174	1	MID-SHAFT	
10	91044175	1	ROTATING BRAKE DISC STOP	
11	91044176	1	DISC HUB	
12	91044177	1	BRAKE DISC ASSY	
13	91044178	10	SOCKET HEAD CAPSCREW	
14	91044179	1	FIXED BRAKE DISC STOP	
15	91044180	1	RING GEAR AND CARRIER ASSY	
16	91044181	1	ADJUSTING SHIM KIT	
17	91044459	1	WHEEL HUB ASSY (includes items 18 thru 23)	
18	91044183	2	BEARING ASSY	
19	91044184	1	PLUG	
20	91044185	1	SEALING WASHER	
21	91044186	1	SPACER	
22	91044187	1	HUB SEAL	
23	91044189	12	WHEEL STUD	
24	91044458	1	SEAL RACE	
25	91043146	12	SWIVEL NUT	
26	91044191	1	SNAP RING	
27	91044192	1	THRUST WASHER	
28	91044193	1	SPARING	
29	91044194	1	SERVICE BRAKE PISTON	
30	91044195	1	SNAP RING	
31	91044196	1	PARK BRAKE SEAL RING	
32	91044197	1	PARK BRAKE PISTON	
33	91044335	1	SEALING KIT (includes items 34, 35, & 36)	
34	Kit	1	OIL SEAL	
35	Kit	1	OIL SEAL	
36	Kit	3	OIL SEAL	
37	91044453	1	SPRING WASHER KIT	
38	91044200	2	BLEEDER SCREW	
39	91044298	2	BLEEDER SCREW CAP	
40	91044201	1	SPINDLE ASSY	
41	91044461	9	SOCKET HD CAPSCREW	
42	91044203	1	O-RING	
43	91044204	1	AXLE SHAFT	
44	91034397	1	PIN (holds brake diacs in place)	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE BRAKE WHEEL END ASSEMBLY ONLY.	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 5-22. (91044165) FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 8744115G to Present, Including 8744079G)



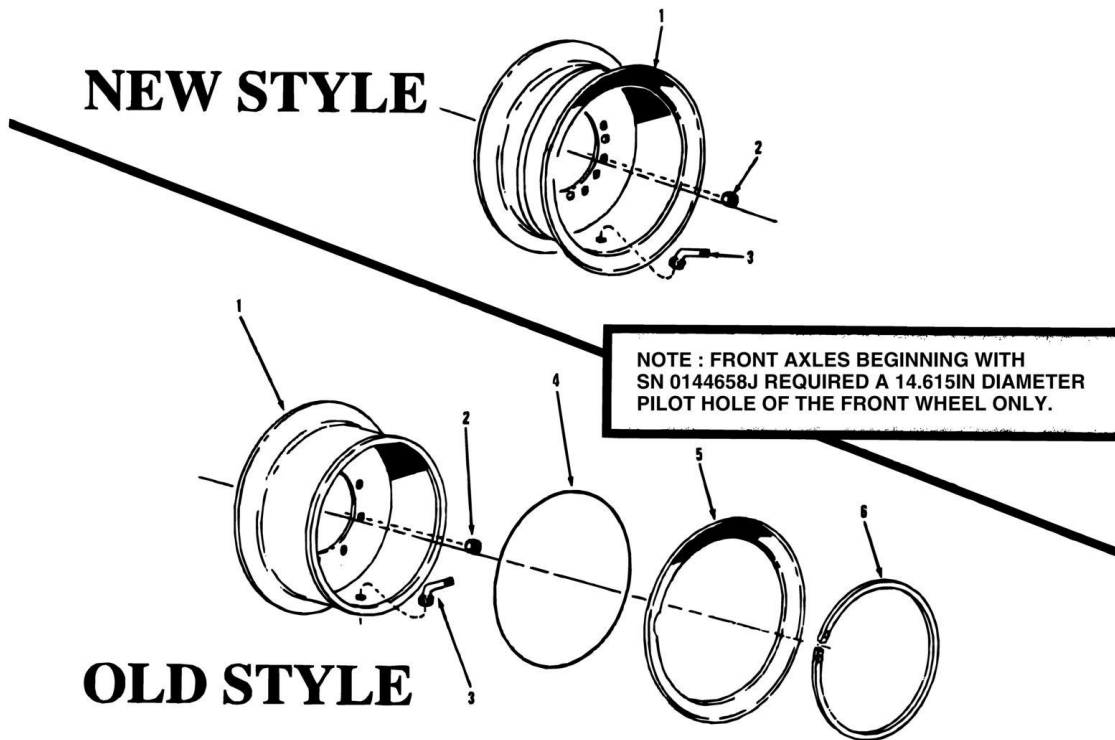
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FIGURE 5-22. (91044165) FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91044165	1	BRAKE WHEEL END ASSY (includes all items)	
1	91044166	1	COVER ASSY (includes items 2 thru 6)	
2	91044167	4	HEX HD CAPSCREW	
3	91044168	1	O-RING KIT	
4	91044169	4	HEX HD CAPSCREW	
5	91044170	4	SECTOR PLATE	
6	91044171	1	BEARING ASSY	
7	91044460	1	PLANETARY CARRIER ASSY	
8	91044173	4	SPACER	
9	91044174	1	MID-SHAFT	
10	91044175	1	ROTATING BRAKE DISC STOP	
11	91044176	1	DISC HUB	
12	91044177	1	BRAKE DISC ASSY	
13	91044178	10	SOCKET HEAD CAPSCREW	
14	91044179	1	FIXED BRAKE DISC STOP	
15	91044180	1	RING GEAR AND CARRIER ASSY	
16	91044181	1	ADJUSTING SHIM KIT	
17	91044182	1	WHEEL HUB ASSY (includes items 18 thru 22)	
18	91044183	2	BEARING ASSY	
19	91044184	1	PLUG	
20	91044185	1	SEALING WASHER	
21	91044186	1	SPACER	
22	91044187	1	HUB SEAL	
23	91044188	1	HUB SEAL RUNNER	
24	91044189	10	WHEEL STUD	
25	91043146	10	SWIVEL NUT	
26	91044191	1	SNAP RING	
27	91044192	1	THRUST WASHER	
28	91044193	1	SPRING	
29	91044194	1	SERVICE BRAKE PISTON	
30	91044195	1	SNAP RING	
31	91044196	1	PARK BRAKE SEAL RING	
32	91044197	1	PARK BRAKE PISTON	
33	91044335	1	SEALING KIT	
34	91044199	1	SPRING WASHER KIT	
35	91044200	2	BLEEDER SCREW	
36	91044201	1	SPINDLE ASSY	
37	91044202	9	SOCKET HD CAPSCREW	
38	91044203	1	O-RING	
39	91044204	1	AXLE SHAFT	
40	91044298	2	BLEEDER SCREW CAP	
41	91034397	1	PIN (holds brake discs in place)	
	Note		NOTE: QUANTITIES SHOWN ARE FOR ONE BRAKE WHEEL END ASSEMBLY ONLY.	

SECTION 5 - DRIVE TRAIN

FIGURE 5-23. WHEELS AND TIRES FRONT-STANDARD (SN 0144658J to Present)



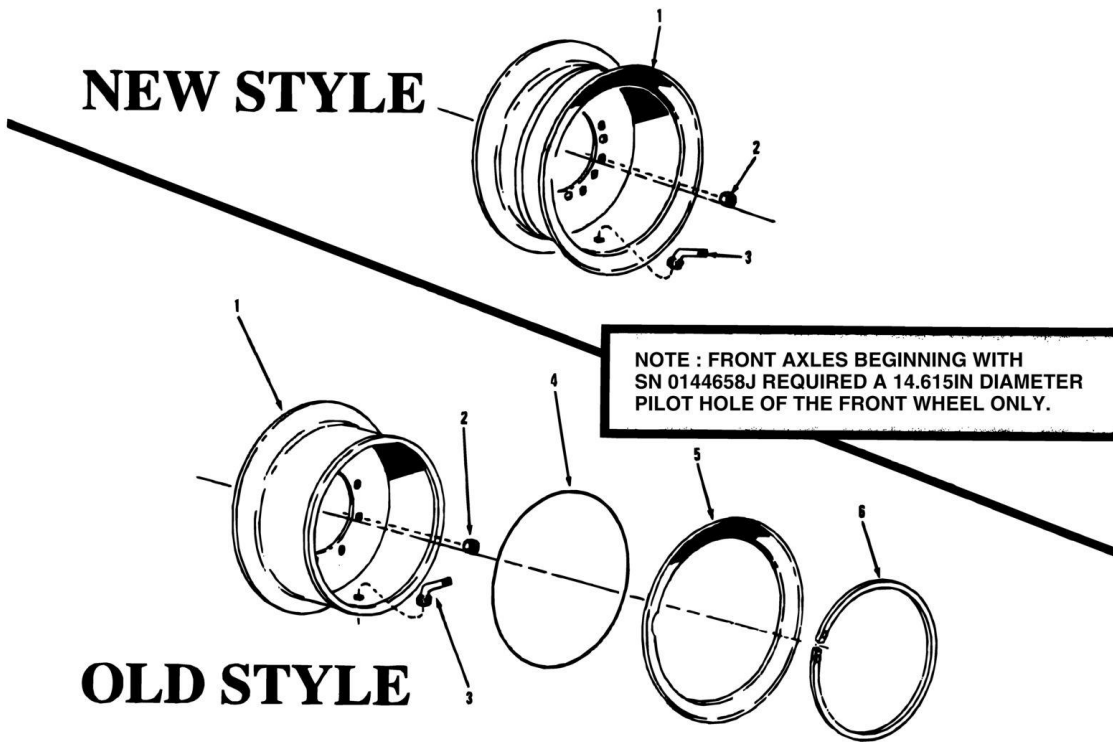
SECTION 5 - DRIVE TRAIN

FIGURE 5-23. WHEELS AND TIRES FRONT-STANDARD (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043276	NLA	RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91043430)	
1	91043430	1	RIM, 9.00 X 24 (New One Piece Style)	
2	91043146	12	LUG NUT (lubricate and torque to 350-400 ft lbs)	
3	90200339	1	VALVE (air/liquid) NOTE: (USE WITH 91043276 ONLY)	
3	91083385	1	VALVE (air/liquid) (Use with 91033430)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	91033104	1	TIRE, 13.00 X 24, 12 PLY (not illustrated)	

SECTION 5 - DRIVE TRAIN

FIGURE 5-24. WHEELS AND TIRES REAR-STANDARD (SN 0144658J to Present)



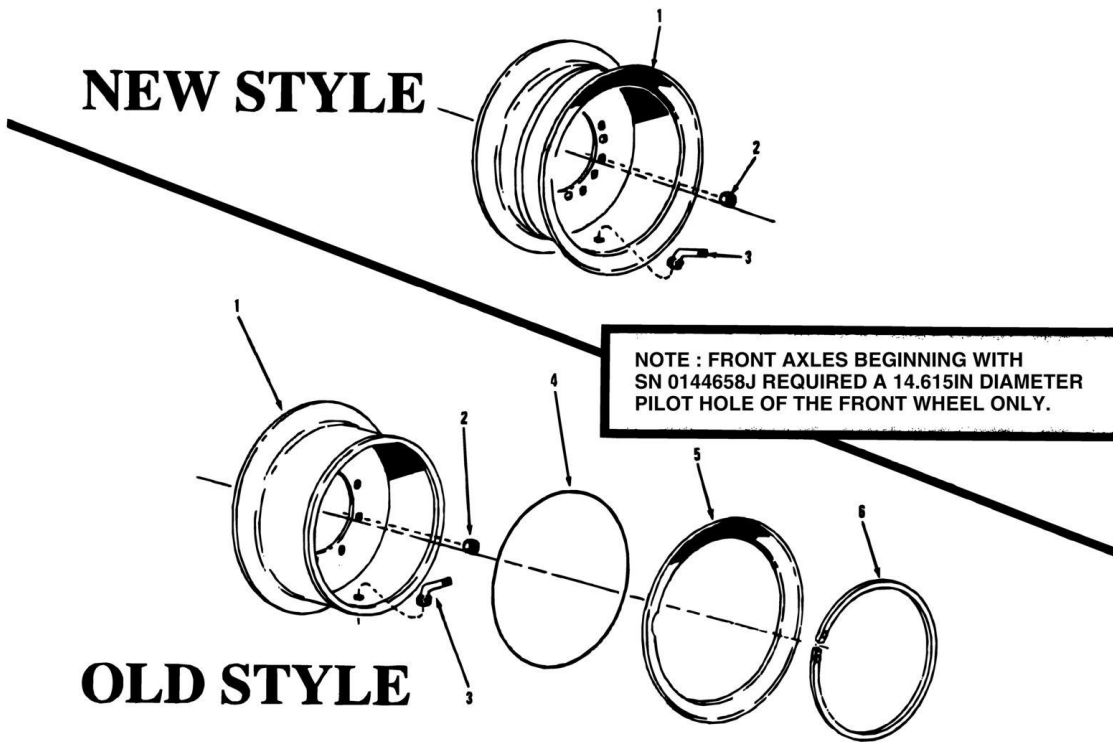
SECTION 5 - DRIVE TRAIN

FIGURE 5-24. WHEELS AND TIRES REAR-STANDARD (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602638	NLA	RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91033467)	
1	91033467	1	RIM, 9.00 X 24 (New One Piece Style)	
2	90202141	10	LUG NUTS	
3	90200339	1	VALVE (air/liquid) NOTE: (USE WITH 90602638 ONLY)	
3	91083385	1	VALVE (air/liquid) (Use with 9103-3467)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	90602040	1	TIRE, 13.00 X 24, 8 PLY (not illustrated)	
7	91033104	1	TIRE, 13.00 X 24, 12 PLY (not illustrated)	

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FIGURE 5-25. WHEELS AND TIRES FRONT-FLOATATION (SN 0144658J to Present)



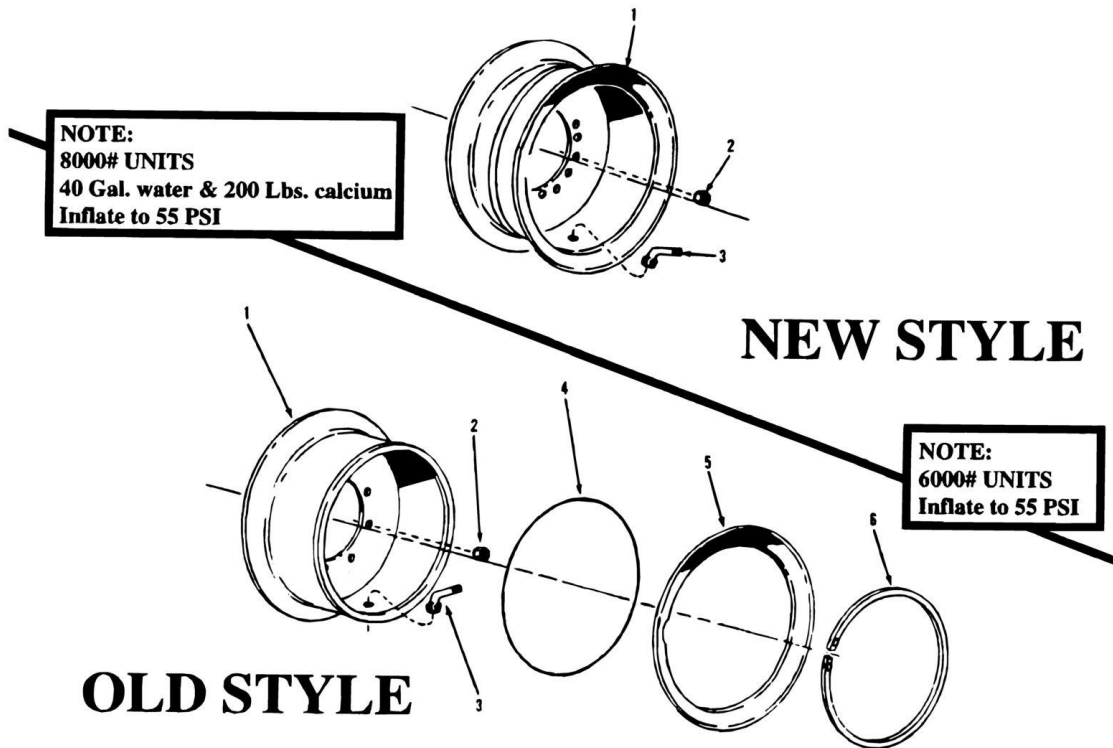
SECTION 5 - DRIVE TRAIN

FIGURE 5-25. WHEELS AND TIRES FRONT-FLOATATION (SN 0144658J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043081	1	RIM, 14.00 X 25	
2	91043146	10	LUG NUT (lubricate and torque to 350-400 ft lbs)	
3	90201452	1	VALVE (air / liquid)	
4	90201441	1	O-RING	
5	90201762	1	GUTTER RING	
6	90201766	1	LOCK RING	
7	90201439	1	TIRE, 17.5 X 25, 14 PLY (L-2 TRACTION REGULAR TREAD)	

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FIGURE 5-26. WHEELS AND TIRES FRONT-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)



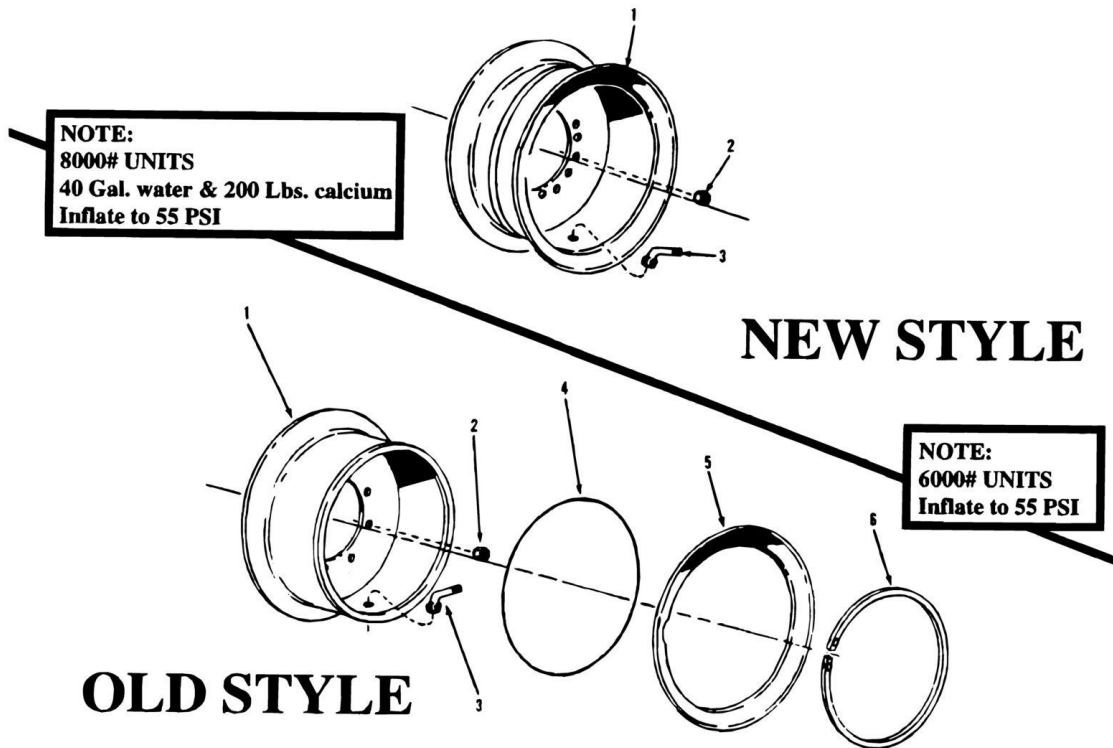
SECTION 5 - DRIVE TRAIN

FIGURE 5-26. WHEELS AND TIRES FRONT-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602780	NLA	RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE, REPLACED BY 91033468)	
1	91033468	1	RIM, 9.00 X 24 (New One Piece Style)	
2	90201853	10	LUG NUT	
3	90200339	1	VALVE (air/liquid) NOTE: (USE WITH 90602780 ONLY)	
3	91083385	1	VALVE (air/liquid) (Use with 91033468)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	90602040	1	TIRE, 13.00 X 24, 8 PLY (not illustrated)	
7	91033104	1	TIRE, 13.00 X 24, 12 PLY (not illustrated)	

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FIGURE 5-27. WHEELS AND TIRES REAR-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)



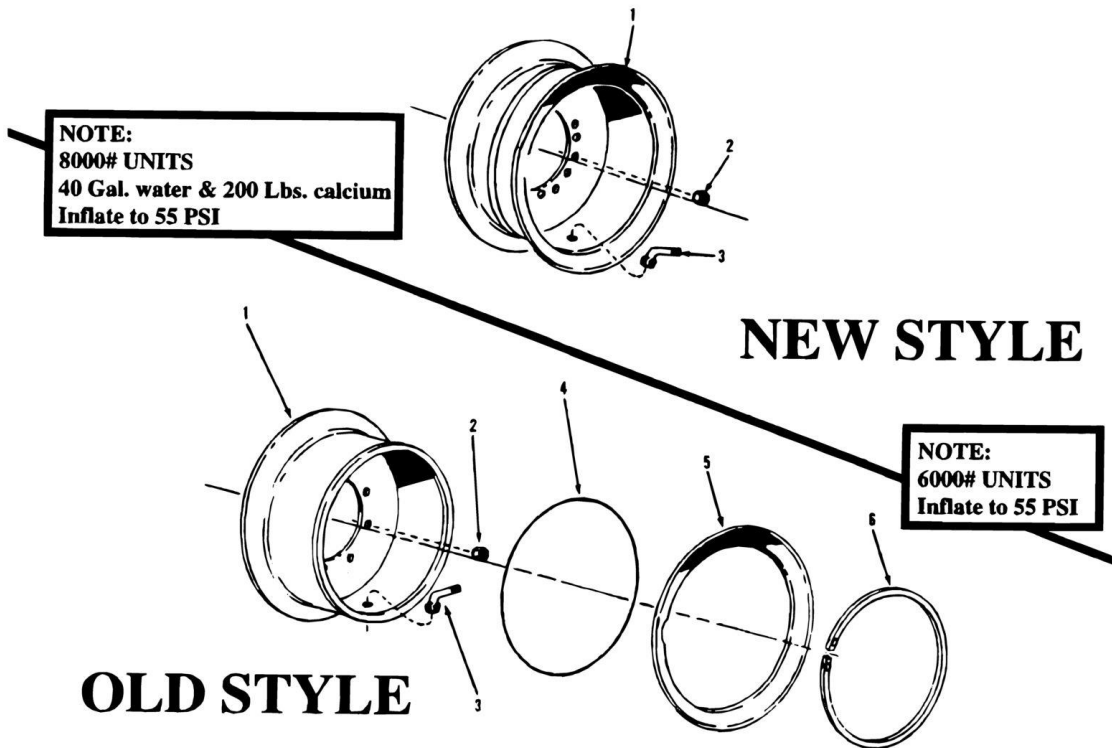
SECTION 5 - DRIVE TRAIN

FIGURE 5-27. WHEELS AND TIRES REAR-STANDARD (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602638	NLA	RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91033467)	
1	91033467	1	RIM, 9.00 X 24 (New One Piece Style)	
2	90202141	10	LUG NUTS	
3	90200339	1	VALVE (air/liquid) NOTE: (USE WITH 90602638 ONLY)	
3	91083385	1	VALVE (air/liquid) (Use with 91033467)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	90602040	1	TIRE, 13.00 X 24, 8 PLY (not illustrated)	
7	91033104	1	TIRE, 13.00 X 24, 12 PLY (not illustrated)	

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FIGURE 5-28. WHEELS AND TIRES FRONT-FLOATATION (SN 8344001L through 8744114G, Excluding 8744079G)



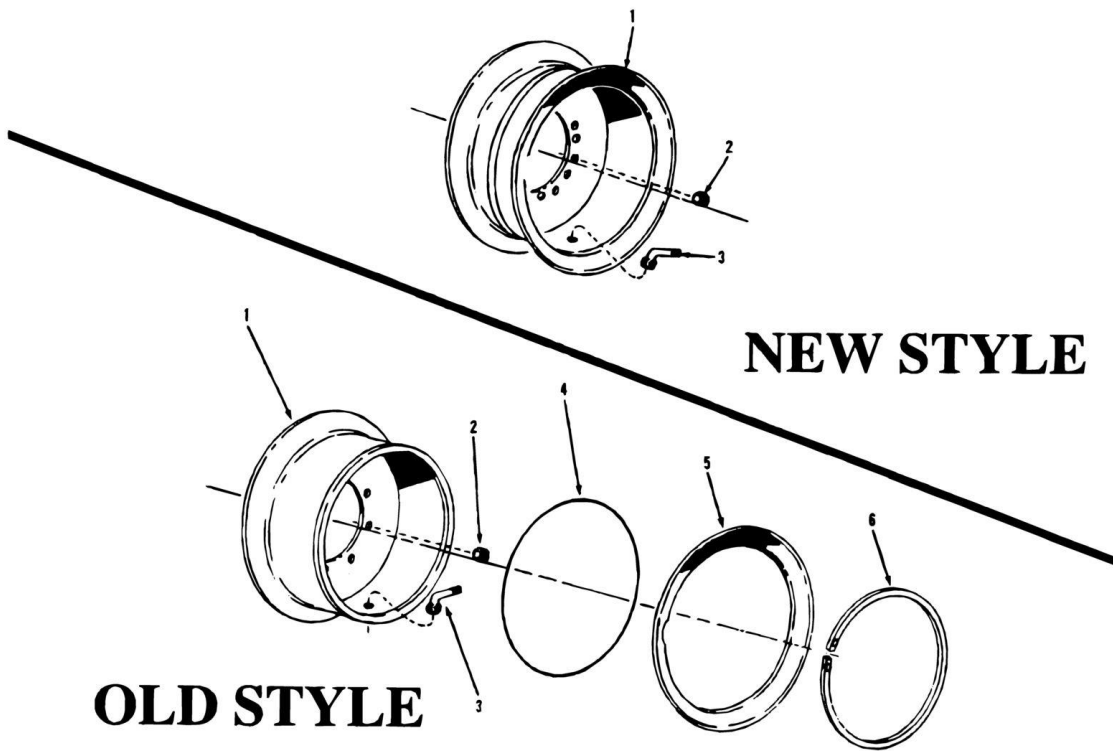
SECTION 5 - DRIVE TRAIN

**FIGURE 5-28. WHEELS AND TIRES FRONT-FLOATATION (SN 8344001L through 8744114G,
Excluding 8744079G)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602870	1	RIM, 12.00 X 25	
2	90201853	10	LUG NUT	
3	90207413	1	VALVE (air / liquid)	
4	90207416	1	O-RING	
5	90207415	1	GUTTER RING	
6	90207414	1	LOCK RING	
7	90207412	1	TIRE, 15.5 X 25, 12 PLY (not illustrated)	

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FIGURE 5-29. WHEELS AND TIRES FRONT-STANDARD (SN 8744115G through 0144657, Including 8744079G)



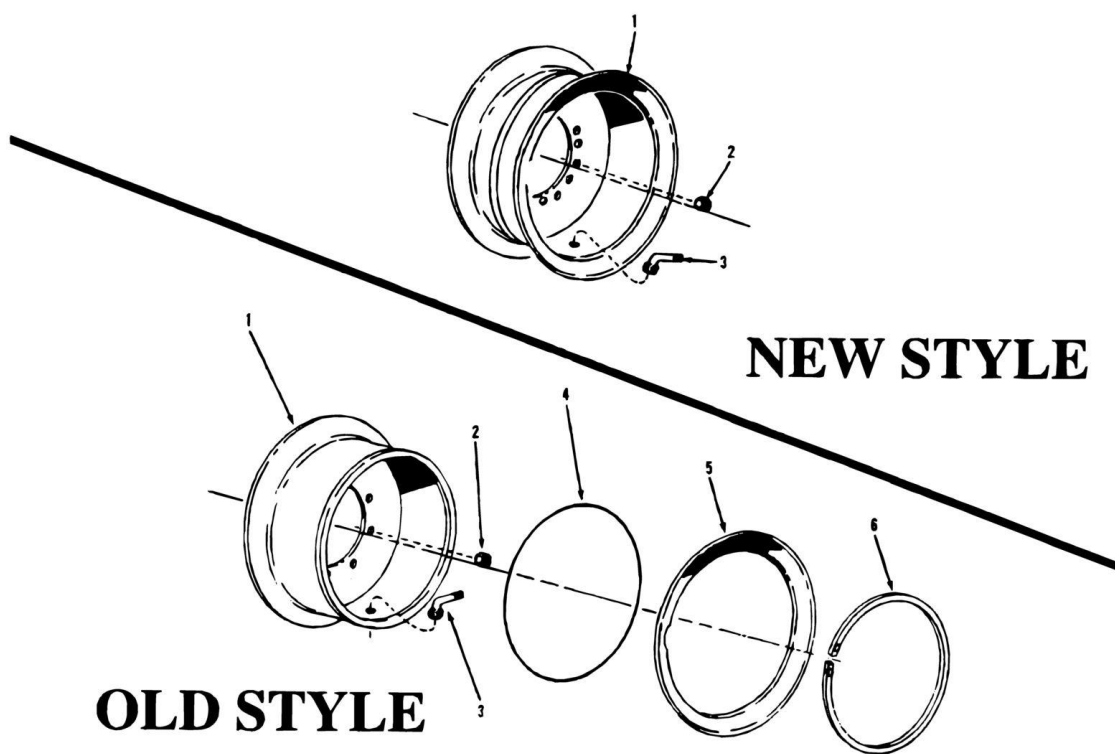
SECTION 5 - DRIVE TRAIN

FIGURE 5-29. WHEELS AND TIRES FRONT-STANDARD (SN 8744115G through 0144657, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043080	NLA	RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE, REPLACED BY 91033469)	
1	91033469	1	RIM, 9.00 X 24 (New One Piece Style)	
2	91043146	10	LUG NUT (lubricate and torque to 350-400 ft lbs)	
3	90200339	1	VALVE (air/liquid) NOTE: (USE WITH 91043080 ONLY)	
3	91083385	1	VALVE (air/liquid) (Use with 91033469)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	91033104	1	TIRE, 13.00 X 24, 12 PLY (not illustrated)	

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FIGURE 5-30. WHEELS AND TIRES REAR-STANDARD (SN 8744115G through 0144657, Including 8744079G)



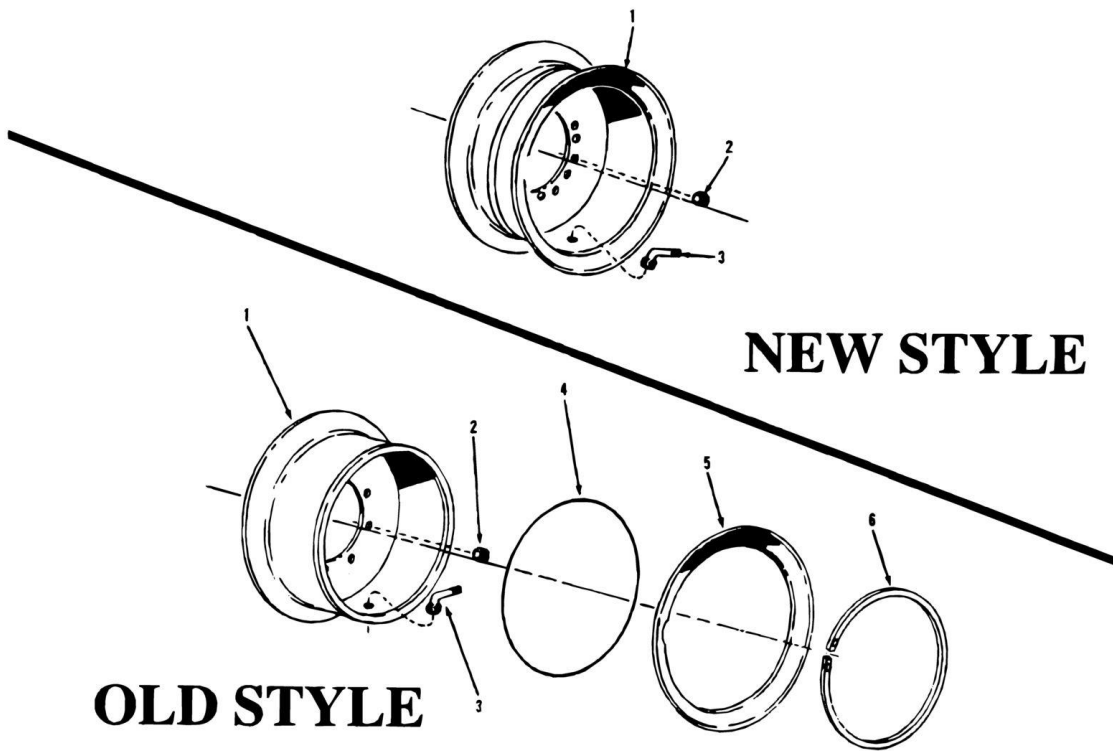
SECTION 5 - DRIVE TRAIN

FIGURE 5-30. WHEELS AND TIRES REAR-STANDARD (SN 8744115G through 0144657, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602638	NLA	RIM, 8.00 TG X 24 NOTE: (NO LONGER AVAILABLE REPLACED BY 91033467)	
1	91033467	1	RIM, 9.00 X 24 (New One Piece Style)	
2	90202141	10	LUG NUTS	
3	90200339	1	VALVE (air/liquid) NOTE: (USE WITH 90602638 ONLY)	
3	91083385	1	VAVLE (air/liquid) (Use with 91033467)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	90602040	1	TIRE, 13.00 X 24, 8 PLY (not illustrated)	
7	91033104	1	TIRE, 13.00 X 24, 12 PLY (not illustrated)	

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FIGURE 5-31. WHEELS AND TIRES FRONT-FLOATATION (SN 8744115G through 0144657, Including 8744079G)



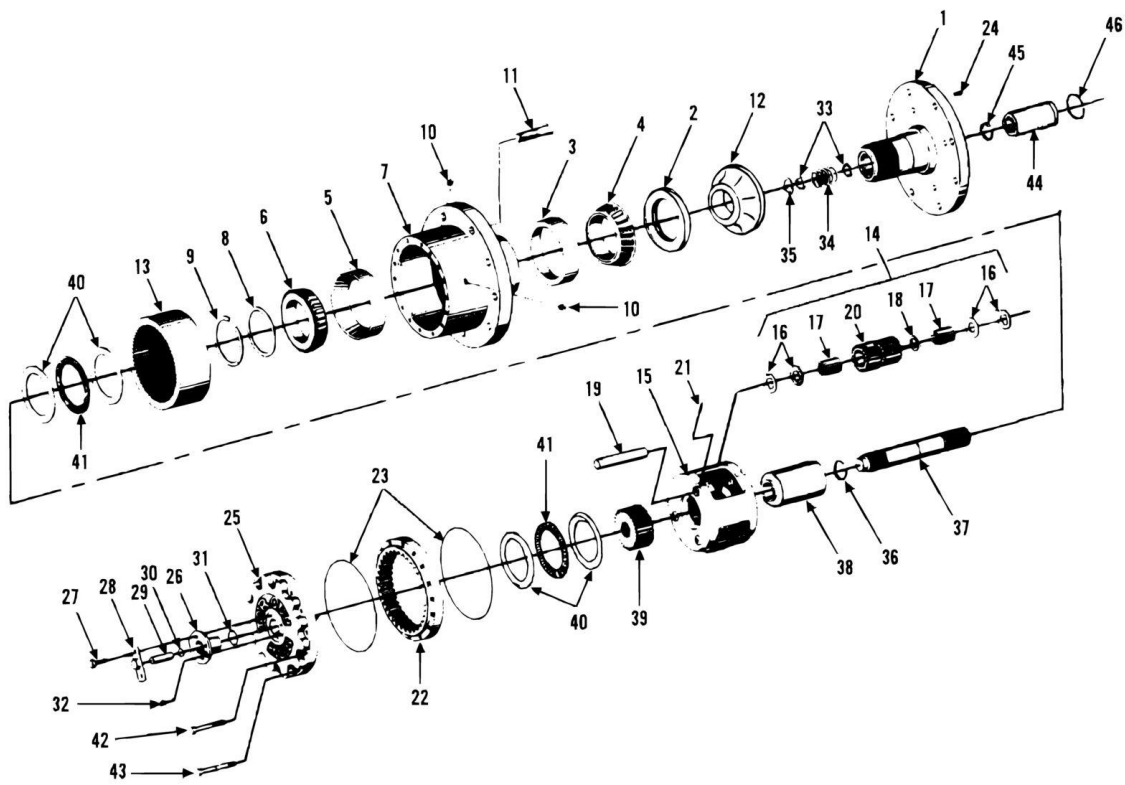
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FIGURE 5-31. WHEELS AND TIRES FRONT-FLOATATION (SN 8744115G through 0144657, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043081	1	RIM, 14.00 X 25	
2	91043146	10	LUG NUT (lubricate and torque to 350-400 ft lbs)	
3	90201452	1	VALVE (air/liquid)	
4	90201441	1	O-RING	
5	90201762	1	GUTTER RING	
6	90201766	1	LOCK RING	
7	90201439	1	TIRE, 17.5 X 25, 14 PLY (L-2 TRACTION REGULAR TREAD (not illustrated))	

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FIGURE 5-32. PLANETARY HUB (SN 8344001L to Present)



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FIGURE 5-32. PLANETARY HUB (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033095		PLANETARY HUB ASSY, (cast)	
	90206746		PLANETARY HUB ASSY, (steel)	
1	90208017	1	SPINDLE	
2	77124002	1	SEAL	
3	90202500	1	CUP BEARING	
4	90202501	1	CONE BEARING	
5	90202502	1	CUP BEARING	
6	90202503	1	CONE BEARING	
7	90202504	1	HUB, (steel)	
7	91034029	1	HUB, (cast)	
8	90202505	1	SPACER	
9	90202506	1	RETAINING RING	
10	90202507	1	PIPE PLUG	
11	90202508	10	WHEEL STUD, (for steel hub)	
11	91034028	10	WHEEL STUD, (for cast hub)	
12	90206761	1	SEAL BOOT	
13	90202509	1	INTERNAL GEAR	
14	90208018	1	CARRIER ASSY, (includes items 15 thru 21)	
15	90202511	1	CARRIER	
16	91034026	6	TAB WASHER	
16	91034027	6	BRASS THRUST WASHER	
17	90202513	84	NEEDLE BEARING	
18	91034158	3	SPACER	
19	90202515	3	PINION SHAFT	
20	91034122	3	CLUSTER GEAR KIT, (includes items 16, 18 & 21)	
21	90202517	3	ROLL PIN	
22	90208020	1	RING GEAR	
23	90202519	2	O-RING	
24	88221119	2	SOCKET SET SCREW, (cup point), 3/8-16X3/8	
25	90202521	1	COVER	
26	90202522	1	COVERCAP	
27	90202523	4	CAPSCREW	
28	90202524	1	DISCONNECT CAP	
29	90202525	1	DISCONNECT ROD	
30	90202526	1	O-RING	
31	90202527	1	O-RING	
32	90202528	1	PIPE PLUG	
33	90202531	2	WASHER	
34	90202532	1	SPRING	
35	90202533	1	RETAINING RING	
36	90202534	1	RETAINING RING	
37	90202536	1	INPUT SHAFT	
38	90202537	1	THRUST SPACER	
39	90208021	1	INPUT GEAR	
40	90202542	4	THRUST WASHER	
41	90202543	2	THRUST BEARING	
42	90202544	8	CAPSCREW	
43	90202545	4	SHOULDER BOLT	
44	90202546	1	COUPLING	
45	90202547	1	RETAINING RING	

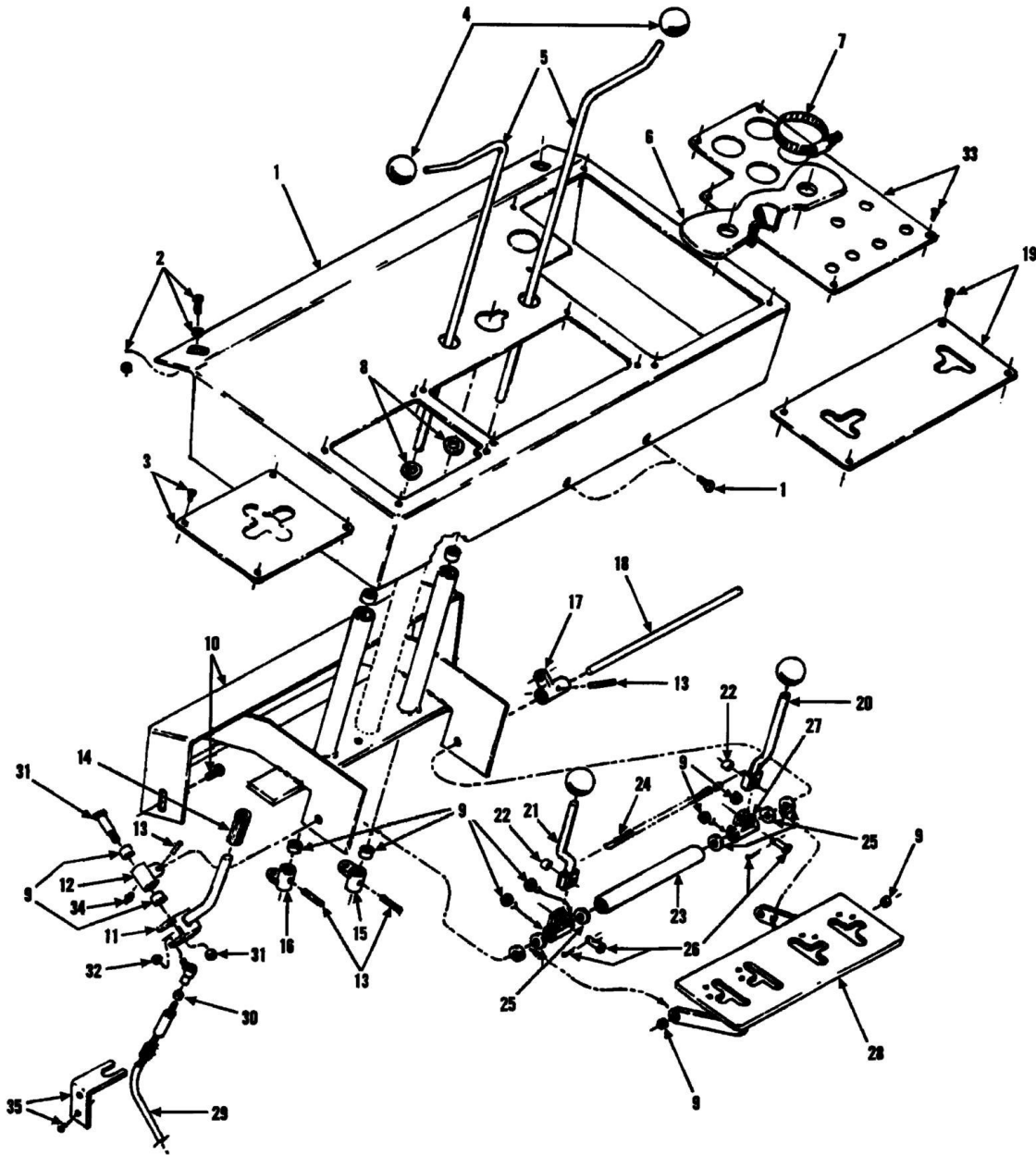
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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	90202548	1	RETIANING RING	

SECTION 6 - CONTROLS

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FIGURE 6-1. TRANSMISSION - TILT, AUXILIARY AND SWAY WITH MOUNTING PARTS (SN 8344001L to Present)



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FIGURE 6-1. TRANSMISSION - TILT, AUXILIARY AND SWAY WITH MOUNTING PARTS (SN 8344001L to Present)

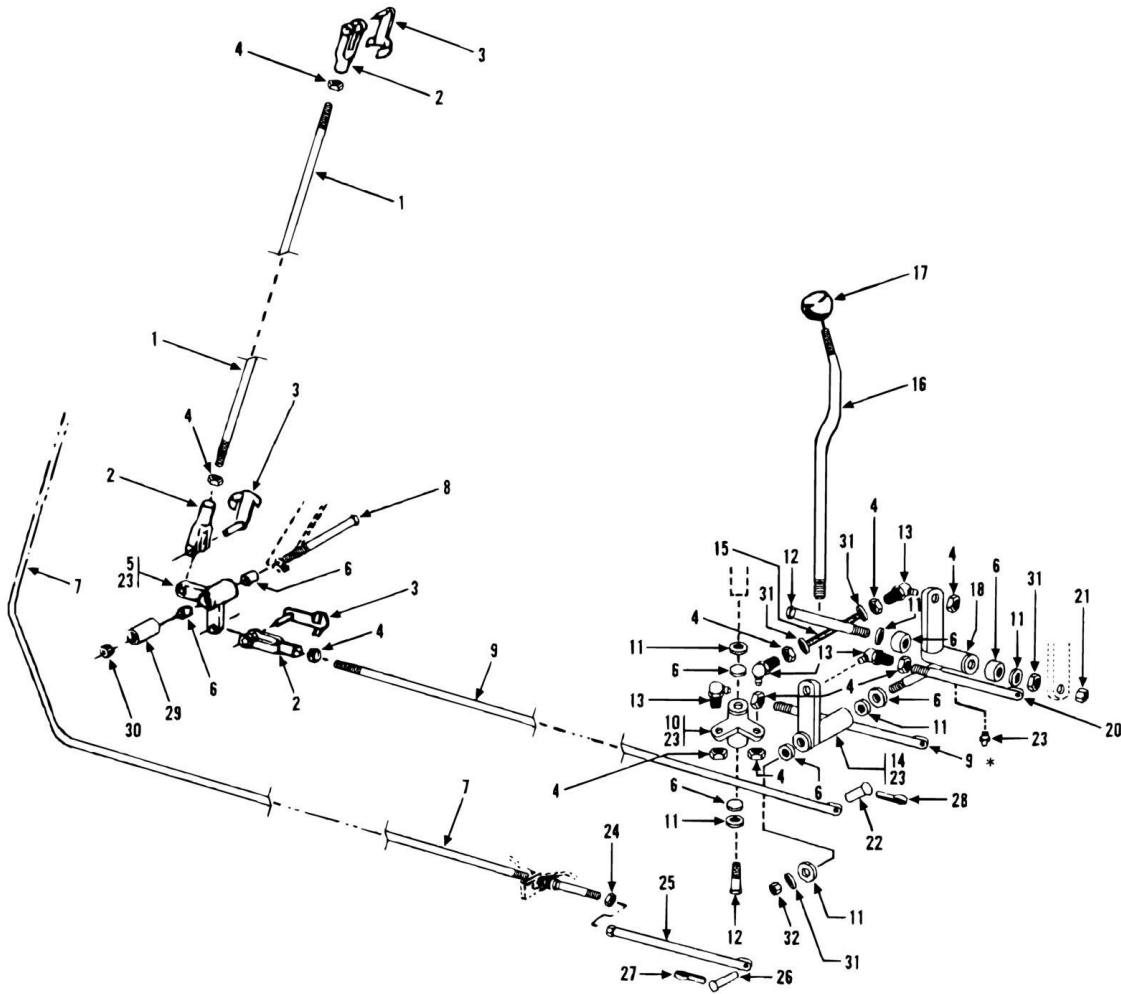
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602789	1	CONTROL AND INSTRUMENT PANEL	
1	90027319	2	SELF TAPPING SCREW	
2	77143004	2	WHIZ LOCK SCREW	
2	77143006	2	WHIZ LOCK NUT	
3	90207707	1	COVER PLATE	
3	88321015	4	SELF TAPPING SCREW, 6-32 X 1/2	
4	90200299	4	KNOB	
5	90205542	2	CONTROL ROD	
6	90402903	1	CONTROL ROD BRACKET	
7	90028695	1	CLAMP (bracket to steering column)	
8	90027472	2	HARDENED WASHER 5/8	
9	90200290	AR	NEEDLE BEARING	
10	90801213	1	CONTROL BRACKET	
10	88201065	2	HEX HD CAPSCREW 1/2-13 X 1 GR5	
11	90403406	1	CONTROL HANDLE	
12	90206859	1	BELLCRANK	
13	88631479	4	ROLL PIN	
14	90200774	1	HANDLE GRIP	
14	90206005	1	WINCH BUTTON	
15	90205973	1	BELLCRANK	
16	91036042	1	BELLCRANK	
17	90205541	1	BELL CRANK	
18	90205571	1	BELLCRANK SHAFT	
19	90206045	1	CONTROL PANEL	
19	88321015	4	SELF TAPPING SCREW 6-32 X 1/2	
20	90206128	1	CONTROL ROD	
21	90205981	1	CONTROL ROD	
22	90200688	2	CONTROL ROD BEARING	
23	90206222	1	SPACER	
24	90200559	1	SPRING	
25	88561113	6	FLAT WASHER 5/8	
26	90021557	2	CLEVIS PIN	
26	88631309	2	COTTER PIN 3/32 X 3/4	
27	90205983	2	BELLCRANK	
28	90402904	1	CONTROL PANEL	
29	90206861	1	CABLE (tilt sway control)	
30	90200406	1	BALL JOINT 3/8	
30	88501406	1	HEX JAM NUT 3/8-24	
30	86683117	1	BALL JOINT 5/16	
30	88501305	1	HEX NUT 5/16-24	
30	88551010	1	LOCKWASHER 5/16	
31	90203502	1	SHOULDER BOLT	
31	88501008	1	HEX NUT 1/2-13	
32	88501306	1	HEX NUT 3/8-24	
33	90403178	1	INSTRUMENT PANEL PLATE WAUKESHA (Prior to SN 8444491)	
33	91031102	1	INSTRUMENT PANEL PLATE PERKINS (SN 8444492 to Present)	
33	88321015	5	SELF TAPPING SCREW 6-32 X 1/2	
34	88671008	1	LUBE FITTING STRAIGHT 1/4-28	
35	91031013	1	CABLE BRACKET	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
35	88261030	2	SOCKET BUTTON HD CAPSCREW 3/8-16 X 1 1/4	
35	88501006	2	HEX NUT 3/8-16	

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FIGURE 6-2. BOOM TILT AND SWAY CONTROL (SN 8344001L to Present)



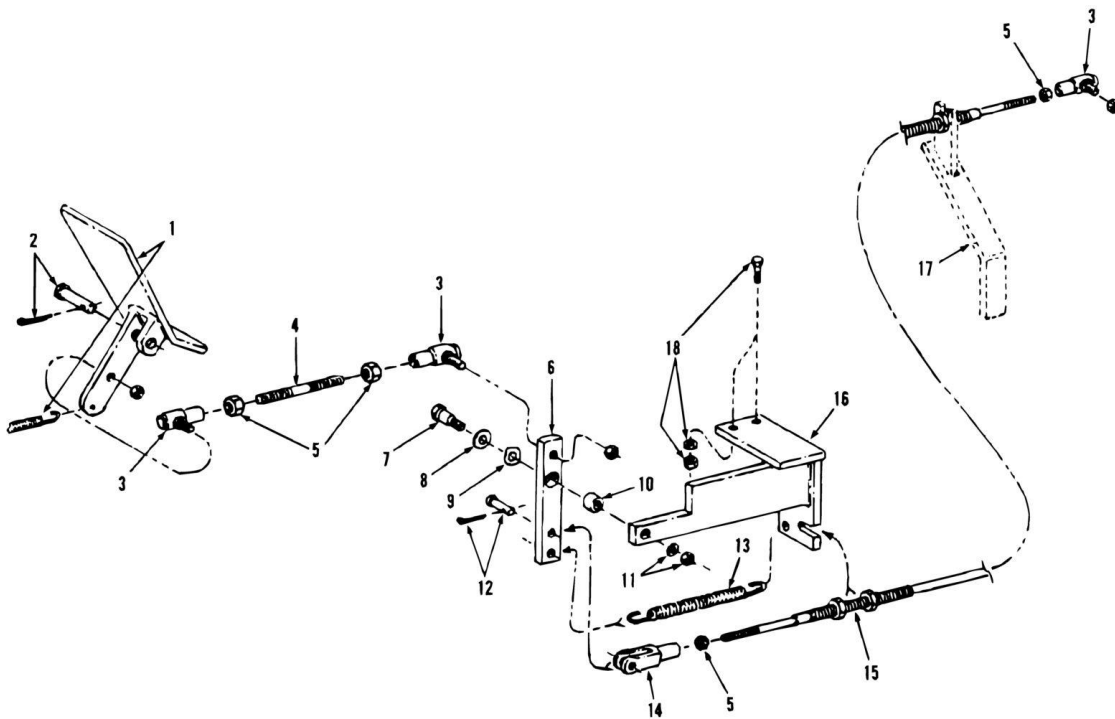
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FIGURE 6-2. BOOM TILT AND SWAY CONTROL (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90202361	1	CONTROL LINKAGE ROD (tilt)	
2	88821004	3	ADJUSTABLE YOKE END	
3	90027987	3	SPRING CLEVIS	
4	88501406	AR	HEX NUT, 3/8-24	
5	90205533	1	BELLCRANK	
6	90200290	8	NEEDLE SPRING	
7	90206861	1	TILT, SWAY CONTROL CABLE	
8	88201328	1	HEX HD CAPSCREW, 5/8-11X6-1/2, GR5	
9	91046051	1	LINKAGE ROD	
10	90205534	1	BELLCRANK	
11	90028662	6	WAVE WASHER	
12	90203502	2	SHOULDER BOLT	
13	90200406	4	BALL JOINT	
14	90205765	1	BELLCRANK	
15	90400543	1	STUD	
16	90205759	1	BOOM CONTROL HANDLE	
17	90200638	1	KNOB	
18	90205558	1	BELLCRANK	
19	91066021	1	LINKAGE ROD	
20	91066020	1	LINKAGE ROD	
21	88501108	1	HEX JAM NUT, 1/2-13	
22	90021552	4	CLEVIS PIN	
23	88671008	4	LUBE FITTING, STRAIGHT, 1/4-28	
24	88501305	1	HEX NUT	
25	91041236	1	CABLE END	
26	90021552	1	CLEVIS PIN	
27	88631302	1	COTTER PIN, 1-16X3/4	
28	88631301	4	COTTER PIN, 1/16X1/2	
29	90205580	1	SPACER (not require with auxiliary hydraulics option)	
30	88501010	2	HEX NUT, 5/8-11	
31	88561113	9	FLAT WASHER, #4	
32	88501110	1	HEX JAM NUT, 5/8-11	

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FIGURE 6-3. ACCELERATOR LINKAGE WAUKESHA ENGINE ONLY (SN 834001L through 8444490)



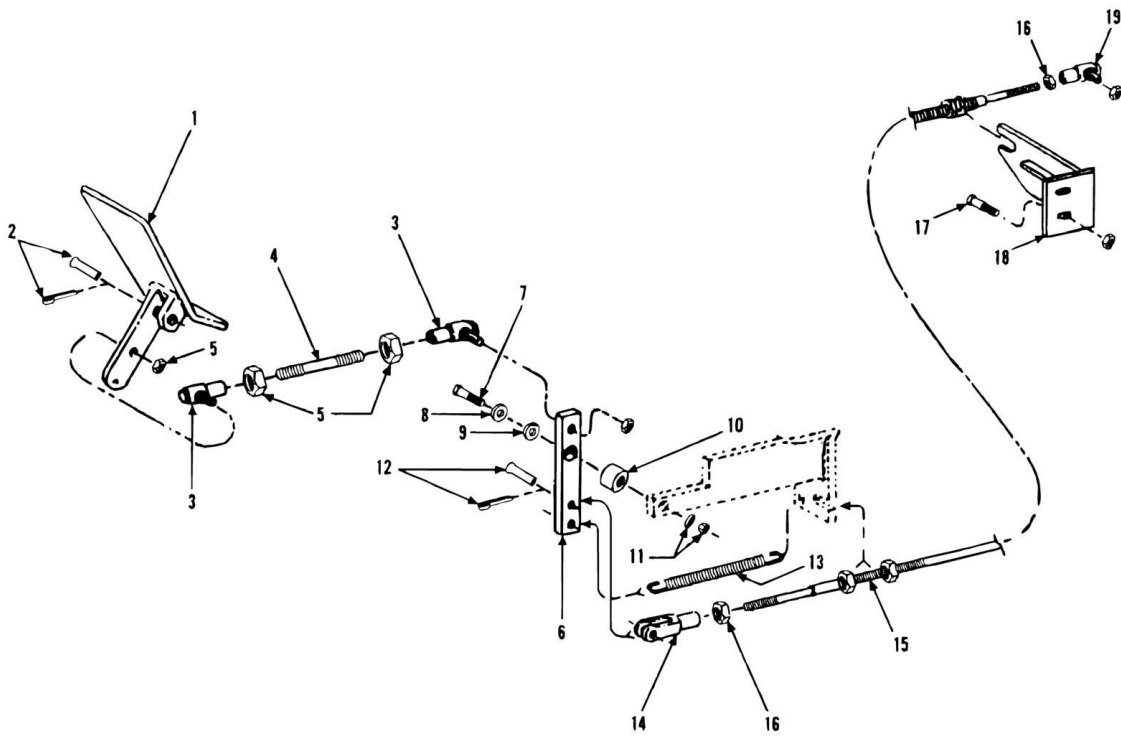
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FIGURE 6-3. ACCELERATOR LINKAGE WAUKESHA ENGINE ONLY (SN 834001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90200289	1	PEDAL, ACCELERATOR	
1	90200559	1	SPRING	
2	90021584	1	PIN, CLEVIS	
2	88631318	1	PIN, COTTER	
3	90027908	3	JOINT, BALL	
4	90207800	1	ROD, LINKAGE	
5	88501613	4	NUT, 10-32	
6	90207803	1	BELLCRANK	
7	90026492	1	BOLT, SHOULDER	
8	88561108	1	WASHER	
9	90028946	AR	WASHER,WAVE	
10	91033037	1	BEARING	
11	88501004	1	NUT	
11	88561111	1	WASHER	
12	90027685	1	PIN AND COTTER	
13	90207801	1	SPRING	
14	90028977	1	YOKE	
15	90200795	1	CABLE, ACCELERATOR	
16	90403424	1	BRACKET, ACCELERATOR CABLE	
17	90205971	1	BRACKET, ENGINE CABLE	
18	88201020	2	BOLT, 5/16-18X1	
18	88561108	2	WASHER, 5/16IN	
18	88501005	2	NUT, 5/16IN-18	

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FIGURE 6-4. ACCELERATOR LINKAGE PERKINS ENGINE ONLY (SN 844491 to Present)



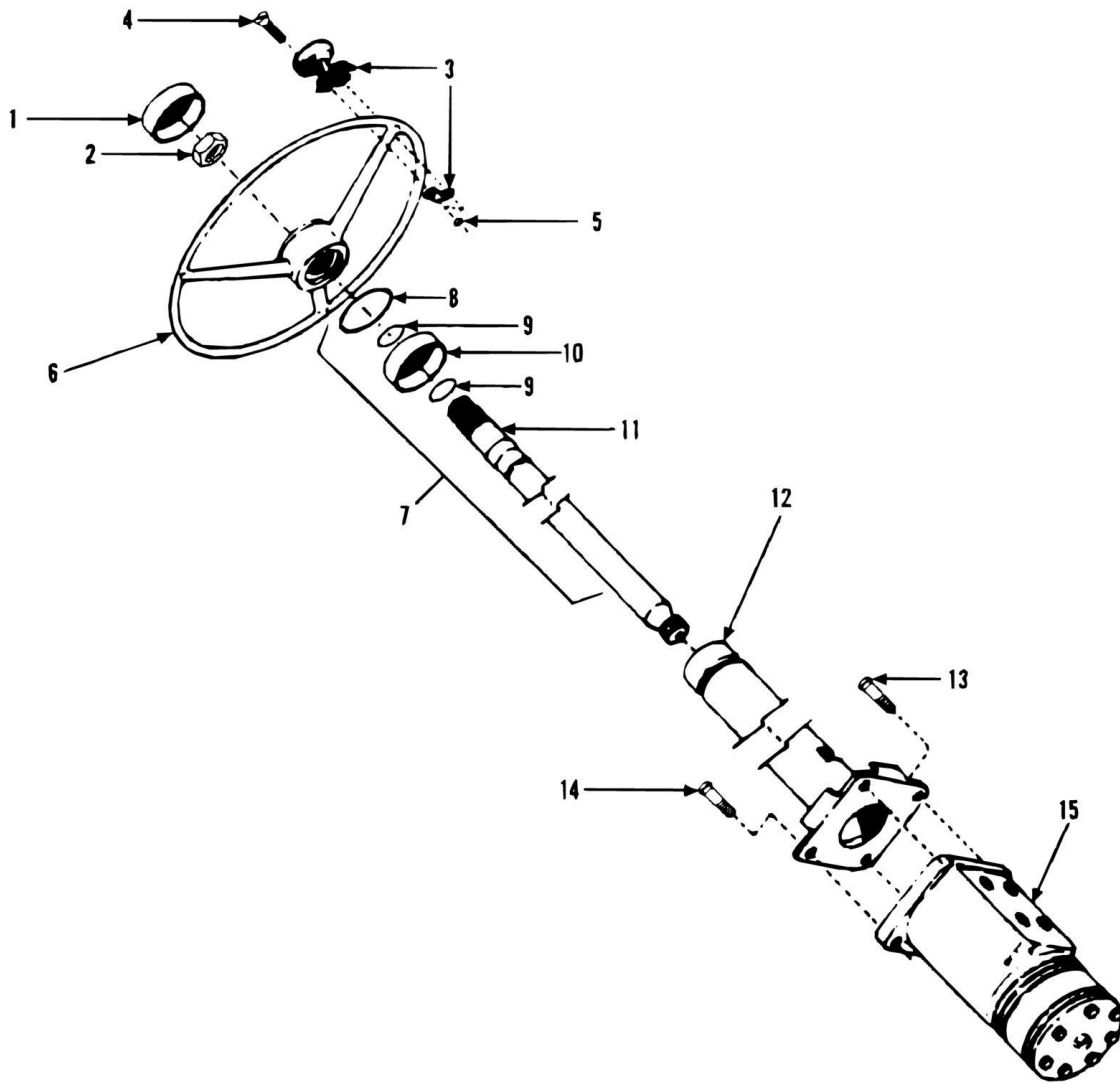
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FIGURE 6-4. ACCELERATOR LINKAGE PERKINS ENGINE ONLY (SN 8444491 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036022	1	ACCELERATOR PEDAL	
2	90021584	1	CLEVIS PIN	
2	88631318	1	COTTER PIN, 1/8X1	
3	86683118	2	BALL JOINT	
4	91031088	1	LINKAGE ROD	
5	88501404	2	HEX JAM NUT, 1/4-28	
6	91031087	1	BELLCRANK	
7	88251018	1	SOCKET HD SHOULDER SCREW, 3/8X1/2 (5/16-18 thd)	
8	88561109	1	FLAT WASHER, 3/8	
9	90028946	AR	WAVE WASHER	
10	91033281	1	BEARING	
11	88501105	1	HEAVY HEX JAM NUT, 5/16-18	
11	88561111	1	FLAT WASHER, 1/2	
12	90027685	1	PIN AND COTTER	
13	90207801	1	SPRING	
14	90028977	1	YOKE	
15	90200795	1	ACCELERATOR CABLE	
16	88501613	2	HEX NUT, #10-32	
17	88201021	2	HEX HD CAPSCREW, 5/16-18X1 1/4 GR5	
17	88521305	2	HEX LOCKNUT, 5/16-18	
18	91036014	1	CABLE BRACKET	
19	90027908	1	BALL JOINT	

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FIGURE 6-5. STEERING COLUMN (SN 8344001L to Present)



SECTION 6 - CONTROLS

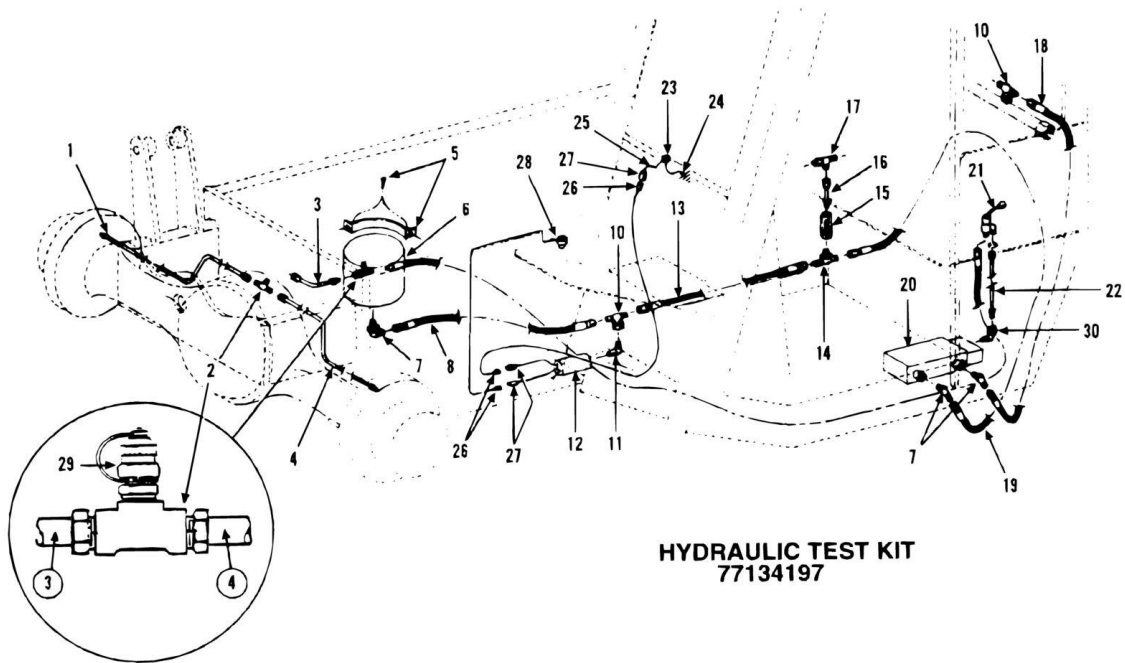
FIGURE 6-5. STEERING COLUMN (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90600274	1	STEERING CAP	
2	90200266	1	STEERING WHEEL NUT	
3	90202230	1	SPINNER KNOB (includes items 4 & 5)	
4	90020397	2	FLATHEAD SCREW, 1/4 NC X 1	
5	88501004	2	HEX NUT, 1/4-20	
6	90600273	1	STEERING WHEEL	
7	90600267	1	STEERING COLUMN (includes items 8-12)	
8	90201347	1	RETIANING RING	
9	90201346	2	RETIANING RING	
10	90201348	1	BEARING	
11	90201349	1	SHAFT	
12	90201350	1	TUBE AND FLANGE	
13	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
14	88201033	1	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
15	90206762	1	ORBITROL	
15	90206567	1	ORBITROL SEAL KIT	

SECTION 7 - BRAKES

SECTION 7 - BRAKES

FIGURE 7-1. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



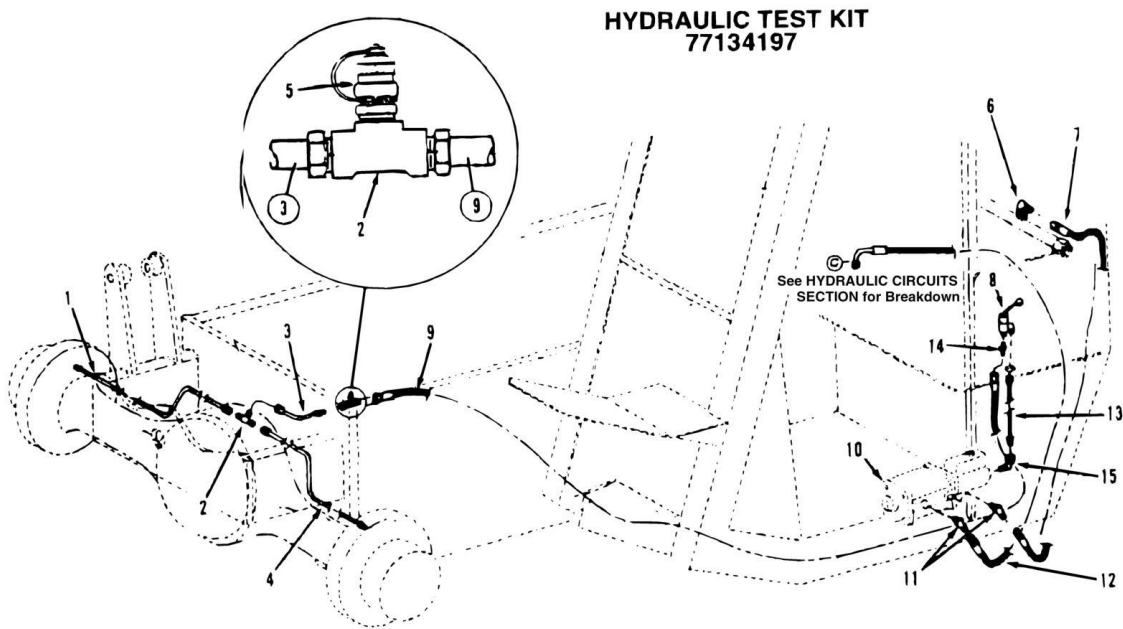
SECTION 7 - BRAKES

FIGURE 7-1. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207851	1	TUBE ASSEMBLY	
2	90200437	2	TEE	
3	90207853	1	TUBE ASSEMBLY	
4	90207852	1	TUBE ASSEMBLY	
5	90207834	1	CLAMP	
5	88201031	2	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
6	90207816	1	ACCUMULATOR	
7	88662065	3	ELBOW - 90, (includes o-ring)	
7	88591205	3	O-RING	
8	90207838	1	HIGH PRESSURE HOSE	
9	91033245	1	HIGH PRESSURE HOSE	
10	88662224	2	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
11	88743043	1	MALE ELBOW - 90, 1/4X3/8 TUBE	
12	90207823	1	BRAKE SWITCH	
13	90207839	1	HIGH PRESSURE HOSE	
14	88662153	1	BRANCH TEE (includes o-ring)	
14	88591205	1	O-RING	
15	90202926	1	CHECK VALVE	
16	90400527	1	ADAPTER	
17	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
18	90207836	1	HYDRAULIC HOSE	
19	90207837	1	HYDRAULIC HOSE	
20	91033275	1	BRAKE BOOSTER (See SERVICE BRAKE-SOMA AXLE for Breakdown)	
20	90207856	1	GASKET	
21	90400835	1	MICO LOCK BRAKE CONTROL (includes decals)	
22	90207854	1	TUBE ASSEMBLY	
22	90207855	1	PLUG	
23	90200192	1	WARNING LIGHT	
24	90200349	1	GROUND WIRE	
25	90207857	1	WIRE	
26	90028960	3	MALE CONNECTOR	
27	90028959	3	FEMALE CONNECTOR	
28	89031425	1	EYE CONNECTOR	
29	91033033	1	MINI-CHECK	
30	90027970	1	ELBOW-90, (swivel)	

SECTION 7 - BRAKES

FIGURE 7-2. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES PERKINS ENGINE ONLY (SN 83444491 through 8744114G, Excluding 8744079G)



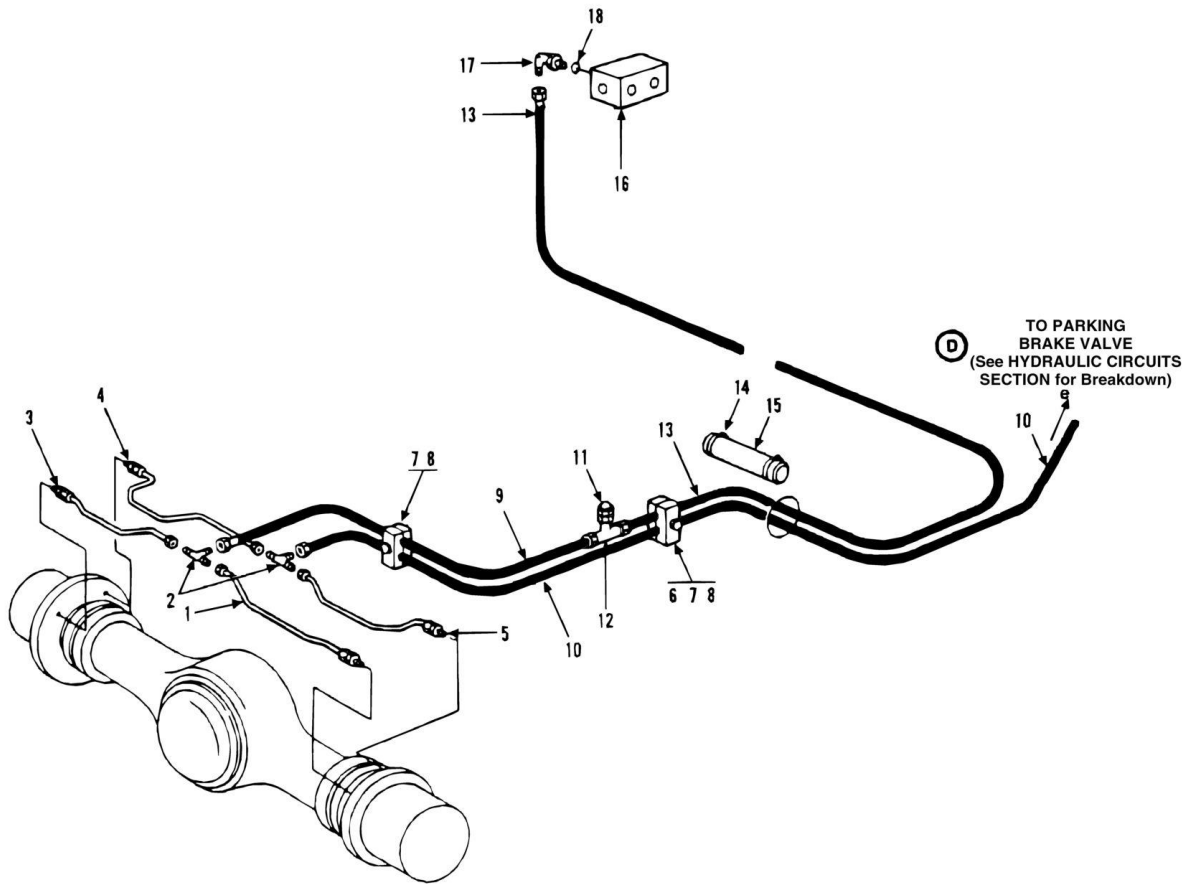
SECTION 7 - BRAKES

FIGURE 7-2. BRAKE BOOSTER HYDRAULICS AND BRAKE LINES PERKINS ENGINE ONLY (SN 83444491 through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207851	1	TUBE ASSEMBLY	
2	90200437	2	TEE	
3	90207853	1	TUBE ASSY	
4	90207852	1	TUBE ASSY	
5	91033033	1	MINI-CHECK	
6	88662105	1	ELBOW - 90, (swivel nut)	
7	90207836	1	HYDRAULIC HOSE	
8	90400835	1	MICO LOCK BRAKE CONTROL (includes decals) (See PARKING BRAKE CONTROL (MICO LOCK) for Breakdown)	
9	91033245	1	HIGH PRESSURE HOSE	
10	91033275	1	BRAKE BOOSTER (See SERVICE BRAKE-SOMA AXLE for Breakdown)	
10	90207856	2	GASKET	
10	90207855	2	PLUG	
11	88662065	2	ELBOW - 90, (includes o-ring)	
11	88591205	2	O-RING	
12	84717604	1	HOSE ASSY	
13	90207854	1	TUBE ASSY	
14	90027769	1	STRAIGHT ADAPTER	
15	90027970	1	ELBOW - 90, (swivel)	

SECTION 7 - BRAKES

FIGURE 7-3. HYDRAULICS AND SERVICE BRAKE LINES (SN 8344115G to Present, Including 8744079G)



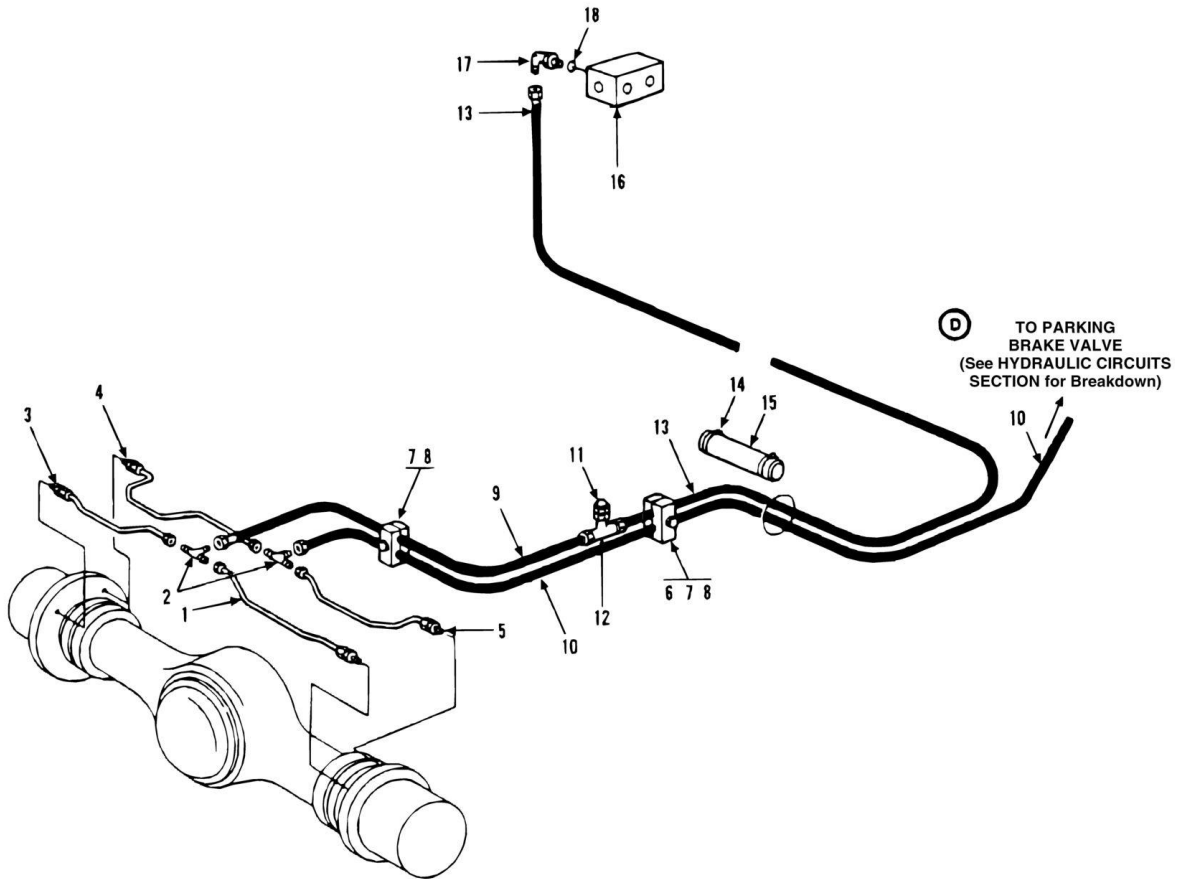
SECTION 7 - BRAKES

FIGURE 7-3. HYDRAULICS AND SERVICE BRAKE LINES (SN 8344115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043188	1	TUBE ASSY	
2	88661305	2	UNION TEE, 3/8 TUBE	
3	91043072	1	TUBE ASSY	
4	91043189	1	TUBE ASSY	
5	91043190	1	TUBE ASSY	
6	77133177	2	HEX HD CAPSCREW	
7	77133140	2	COVER PLATE	
8	77133139	2	CLAMP SET	
9	84717524	1	HOSE ASSY	
10	84717522	1	HOSE ASSY	
11	91033032	1	MINI-CHECK COUPLING	
12	91043091	1	FEMALE BRACH TEE	
13	84717523	1	HOSE ASSY	
14	90027178	6	NYLON HOSE TIE	
15	91041258	3	SLOTTED HOSE	
16	91033307	REF	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	88662064	1	ELBOW, 90, (includes item 18)	
18	88591204	1	O-RING	

SECTION 7 - BRAKES

FIGURE 7-4. HYDRAULICS AND SERVICE BRAKE LINES (SN 0144452 to Present)



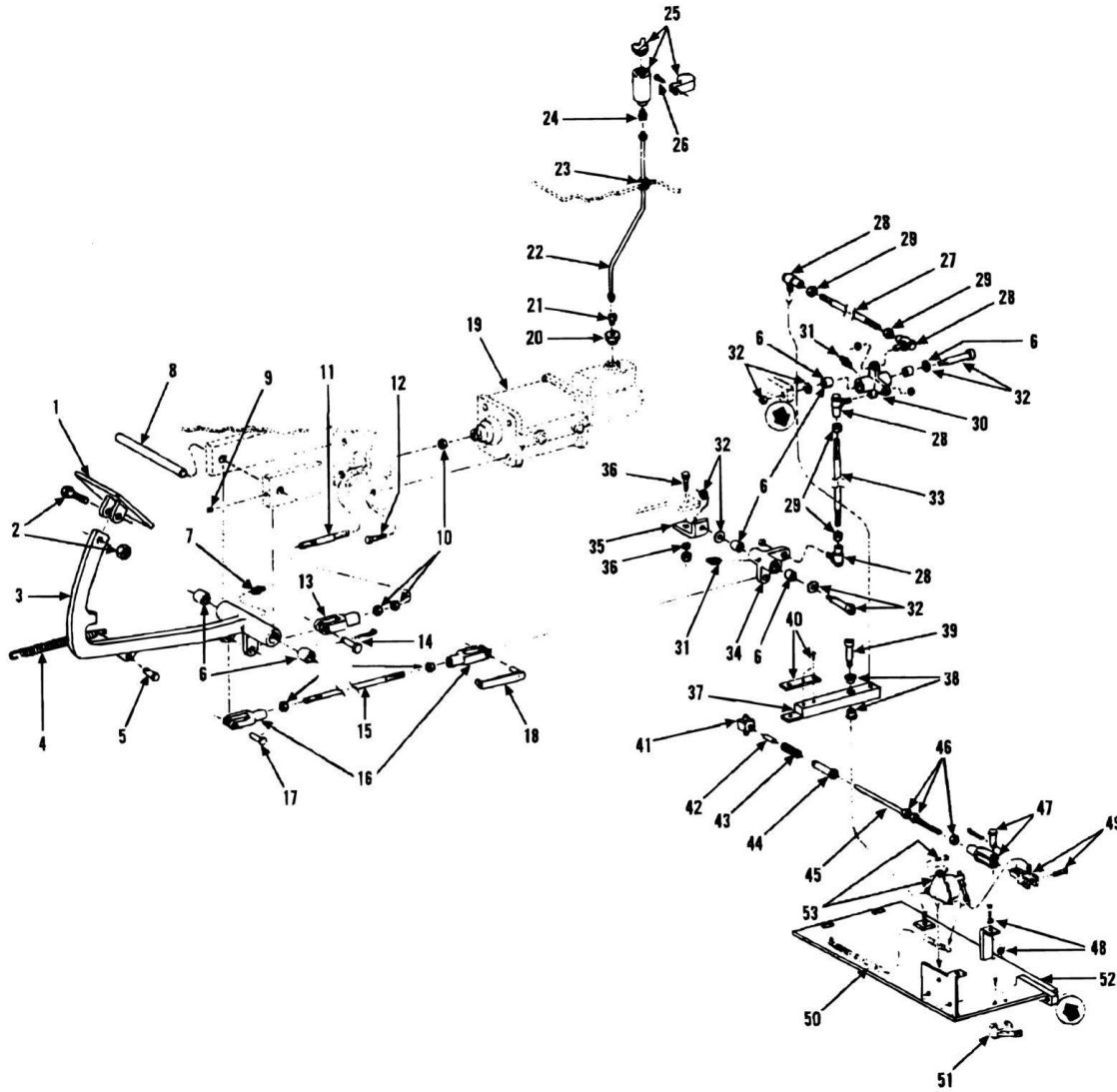
SECTION 7 - BRAKES

FIGURE 7-4. HYDRAULICS AND SERVICE BRAKE LINES (SN 0144452 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043188	1	TUBE ASSY	
2	88661305	2	UNION TEE, 3/8 TUBE	
3	91043072	1	TUBE ASSY	
4	91043189	1	TUBE ASSY	
5	91043190	1	TUBE ASSY	
6	77133177	2	HEX HD CAPSCREW	
7	77133140	2	COVER PLATE	
8	77133139	2	CLAMP SET	
9	84717524	1	HOSE ASSY	
10	84717522	1	HOSE ASSY	
11	91033032	1	MINI-CHECK COUPLING	
12	91043091	1	FEMALE BRACH TEE	
13	84717523	1	HOSE ASSY	
14	90027178	6	NYLON HOSE TIE	
15	91041258	3	SLOTTED HOSE	
16	91033307	REF	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	88662064	1	ELBOW, 90, (includes item 18)	
18	88591204	1	O-RING	

SECTION 7 - BRAKES

FIGURE 7-5. BRAKE AND INCHING LINKAGE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



SECTION 7 - BRAKES

FIGURE 7-5. BRAKE AND INCHING LINKAGE WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)

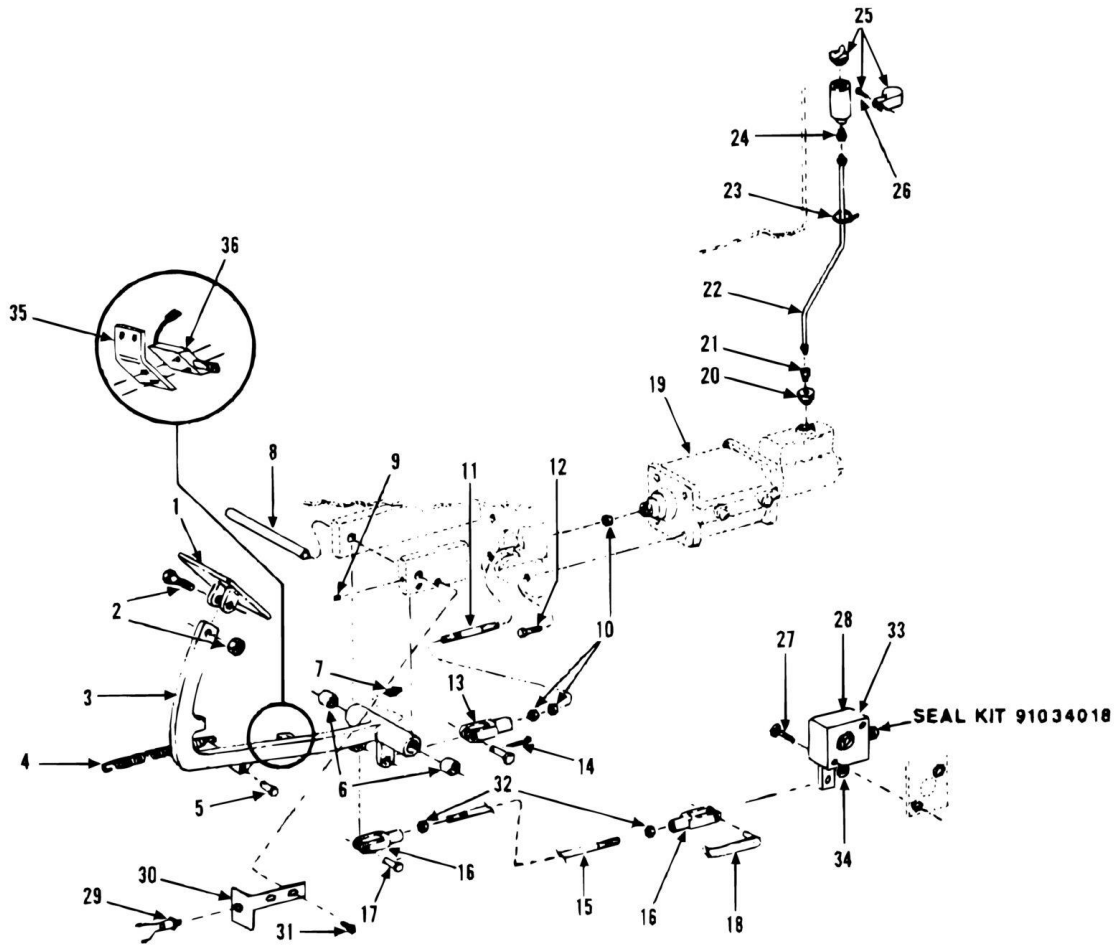
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90201463	1	BRAKE PEDAL	
2	88201068	1	HEX HD CAPSCREW, 1/2-13X1-3/4 GR5	
2	88501008	1	HEX NUT, 1/2-13	
3	90403371	1	BRAKE LEVER	
4	90200559	2	SPRING	
5	90021553	1	CLEVIS PIN	
6	90200290	6	BEARING	
7	88671008	3	LUBE FITTING - STRAIGHT 1/4-28	
8	90201562	1	PIN	
9	88401001	2	SQ HD SET SCREW (cup point) 1/4-20X1/2	
10	88501408	5	HEX JAM NUT, 1/2-20	
11	90207835	1	SLIP ROD	
12	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4 GR5	
13	91033237	1	SLIP YOKE	
14	90021553	1	PIN	
14	88631318	1	COTTER PIN, 1/8X1	
15	90207766	1	ROD	
16	88821004	2	ADJUSTABLE YOKE END	
17	90021558	1	CLEVIS PIN	
18	90027987	1	SPRING CLEVIS	
19	91033275	1	BRAKE BOOSTER (See SERVICE BRAKE-SOMA AXLE for Breakdown)	
20	90207887	1	CAP	
21	90027769	1	FITTING	
22	N.S.S.	36 in	NYLON TUBE LINE, 3/8IN	
23	90202303	1	GROMMET	
24	90027769	1	FITTING	
25	90207888	1	RESERVOIR FILL KIT	
26	88201032	1	HEX HD CAPSCREW, 3/8-16X5/8 GR5	
26	88561109	1	FLATWASHER, 3/8	
27	90207768	1	ROD	
28	90200406	4	BALL JOINT	
29	88501406	6	HEX JAM NUT, 3/8-24	
30	90207805	1	BELLCRANK	
31	88671008	2	LUBE FITTING - STRAIGHT 1/4-28	
32	90203502	2	SHOULDER BOLT	
32	88561113	4	FLATWASHER, 5/8	
32	90028662	AR	WAVE WASHER	
32	88501108	2	HEX NUT, 1/2-13	
33	90207767	1	ROD	
34	90207833	1	BELLCRANK	
35	90207769	1	BELLCRANK MOUNTING BRACKET	
36	88201066	1	HEX HD CAPSCREW, 1/2-13X1-1/4 GR5	
36	85401340	1	WASHER, 1/2	
36	88501008	1	HEX NUT, 1/2-13	
37	90403415	1	PIVOT ARM	
38	90028971	2	BUSHING	
39	90026511	1	SHOULDER BOLT	
40	90207745	1	TOP PLATE	

SECTION 7 - BRAKES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
40	88201005	2	HEX HD CAPSCREW, 1/4-20X1 GR5	
41	90207742	1	SWIVEL	
42	91033007	1	BUSHING	
43	90208214	1	SPRING	
44	90208213	1	SPRING GUIDE	
45	90207743	1	SLIP ROD	
46	88501304	3	HEX NUT, 1/4-28	
47	90027684	1	CLEVIS AND PIN YOKE	
48	88201005	4	HEX HD CAPSCREW, 1/4-20X1 GR5	
48	88561107	4	FLAT WASHER, 1/4	
48	88501004	4	HEX NUT, 1/4-20	
49	90207750	1	LINK	
49	90028974	1	CLEVIS PIN	
50	90207753	1	SPRING	
51	90200616	1	MICRO SWITCH	
51	90028962	2	NUT	
52	90602897	1	INCHING BASE PLATE	
53	90207752	1	POTENTIOMETER (mounting inst. dwg. 90602899)	
53	90020494	3	BOLT	
53	90028976	3	WASHER	
53	90028975	3	NUT	
		Ref	91035070 Waukesha inching kit. Used to provide improved inching system for Waukesha powered machines.	
		Ref	91035111 Perkins inching kit. Used to provide updated inching system when changing from Waukesha to Perkins engine. Microswitch kit 91035110 must be used in conjunction with this kit.	

SECTION 7 - BRAKES

FIGURE 7-6. BRAKE AND INCHING LINKAGE PERKINS ENGINE ONLY (SN 8444491 through 8744114G, Excluding 8744079G)



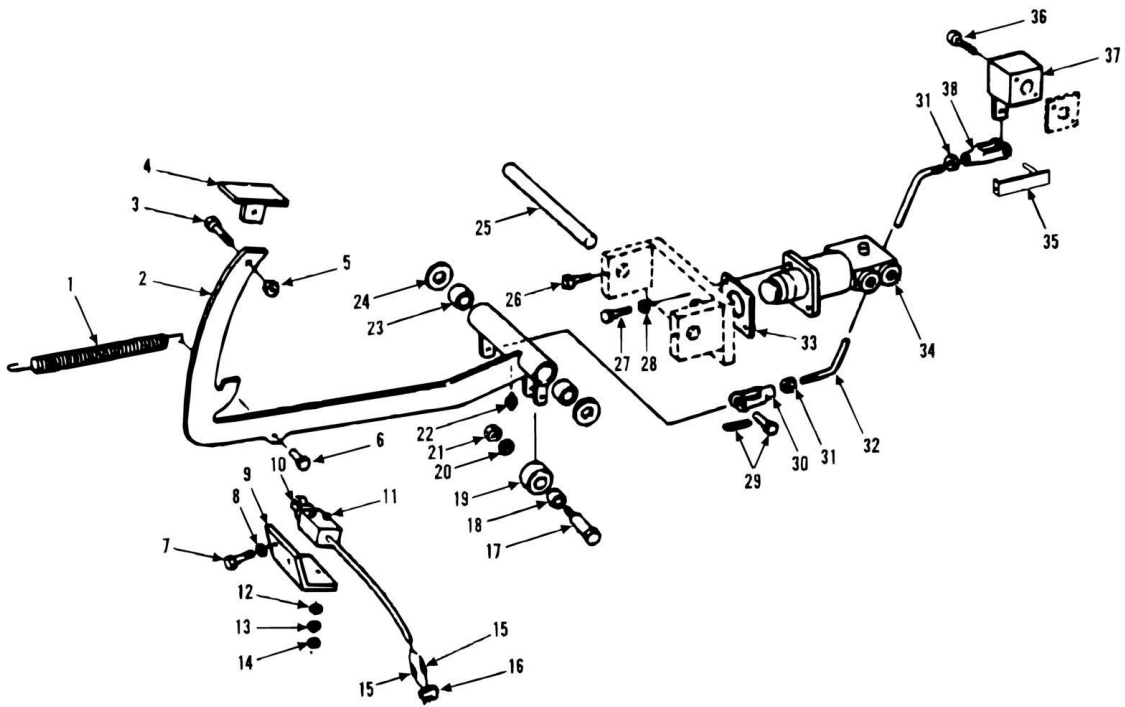
SECTION 7 - BRAKES

FIGURE 7-6. BRAKE AND INCHING LINKAGE PERKINS ENGINE ONLY (SN 8444491 through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90201463	1	BRAKE PEDAL	
2	88201068	1	HEX HD CAPSCREW, 1/2-13X1-3/4 GR5	
2	88501008	1	HEX NUT, 1/2-13	
3	90403371	1	BRAKE LEVER	
4	90200559	2	SPRING	
5	90021553	1	CLEVIS PIN	
6	90200290	6	BEARING	
7	88671008	3	LUBE FITTING - STRAIGHT 1/4-28	
8	90201562	1	PIN	
9	88441001	2	SQUARE HD SET SCREW (cup point) 1/4-20x1/2	
10	88501408	5	HEX JAM NUT, 1/2-20	
11	90207835	1	SLIP ROD	
12	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4 GR5	
13	91033237	1	SLIP YOKE	
14	90021553	1	PIN	
14	88631318	1	COTTER PIN, 1/8X1	
15	91031085	1	ROD	
16	88821004	2	ADJUSTABLE YOKE END	
17	90021558	1	CLEVIS PIN	
18	90027987	1	CLEVIS SPRING	
19	91033275	1	BRAKE BOOSTER (See BRAKE CYLINDER AND BOOSTER for Breakdown)	
20	90207887	1	CAP	
21	90027769	1	FITTING	
22	N.S.S.	36 in	NYLON TUBE LINE, 3/8IN	
23	90027187	1	TRAP	
24	90027769	1	FITTING	
25	90207888	1	RESERVOIR FILL KIT	
26	88201032	1	HEX HD CAPSCREW, 3/8-16X5/8 GR5	
26	88561109	1	FLAT WASHER, 3/8	
27	88201008	2	HEX HD CAPSCREW, 1/4-20x1-3/4 GR5	
27	88501004	2	HEX NUT, 1/4-20	
28	91033096	1	INCHING VALVE	
29	91033098	1	TRANS DISCONNECT SWITCH (SN 8444491 through 8544670)	
30	91031084	1	SWITCH BRACKET (SN 8444491 through 8544670)	
31	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2 GR5	
31	88561004	2	FLAT WASHER, 3/8	
31	88501006	2	HEX NUT, 3/8-16	
32	88501406	2	HEX JAM NUT, 3/8-24	
33	83193008	1	METRIC ELBOW	
34	83193009	1	METRIC ADAPTER	
35	91031232	1	SWITCH BRACKET (SN 8544671 to Present)	
36	91033439	1	TRANS DISCONNECT SWITCH (SN 8544671 to Present)	

SECTION 7 - BRAKES

FIGURE 7-7. BRAKE PEDAL AND INCHING LINKAGE (SN 8744115G to Present, Including 8744079G)



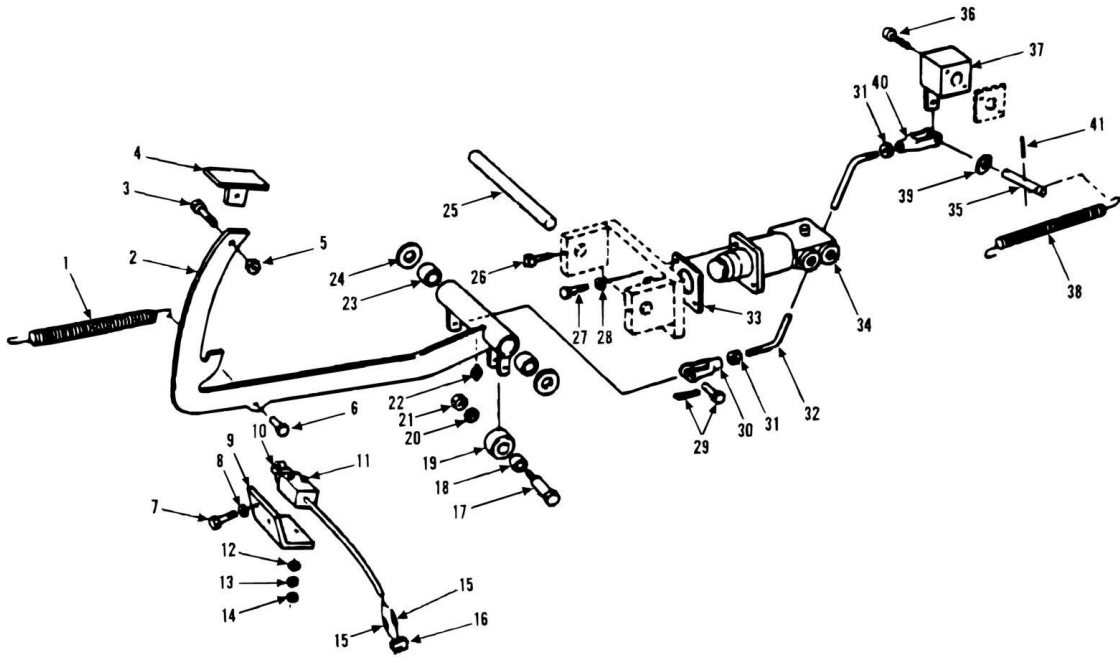
SECTION 7 - BRAKES

FIGURE 7-7. BRAKE PEDAL AND INCHING LINKAGE (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043154	1	RETURN SPRING	
2	91046057	1	BRAKE LEVER WELDMENT	
3	88201068	1	HEX HD CAPSCREW, 1/2-13X1 3/4 GR5	
4	90201463	1	PEDAL WELDMENT	
5	88501008	1	HEX NUT, 1/2-13	
6	88633002	1	YOKE PIN, 5/16	
7	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
8	88551009	2	LOCKWASHER, 1/4	
9	91031232	1	SWITCH MOUNTING BRACKET	
10	91033439	1	TRANSMISSION DISCONNECT SWITCH	
11	88211032	2	SOCKET HD CAPSCREW, #10-24, GR8	
12	88561105	2	FLAT WASHER, #10	
13	88551007	2	LOCKWASHER, #10	
14	88501612	2	HEX NUT, #10-24	
15	86683480	2	CRIMP ON CONNECTOR	
16	83483114	1	MALE CONNECTOR	
17	88251023	1	SOCKET HD SHOULDER SCREW 3/8X1 1/2, 5/16-18 THREAD	
18	91043086	1	BEARING	
19	91041196	1	ROLLER	
20	88551010	1	LOCKWASHER, 5/16	
21	88501005	1	HEX NUT, 5/16-18	
22	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
23	90200290	2	BEARING	
24	90028662	2	WASHER	
25	90201562	1	PIN	
26	88441001	2	SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)	
27	83191028	2	HEX HD CAPSCREW, M8X1.25	
28	83191011	2	LOCKWASHER, M8	
29	90021558	1	CLEVIS PIN AND COTTER PIN	
30	88821004	2	ADJUSTABLE YOKE END, 3/8-24	
31	88501406	6	HEX JAM NUT, 5/16-24	
32	91031085	1	ROD	
33	91041197	2	SHIM	
34		Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
35	90027987	1	CLEVIS SPRING	
36	88212228	2	SOCKET HD CAPSCREW, 5/16-18X1 1/4, GR8	
37	91033096	1	INCHING VALVE	
37	91034018	1	INCHING VALVE SEAL KIT	

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FIGURE 7-8. BRAKE PEDAL AND INCHING LINKAGE (SN 0144337H to Present)



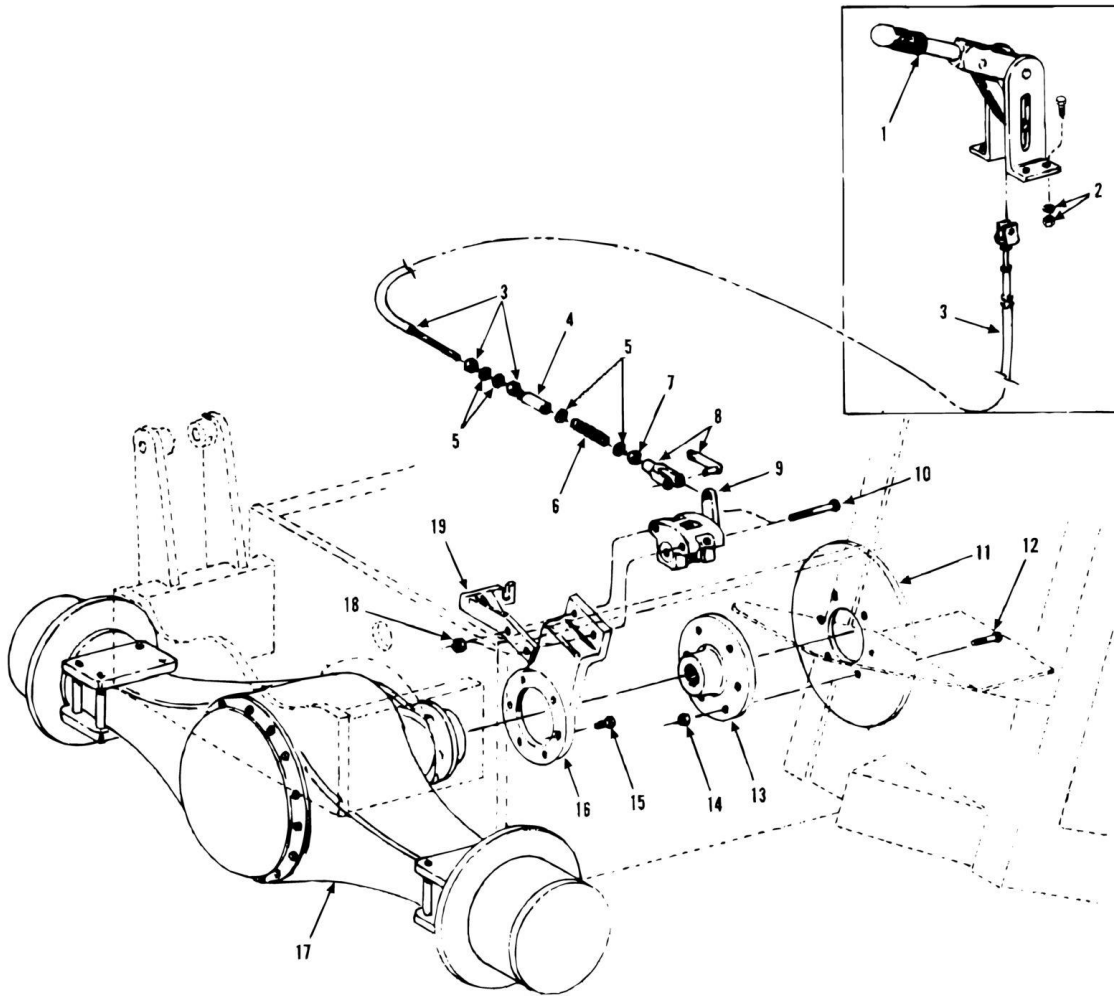
SECTION 7 - BRAKES

FIGURE 7-8. BRAKE PEDAL AND INCHING LINKAGE (SN 0144337H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043214	1	RETURN SPRING	
2	91046083	1	BRAKE LEVER WELDMENT	
3	88201068	1	HEX HD CAPSCREW, 1/2-13X1-3/4 GR5	
4	90201463	1	PEDAL WELDMENT	
5	88501008	1	HEX NUT, 1/2-13	
6	91041402	1	SPECIAL CLEVIS PIN	
7	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
8	88551009	2	LOCKWASHER, 1/4	
9	91041431	1	SWITCH MOUNTING BRACKET	
10	91033439	1	TRANSMISSION DISCONNECT SWITCH	
11	88211032	2	SOCKET HD CAPSCREW, #10-24, GR8	
12	88561105	2	FLAT WASHER, #10	
13	88551007	2	LOCKWASHER, #10	
14	88501612	2	HEX NUT, #10-24	
15	86683480	2	CRIMP ON CONNECTOR	
16	83483114	1	MALE CONNECTOR	
17	88251023	1	SOCKET HD SHOULDER SCREW 3/8X1-1/2, 5/16-18 THREAD	
18	91043086	1	BEARING	
19	91041196	1	ROLLER	
20	88551010	1	LOCKWASHER, 5/16	
21	88501005	1	HEX NUT, 5/16-18	
22	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
23	90200290	2	BEARING	
24	90028662	2	WASHER	
25	90201562	1	PIN	
26	88441001	2	SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)	
27	83191028	2	HEX HD CAPSCREW, M8X1.25	
28	83191011	2	LOCKWASHER, M8	
29	90021558	1	CLEVIS PIN AND COTTER PIN	
30	88821004	2	ADJUSTABLE YOKE END, 3/8-24	
31	88501406	6	HEX JAM NUT, 5/16-24	
32	91031085	1	ROD	
33	91041197	2	SHIM	
34		Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
35	91041425	1	SPECIAL CLEVIS PIN	
36	88212228	2	SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8	
37	91033096	1	INCHING VALVE	
37	91034018	1	INCHING VALVE SEAL KIT	
38	90207801	1	SPRING	
39	88561004	1	FLAT WASHER, 3/8	
40	91041424	1	SPECIAL YOKE END	
41	88631303	1	COTTER PIN, 1/16X1	

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FIGURE 7-9. PARKING BRAKE AND CONTROL (SN 8344001L through 8744114G, Excluding 8744079G)



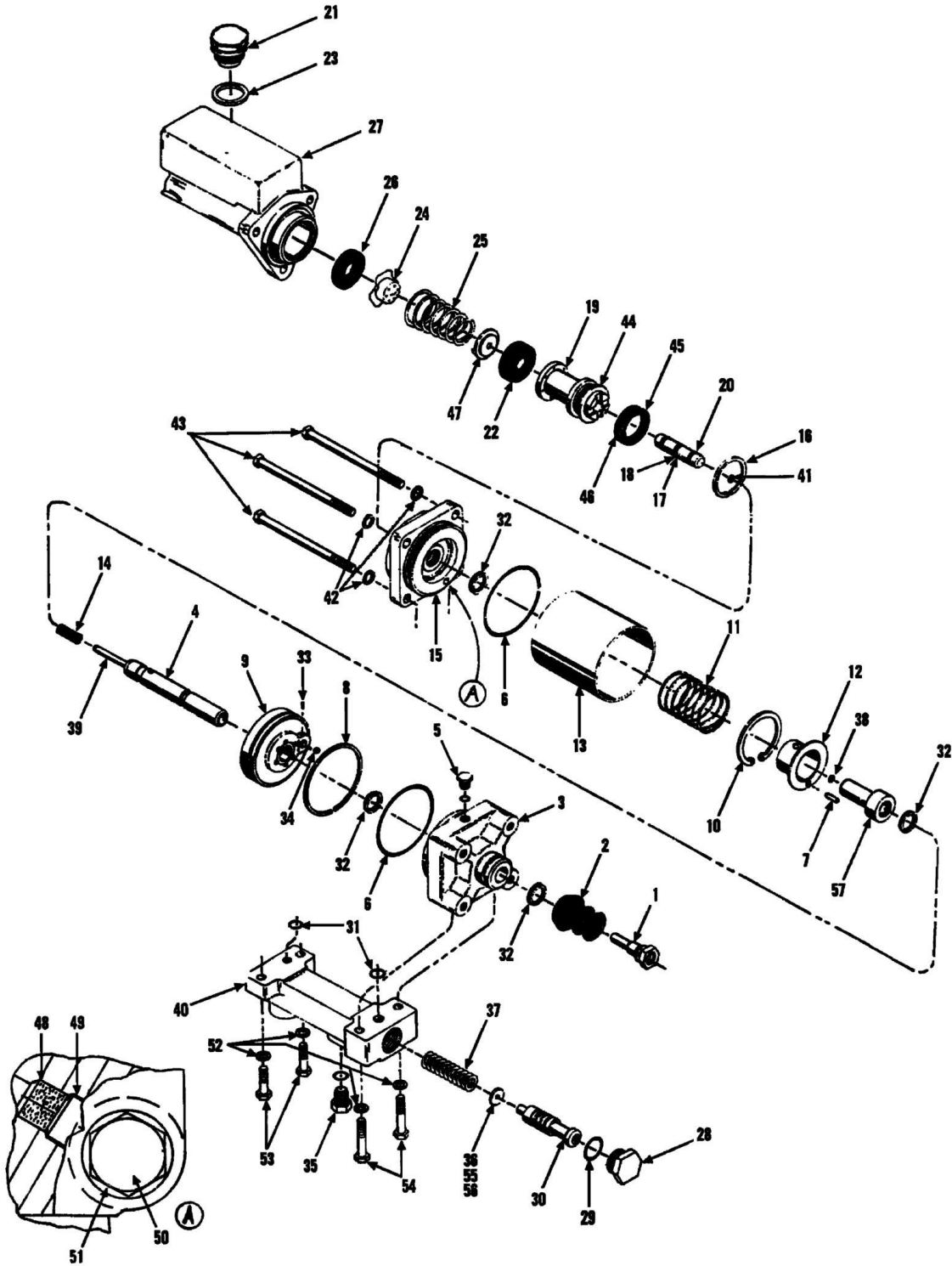
SECTION 7 - BRAKES

FIGURE 7-9. PARKING BRAKE AND CONTROL (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90206029	1	PARKING BRAKE LEVER	
2	88201037	4	HEX HD CAPSCREW, 3/8-16X1 1/2 GR5	
2	88501006	4	HEX NUT, 3/8-16	
2	88551011	4	LOCKWASHER, 3/8	
3	91033253	1	CABLE	
4	90207356	1	BOOT	
5	88561109	3	FLAT WASHER, 3/8	
6	90201831	1	SPRING	
7	88501406	1	HEX JAM NUT, 3/8-24	
8	88821004	1	ADJUSTABLE YOKE END	
8	90027987	1	SPRING CLEVIS	
9	90401570	1	EMERGENCY BRAKE CALIPER (See PARKING BRAKE CONTROL (MICO LOCK) for Breakdown)	
10	91031003	2	BOLT, 1/2X5 1/2	
11	90610038	1	BRAKE DISC	
12	88201037	6	HEX HD CAPSCREW, 3/8-16X1 1/2 GR5	
13	90410247	1	YOKE	
14	88501006	6	HEX NUT, 3/8-16	
15	90208133	5	BOLT, HM 14X1.5	
15	90208134	1	BOLT, GM 12X1.5	
16	90610039	1	EMERGENCY BRAKE MOUNTING BRACKET	
17	90207905	1	FRONT AXLE (See DRIVE TRAIN SECTION for Breakdown)	
18	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
19	90410283	1	CABLE MOUNTING BRACKET	

SECTION 7 - BRAKES

FIGURE 7-10. BRAKE CYLINDER AND BOOSTER (SN 8344001L to Present)



SECTION 7 - BRAKES

FIGURE 7-10. BRAKE CYLINDER AND BOOSTER (SN 8344001L to Present)

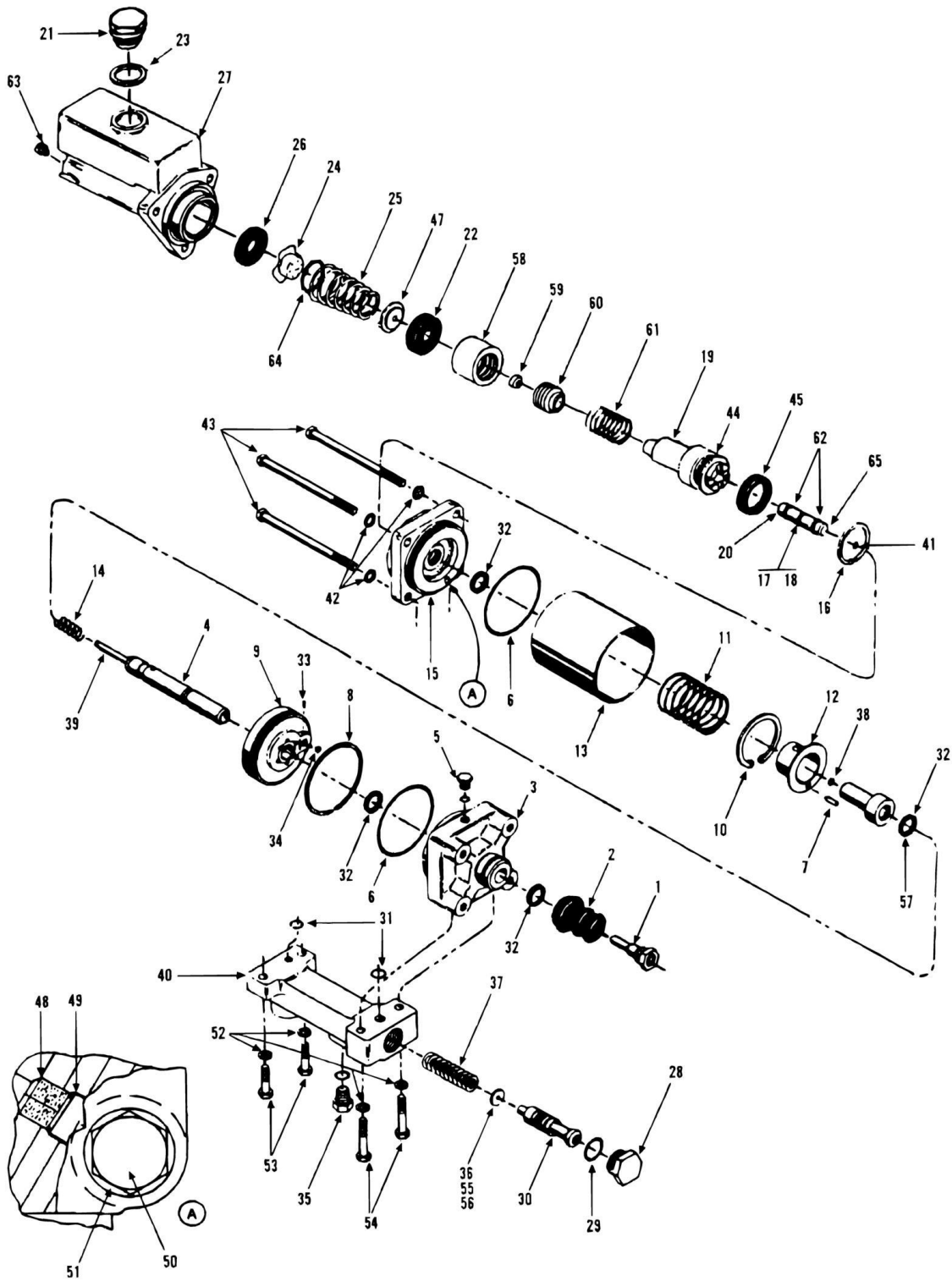
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90207810	1	BOOSTER AND BRAKE MASTER CYLINDER ASSEMBLY	
1	90208074	1	PUSH ROD	
2	90208075	1	BOOT	
3		Ref	HOUSING	
4		Ref	PISTON	
5		Ref	PLUG	
6		Ref	O-RING	
7		Ref	PIN	
8		Ref	PISTON RING	
9		Ref	PISTON	
10		Ref	RETAINING RING	
11		Ref	SPRING	
12		Ref	RETAINER	
13		Ref	TUBE	
14		Ref	SPRING	
15		Ref	HOUSING	
16	90208089	1	RETAINING RING	
17	90208090	1	BACK-UP RING	
18	90208091	1	O-RING	
19	90208092	1	PISTON	
20	90208093	1	PISTON	
21	90208094	1	FILLER PLUG	
22	90208095	1	CUP	
23	90208096	1	GASKET	
24	90208097	1	CHECK VALVE	
25	90208098	1	SPRING	
26	90208099	1	SEAT	
27	90208100	1	HOUSING	
28		Ref	PLUG	
29		Ref	O-RING	
30		Ref	SPOOL	
31		Ref	O-RING	
32		Ref	CUP	
33		Ref	PIN	
34		Ref	BALL	
35		Ref	PLUG	
36		Ref	SHIM (as required)	
37		Ref	SPRING	
38		Ref	O-RING	
39		Ref	ROD	
40		Ref	HOUSING	
41	90208114	1	RETAINING RING	
42		Ref	LOCKWASHER	
43		Ref	CAPSCREW	
44		Ref	SILICONE GREASE	
45	90208118	1	CUP	
46	90208119	2	CUP	
47	90208120	1	RETAINER	
48		Ref	SNUBBER	
49		Ref	RETAINER	

SECTION 7 - BRAKES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50		Ref	CAPSCREW	
51		Ref	LOCKWASHER	
52		Ref	LOCKWASHER	
53		Ref	CAPSCREW	
54		Ref	CAPSCREW	
55		Ref	SHIM	
56		Ref	SHIM	
57		Ref	PISTON	
57	90208131	AR	REPAIR KIT (consists of items 16 thru 20, 22 thru 24, 26 & 45 thru 47)	
58	91034056		MASTER CYLINDER ASSEMBLY (consists of items 16 thru 27, 41 & 44 thru 47)	

SECTION 7 - BRAKES

FIGURE 7-11. BRAKE CYLINDER AND BOOSTER (SN 8744013G to Present, Excluding 8744079G)



SECTION 7 - BRAKES

FIGURE 7-11. BRAKE CYLINDER AND BOOSTER (SN 8744013G to Present, Excluding 8744079G)

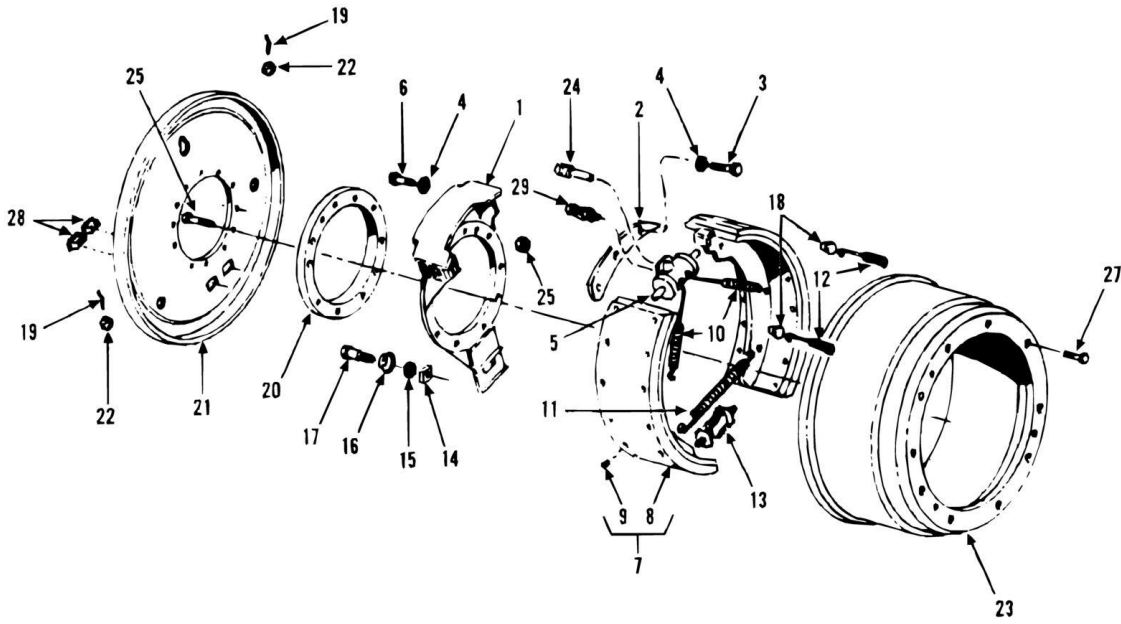
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033275	1	BOOSTER AND BRAKE MASTER CYLINDER ASSY (includes all items)	
	91034079	AR	REPAIR KIT (includes items 16, 17, 18, 20, 22, 23, 26, 45, 58, 59, 60, 62, & 64)	
	91034088	AR	MASTER CYLINDER ASSY (includes items 16 thru 27, 41, 44, 45, 47 & 58 thru 64)	
	90208132	AR	BOOSTER SEAL KIT (includes items 2, 6, 8, 29, 31, 32, 35, & 38)	
1	90208074	1	PUSH ROD	
2	90208075	1	BOOT	
3		Ref	HOUSING	
4		Ref	PISTON	
5		Ref	PLUG	
6	Kit	1	O-RING	
7		Ref	PIN	
8	Kit	1	PISTON RING	
9		Ref	PISTON	
10		Ref	RETAINING RING	
11		Ref	SPRING	
12		Ref	RETAINER	
13		Ref	TUBE	
14		Ref	SPRING	
15		Ref	HOUSING	
16	91034080	1	RETAINING RING	
17	90208090	1	BACK-UP RING	
18	90208091	1	O-RING	
19	91034093	1	PISTON	
20	91034084	1	PISTON	
21	90208094	1	FILLER PLUG	
22	90208095	1	CUP	
23	90208096	1	GASKET	
24	90208097	1	CHECK VALVE	
25	91034095	1	SPRING	
26	90208099	1	SEAT	
27	91034096	1	HOUSING	
28		Ref	PLUG	
29	Kit	1	O-RING	
30		Ref	SPOOL	
31	Kit	1	O-RING	
32	Kit	4	CUP	
33		Ref	PIN	
34		Ref	BALL	
35	Kit	1	PLUG	
36		Ref	SHIM	
37		Ref	SPRING	
38	Kit	1	O-RING	
39		Ref	ROD	
40		Ref	HOUSING	
41	90208114	1	RETAINING RING	
42		Ref	LOCKWASHER	
43		Ref	CAPSCREW	

SECTION 7 - BRAKES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44		Ref	SILICONE GREASE	
45	91034081	1	CUP	
47	90208120	1	RETAINER	
48		Ref	SNUBBER	
49		Ref	RETAINER	
50		Ref	CAPSCREW	
51		Ref	LOCKWASHER	
52		Ref	LOCKWASHER	
53		Ref	CAPSCREW	
54		Ref	CAPSCREW	
55		Ref	SHIM	
56		Ref	SHIM	
57		Ref	PISTON	
58	91034086	1	PISTON	
59	91034087	1	SEAT	
60	91034085	1	RETAINER	
61	91034094	1	SPRING	
62	90208119	2	CUP	
63	91034092	1	CONNECTOR	
64	91034082	1	O-RING	
65	91034090	1	RETAINING RING	
65	91034091	1	WASHER	
	Note		NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 7 - BRAKES

FIGURE 7-12. SERVICE BRAKE-SOMA AXLE (SN 8344001L to Present)



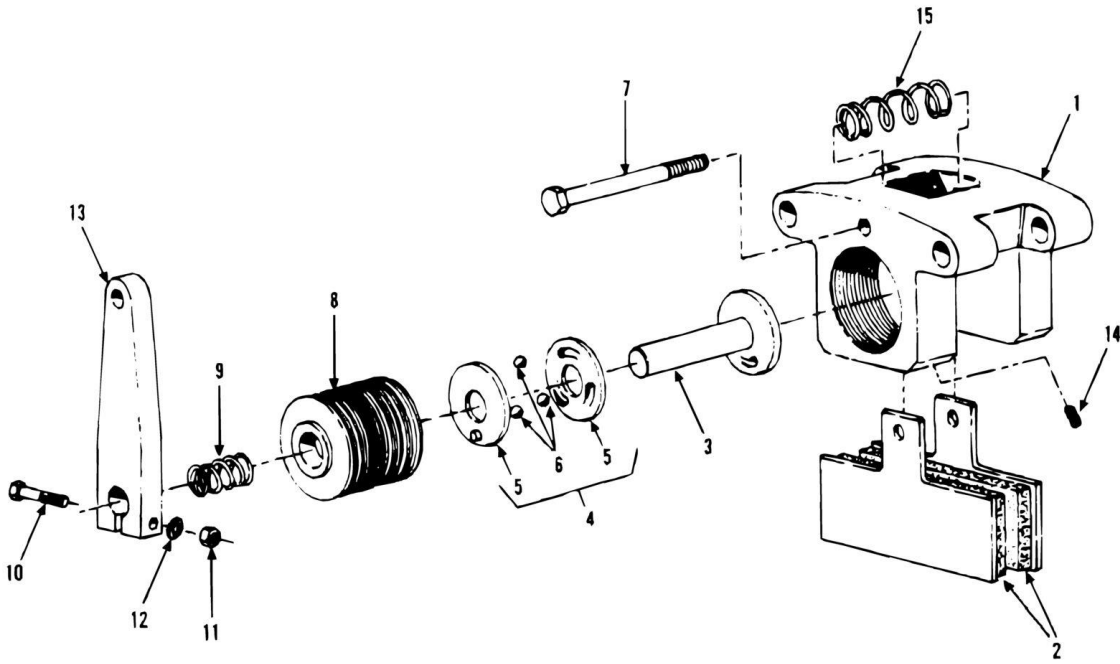
SECTION 7 - BRAKES

FIGURE 7-12. SERVICE BRAKE-SOMA AXLE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90203894	Ref	BRAKE ASSEMBLY (includes all items)	
	90207951	Ref	REPAIR KIT (wheel cylinder w/o piston)	
	90207952	Ref	REPAIR KIT (wheel cylinder w/piston)	
1	90207945	1	BACKING PLATE	
2	90203897	1	SPRING ATTACHMENT PLATE	
3	90203899	2	BOLT HM 8X18	
4	90203900	4	WASHER, W-5	
5	90203901	1	CYLINDER ASSEMBLY	
6	90203902	2	BOLT HM 8X40	
7	90203903	2	BRAKE SHOE ASSY (includes items 8 & 9)	
8	90203904	2	BRAKE SHOE LINING	
9	90203905	32	RIVET	
10	90203906	2	SPRING	
11	90203907	1	SPRING	
12	90203908	2	SPRING	
13	90203909	1	AUTOMATIC ADJUSTER	
14	90203910	1	WASHER	
15	90207946	1	SEAL	
16	90203911	1	DUST BOOT	
17	90203912	1	BOLT	
18	90207947	2	SPRING GUIDE	
19	90203914	2	SPRING RETAINER	
20	90203915	1	BRAKE SPACER	
21	90203916	1	DUST COVER	
22	90203913	2	PLUG	
23	90203917	1	BRAKE DRUM (ID 400 MM minimum)	
24	90203919	1	BLEEDER SCREW	
25	90401237	11	NUT M 14X1.50	
26	90401228	11	BOLT HM 14X1.50X60/30	
27	90203918	3	BOLT F 90 HM 10X1.50X25	
28	90207950	2	PLUG	
29	90203920	1	BANJO FITTING (with bolt)	
		Ref	NOTE: QUANTIES SHOWN ARE FOR ONE SIDE ONLY.	

SECTION 7 - BRAKES

FIGURE 7-13. PARKING BRAKE CALIPER (SN 8344001L through 8744114G, Excluding 8744079G)



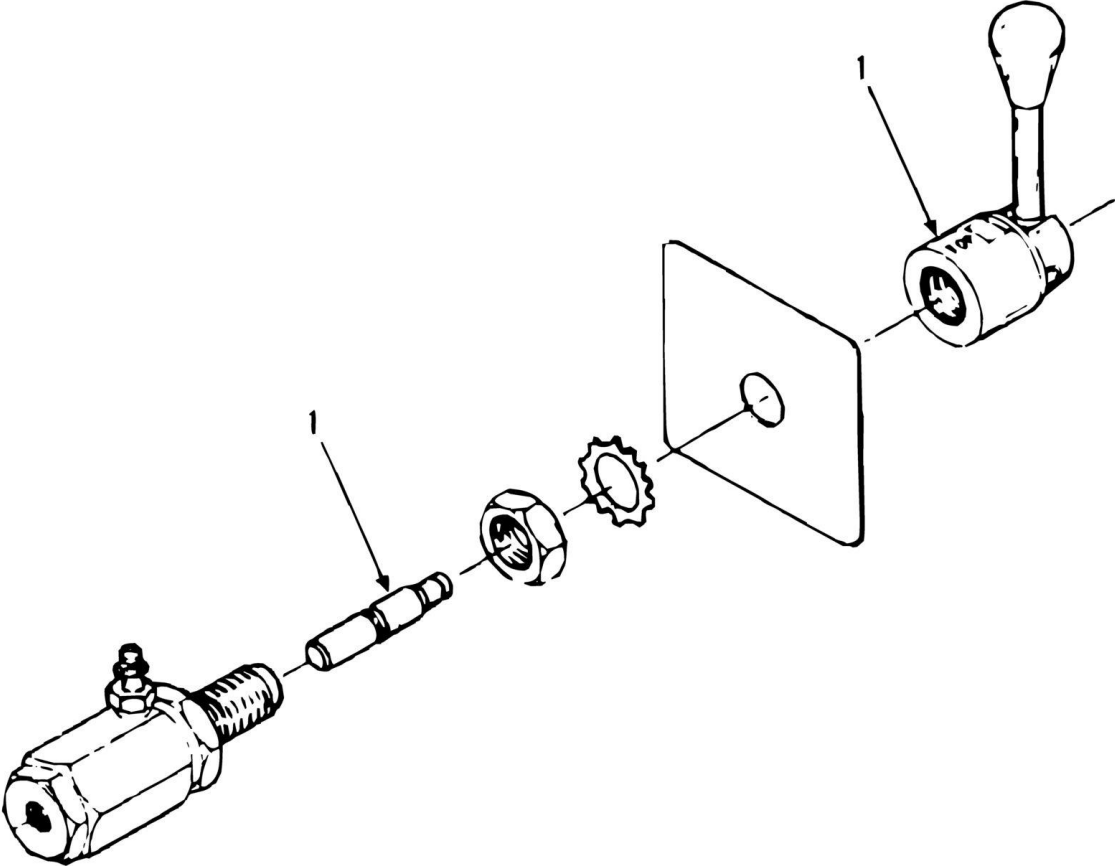
SECTION 7 - BRAKES

FIGURE 7-13. PARKING BRAKE CALIPER (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90401570		PARKING BRAKE CYLINDER	
	N.S.S.	1	CALIPER HOUSING	
2	90201927	2	LINING	
3	90401466	1	PISTON	
4	90401463		REPAIR KIT (includes items 5 & 6)	
5	90401465	2	CAM PLATE	
6	90401464	3	BALL	
7	90203190	1	BOLT	
	N.S.S.	1	BODY	
9	90401462	1	SPRING	
10	90203191	1	BOLT	
11	90203192	1	NUT	
12	90203193	1	WASHER	
13	90401461	1	LEVER	
14	90401460	1	SETSCREW	
15	90401459	1	SPRING	

SECTION 7 - BRAKES

FIGURE 7-14. PARKING BRAKE CONTROL (MICO LOCK) (SN 8344001L through 8744114G, Excluding 8744079G)



SECTION 7 - BRAKES

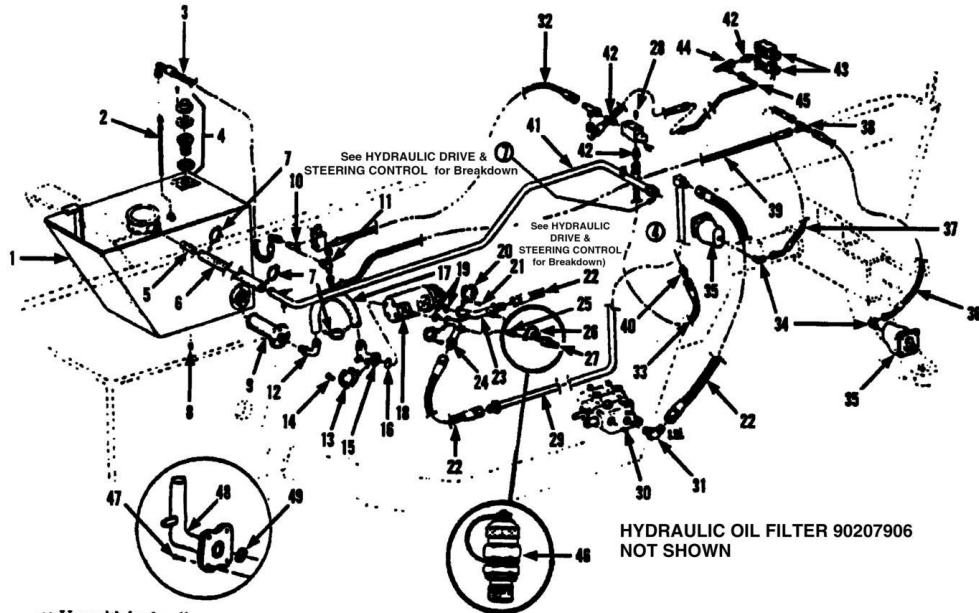
**FIGURE 7-14. PARKING BRAKE CONTROL (MICO LOCK) (SN 8344001L through 8744114G,
Excluding 8744079G)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90400835	1	BRAKE CONTROL VALVE (mico-lock)	
	90203341	-	REPAIR KIT	

SECTION 8 - HYDRAULIC CIRCUIT

SECTION 8 - HYDRAULIC CIRCUIT

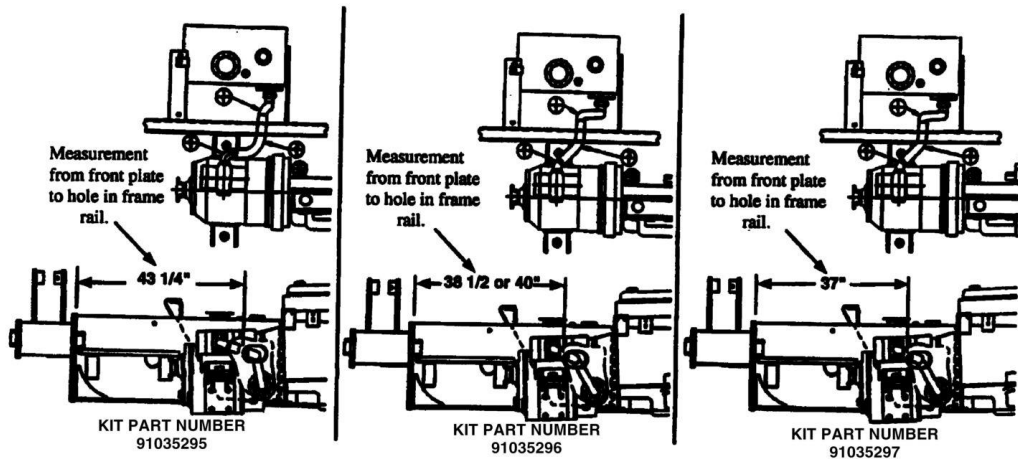
FIGURE 8-1. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8344001L through 8444277)



** Use with hydraulic gear pump 91033156. Replaces items 13, 14, 15, & 16.

Item 18, 90207615 is no longer available from the vendor. It is replaced by 91033226, however it is not positioned the same. In order to attach the new pump to the hydraulic reservoir, one of the following kits will be needed. you will need to know the measurement from the front plate on your machine to the front edge of the hole on frame rail as shown to order the correct kit for your installation.

SERVICE NOTE:



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-1. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8344001L through 8444277)

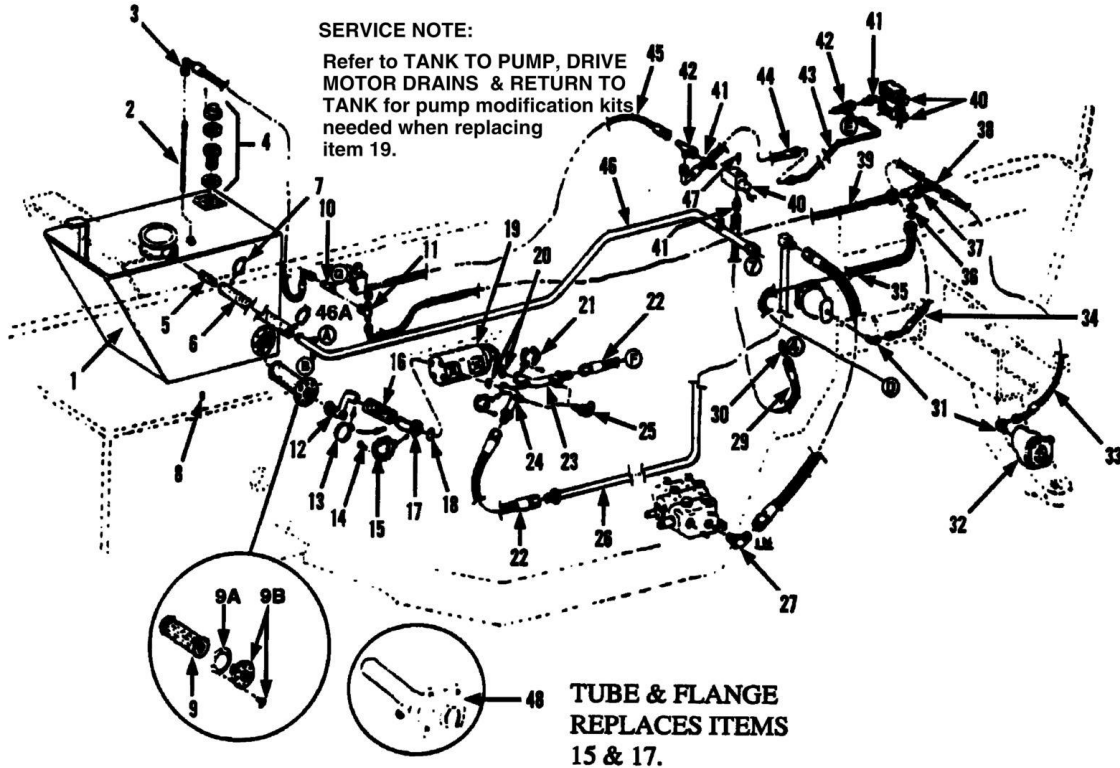
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035295	Ref	PUMP MODIFICATION KIT	
	91033531	1	TUBE ASSY	
	91033533	1	ELBOW, 90	
	77363065	1	SUCTION HOSE, 2IN	
	91035296	Ref	PUMP MODIFICATION KIT	
	91033477	1	TUBE ASSY	
	91033534	1	ELBOW, 45	
	83673079	1	SUCTION HOSE, 2IN	
	91035297	Ref	PUMP MODIFICATION KIT	
	91033532	1	TUBE ASSY	
	91033049	1	TUBE ASSY	
	91033125	1	SUCTION HOSE, 2IN	
	91035295	1	PUMP MODIFICATION KIT (for mach. with 43-1/4in spacing) (see illustration)	
	91035296	1	PUMP MODIFICATION KIT (for mach. with 38-1/2in or 40in spacing) (see illustration)	
	91035297	1	PUMP MODIFICATION KIT (for mach. with 37in spacing) (see illustration)	
1	91035023	1	OIL TANK (includs items 2, 4, 5, 8, & 9)	
2	90403419	1	STANDPIPE	
3	90207599	1	HIGH PRESSURE HOSE	
4	90205222	1	DIPSCTICK/FILLER (includes cap, screen, gaskets and hardware)	
5	90205776	1	ADAPTER (tank to low pressure line)	
6	90207365	1	LOW PRESSURE HOSE	
7	90028482	4	HOSE CLAMP	
8	88711255	1	SQ. HD PIPE PLUG, 1IN	
9	90207686	1	OIL FILTER SCREEN	
10	88661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
11	88662225	1	SWIVEL NUT BRANCH TEE, 1/2 TUBE	
12	90026632	1	TUBE ASSY	
13	84711342	2	FLANGE CLAMP	
14	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
15	90207688	1	TUBE ASSY	
16	90023223	1	O-RING	
17	90207687	1	LOW PRESSURE HOSE	
18	90207615	NLA	MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)	
18	91033226	1	MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL) (Items in kit will be used in placed of items 12 thru 17)	
19	88591019	2	O-RING	
20	84711369	4	FLANGE CLAMP	
21	88201036	8	FLANGE HD CAPSCREW, 3/8-16X1-1/4, GR5	
22	90022045	3	HIGH PRESSURE HOSE	
23	90207689	1	TUBE ASSY	
24	90207691	1	TUBE ASSY	
25	88701002	2	CLOSE NIPPLE, 1/4X7/8	
26	90207330	2	CAP	
27	90207329	2	QUICK DISCONNECT (aeroquip)	
28	90027266	1	PLUG	

SECTION 8 - HYDRAULIC CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
29	90207692	1	TUBE ASSY	
30	91033168	1	MAIN HYD CONTROL VALVE	
31	88662070	1	ELBOW, 90, (includes o-ring)	
31	88591210	1	O-RING	
32	90207694	1	HIGH PRESSURE HOSE	
33	90207491	1	HIGH PRESSURE HOSE	
34	88662064	2	ELBOW, 90, (includes o-ring)	
34	88591204	2	O-RING	
35	90206748	2	HYDRAULIC DRIVE MOTOR	
36	84717586	1	HIGH PRESSURE HOSE	
37	84717587	1	HIGH PRESSURE HOSE	
38	88661306	1	UNION TEE, 1/2 TUBE	
39	90207765	1	HIGH PRESSURE HOSE	
40	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
41	90207363	1	TUBE ASSY	
42	90029915	3	STRAIGHT CONNECTOR	
43	90206739	4	SOLENOID VALVE	
44	88662239	2	SWIVEL NUT RUN TEE, 1/2 TUBE	
45	90207712	1	TUBE ASSY	
46	91033032	2	MINI-CHECK (stauff)	
47	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
48	91033178	1	SUCTION TUBE AND FLANGE	
49	90028225	1	O-RING	

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-2. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8444278G through 8744114G, Excluding 8744079G)



- A - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- B - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown
- D - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- E - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- F - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown
- G - See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown
- 4 - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown
- 7 - See HYDRAULICS-DRIVE AND STEERING CONTROL for Breakdown

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-2. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8444278G through 8744114G, Excluding 8744079G)

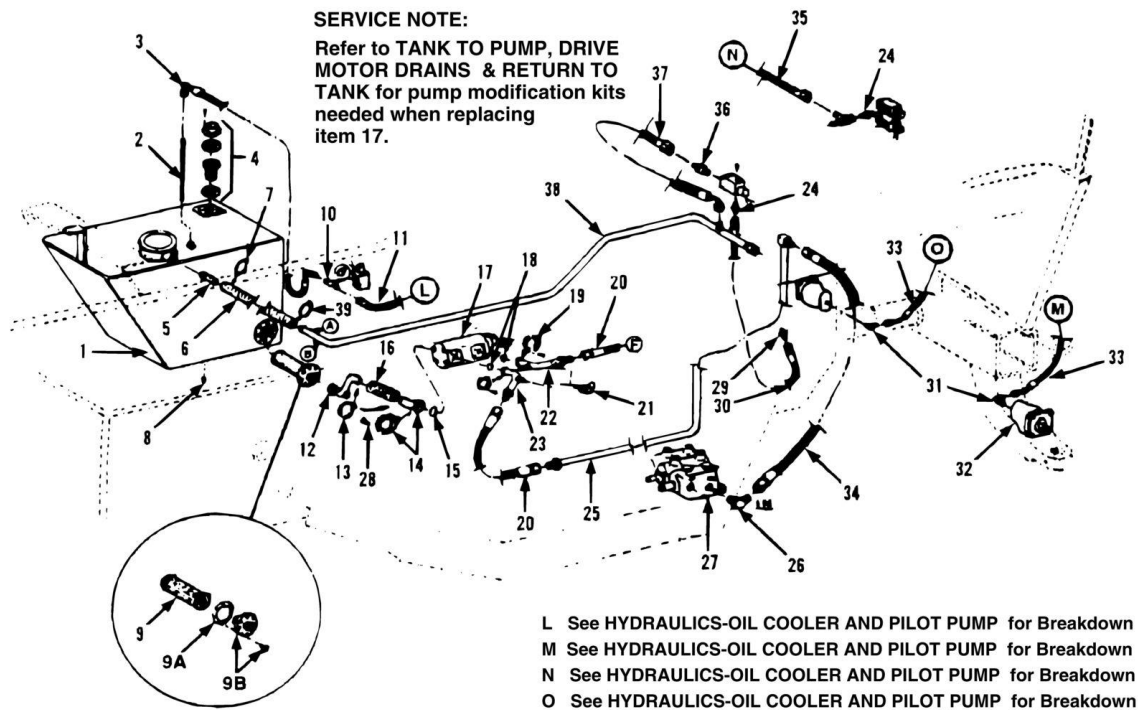
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036002	1	HYDRAULIC OIL TANK	
2	90403419	1	STANDPIPE	
3	90207599	1	HIGH PRESSURE HOSE	
4	90205222	1	DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)	
5	90205776	1	ADAPTER (tank to low pressure line)	
6	90207365	1	LOW PRESSURE HOSE	
7	90028482	2	HOSE CLAMP	
8	88711255	1	SQ HD PIPE PLUG, 1IN	
9	90410295	1	SUCTION FILTER	
9A	90410294	1	GASKET	
9B	91036003	1	FLANGE	
9B	88201035	8	HEX HD CAPSCREW, 3/8-16X1, GR5	
9B	88551011	8	LOCKWASHER, 3/8	
10	88661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
11	88662225	1	SWIVEL NUT BRANC TEE, 1/2 TUBE	
12	90410298	1	ELBOW	
13	90028720	2	HOSE CLAMP	
14	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
14	88551013	4	LOCKWASHER, 1/2	
15	91031079	1	FLANGE (one piece)	
16	91033125	1	LOW PRESSURE HOSE	
17	91033049	1	TUBE LINE	
18	90028225	1	O-RING	
19	90207615	NLA	MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)	
19	77134059	1	GASKET	
19	91033226	1	MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL) (see service note on HYDRAULIC CIRCUIT SN 8344001L for further instructions)	
20	88591207	2	O-RING	
21	84711369	4	CLAMP	
22	90022045	3	HIGH PRESSURE HOSE	
23	90207689	1	TUBE ASSY	
24	90207691	1	TUBE ASSY	
25	91033032	2	MINI CHECK (stauff)	
26	91033069	1	TUBE ASSY	
26	90200481	2	CLAMP	
26	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
27	91033168	1	MAIN CONTROL VALVE	
28	88662070	1	ELBOW, 90, (includes o-ring)	
28	88591210	1	O-RING	
29	90207491	1	HIGH PRESSURE HOSE	
30	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
31	88662064	2	ELBOW, 90, (includes o-ring)	
31	88591204	2	O-RING	
32	90206748	2	DRIVE MOTOR	
33	84717586	1	HIGH PRESSURE HOSE	
34	84717587	1	HIGH PRESSURE HOSE	
35	77133167	1	HOSE (Perkins engine only)	

SECTION 8 - HYDRAULIC CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
36	86883469	1	REDUCER (Perkins engine only)	
37	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
38	88661306	1	UNION TUBE, 1/2 TUBE	
39	90207765	1	HIGH PRESSURE HOSE	
40	90206739	3	SOLENOID VALVE	
41	90029915	2	CONNECTOR	
42	88662239	2	SWIVEL NUT RUN TEE, 1/2 TUBE	
43	90207712	1	TUBE ASSY	
44	77133342	1	HOSE ASSY	
45	90207694	1	HIGH PRESSURE HOSE	
46	90207363	1	TUBE ASSY	
46A	90205793	2	CLAMP ASSY	
47	88711282	1	HEX SOCKET PIPE PLUG, 3/8	
48	91033178	1	TUBE ASSY (SN 8344001L through 8444288G)	
48	91033177	1	TUBE ASSY (SN 8444289G through 8444491G)	

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-3. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8744115G to Present, Including 8744079G)



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-3. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 8744115G to Present, Including 8744079G)

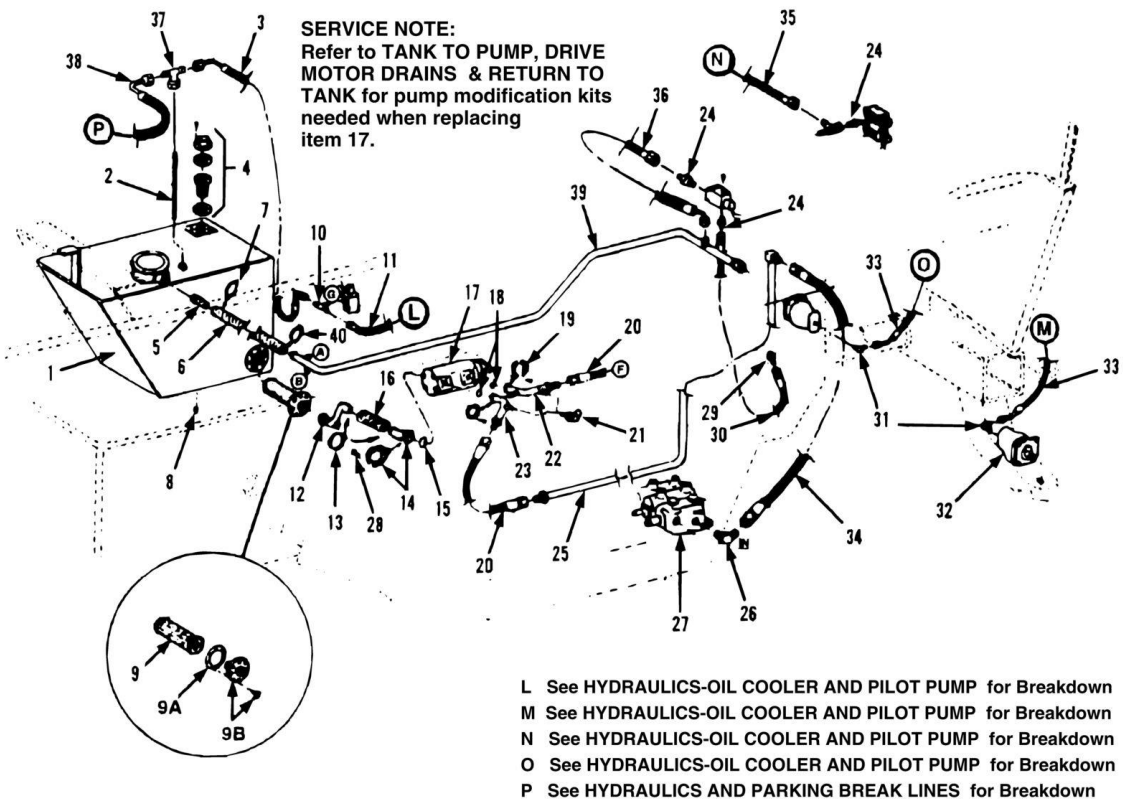
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036002	1	HYDRAULIC OIL TANK	
2	90403419	1	STANDPIPE	
3	90207599	1	HIGH PRESSURE HOSE	
4	90205222	1	DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)	
5	90205776	1	ADAPTER (tank to low pressure line)	
6	90207365	1	LOW PRESSURE HOSE	
7	90028482	2	HOSE CLAMP	
8	88711255	1	SQ HD PIPE PLUG, 1IN	
9	90410295	1	SUCTION FILTER	
9A	90410294	1	GASKET	
9B	91036003	1	FLANGE	
9B	88201035	8	HEX HD CAPSCREW, 3/8-16X1, GR5	
9B	88551011	8	LOCKWASHER, 3/8	
10	88661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
11	84717520	1	HOSE ASSY	
12	91033257	1	ELBOW	
13	90028720	2	HOSE CLAMP	
14	91033049	1	TUBE ASSY	
14	91031079	1	FLANGE (one piece)	
15	90028225	1	O-RING	
16	91033125	1	LOW PRESSURE HOSE	
17	90207615	NLA	MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)	
17	91033226	1	MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL)(see service note on HYDRAULIC CIRCUIT SN 8344001L for further instructions)	
18	88591207	2	O-RING	
19	84711369	4	CLAMP	
20	90022045	3	HIGH PRESSURE HOSE	
21	91033032	2	MINI CHECK (stauff)	
22	90207689	1	TUBE ASSY	
23	90207691	1	TUBE ASSY	
24	90029915	2	CONNECTOR	
25	91033069	1	TUBE ASSY	
25	90200481	2	CLAMP	
25	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
26	88662070	1	ELBOW, 90, (includes o-ring)	
26	88591210	1	O-RING	
27	91033168	1	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
28	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
29	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
30	90207491	1	HOSE ASSY	
31	88662064	2	ELBOW, 90, (includes o-ring)	
31	88591204	2	O-RING	
32	90206748	2	DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
33	84717577	2	HOSE ASSY	
34	90022045	1	HOSE ASSY	
35	77133198	1	HOSE ASSY	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
36	90029915	1	CONNECTOR	
37	77133447	1	HOSE ASSY	
38	90207363	1	TUBE ASSY	
39	90205793	1	CLAMP ASSY	

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FIGURE 8-4. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 0144452 to Present)



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-4. TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK (SN 0144452 to Present)

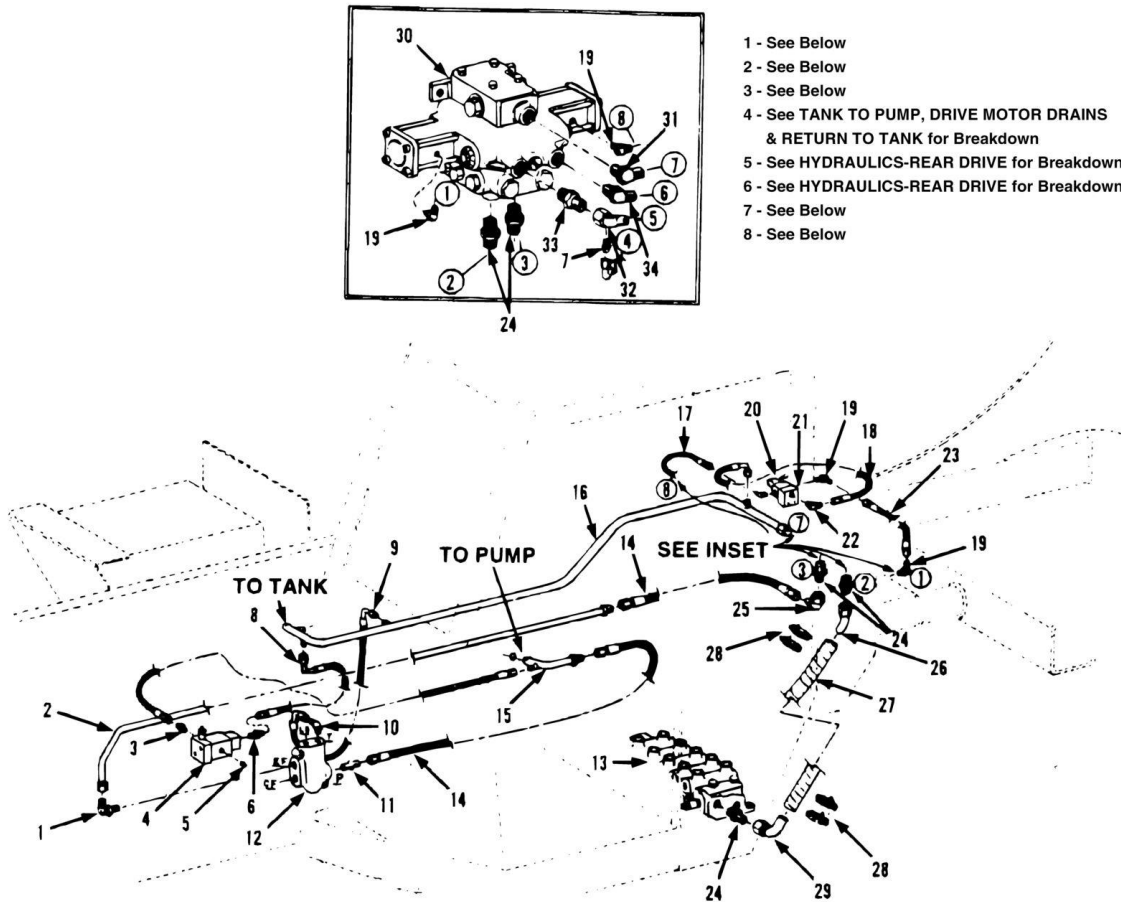
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036002	1	HYDRAULIC OIL TANK	
2	90403419	1	STANDPIPE	
3	90207599	1	HIGH PRESSURE HOSE	
4	90205222	1	DIPSTICK/FILLER (includes cap, screen, gaskets and hardware)	
5	90205776	1	ADAPTER (tank to low pressure line)	
6	90207365	1	LOW PRESSURE HOSE	
7	90028482	2	HOSE CLAMP	
8	88711255	1	SQ HD PIPE PLUG, 1IN	
9	90410295	1	SUCTION FILTER	
9A	90410294	1	GASKET	
9B	91036003	1	FLANGE	
9B	88201035	8	HEX HD CAPSCREW, 3/8-16X1, GR5	
9B	88551011	8	LOCKWASHER, 3/8	
10	88661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
11	84717520	1	HOSE ASSY	
12	91033257	1	ELBOW	
13	90028720	2	HOSE CLAMP	
14	91033049	1	TUBE ASSY	
14	91031079	1	FLANGE (one piece)	
15	90028225	1	O-RING	
16	91033125	1	LOW PRESSURE HOSE	
17	90207615	NLA	MAIN HYDRAULIC PUMP (NO LONGER AVAILABLE, SEE BELOW)	
17	91033226	1	MAIN HYDRAULIC PUMP (ORDER CORRECT MODIFICATION KIT TO INSTALL) (see service note on HYDRAULIC CIRCUIT SN 8344001L for further instructions)	
18	88591207	2	O-RING	
19	84711369	4	CLAMP	
20	90022045	3	HIGH PRESSURE HOSE	
21	91033032	2	MINI CHECK (stauff)	
22	90207689	1	TUBE ASSY	
23	90207691	1	TUBE ASSY	
24	90029915	2	CONNECTOR	
25	91033069	1	TUBE ASSY	
25	90200481	2	CLAMP	
25	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
26	88662070	1	ELBOW, 90, (includes o-ring)	
26	88591210	1	O-RING	
27	91033168	1	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
28	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
29	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
30	90207491	1	HOSE ASSY	
31	88662064	2	ELBOW, 90, (includes o-ring)	
31	88591204	2	O-RING	
32	90206748	2	DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
33	84717577	2	HOSE ASSY	
34	90022045	1	HOSE ASSY	
35	77133167	1	HOSE ASSY	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
36	77133447	1	HOSE ASSY	
37	88662225	1	SWIVEL NUT BRANCH TEE, 1/4 TUBE	
38	84717842	1	HOSE ASY	
39	90207363	1	TUBE ASSY	
40	90205793	1	CLAMP ASSY	

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FIGURE 8-5. HYDRAULIC-DRIVE AND STEERING CONTROL WAUKESHA ENGINE (SN 8344001L through 8444490)



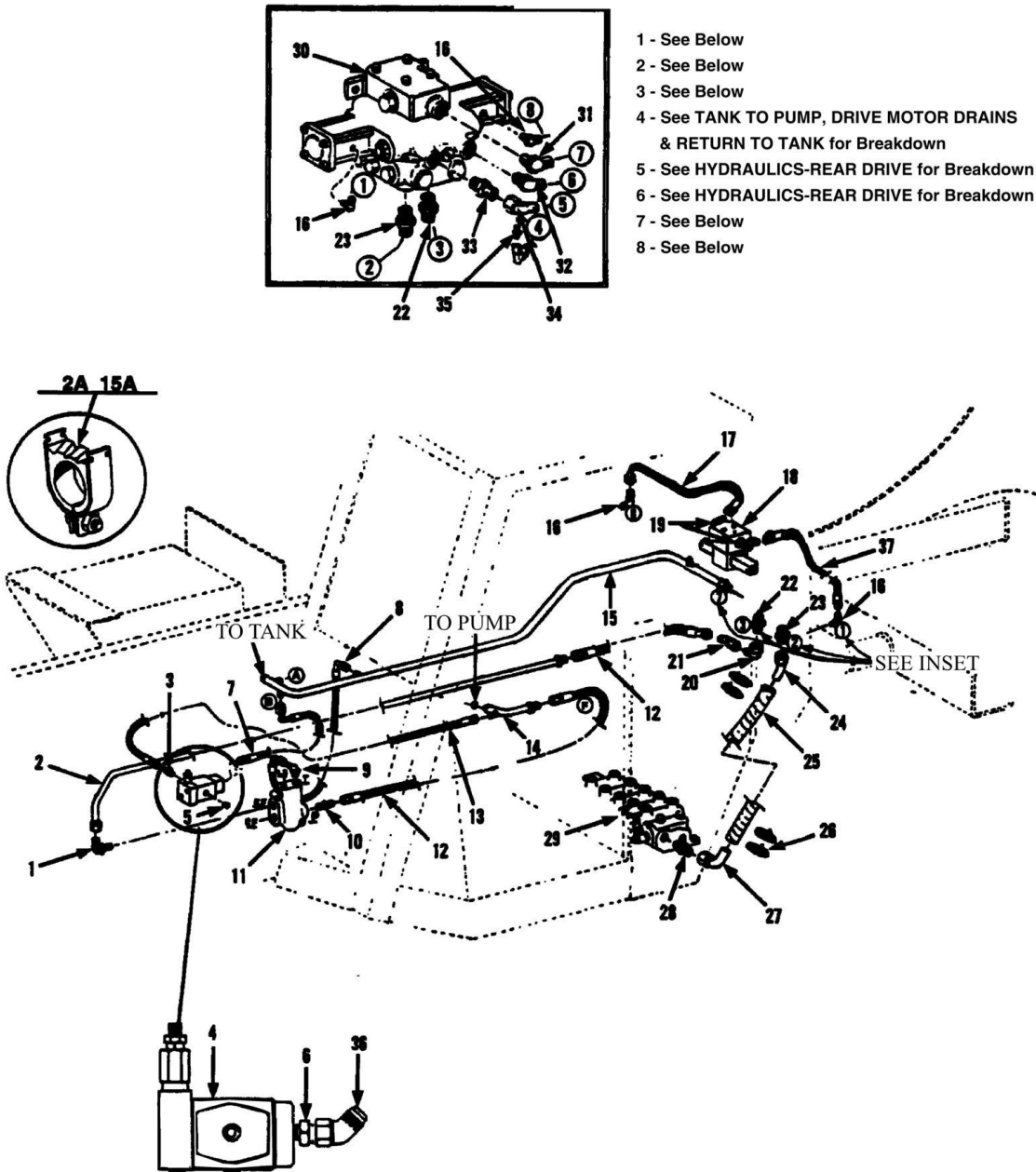
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-5. HYDRAULIC-DRIVE AND STEERING CONTROL WAUKESHA ENGINE (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662069	1	ELBOW - 90, (includes o-ring)	
1	88591209	1	O-RING	
2	90207690	1	TUBE ASSEMBLY	
3	88743018	1	MALE ADAPTER, 3/8X5/8 TUBE	
4	90207314	1	DRIVE CIRCUIT RELIEF VALVE	
5	88711282	1	HEX SOCKET PIPE PLUG, 3/8	
6	90027360	1	CONNECTOR	
7	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
8	90207360	1	HIGH PRESSURE HOSE	
9	90207411	1	HIGH PRESSURE HOSE	
10	83661316	1	STRAIGHT CONNECTOR	
11	88662010	1	CONNECTOR (includes o-ring)	
11	88591209	1	O-RING	
12	90205585	1	LOAD SENSING PRIORITY FLOW CONTROL VALVE	
13	91033168	1	MAIN HYDRAULIC CONTROL VALVE	
14	90022045	2	HIGH PRESSURE HOSE	
15	90207689	1	TUBE ASSEMBLY	
16	90207363	1	TUBE ASSEMBLY	
17	90207695	1	HIGH PRESSURE HOSE	
18	90207697	1	HIGH PRESSURE HOSE	
19	88662064	3	ELBOW - 90, (includes o-ring)	
19	88591204	3	O-RING	
20	90207755	1	CONTROL VALVE	
21	90602895	1	ADAPTER BLOCK	
22	90026687	1	ELBOW - 90, ADJUSTABLE	
23	90207696	1	HIGH PRESSURE HOSE	
24	88662011	3	CONNECTOR (includes o-ring)	
24	88591210	3	O-RING	
25	88662110	1	ELBOW 90, (swivel nut)	
26	90207299	1	TUBE ASSEMBLY (low pressure hose)	
27	90207362	1	LOW PRESSURE HOSE	
28	90028482	4	HOSE CLAMP	
29	90205783	1	TUBE ASSEMBLY (low pressure hose adapter)	
30	90206737	1	FOWARD - REVERSE VALVE	
31	90041003	1	ELBOW - 90, ADJUSTABLE	
32	88662069	1	ELBOW - 90, (includes o-ring)	
32	88591209	1	O-RING	
33	88662010	1	CONNECTOR (includes o-ring)	
33	88591209	1	O-RING	
34	90207567	1	ELBOW - 90, SWIVEL	

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FIGURE 8-6. HYDRAULIC-DRIVE AND STEERING CONTROL PERKINS ENGINE ONLY (SN 8444491 through 8744109G, Excluding 8744114G)



- 1 - See Below
- 2 - See Below
- 3 - See Below
- 4 - See TANK TO PUMP, DRIVE MOTOR DRAINS & RETURN TO TANK for Breakdown
- 5 - See HYDRAULICS-REAR DRIVE for Breakdown
- 6 - See HYDRAULICS-REAR DRIVE for Breakdown
- 7 - See Below
- 8 - See Below

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FIGURE 8-6. HYDRAULIC-DRIVE AND STEERING CONTROL PERKINS ENGINE ONLY (SN 8444491 through 8744109G, Excluding 8744114G)

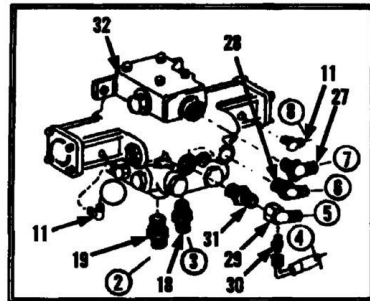
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662069	1	ELBOW - 90, (includes o-ring)	
1	88591209	1	O-RING	
2	90207690	1	TUBE ASSEMBLY	
2A	90205792	1	CLAMP ASSEMBLY	
3	88743018	1	MALE ADAPTER, 3/8X5/8 TUBE	
4	90207314	1	RELIEF VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
4	88201020	2	HEX HD CAPSCREW, 5/16-18X1, GR5	
5	88711282	1	HEX SOCKET PIPE PLUG, 3/8	
6	88743003	1	MALE ADAPTER, 3/8X1/2 TUBE	
7	90207360	1	HIGH PRESSURE HOSE	
8	90207411	1	HIGH PRESSURE HOSE	
9	83661316	1	STRAIGHT THREAD CONNECTOR	
10	88662010	1	CONNECTOR (includes o-ring)	
10	88591209	1	O-RING	
11	90205585	1	PRIORITY FLOW VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
11	88201028	2	HEX HD CAPSCREW, 5/16-18X3, GR5	
12	90022045	2	HIGH PRESSURE HOSE	
13	90022043	1	HIGH PRESSURE HOSE	
14	90207689	1	TUBE ASSEMBLY	
15	90207363	1	TUBE ASSEMBLY	
15A	90205793	2	CLAMP ASSEMBLY	
16	88662064	2	ELBOW - 90, (includes o-ring)	
16	88591204	2	O-RING	
17	90027485	1	HIGH PRESSURE HOSE	
18	91033097	1	DIRECTIONAL CONTROL VALVE	
19	88662003	2	CONNECTOR (includes o-ring)	
19	88591202	2	O-RING	
20	88662110	1	ELBOW - 90, (swivel nut)	
21	88662124	1	ELBOW - 45, (swivel nut)	
22	88662028	1	CONNECTOR (includes o-ring)	
22	88591210	1	O-RING	
23	88662011	1	CONNECTOR (o-ring)	
23	88591210	1	O-RING	
24	90205783	1	TUBE ASSEMBLY	
25	90207362	1	LOW PRESSURE HOSE	
26	90028482	4	HOSE CLAMP	
27	90205783	1	TUBE ASSEMBLY	
28	88662011	1	CONNECTOR (includes o-ring)	
28	88591210	1	O-RING	
29	91033168	1	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
30	90206737	1	FORWARD AND REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
30	88201068	2	HEX HD CAPSCREW, GR5	
30	88201070	1	HEX HD CAPSCREW, GR5	
30	88501008	3	HEX NUT	
31	90041003	1	ELBOW - 90	
32	88662069	1	ELBOW - 90, (includes o-ring)	

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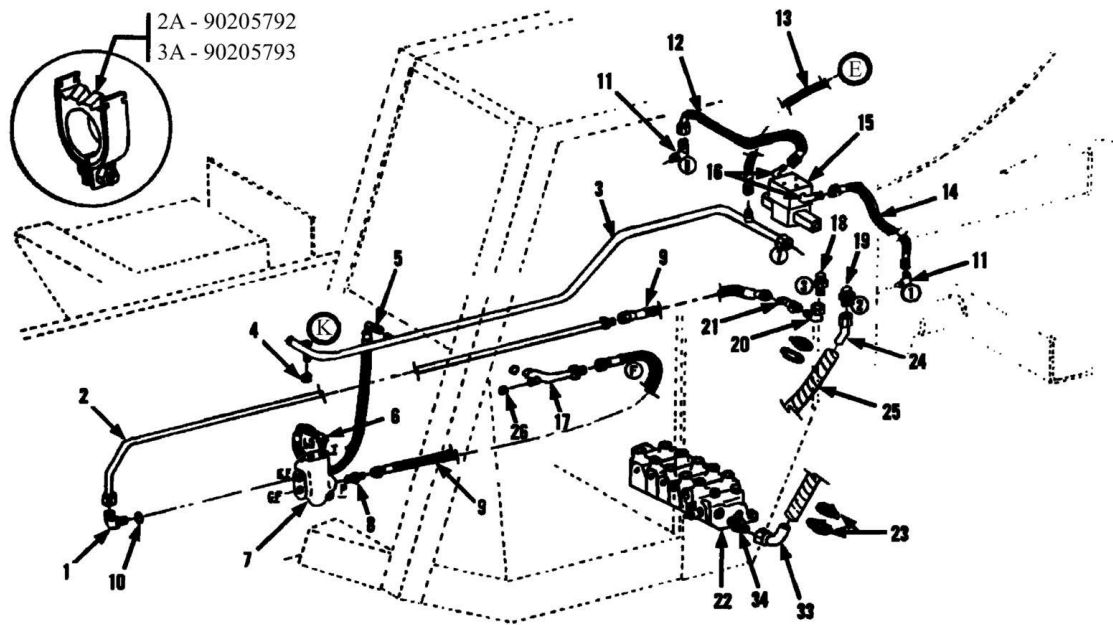
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
32	88591209	1	O-RING	
33	88662010	1	CONNECTOR (includes o-ring)	
33	88591209	1	O-RING	
34	90207567	1	ELBOW - 90	
35	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
36	88662120	1	ELBOW - 45, (swivel nut)	
37	84717464	1	HOSE	

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FIGURE 8-7. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 8744115G to Present, Including 8744079G)



- 1 - See Below
- 2 - See Below
- 3 - See Below
- 4 - See TANK TO PUMP, DRIVE MOTOR DRAINS & RETURN TO TANK for Breakdown
- 5 - See HYDRAULICS-REAR DRIVE for Breakdown
- 6 - See HYDRAULICS-REAR DRIVE for Breakdown
- 7 - See Below
- 8 - See Below



- ⓔ See HYDRAULICS AND PARKING BREAK LINES for Breakdown
- Ⓚ See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown

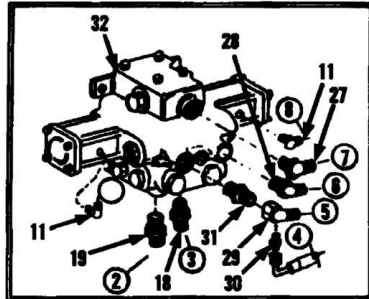
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-7. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 8744115G to Present, Including 8744079G)

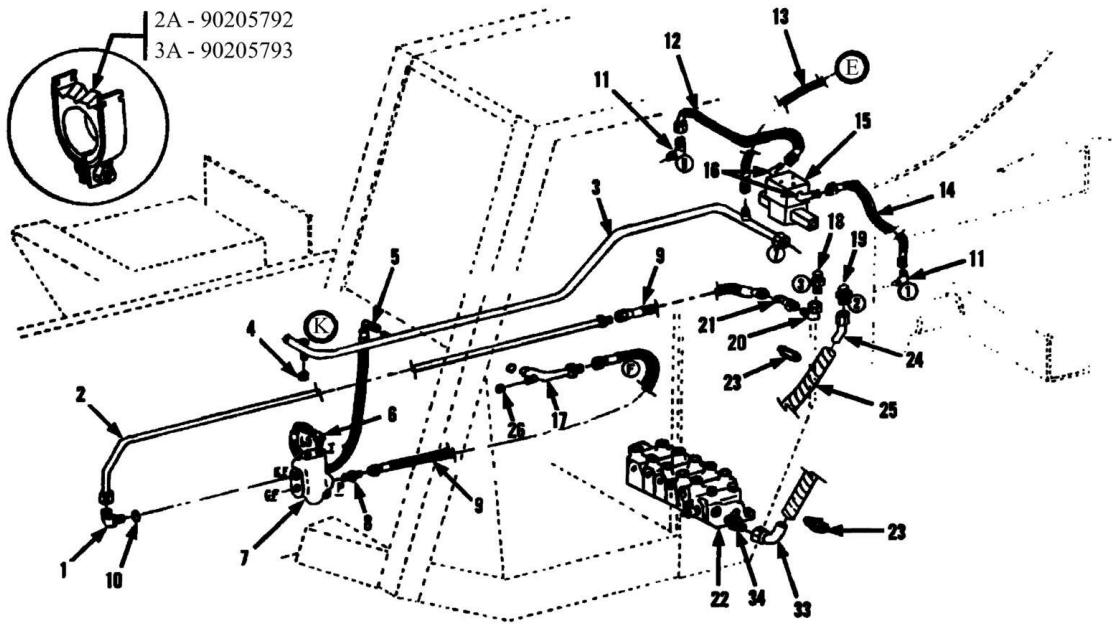
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662069	1	ELBOW - 90, (includes items 10)	
2	90207690	1	TUBE ASSY	
3	91033144	1	TUBE ASSY	
4	88661365	1	HEX CAP, 1/2 TUBE	
5	77133447	1	HIGH PRESSURE HOSE	
6	83661316	1	STRAIGHT THREAD CONNECTOR	
7	91033240	1	PRIORITY FLOW VALVE (See HYDRAULIC COMPONENTS SECTION for Brakdown)	
8	88661210	1	CONNECTOR (includes item 10)	
9	90022045	2	HIGH PRESSURE HOSE	
10	88591209	AR	O-RING	
11	88662064	2	ELBOW - 90, (includes o-ring)	
11	88591204	1	O-RING	
12	90027485	1	HIGH PRESSURE HOSE	
13	77133167	1	HOSE ASSY	
14	84717464	1	HOSE ASSY	
15	91033097	1	DIRECTIONAL CONTROL VALVE	
16	88662003	2	CONNECTOR (includes o-ring)	
16	88591202	2	O-RING	
17	90207689	1	TUBE ASSY	
18	88662028	1	CONNECTOR (includes o-ring)	
18	88591210	1	O-RING	
19	88662011	1	CONNECTOR (includes o-ring)	
19	88591210	1	O-RING	
20	88662110	1	ELBOW - 90, (swivel nut)	
21	88662124	1	ELBOW - 45, (swivel nut)	
22	91033168	1	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Brakdown)	
23	90028482	4	HOSE CLAMP	
24	90205783	1	TUBE ASSY	
25	90207362	1	LOW PRESSURE HOSE	
26	88661366	1	HEX CAP, 5/8 TUBE	
27	90041003	1	ELBOW - 90	
28	88662069	1	ELBOW - 90, (includes item 10)	
29	90207567	1	ELBOW - 90	
30	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
31	88662010	1	CONNECTOR (includes item 10)	
32	90206737	1	FORWARD/REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Brakdown)	
33	90205783	1	TUBE ASSY	
34	88662011	1	CONNECTOR (includes o-ring)	
34	88591210	1	O-RING	

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FIGURE 8-8. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 0144407 to Present)



- 1 - See Below
- 2 - See Below
- 3 - See Below
- 4 - See TANK TO PUMP, DRIVE MOTOR DRAINS & RETURN TO TANK for Breakdown
- 5 - See HYDRAULICS-REAR DRIVE for Breakdown
- 6 - See HYDRAULICS-REAR DRIVE for Breakdown
- 7 - See Below
- 8 - See Below



- (E) See HYDRAULICS AND PARKING BREAK LINES for Breakdown
- (K) See HYDRAULICS-OIL COOLER AND PILOT PUMP for Breakdown

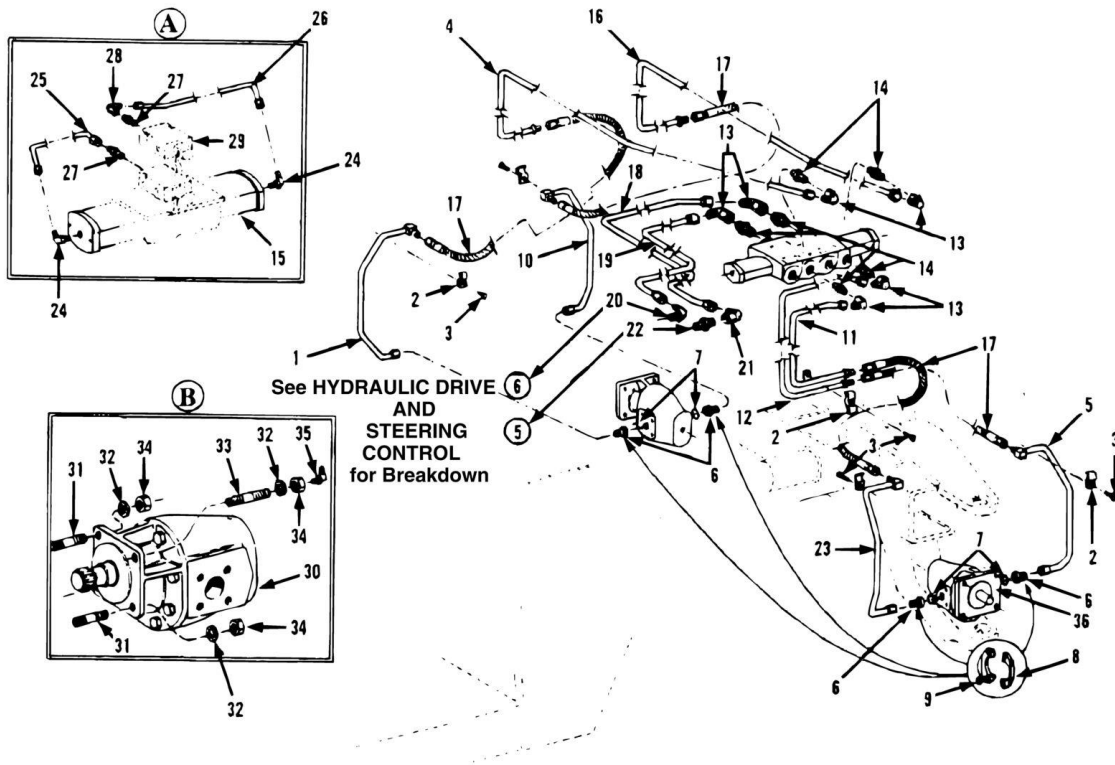
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-8. HYDRAULIC-DRIVE AND STEERING CONTROL (SN 0144407 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662069	1	ELBOW - 90, (includes items 10)	
2	90207690	1	TUBE ASSY	
3	91033144	1	TUBE ASSY	
4	88661365	1	HEX CAP, 1/2 TUBE	
5	77133447	1	HIGH PRESSURE HOSE	
6	83661316	1	STRAIGHT THREAD CONNECTOR	
7	91033240	1	PRIORITY FLOW VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	88661210	1	CONNECTOR (includes item 10)	
9	90022045	2	HIGH PRESSURE HOSE	
10	88591209	AR	O-RING	
11	88662064	2	ELBOW - 90, (includes o-ring)	
11	88591204	1	O-RING	
12	90027485	1	HIGH PRESSURE HOSE	
13	77133167	1	HOSE ASSY	
14	84717464	1	HOSE ASSY	
15	91033097	1	DIRECTIONAL CONTROL VALVE	
16	88662003	2	CONNECTOR (includes o-ring)	
16	88591202	2	O-RING	
17	90207689	1	TUBE ASSY	
18	88662028	1	CONNECTOR (includes o-ring)	
18	88591210	1	O-RING	
19	88662011	1	CONNECTOR (includes o-ring)	
19	88591210	1	O-RING	
20	88662110	1	ELBOW - 90, (swivel nut)	
21	88662124	1	ELBOW - 45, (swivel nut)	
22	91033168	1	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
23	90028482	4	HOSE CLAMP	
24	90205783	1	TUBE ASSY	
25	91043153	1	LOW PRESSURE HOSE	
26	88661366	1	HEX CAP, 5/8 TUBE	
27	90041003	1	ELBOW - 90	
28	88662069	1	ELBOW - 90, (includes item 10)	
29	90207567	1	ELBOW - 90	
30	88743002	1	MALE ADAPTER, 1/4X3/8 TUBE	
31	88662010	1	CONNECTOR (includes item 10)	
32	90206737	1	FORWARD/REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
33	90205783	1	TUBE ASSY	
34	88662011	1	CONNECTOR (includes o-ring)	
34	88591210	1	O-RING	

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FIGURE 8-9. HYDRAULICS-REAR DRIVE (SN 8344001L to Present)



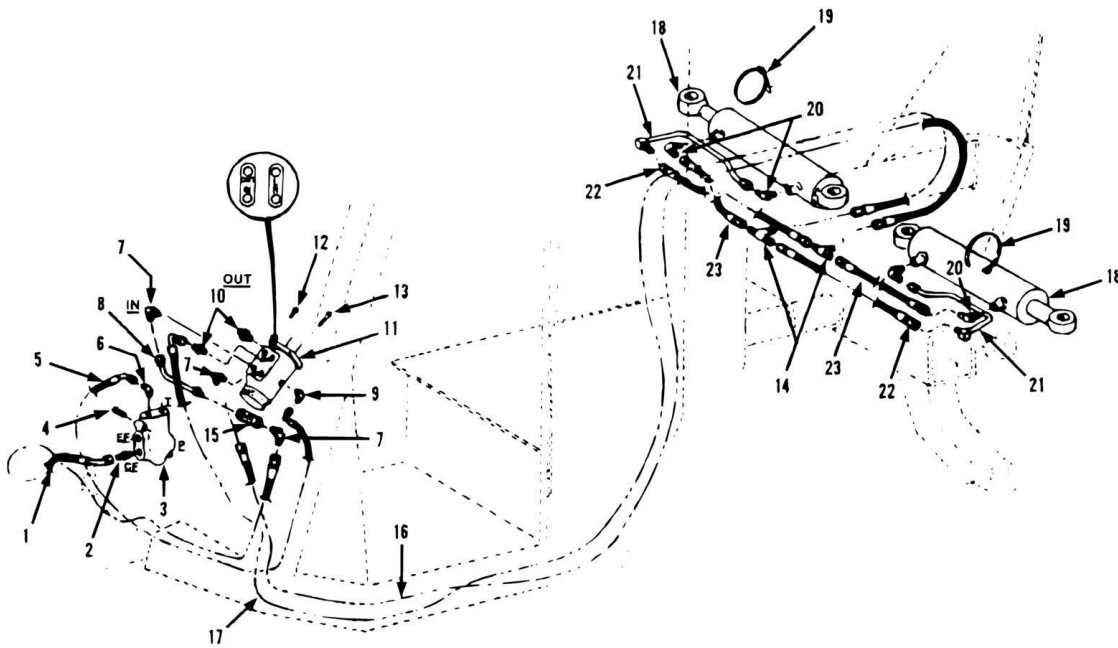
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-9. HYDRAULICS-REAR DRIVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207295	1	TUBE ASSY	
1	91043113	1	TUBE ASSY (SN 8644031G to Present)	
2	90202343	5	TUBE CLAMP	
3	88201036	5	HEX HD CAPSCREW, 3/8-16x1-1/4 GR5	
3	88501006	5	HEX NUT, 3/8-16	
4	90207371	1	TUBE ASSY	
4	91043168	1	TUBE ASSY (SN 8744115G to Present)	
5	90207297	1	TUBE ASSY	
5	91043115	1	TUBE ASSY (SN 8644031G to Present)	
6	90207372	4	ADAPTER	
7	90028225	4	O-RING	
8	84711342	8	FLANGE HALF	
9	88201067	16	HEX HD CAPSCREW, 1/2-13x1-1/2 GR5	
10	90207296	1	TUBE ASSY	
10	91043116	1	TUBE ASSY (SN 8644031G to Present)	
11	90207376	1	TUBE ASSY	
12	90207375	1	TUBE ASSY	
13	83621122	6	ELBOW - 90, (swivel nut)	
14	88662028	6	CONNECTOR (includes o-ring)	
14	88591210	6	O-RING	
15	90206738	1	SERIES PARALLEL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
16	90207373	1	TUBE ASSY	
17	90207290	4	HIGH PRESSURE HOSE (armored)	
18	90207377	1	TUBE ASSY	
19	90207370	1	TUBE ASSY	
20	88662069	1	ELBOW - 90, (includes o-ring)	
20	88591209	1	O-RING	
21	90207567	1	ELBOW - 90, (swivel)	
22	88662010	1	CONNECTOR (includes o-ring)	
22	88591209	1	O-RING	
23	90207298	1	TUBE ASSY	
23	91043114	1	TUBE ASSY (SN 8644031G to Present)	
24	88662064	2	ELBOW - 90	
24	88591204	2	O-RING	
25	90207667	1	TUBE ASSY	
26	90207665	1	TUBE ASSY	
27	88661009	2	CONNECTOR (includes o-ring)	
28	90029930	1	ELBOW - 90, (swivel)	
29	90206739	2	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
30	90206748	2	DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
31	90202327	3	MOTOR MOUNT STUD	
32	90203506	4	WASHER	
33	90206750	1	HOLLOW STUD	
34	88501008	4	HEX NUT, 1/2-13	
35	88671027	1	LUBE FITING - 45 1/4-28	
36	85681076	2	GASKET (drive motor to hub)	

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FIGURE 8-10. STEERING HYDRAULICS (SN 8344001L to Present)



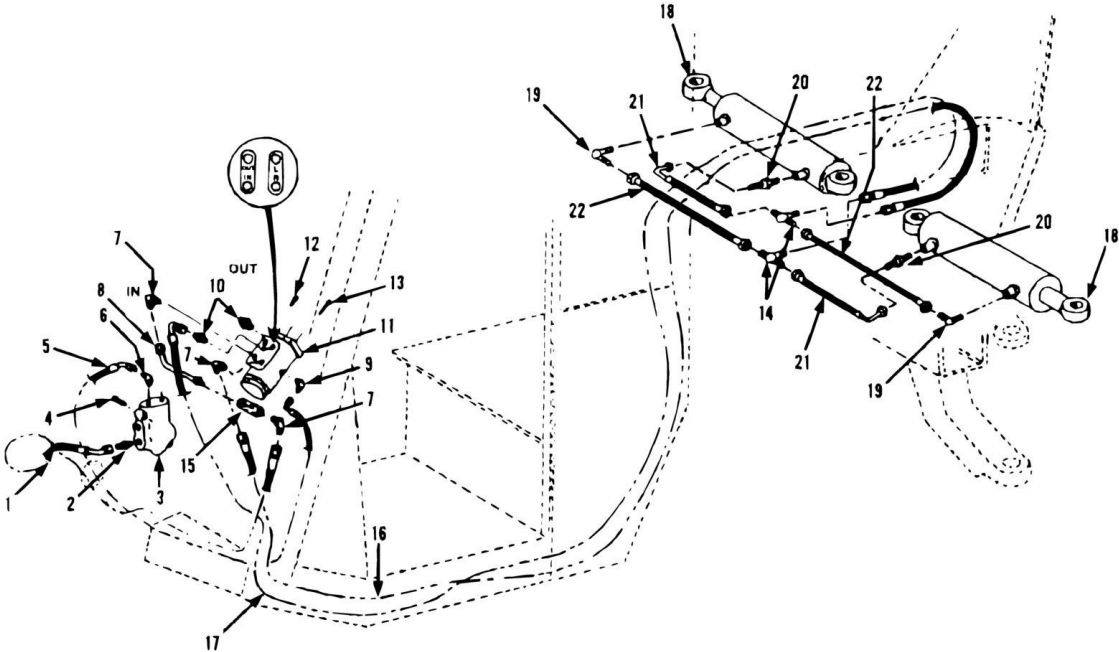
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-10. STEERING HYDRAULICS (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207410	1	HIGH PRESSURE HOSE	
2	88662007	1	CONNECTOR (includes o-ring)	
2	88591206	1	O-RING	
3	90205585	1	LOAD SENSING PRIORITY FLOW CONTROL VALVE	
4	88201028	2	HEX HD CAPSCREW, 5/16-18X3 GR5	
5	90205799	1	HIGH PRESSURE HOSE	
6	83661316	1	CONNECTOR	
7	88662065	3	ELBOW - 90, (includes o-ring)	
7	88591205	3	ORING	
8	90206003	1	TUBE ASSY	
9	90028499	1	ELBOW - 90, STRAIGHT	
10	88662006	2	CONNECTOR (includes O-ring)	
10	88591205	2	O-RING	
11	90206762	1	STEERING ORBITOL	
12	88201033	2	HEX HD CAPSCREW, 3/8-16x3/4 GR5	
13	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2 GR5	
14	90027913	2	STRAIGHT TEE	
15	90202926	1	CHECK VALVE	
16	90207369	1	HIGH PRESSURE HOSE	
17	90207368	1	HIGH PRESSURE HOSE	
18	90801313	2	STEERING CYLINDER	
19	90027713	2	CLAMP	
20	77131088	4	ELBOW - 90, ADJUSTABLE	
21	90601364	2	TUBE ASSY	
22	90207301	2	HIGH PRESSURE HOSE	
23	90205121	2	HIGH PRESSURE HOSE	

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-11. STEERING HYDRAULICS (SN 0144638J to Present)



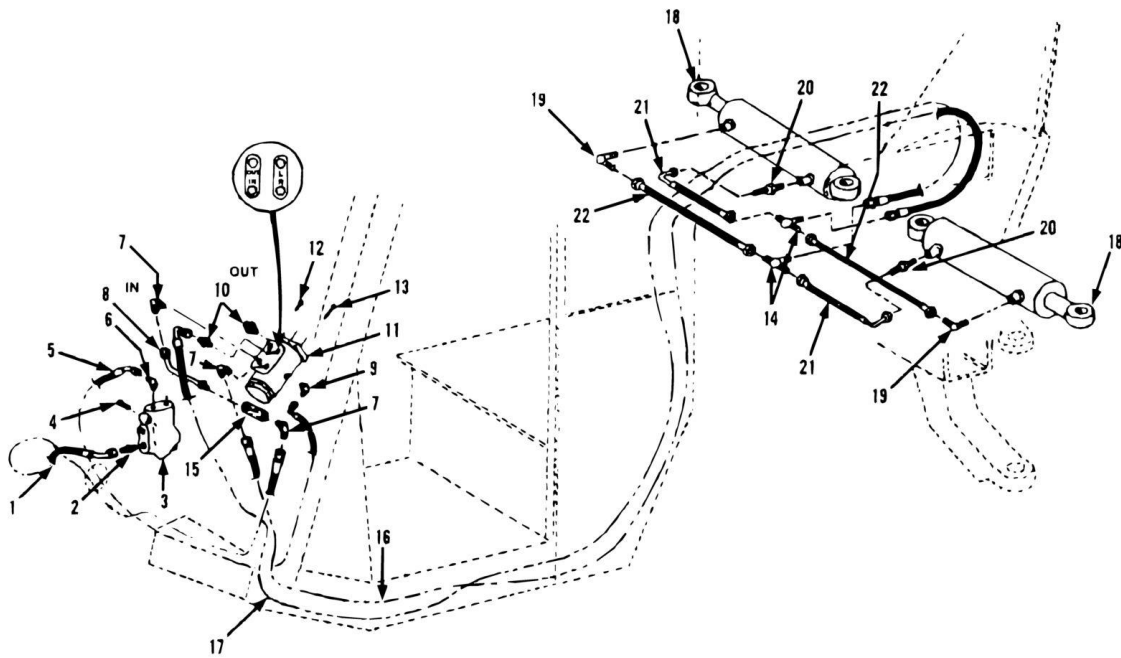
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-11. STEERING HYDRAULICS (SN 0144638J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717550	1	HOSE ASSY	
2	88662007	1	CONNECTOR (includes o-ring)	
2	88591206	1	O-RING	
3	91033240	1	PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
4	88201028	2	HEX HD CAPSCREW, 5/16-18X3 GR5	
5	84717547	1	HOSE ASSY	
6	83661316	1	CONNECTOR	
7	88662065	3	ELBOW - 90, (includes o-ring)	
7	88591205	3	O-RING	
8	90206003	1	TUBE ASSY	
9	90028499	1	ELBOW - 90	
10	88662006	2	CONNECTOR (includes O-ring)	
11	90206762	1	STEERING ORBITOL	
12	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4 GR5 (column to orbitrol)	
13	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2 GR5 (orbitrol to instrument panel)	
14	88661306	2	UNION TEE, 1/2 TUBE	
15	90202926	1	CHECK VALVE	
16	84717549	1	HOSE ASSY	
17	84717548	1	HOSE ASSY	
18	90801313	2	STEERING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	88662064	2	ELBOW - 90, (includes o-ring)	
19	88591204	2	O-RING	
20	88662005	2	CONNECTOR (includes o-ring)	
20	88591204	2	O-RING	
21	84717546	2	HOSE ASSY	
22	84717525	2	HOSE ASSY	

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FIGURE 8-12. STEERING HYDRAULICS (SN 8644862G to Present)



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FIGURE 8-12. STEERING HYDRAULICS (SN 8644862G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717550	1	HOSE ASSY	
2	88662007	1	CONNECTOR (includes o-ring)	
2	88591206	1	O-RING	
3	91033240	1	PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
4	88201028	2	HEX HD CAPSCREW, 5/16-18X3 GR5	
5	84717547	1	HOSE ASSY	
6	83661316	1	CONNECTOR	
7	88662065	3	ELBOW - 90, (includes o-ring)	
7	88591205	3	O-RING	
8	90206003	1	TUBE ASSY	
9	90028499	2	ELBOW - 90	
10	88662006	2	CONNECTOR (includes O-ring)	
11	90206762	1	STEERING ORBITROL	
12	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4 GR5 (column to orbitrol)	
13	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2 GR5 (orbitrol to instrument panel)	
14	90027913	2	STRAIGHT TEE	
15	90202926	1	CHECK VALVE	
16	84717882	1	HIGH PRESSURE HOSE	
17	84717548	1	HIGH PRESSURE HOSE	
18	90801313	2	STEERING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	77131088	2	ELBOW - 90, ADJUSTABLE	
20	88662035	2	CONNECTOR (includes O-ring)	
20	88591204	2	O-RING	
21	84717546	1	HIGH PRESSURE HOSE	
22	84717553	1	HIGH PRESSURE HOSE	

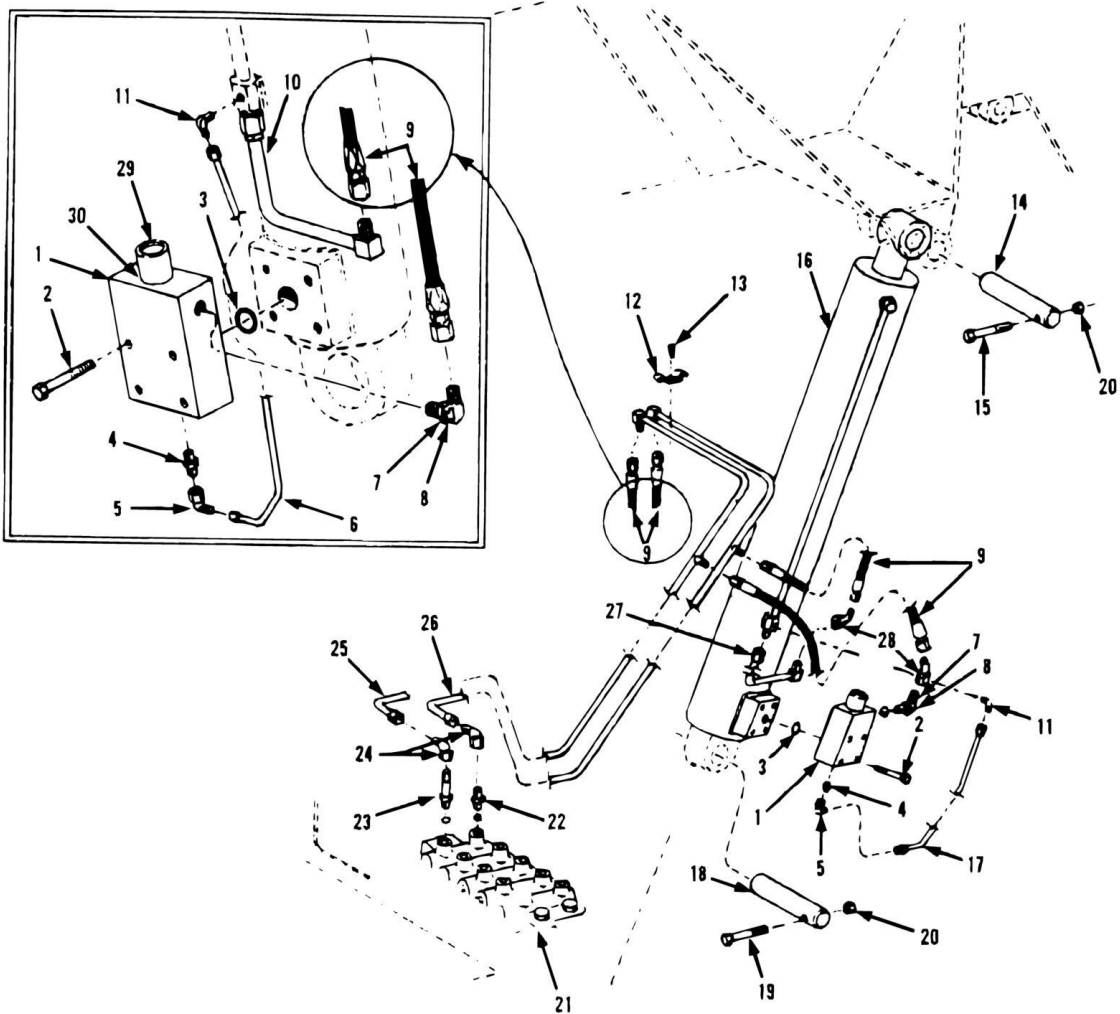
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-13. STEERING HYDRAULICS (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717550	1	HOSE ASSY	
2	88662007	1	CONNECTOR, (includes item 3)	
3	88591206	1	O-RING	
4		Ref	LOAD SENSING FLOW CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	88201028	2	HEX HD CAPSCREW, 5/16-18X3, GR5	
6	84717547	1	HOSE ASSY	
7	83661316	1	CONNECTOR	
8	88662065	3	ELBOW, 90, (includes item 9)	
9	88591205	5	O-RING	
10	90206003	1	TUBE ASSY	
11	90028499	2	ELBOW, 90, (straight)	
12	88662006	2	CONNECTOR, (includes item 9)	
13	90206762	1	STEERING ORBITROL	
14	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5, (column to orbitrol)	
15	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5, (orbitrol to instrument panel)	
16	88661306	2	UNION TEE, 1/2 TUBE	
17	90202926	1	CHECK VALVE	
18	84717882	1	HOSE ASSY	
19	84717548	1	HOSE ASSY	
20		Ref	STEERING CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
21	88662064	2	ELBOW, 90, (includes item 22)	
22	88591204	4	O-RING	
23	88662005	2	CONNECTOR, (includes item 22)	
24	84717546	1	HOSE ASSY	
25	84717525	1	HOSE ASSY	

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FIGURE 8-14. HYDRAULICS-BOOM LIFT WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)



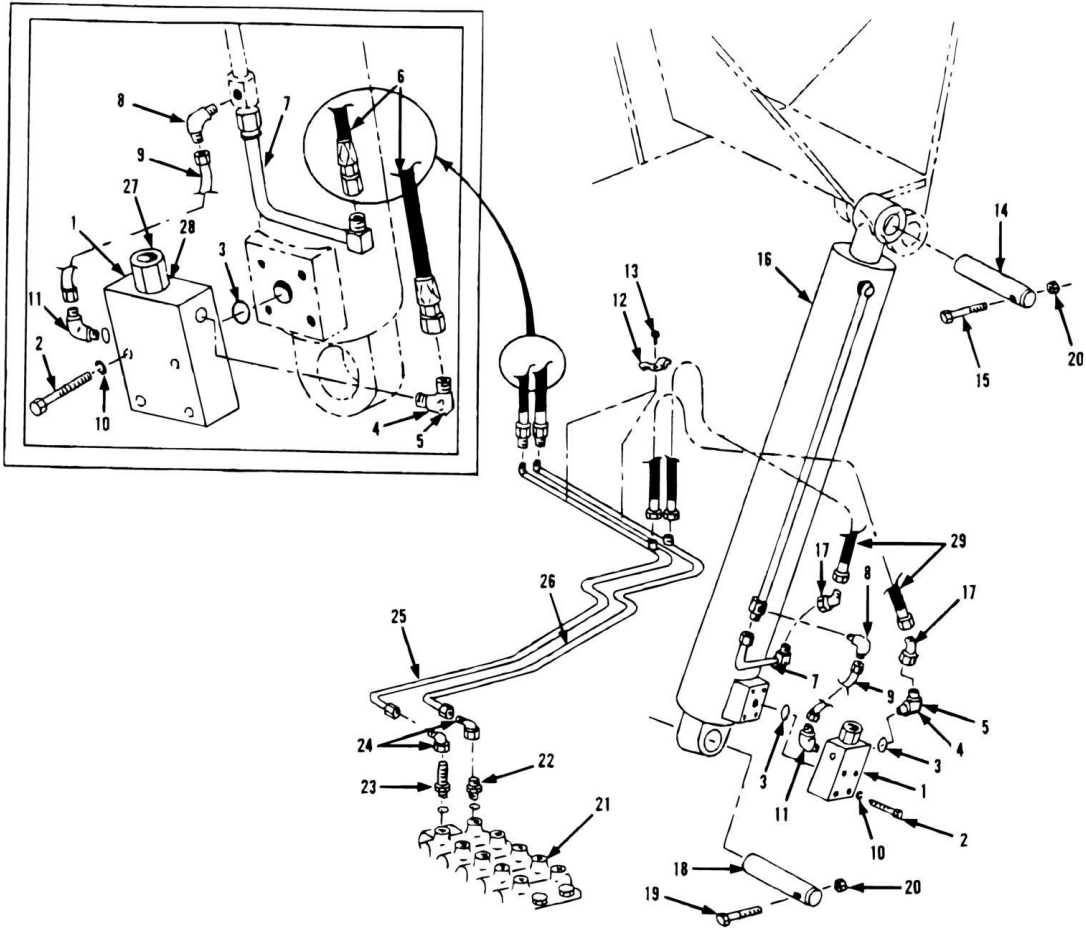
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-14. HYDRAULICS-BOOM LIFT WAUKESHA ENGINE ONLY (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205237	2	COUNTERBALANCE VALVE	
1	91034030	AR	SEAL KIT	
2	88201071	8	HEX HD CAPSCREW, 1/2-13X2-1/2 GR5	
3	88591102	2	O-RING (valve to cylinder)	
4	88662017	2	CONNECTOR (includes o-ring)	
4	88591204	2	O-RING	
5	88662103	2	ELBOW - 90, (swivel nut)	
6	90207380	1	TUBE ASSY	
7	90207379	2	ELBOW - 90, ADJUSTABLE	
8	90208215	2	ORIFICE ELBOW	
9	90022043	4	HIGH PRESSURE HOSE	
10	90207381	1	TUBE ASSY	
11	88743041	2	MALE ELBOW - 90, 1/8X1/4 TUBE	
12	90200483	1	TUBE CLAMP	
13	88201035	1	HEX HD CAPSCREW, 3/8-16X1, GR5	
14	90206892	2	PIN (lift cyl rod end)	
15	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
16		Ref	LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	90207383	1	TUBE ASSY	
18	90402875	2	PIN (lift cyl rod end)	
19	88201104	2	HEX HD CAPSCREW, 5/8-11X3-3/4 GR5	
20	88501010	4	HEX NUT 5/8-11	
21		Ref	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88662025	1	CONNECTOR (includes o-ring)	
22	88591209	1	O-RING	
23	88662038	1	CONNECTOR (includes o-ring)	
23	88591207	1	O-RING	
24	88662108	2	ELBOW - 90, (swivel nut)	
25	90207378	1	TUBE ASSY	
26	90207382	1	TUBE ASSY	
27	90207381	1	TUBE ASSY	
28	88662121	2	ELBOW - 45, (swivel nut)	
29	90205773	2	CARTRIDGE	
30	88591210	2	O-RING (cartridge to valve)	

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FIGURE 8-15. HYDRAULICS-BOOM LIFT (SN 0144637J to Present)



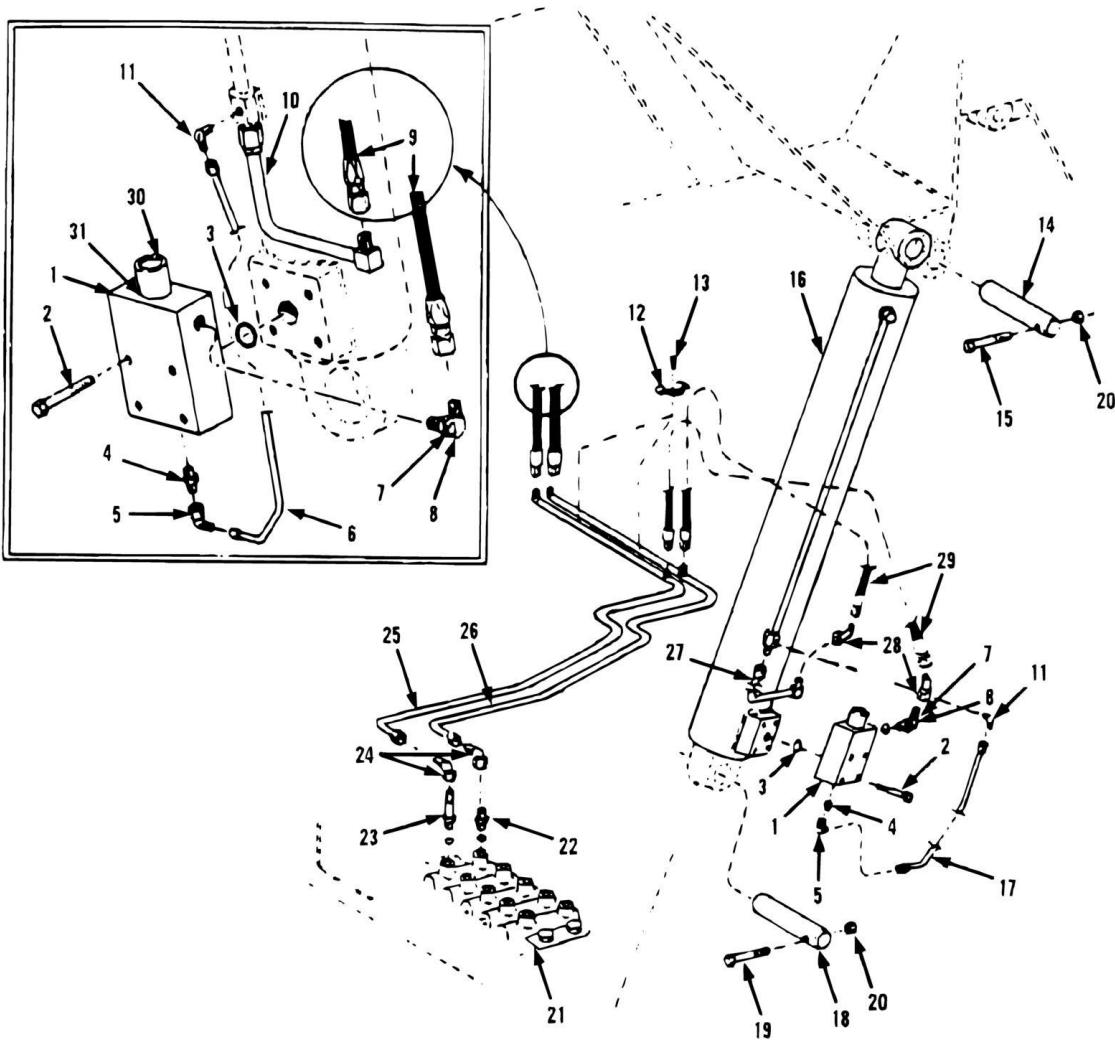
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-15. HYDRAULICS-BOOM LIFT (SN 0144637J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043232	2	COUNTERBALANCE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88201071	8	HEX HD CAPSCREW, 1/2-13X2-1/3 GR5	
3	88591102	2	O-RING	
4	90207379	2	ELBOW - 90, ADJUSTABLE	
5	90208215	2	ORIFICE ELBOW	
6	84716448	2	HOSE ASSY	
7	90207381	1	TUBE ASSY	
8	88743041	2	MALE ELBOW - 90, 1/8X1/4 TUBE	
9	91043069	2	TUBE ASSY	
10	88551013	8	LOCKWASHER 1/2	
11	88743041	2	MALE ELBOW - 90, 1/8X1/4 TUBE	
12	90200483	2	TUBE CLAMP	
13	88201035	2	HEX HD CAPSCREW, 3/8-16X1 GR5	
14	90206892	2	PIN (lift cyl rod end)	
15	88201105	2	HEX HD CAPSCREW, 5/8-11X4 GR5	
16	91033286	2	LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	88662121	2	ELBOW - 45, (swivel nut)	
18	90202875	2	PIN (lift cyl base end)	
19	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
20	88501010	4	HEX NUT, 5/8-11	
21	91033168	1	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88662025	1	CONNECTOR (includes o-ring)	
22	88591209	1	O-RING	
23	88662038	1	CONNECTOR (includes o-ring)	
23	88591207	1	O-RING	
24	88662121	2	ELBOW - 45, (swivel nut)	
25	91033124	1	TUBE ASSY	
26	91033123	1	TUBE ASSY	
27	91043245	2	CARTRIDGE	
28	88591210	2	O-RING (cartridge to valve)	
29	84716015	2	HOSE ASSY	

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FIGURE 8-16. HYDRAULICS-BOOM LIFT (SN 0144407 to Present)



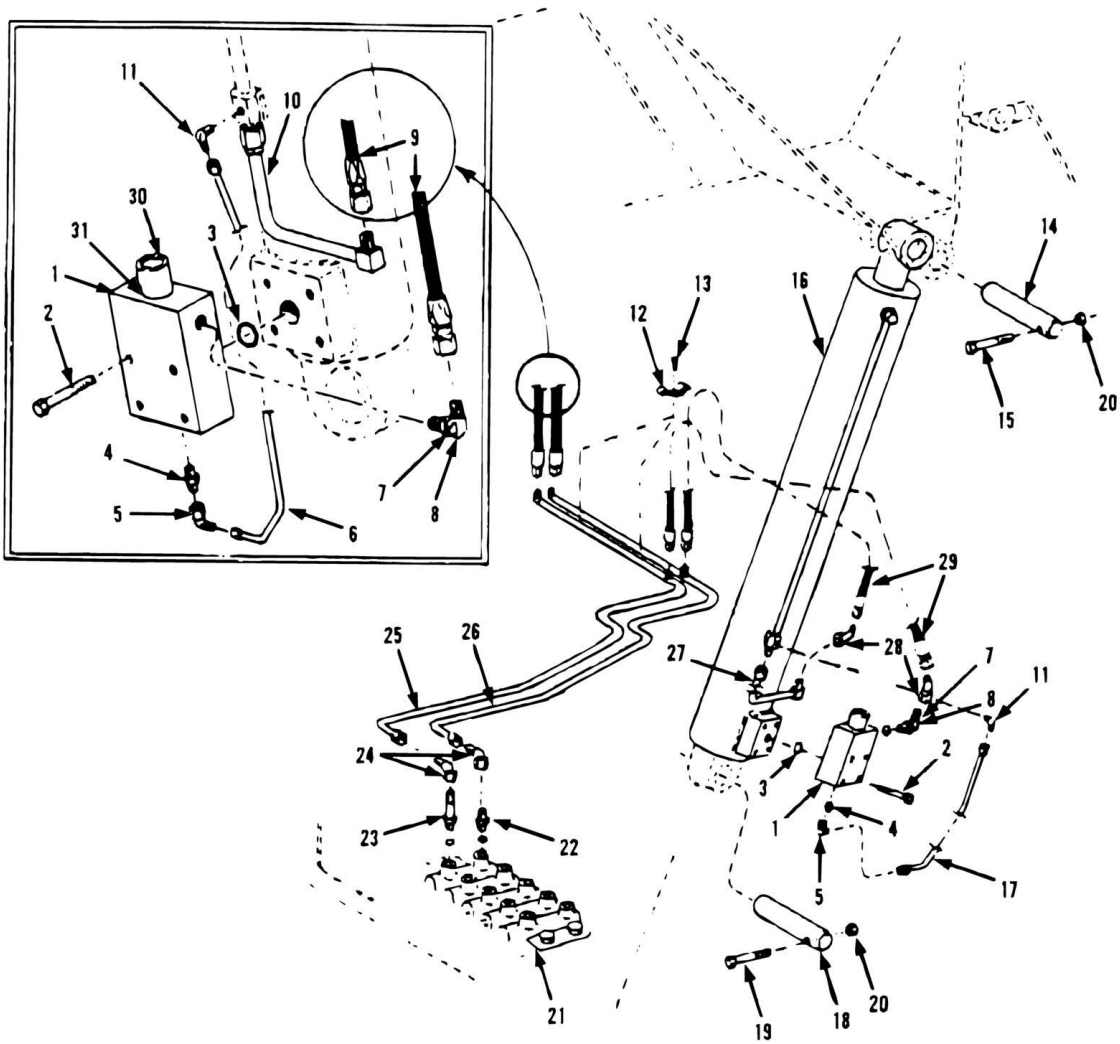
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-16. HYDRAULICS-BOOM LIFT (SN 0144407 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205237	2	COUNTERBALANCE VALVE	
1	91034030	AR	SEAL	
2	88201071	8	HEX HD CAPSCREW, 1/2-13X2-1/2 GR5	
3	88591102	2	O-RING	
4	88662017	2	CONNECTOR (includes o-ring)	
4	88591204	2	O-RING	
5	88662103	2	ELBOW - 90, (swivel nut)	
6	90207380	1	TUBE ASSY	
7	90207379	2	ELBOW - 90, ADJUSTABLE	
8	90208215	2	ORIFICE ELBOW	
9	84716448	2	HOSE ASSY	
10	90207381	1	TUBE ASSY	
11	88743041	2	MALE ELBOW - 90, 1/8X1/4 TUBE	
12	90200483	2	TUBE CLAMP	
13	88201035	2	HEX HD CAPSCREW, 3/8-16X1 GR5	
13	88501006	2	HEX NUT, 3/8-16	
14	90206892	2	PIN (rod end)	
15	88201105	2	HEX HD CAPSCREW, 5/8-11X4 GR5	
16	90801333	Ref	LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	90207383	1	TUBE ASSY	
18	90402875	2	PIN (base end)	
19	88201104	2	HEX HD CAPSCREW, 5/8-11X3-3/4 GR5	
20	88501010	4	HEX NUT, 5/8-11	
21	91033168	Ref	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88662025	1	CONNECTOR (includes o-ring)	
22	88591209	1	O-RING	
23	88662038	1	CONNECTOR (includes o-ring)	
23	88591207	1	O-RING	
24	88662108	2	ELBOW - 90, (swivel nut)	
25	91043096	1	TUBE ASSY	
26	91043095	1	TUBE ASSY	
27	90207381	1	TUBE ASSY	
28	88662121	2	ELBOW - 45, (swivel nut)	
29	84717799	2	HOSE ASSY	
30	90205773	2	CARTRIDGE	
31	88591210	2	O-RING (cartridge to valve)	

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FIGURE 8-17. HYDRAULICS-BOOM LIFT START PERKINS ENGINE ONLY (SN 8444491 to Present)



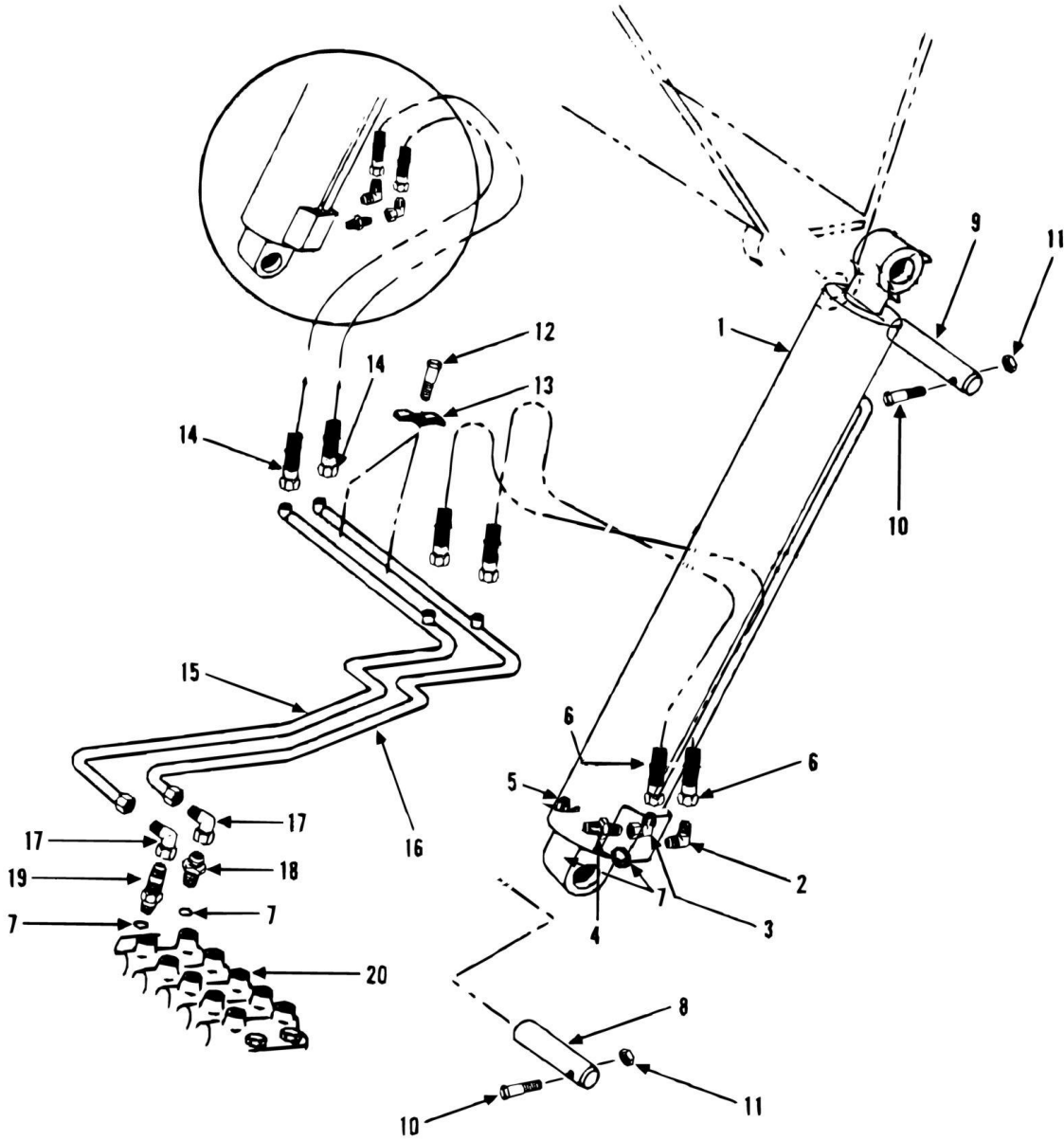
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-17. HYDRAULICS-BOOM LIFT START PERKINS ENGINE ONLY (SN 8444491 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205237	2	COUNTERBALANCE VALVE	
1	91034030	AR	SEAL KIT	
2	88201071	8	HEX HD CAPSCREW, 1/2-13X2-1/2 GR5	
3	88591102	2	O-RING	
4	88662017	2	CONNECTOR (includes o-ring)	
4	88591204	2	O-RING	
5	88662103	2	ELBOW - 90, (swivel nut)	
6	90207380	1	TUBE ASSY	
7	90207379	2	ELBOW - 90, ADJUSTABLE	
8	90208215	2	ORIFICE ELBOW	
9	84716448	2	HOSE ASSY	
10	90207381	1	TUBE ASSY	
11	88743041	2	MALE ELBOW - 90, 1/8X1/4 TUBE	
12	90200483	2	TUBE CLAMP	
13	88201035	2	HEX HD CAPSCREW, 3/8-16X1 GR5	
13	88501006	2	HEX NUT, 3/8-16	
14	90206892	2	PIN (lift cyl rod end)	
15	88201105	2	HEX HD CAPSCREW, 5/8-11X4 GR5	
16		Ref	LIFT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	90207383	1	TUBE ASSY	
18	90402875	2	PIN (lift cyl base end)	
19	88201104	2	HEX HD CAPSCREW, 5/8-11X3-3/4 GR5	
20	88501010	4	HEX NUT, 5/8-11	
21		Ref	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88662025	1	CONNECTOR (includes o-ring)	
22	88591209	1	O-RING	
23	88662038	1	CONNECTOR (includes o-ring)	
23	88591207	1	O-RING	
24	88662108	2	ELBOW - 90, (swivel nut)	
25	91033124	1	TUBE ASSY	
26	91033123	1	TUBE ASSY	
27	90207381	1	TUBE ASSY	
28	88662121	2	ELBOW - 45, (swivel nut)	
29	84716015	2	HOSE ASSY	
30	90205773	2	CARTRIDGE	
31	88591210	2	O-RING (cartridge to valve)	

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FIGURE 8-18. BOOM LIFT (SN 0144784S to Present)



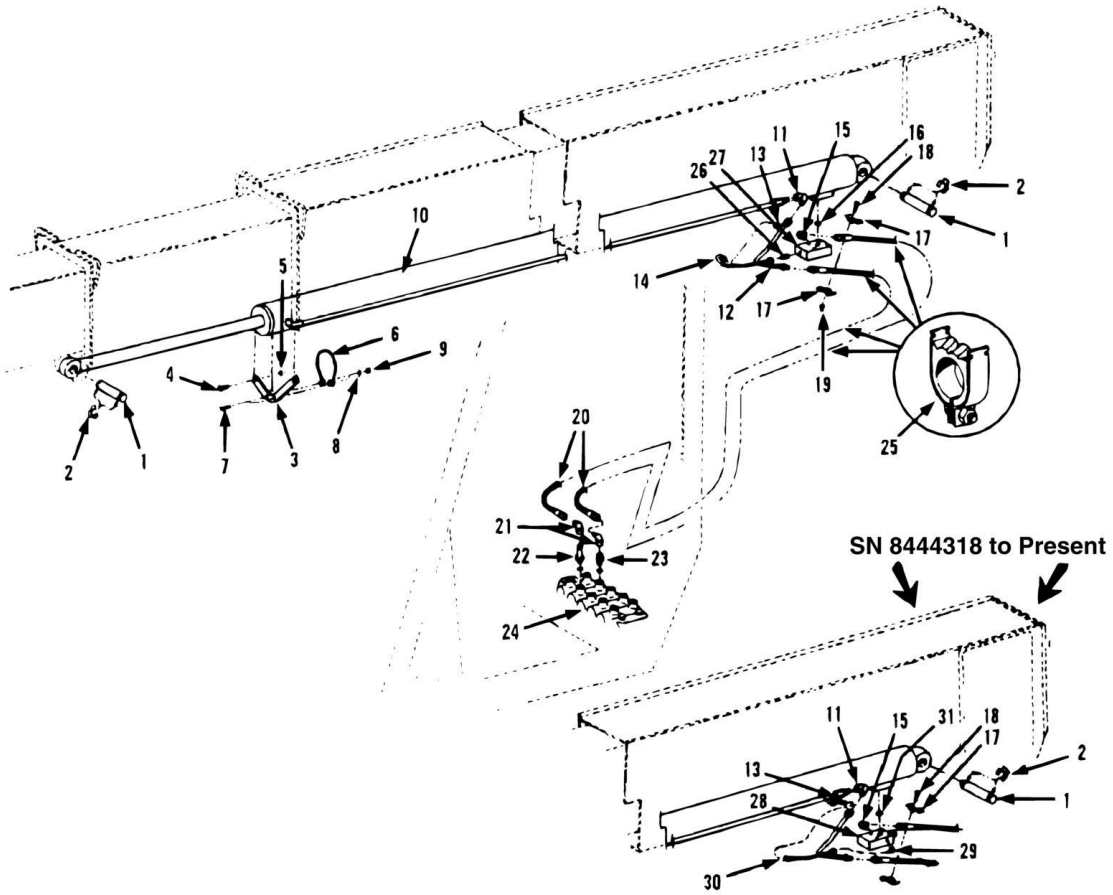
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FIGURE 8-18. BOOM LIFT (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	LIFT CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	86821248	2	ELBOW, 90, (includes item 7)	
3	88662107	2	ELBOW, 90, (swivel nut)	
4	88662022	2	CONNECTOR, (includes item 7)	
5	91034308	1	COUNTERBALANCE VALVE	
6	84717799	2	HOSE ASSY	
7	88591207	6	O-RING	
8	90402875	1	PIN	
9	90206892	1	PIN	
10	83201044	4	HEX HD CAPSCREW, 5/8-11X4, GR8	
11	88501010	4	HEX NUT, 5/8-11	
12	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
13	90200483	2	TUBE CLAMP	
14	84716448	2	HOSE ASSY	
15	91043096	1	TUBE ASSY	
16	91043095	1	TUBE ASSY	
17	88662108	2	ELBOW, 90, (swivel nut)	
18	88662008	1	CONNECTOR, (includes item 7)	
19	88662038	1	CONNECTOR, (includes item 7)	
20		Ref	MAIN CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-19. HYDRAULICS-CROWD (SN 8344001L through 8444317)



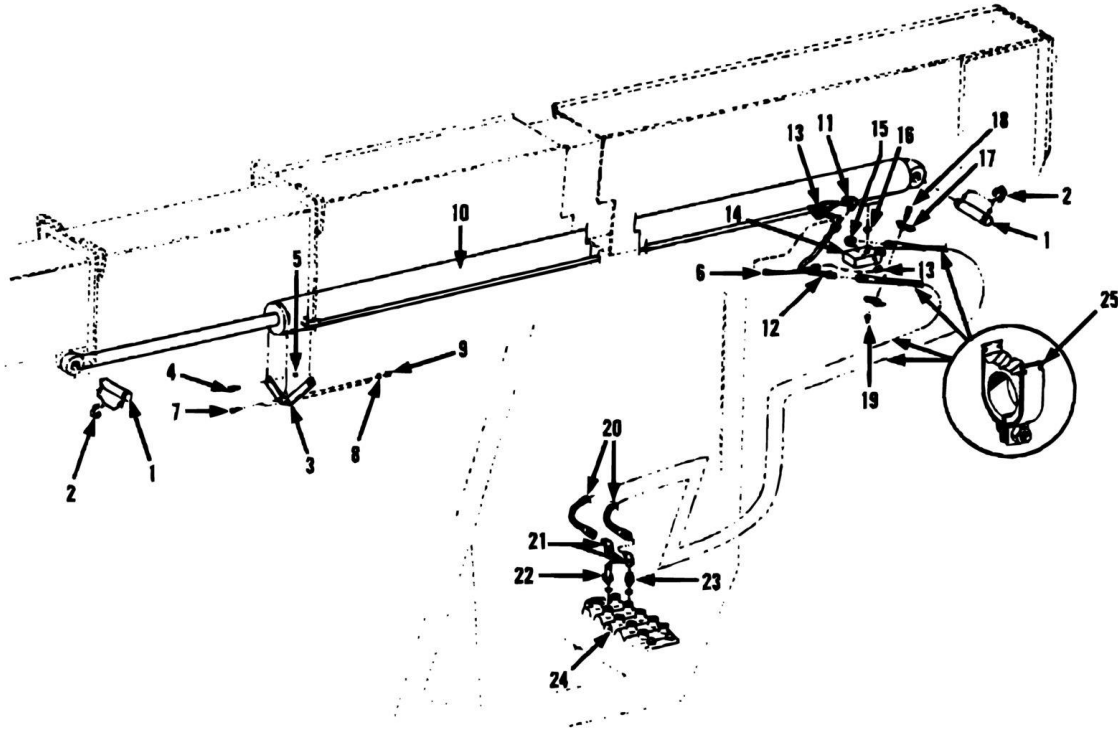
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FIGURE 8-19. HYDRAULICS-CROWD (SN 8344001L through 8444317)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207352	2	PIN	
2	90028935	2	RETAINING RING	
3	90403212	1	CROWD CYLINDER SUPPORT	
4	88201067	2	HEX HD CAPSCREW, 1/2-13x1-1/2 GR5	
5	88501008	2	HEX NUT, 1/2-13	
6	90207575	1	TIE DOWN CROWD	
7	88201008	2	HEX HD CAPSCREW, 1/4-20x1-3/4 GR5	
8	88561107	2	FLAT WASHER, 1/4	
9	88501004	2	HEX NUT, 1/4-20	
10		Ref	CROWD CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
11	88743041	1	MALE ELBOW - 90, 1/8X1/4 TUBE	
12	90205825	1	TUBE ASSY	
13	88662062	1	ELBOW - 90, (includes o-ring)	
13	88591202	1	O-RING	
14	90205824	1	TUBE ASSY	
15	88662067	1	ELBOW - 90, (includes o-ring)	
15	88591207	1	O-RING	
16	88591102	1	O-RING (valve to cylinder)	
17	90200482	2	HOSE CLAMP	
18	88201105	1	HEX HD CAPSCREW, 5/8-11X4 GR5	
19	88501006	1	HEX NUT, 5/8-11	
20	84716039	2	HOSE ASSY	
21	88662108	2	ELBOW - 90, (swive nut)	
22	88662038	1	CONNECTOR (includes o-ring)	
22	88591207	1	O-RING	
23	88662025	1	CONNECTOR (includes o-ring)	
23	88591209	1	O-RING	
24		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
25	90205792	4	HOSE CLAMP	
26	88662017	1	CONNECTOR (includes o-ring)	
26	88591204	1	O-RING	
27	90205237	1	COUNTERBALANCE VALVE	
27	91034030	AR	SEAL KIT	
27	88201072	4	HEX HD CAPSCREW, 1/2-13X2-3/4 GR5	
28	91043232	1	COUNTERBALANCE VALVE	
28	91043245	1	LOAD CONTROL VALVE	
28	88201072	4	HEX HD CAPSCREW, 1/2-13X2-3/4 GR5	
29	88662062	1	ELBOW - 90, (includes o-ring)	
29	88591202	1	O-RING	
30	91033092	1	TUBE ASSY	
31	88591102	1	O-RING (valve to cylinder)	

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FIGURE 8-20. HYDRAULICS-CROWD (SN 0144407 to Present)



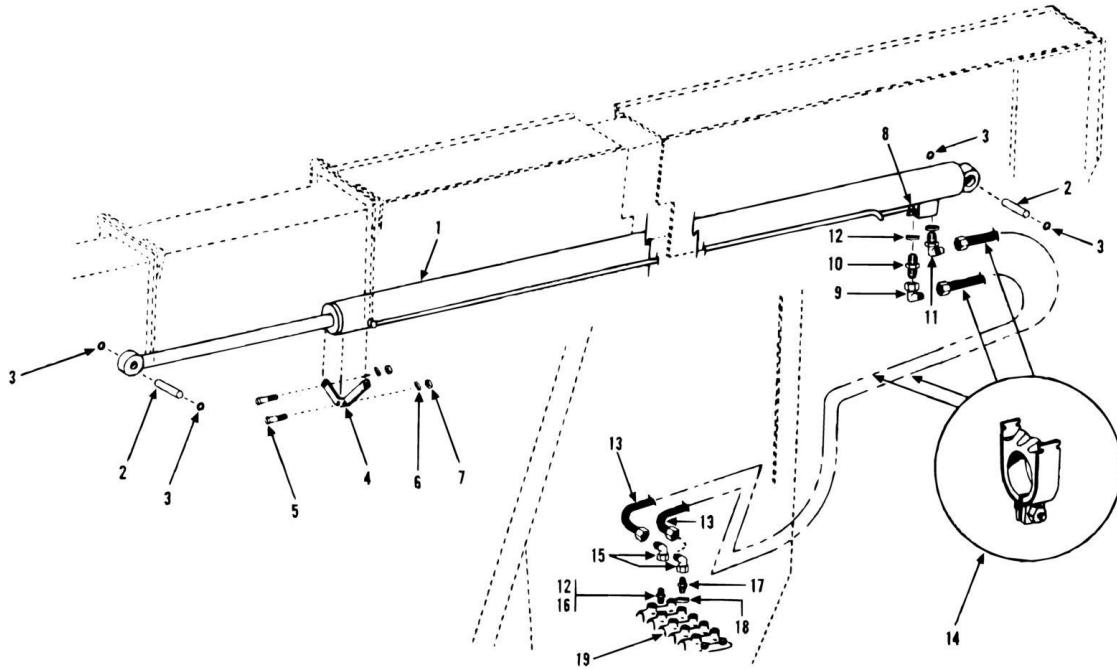
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-20. HYDRAULICS-CROWD (SN 0144407 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207352	2	PIN	
2	90028935	2	RETAINING RING	
3	90403212	1	CROWD CYLINDER SUPPORT	
4	88201067	2	HEX HD CAPSCREW, 1/2-13x1-1/2 GR5	
5	88501008	2	HEX NUT, 1/2-13	
6	91033092	1	TUBE ASSY	
7	88201008	2	HEX HD CAPSCREW, 1/4-20x1-3/4 GR5	
8	88561107	2	FLAT WASHER, 1/4	
9	88501004	2	HEX NUT, 1/4-20	
10	90801293	Ref	CROWD CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
11	88743041	1	MALE ELBOW - 90, 1/8X1/4 TUBE	
12	90205825	1	TUBE ASSY	
13	88662062	2	ELBOW - 90, (includes o-ring)	
13	88591202	2	O-RING	
14	91043232	1	COUNTERBALANCE VALVE	
14	91043245	1	LOAD CONTROL VALVE	
14	88201072	4	HEX HD CAPSCREW, 1/2-13X2-3/4 GR5	
15	88662067	1	ELBOW - 90, (includes o-ring)	
15	88591207	1	O-RING	
16	88591102	1	O-RING (valve to cylinder)	
17	90200482	2	HOSE CLAMP	
18	88201105	1	HEX HD CAPSCREW, 5/8-11X4 GR5	
19	88501106	1	HEX NUT, 5/8-11	
20	84717608	2	HOSE ASSY	
21	88662108	2	ELBOW - 90, (swive nut)	
22	88662038	1	CONNECTOR (includes o-ring)	
22	88591207	1	O-RING	
23	88662025	1	CONNECTOR (includes o-ring)	
23	88591209	1	O-RING	
24	91033168	Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
25	90205792	4	HOSE CLAMP	

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FIGURE 8-21. CROWD (SN 0144784S to Present)



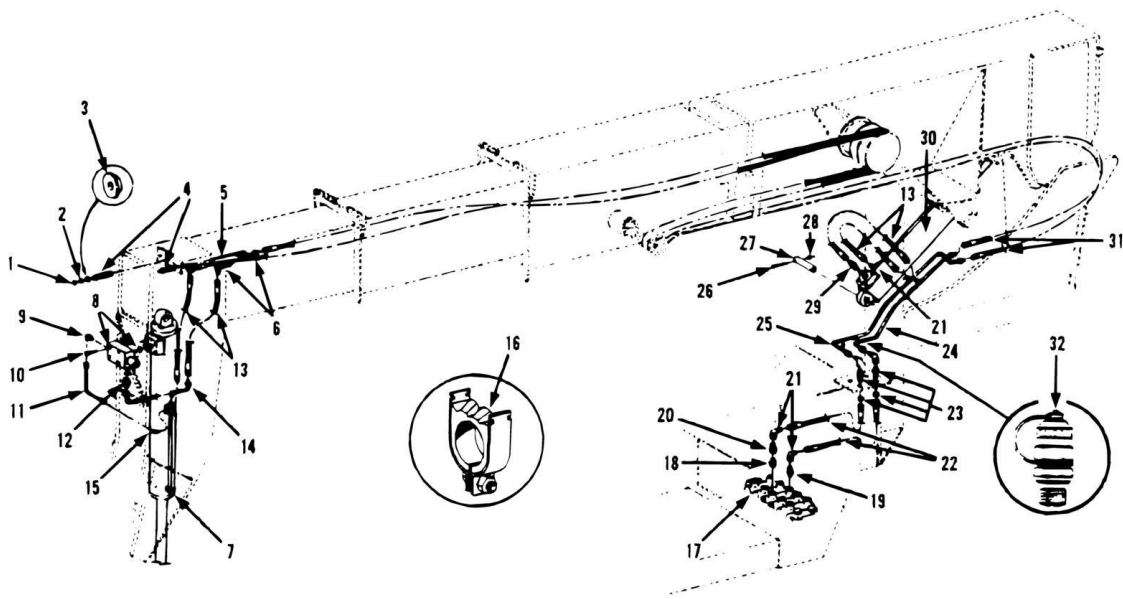
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-21. CROWD (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	CROWD CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	90207352	2	PIN	
3	90028935	4	RETAINING RING	
4	90403212	1	CROWD CYLINDER SUPPORT	
5	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
6	88561107	2	FLATWASHER, 1/4	
7	88501004	2	HEX NUT, 1/4-20	
8	91034308	1	COUNTERBALANCE VALVE, (includes o-ring)	
9	88662108	1	ELBOW, 90, (swivel nut)	
10	88662008	1	CONNECTOR, (includes item 12)	
11	88662067	1	ELBOW, 90, (includes item 12)	
12	88591207	3	O-RING	
13	84717608	2	HOSE ASSY	
14	90205792	4	HOSE CLAMP	
15	88662108	2	ELBOW, 90, (swivel nut)	
16	88662038	1	CONNECTOR, (includes item, 12)	
17	88662025	1	CONNECTOR, (includes item, 18)	
18	88591209	1	O-RING	
19		Ref	MAIN CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-22. HYDRAULICS-TILT AND TILT COMPENSATING (SN 8344001L to Present)



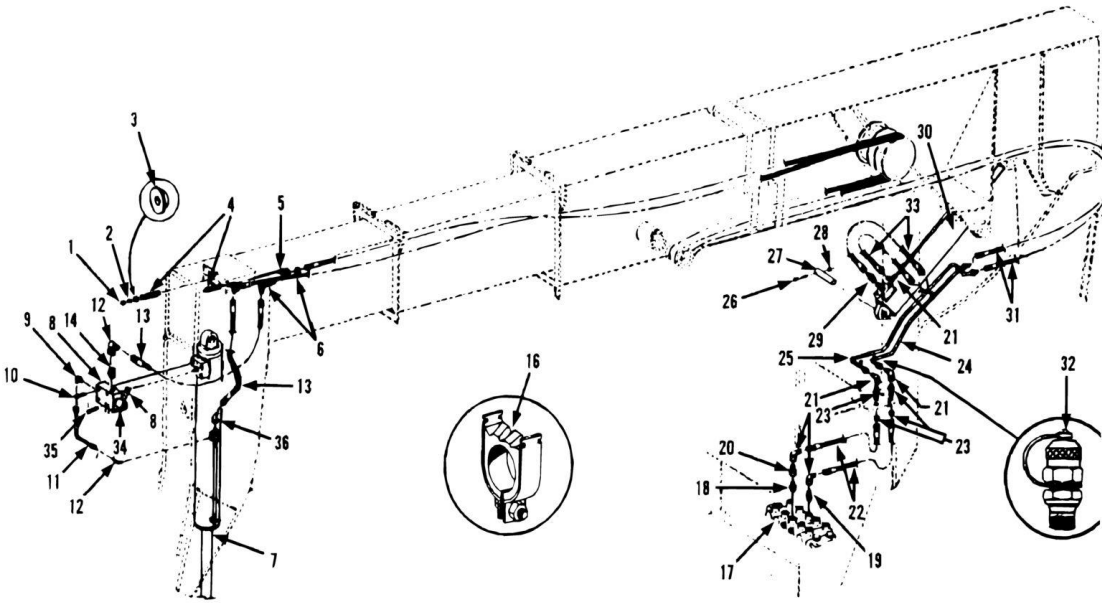
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-22. HYDRAULICS-TILT AND TILT COMPENSATING (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88501008	2	HEX NUT, 1/2-13	
2	88501108	2	HEAVY HEX JAM NUT 1/2-13	
3	90207041	2	RETAINER	
4	90200313	2	SPRING	
5	90403249	2	HOSE BULKHEAD BRACKET	
6	90027180	2	90, FITTING WITH NUT	
7	90801357	1	TILT CYLINDER (6000# unit)	
7	90801327	1	TILT CYLINDER (8000# unit)	
8	90205237	1	COUNTERBALANCE VALVE (includes o-ring) (6000# unit)	
8	91034030	AR	EXTERNAL O-RING KIT	
8	90028228	1	O-RING	
8	91031272	1	VALVE BLOCK (8000# unit)	
8	90205773	1	VALVE CATRIDGE (8000# unit)	
9	90027906	1	ELBOW - 90, ADJUSTABLE	
10	88201071	4	HEX HEAD CAPSCREW 1/2-13X2-1/2 GR5	
11	90207451	1	TUBE ASSY	
12	88662020	1	CONNECTOR (includes o-ring)	
12	88591207	1	O-RING	
13	90022043	4	HIGH PRESSURE HOSE	
14	90207452	1	TUBE ASSY	
15	88743041	1	MALE ELBOW - 90, 1/8X1/4 TUBE	
16	90207463	10	HYDRA ZORB CLAMP	
17	91033168	1	MAIN HYDRAULIC CONTROL VALVE	
18	88662025	1	CONNECTOR (includes o-ring)	
18	88591209	1	O-RING	
19	83451104	1	CONNECTOR	
20	86923006	1	FEMALE CONNECTOR	
21	88662107	5	ELBOW - 90, (swivel nut)	
22	90022043	2	HIGH PRESSURE HOSE	
23	90029939	2	BULKHEAD ADAPTER WITH NUT	
24	90207386	1	TUBE ASSY	
25	90207387	1	TUBE ASSY	
26	88201104	1	HEX HD CAPSCREW 5/8-11X3-3/4 GR5	
27	90206892	1	COMPENSATING CYLINDER BASE PIN	
28	88501010	1	HEX NUT, 5/8-11	
29	88662021	1	CONNECTOR (includes o-ring)	
29	88591205	1	O-RING	
30	90801291	1	TILT COMPENSATING CYLINDER (6000#unit)	
30	90801328	1	TILT COMPENSATING CULINDER (8000#unit)	
31	90206888	2	HIGH PRESSURE HOSE	
32	91033032	2	MINI-CHECK	

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FIGURE 8-23. TILT AND TILT COMPENSATING HYDRAULICS (SN 8744142G to Present)



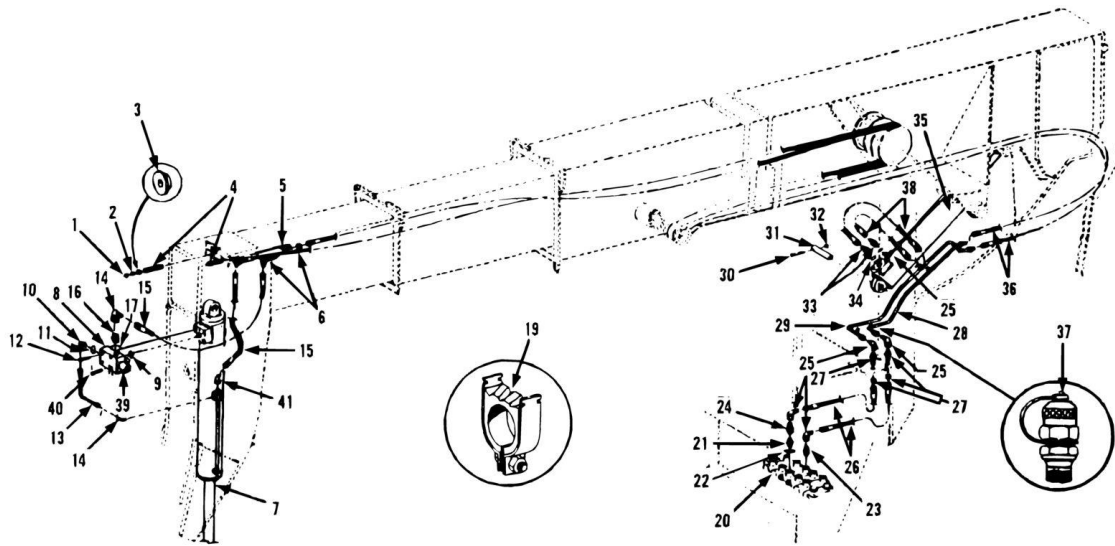
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-23. TILT AND TILT COMPENSATING HYDRAULICS (SN 8744142G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88501008	2	HEX NUT, 1/2-13	
2	88501108	2	HEAVY HEX JAM NUT 1/2-13	
3	90207041	2	RETAINER	
4	90200313	2	SPRING	
5	90403249	2	BRACKET (hose bulkhead)	
6	90027180	2	90, BULKHEAD FITTING (with nut)	
7	90801327	1	TILT CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	91031272	1	VALVE BLOCK	
8	88591102	1	O-RING (block to cylinder)	
9	88662062	1	ELBOW - 90, (includes o-ring)	
9	88591202	1	O-RING	
10	88201073	2	HEX HD CAPSCREW 1/2-13X3 GR5	
11	90207883	1	TUBE ASSY	
12	88662106	1	ELBOW - 90, (swivel nut)	
13	90022043	2	HOSE ASSY	
14	88662020	1	CONNECTOR (includes o-ring)	
14	88591207	1	O-RING	
15	88743041	1	MALE ELBOW - 90, 1/8X1/4	
16	90207463	10	CLAMP	
17		Ref	MAIN HYDRAULIC CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
18	88662025	1	CONNECTOR (includes o-ring)	
18	88591209	1	O-RING	
19	83451102	1	CONNECTOR	
20	86923006	1	FEMALE CONNECTOR	
21	88662107	5	ELBOW - 90, (swivel nut)	
22	90022043	2	HOSE ASSY	
23	90029939	2	BULKHEAD ADAPTER (with nut)	
24	90207386	1	TUBE ASSY	
25	90207387	1	TUBE ASSY	
26	88201104	1	HEX HD CAPSCREW, 5/8-11X3-3/4 GR5	
27	90206892	2	PIN (comp cyl both ends)	
28	88501010	1	HEX NUT, 5/8-11	
29	88662021	1	CONNECTOR (includes o-ring)	
29	88591205	1	O-RING	
30	90801328	1	TILT COMPENSATING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
31	90206888	2	HIGH PRESSURE HOSE	
32	91033032	2	MINI-CHECK	
33	90023042	2	HOSE ASSY	
34	90205773	1	CARTRIDGE	
35	88211105	2	SOCKET HD CAPSCREW, 1/2-13X1 GR8	
36	88662120	1	ELBOW - 45, (swivel nut)	

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FIGURE 8-24. TILT AND TILT COMPENSATING HYDRAULICS (SN 0144784S to Present)



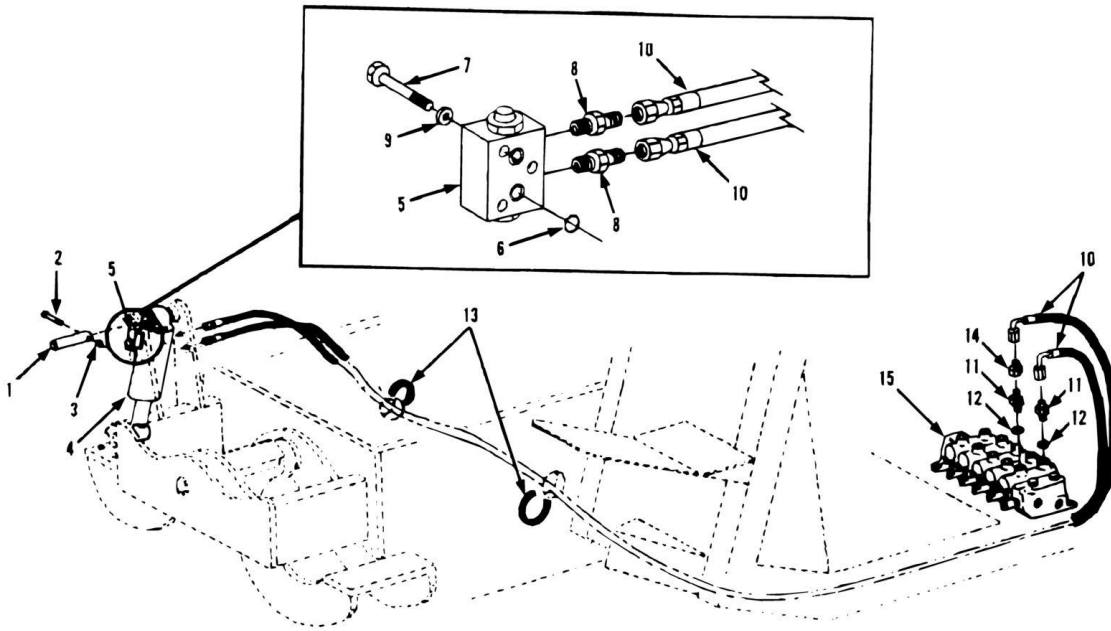
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-24. TILT AND TILT COMPENSATING HYDRAULICS (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88501008	2	HEX NUT, 1/2-13	
2	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
3	90207041	2	RETAINER	
4	90200313	2	SPRING	
5	90403249	2	BRACKET, (hose bulkhead)	
6	90027180	2	BULKHEAD FITTING-90, (with nut)	
7		Ref	TILT CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	91031272	1	VALVE BLOCK	
9	88591102	1	O-RING, (block to cylinder)	
10	88662062	1	ELBOW, 90, (includes item 11)	
11	88591202	1	O-RING	
12	88201073	2	HEX HD CAPSCREW, 1/2-13X3, GR5	
13	90207883	1	TUBE ASSY	
14	88662106	1	ELBOW, 90, (swivel nut)	
15	84717922	2	HOSE ASSY	
16	88662020	1	CONNECTOR, (includes item 17)	
17	88591207	1	O-RING	
18	88743041	1	MALE ELBOW, 90, 1/8X1/4	
19	90207463	10	CLAMP	
20		Ref	MAIN HYDRAULIC CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
21	88662025	1	CONNECTOR, (includes item 22)	
22	88591209	1	O-RING	
23	83451102	1	CONNECTOR	
24	86923006	1	FEMALE CONNECTOR	
25	88662107	5	ELBOW, 90, (swivel nut)	
26	90022043	2	HOSE ASSY	
27	90029939	2	BULKHEAD ADAPTER, (with nut)	
28	90207386	1	TUBE ASSY	
29	90207387	1	TUBE ASSY	
30	88201104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
31	90206892	2	PIN, (comp. cyl both ends)	
32	88501010	1	HEX NUT, 5/8-11	
33	88662021	2	CONNECTOR, (includes item 34)	
34	88591205	2	O-RING	
35		Ref	TILT COMPENSATING CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
36	90206888	2	HIGH PRESSURE HOSE	
37	91033032	2	MINI-CHECK	
38	90023042	2	HOSE ASSY	
39	90205773	1	CARTRIDGE	
40	88211105	2	SOCKET HD CAPSCREW, 1/2-13X1, GR8	
41	88662120	1	ELBOW, 45, (swivel nut)	

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FIGURE 8-25. UNIT SWAY HYDRAULICS (SN 8644031G to Present)



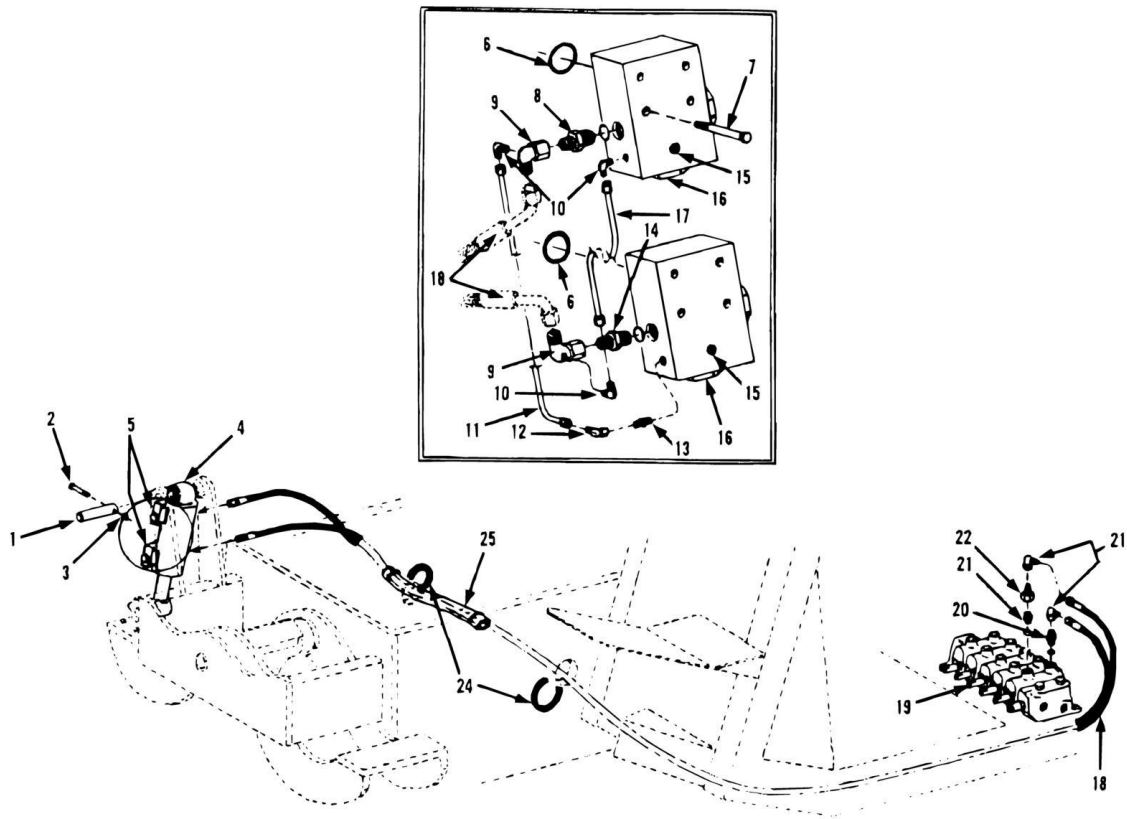
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-25. UNIT SWAY HYDRAULICS (SN 8644031G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90402876	1	SWAY CYLINDER BASE PIN	
2	88201104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
3	88501010	1	HEX NUT, 5/8-11	
4	91043139	1	SWAY CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	91053354	1	DUAL P.O. CHECK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
6	88591012	1	O-RING	
7	88201041	3	HEX HD CAPSCREW, 3/8-16x2-1/2, GR5	
8	88662006	2	CONNECTOR (includes O-ring)	
8	88591205	2	O-RING	
9	88551011	3	LOCKWASHER, 3/8	
10	91033224	2	HOSE ASSY	
11	88662020	2	CONNECTOR (includes item 12)	
12	88591207	2	O-RING	
13	90206200	2	TRIM LOCK	
14	83651133	1	REDUCER	
15	91033168	Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-26. UNIT SWAY HYDRAULICS (SN 8344001L through 8644030G)



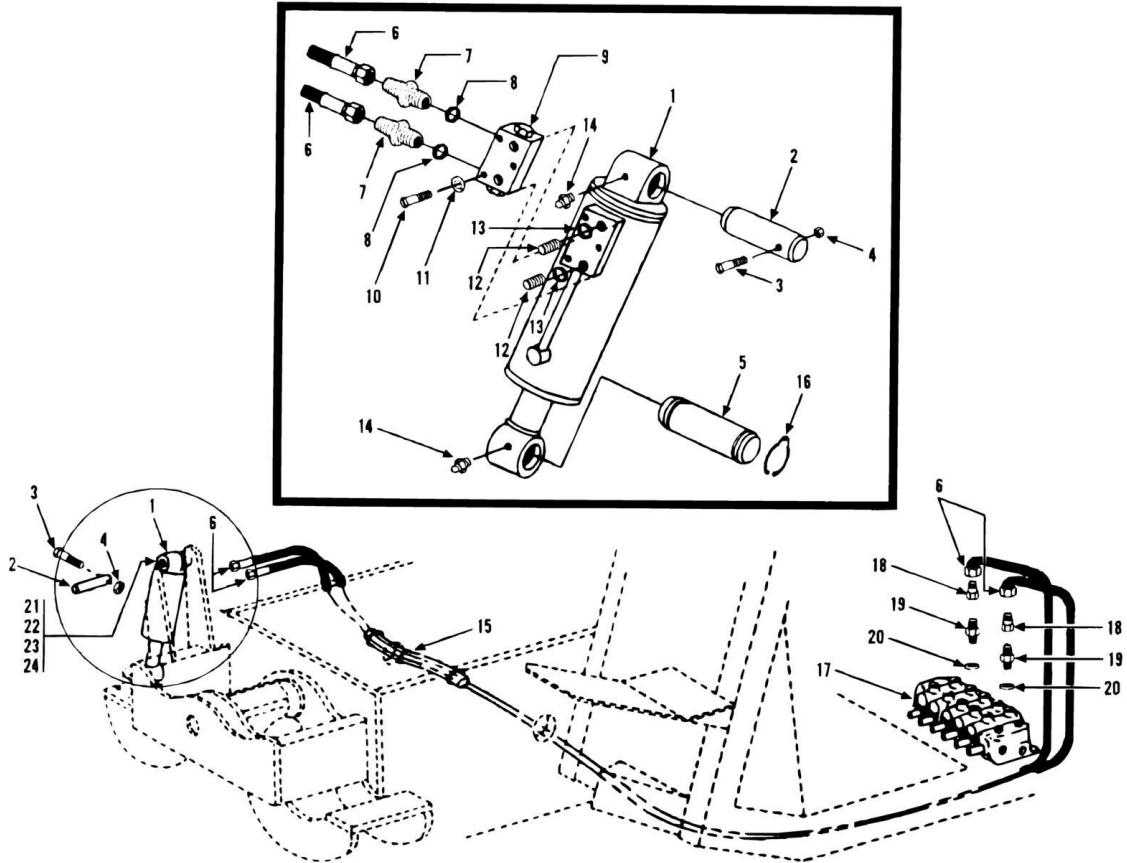
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-26. UNIT SWAY HYDRAULICS (SN 8344001L through 8644030G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90402876	1	SWAY CYLINDER BASE PIN	
2	88201104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
3	88501010	1	HEX NUT, 5/8-11	
4	90801270	1	SWAY CYLINDER	
5	90400066	2	BLOCK VALVE	
6	90028217	2	O-RING (valve to cylinder)	
7	88201042	8	HEX HD CAPSCREW, 3/8-16X2-3/4, GR5	
8	90207390	1	CONNECTOR (with orifice) includes o-ring	
8	90203421	1	ORIFICE (for connector above)	
9	90207389	2	SPECIAL, 90, ELBOW	
10	90026400	3	90, STRAIGHT ELBOW	
11	90207391	1	TUBE ASSY	
12	88662103	1	ELBOW - 90, (swivel nut)	
13	88743000	1	MALE ADAPTER 1/8X1/4 TUBE	
14	88662020	1	CONNECTOR (includes o-ring)	
14	88591207	1	O-RING	
15	88711280	2	HEX SOCKET PIPE PLUG 1/8	
16	90600727	2	VALVE CARTRIDGE	
17	90207392	1	TUBE ASSY	
18	91033224	2	HIGH PRESSURE HOSE	
19	91033168	1	MAIN HYDRAULIC VALVE	
20	88662020	1	CONNECTOR (includes o-ring)	
20	88591207	1	O-RING	
21	88662106	2	ELBOW - 90, (swivel nut)	
22	83651133	1	REDUCER	
23	88662008	1	CONNECTOR (includes o-ring)	
23	88591207	1	O-RING	
24	90206200	2	RUBBER GROMMET (bulk, in frame)	
25	91033043	1	HOSE	
25	90027184	3	TY-RAP	

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FIGURE 8-27. UNIT SWAY HYDRAULICS (SN 0144784S to Present)



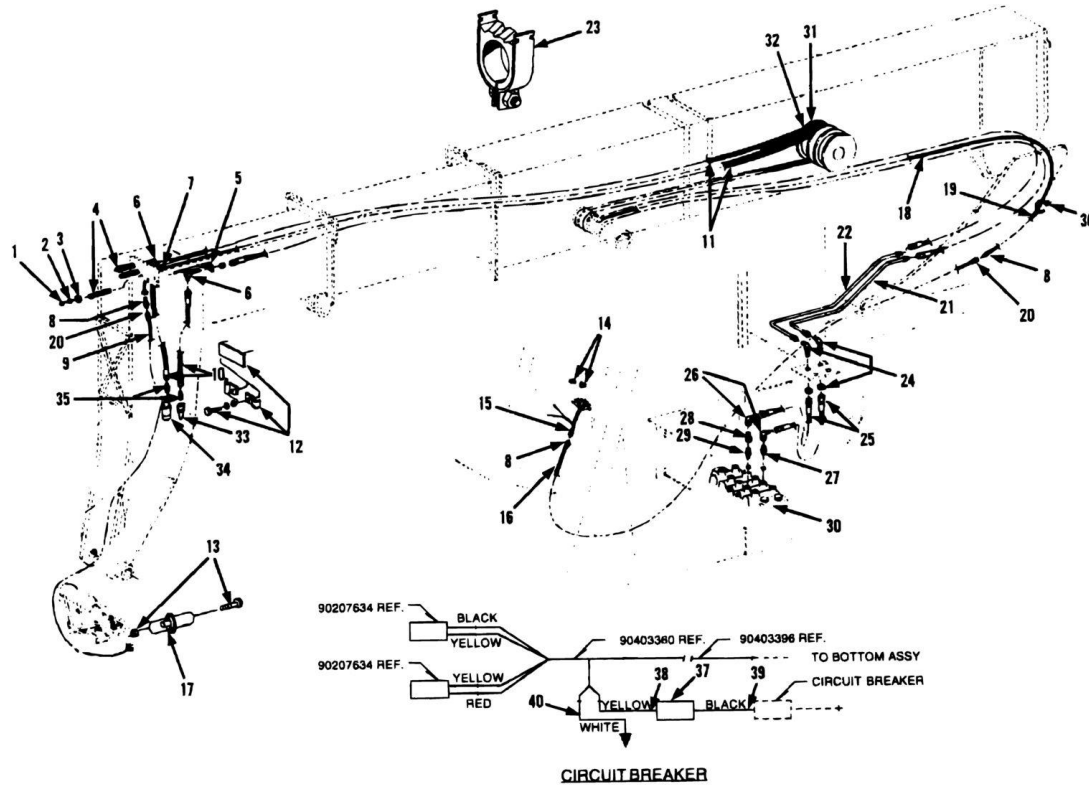
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-27. UNIT SWAY HYDRAULICS (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91045103	1	SWAY CYLINDER ASSY, (includes items 1,7 thru 11 & 13)	
1		Ref	SWAY CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	90402876	1	PIN	
3	83201044	1	HEX HD CAPSCREW, 5/8-11X4, GR8	
4	88501010	1	HEX NUT, 5/8-11	
5	90207352	1	PIN	
6	91033224	1	HOSE ASSY	
7	88662006	2	CONNECTOR, (includes item 8)	
8	88591205	2	O-RING	
9		Ref	DUAL P.O CHECK VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
10	88201041	3	HEX HD CAPSCREW, 3/8-16x2-1/2, GR5	
11	88551011	3	LOCKWASHER, 3/8	
12	91041387	2	ORIFICE PLUG	
13	88591012	2	O-RING	
14	88671033	2	LUBE FITTING-STRAIGHT, 1/4-28	
15	91033043	1	HOSE	
16	90028935	2	RETAINING RING	
17		Ref	MAIN CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
18	83651133	2	REDUCER	
19	88662008	2	CONNECTOR, (includes item 20)	
20	88591207	2	O-RING	
21	90207730	AR	SHIM, (1/4in thick)	
22	90207729	AR	SHIM, (10 gauge)	
23	90207728	AR	SHIM, (16 gauge)	
24	90207727	AR	SHIM, (20 gauge)	

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FIGURE 8-28. HYDRAULICS - AUXILIARY AND ELECTRICAL A (AUXILIARY HYDRAULIC ASSY) (SN 8344001L to Present)



* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

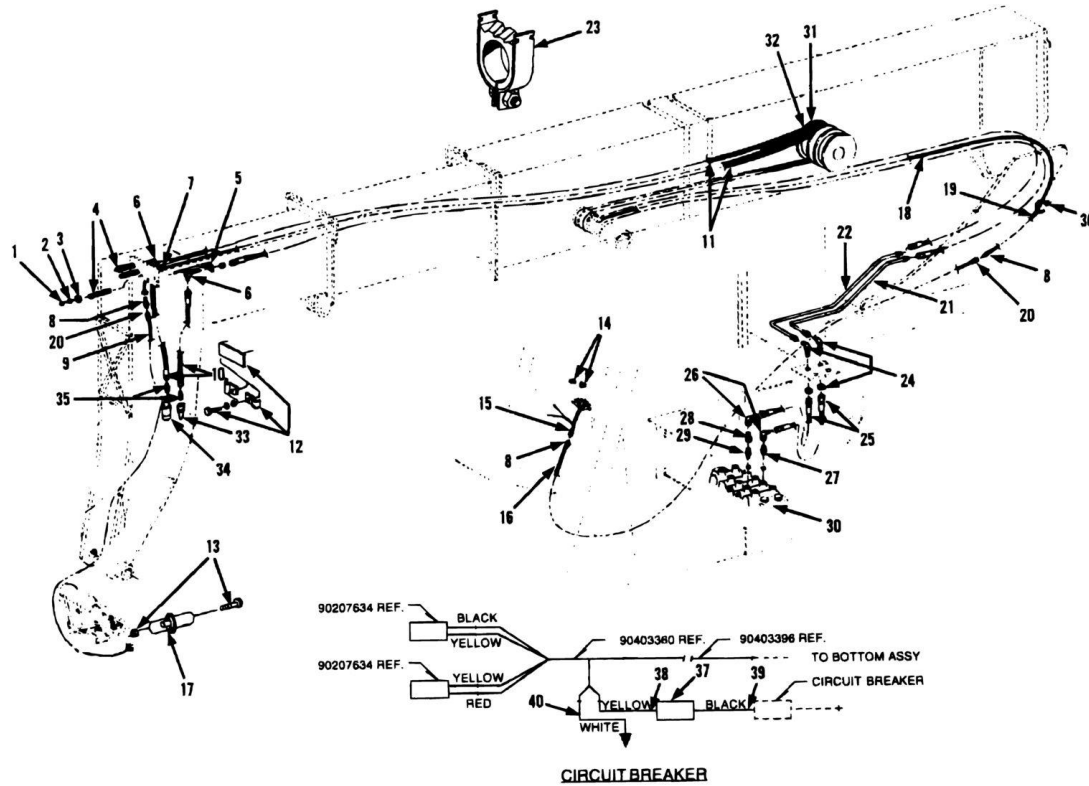
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-28. HYDRAULICS - AUXILIARY AND ELECTRICAL A (AUXILIARY HYDRAULIC ASSY) (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035017		AUXILIARY HYDRAULIC ASSY (includes following items from CONTROLS SECTION)	
9	90200290	6	BEARING	
19	90206045	1	CONTROL PANEL	
19	90020489	4	#2 PAN HD SCREW	
21	90205981	1	CONTROL HANDLE	
22	90200688	1	CONTROL ROD BEARING	
24	90200559	1	SPRING	
25	88561113	10	FLATWASHER	
26	90021557	1	CLEVIS PIN	
26	88631309	1	COTTER PIN, 3/32X3/4	
27	90205983	1	BELLCRANK	
28	90402904	1	CONTROL PANEL	
		Ref	(includes following items from CONTROLS SECTION)	
1	90202361	1	CONTROL ROD	
2	88821004	3	ADJUSTABLE YOKE END	
3	90027987	3	SPRING CLEVIS	
4	88501406	3	HEX NUT, 3/8-24	
5	90205533	1	BELLCRANK	
9	90205546	1	LINKAGE ROD	
22	90021552	1	CLEVIS PIN	
22	88631301	1	COTTER PIN, 1/16X1/2	
		Ref	(includes following items from HYDRAULIC CIRCUIT SECTION)	
21	90207393	1	TUBE ASSY	
22	91043196	1	TUBE ASSY	
24	90029938	2	90, BULKHEAD FITTING (includes nut)	
25	90022043	2	HOSE ASSY	
26	88662107	2	ELBOW - 90, (swivel nut)	
27	88662022	1	CONNECTOR (includes O-ring)	
27	88591207	1	O-RING	
28	86923006	1	REDUCER - EXPANDER	
29	88662008	1	CONNECTOR (includes o-ring)	
29	88591207	1	O-RING	
37	90206347	1	CIRCUIT BREAKER	
38	90207645	1	JUMPER WIRE	
39	90200351	1	JUMPER WIRE	
40	90207716	1	JUMPER WIRE	

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FIGURE 8-29. HYDRAULICS - AUXILIARY AND ELECTRICAL B (AUXILIARY HYDRAULIC PARTS) (SN 8344001L to Present)



* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

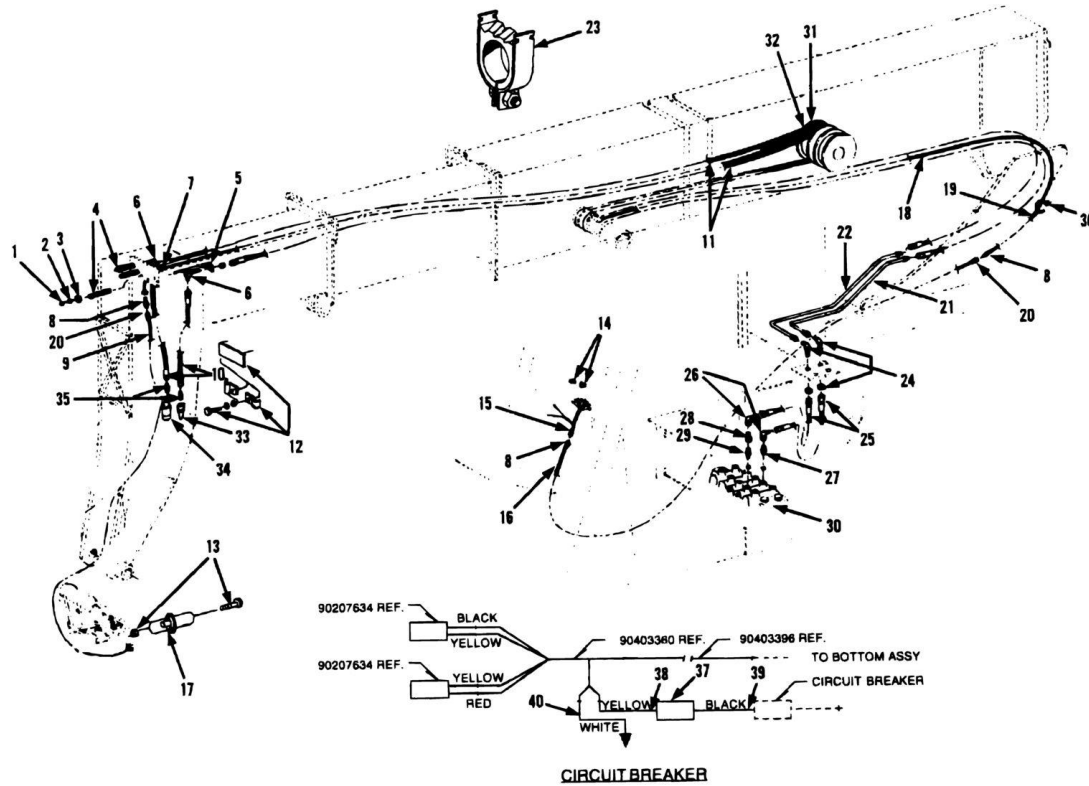
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-29. HYDRAULICS - AUXILIARY AND ELECTRICAL B (AUXILIARY HYDRAULIC PARTS) (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035018		AUXILIARY HYDRAULIC PARTS (includes the following parts from HYDRAULIC CIRCUIT SECTION)	
1	88501108	3	HEX JAM NUT, 1/2-13	
2	88501008	3	HEX NUT, 1/2-13	
3	90207041	3	SPRING RETAINER	
4	90200313	3	SPRING	
5	90403249	3	ADJUSTING BULKHEAD	
6	90027180	2	90, BULKHEAD FITTING (includes nut)	
10	77133147	2	HOSE ASSY	
11	90206888	2	HOSE ASSY	
12	91031186	1	HOSE MOUNTING BAR	
12	88521144	2	HOSE CLAMP	
12	88201032	1	HEX HD CAPSCREW, 3/8-16X5/8, GR5	
12	88551011	1	LOCKWASHER, 3/8	
12	88551109	1	FLAT WASHER, 3/8	
31	91043100	1	SHEAVE	
32	91031069	1	SPACER	
33	90204244	1	HYDRAULIC COUPLER - MALE	
34	90204245	1	HYDRAULIC COUPLER - FEMALE	
35	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE	

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FIGURE 8-30. HYDRAULICS - AUXILIARY AND ELECTRICAL C (AUXILIARY ELECTRIC INSTALLATION) (SN 8344001L to Present)



* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

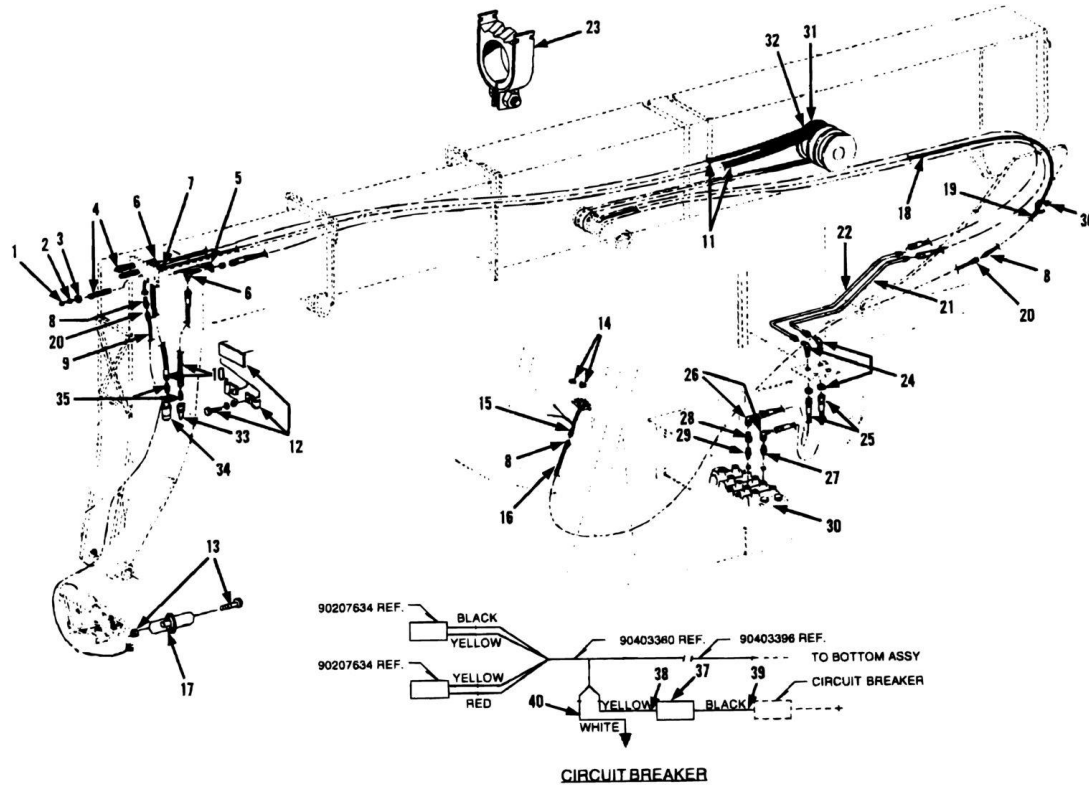
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-30. HYDRAULICS - AUXILIARY AND ELECTRICAL C (AUXILIARY ELECTRIC INSTALLATION) (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035082		AUXILIARY ELECTRIC INSTALLATION (includes the following items from CONTROLS SECTION)	
4	90200299	1	KNOB	
9	90200290	2	BEARING	
20	90206128	1	CONTROL HANDLE	
22	90200688	1	BEARING	
23	90206222	1	SPACER	
26	90021557	1	CLEVIS PIN	
26	88631309	1	COTTER PIN, 3/32X3/4	
27	90205983	1	BELLCRANK	
36	88671008	1	LUBE FITTING - STRAIGHT, 1/4-28	
		Ref	(includes the following items from HYDRAULIC CIRCUIT SECTION)	
13	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
13	88551009	2	LOCKWASHER, 1/4	
13	88501004	2	HEX NUT, 1/4-20	
15	90403360	1	AUXILIARY DASH HARNESS	
16	90403396	1	AUXILIARY WIRING HARNESS	
17	90207661	1	FEMALE ELECTRICAL SOCKET	
36	90027187	20	NYLON TIES	
37	90206347	1	CIRCUIT BREAKER	
38	90207645	1	JUMPER WIRE	
39	90200351	1	JUMPER WIRE	
40	90207716	1	JUMPER WIRE	

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FIGURE 8-31. HYDRAULICS - AUXILIARY AND ELECTRICAL D (AUXILIARY HYDRAULIC WITH (SN 8344001L to Present)



* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

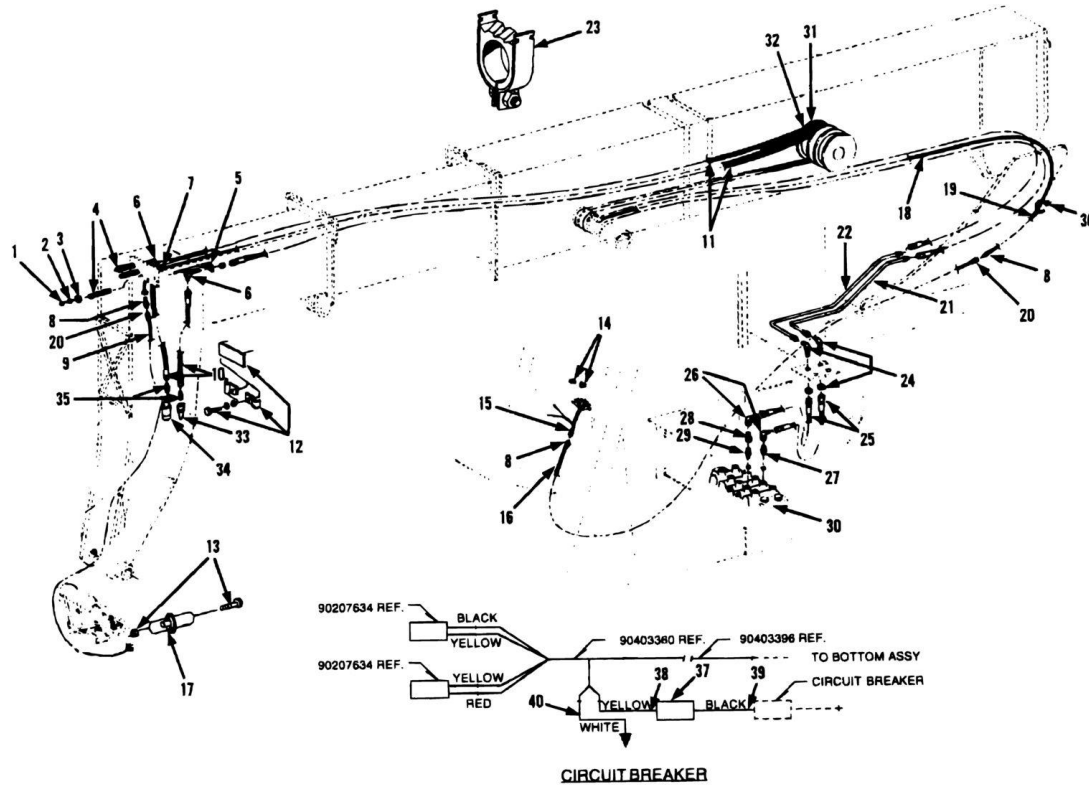
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-31. HYDRAULICS - AUXILIARY AND ELECTRICAL D (AUXILIARY HYDRAULIC WITH (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035087		AUXILIARY HYDRAULIC WITH ELECTRICS (includes the following parts from CONTROLS SECTION)	
1	88501108	3	HEX JAM NUT, 1/2-13	
2	88501008	3	HEX NUT, 1/2-13	
3	90207041	3	SPRING RETAINER	
4	90200313	3	SPRING	
5	90403249	3	ADJUSTABLE BULKHEAD	
6	90027180	2	90, BULKHEAD FITTING (includes nut)	
8	90028955	3	ELECTRICAL CONNECTOR (male)	
9	90207470	1	WIRING HARNESS	
10	77133147	2	HOSE ASSY	
11	90206888	2	HOSE ASSY	
12	91031186	1	HOSE MOUNT BAR	
12	86521144	2	HOSE CLAMP	
12	88201032	1	HEX HD CAPSCREW, 3/8-16X5/8, GR5	
12	88551011	1	LOCKWASHER, 3/8	
12	88561109	1	FLAT WASHER, 3/8	
13	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
13	88551009	2	LOCKWASHER, 1/4	
13	88501004	2	HEX NUT, 1/4-20	
17	90207661	1	FEMALE ELECTRICAL SOCKET	
18	90207243	1	CABLE COVER HOSE	
19	90207633	1	AUXILIARY WIRING HARNESS	
31	91043101	1	SHEAVE	
33	90204244	1	HYDRAULIC COUPLER - MALE	
34	90204245	1	HYDRAULIC COUPLER - FEMALE	
35	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE	
36	90027187	20	NYLON TIES	
41	90028978	1	CABLE CLAMP	

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FIGURE 8-32. HYDRAULICS - AUXILIARY AND ELECTRICAL E (AUXILIARY HYDRAULICS FIELD KIT)
(SN 8344001L to Present)



* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

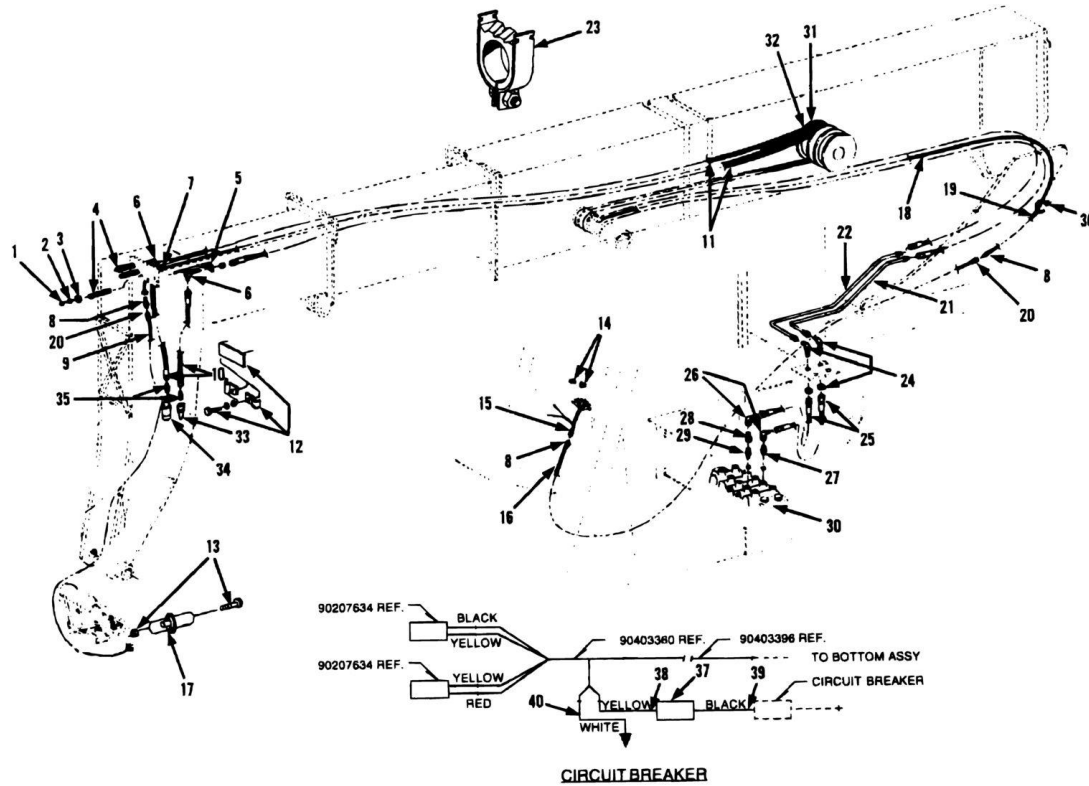
SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-32. HYDRAULICS - AUXILIARY AND ELECTRICAL E (AUXILIARY HYDRAULICS FIELD KIT)
(SN 8344001L to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035109		AUXILIARY HYDRAULIC FIELD KIT (includes the following items from CONTROLS SECTION)	
9	90205546	1	LINKAGE ROD (includes following items from pg 9-9)	
26	88662107	2	ELBOW - 90, (swivel nut)	
27	88662022	1	CONNECTOR (includes O-ring)	
27	88591207	1	O-RING	
28	86923006	1	REDUCER - EXPANDER	
29	88662008	1	CONNECTOR (includes o-ring)	
29	88591207	1	O-RING	
		Ref	(includes the following items from HYDRAULIC COMPONENTS SECTION)	
	91033239	1	CONVERSION KIT	

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FIGURE 8-33. HYDRAULICS - AUXILIARY AND ELECTRICAL F (AUXILIARY ELECTRICS FIELD KIT)
(SN 8344001L to Present)



* NOTE: WHEN UTILIZING AJOINING PARTS LISTS PAY CAREFUL ATTENTION TO PAGES REFERENCED.

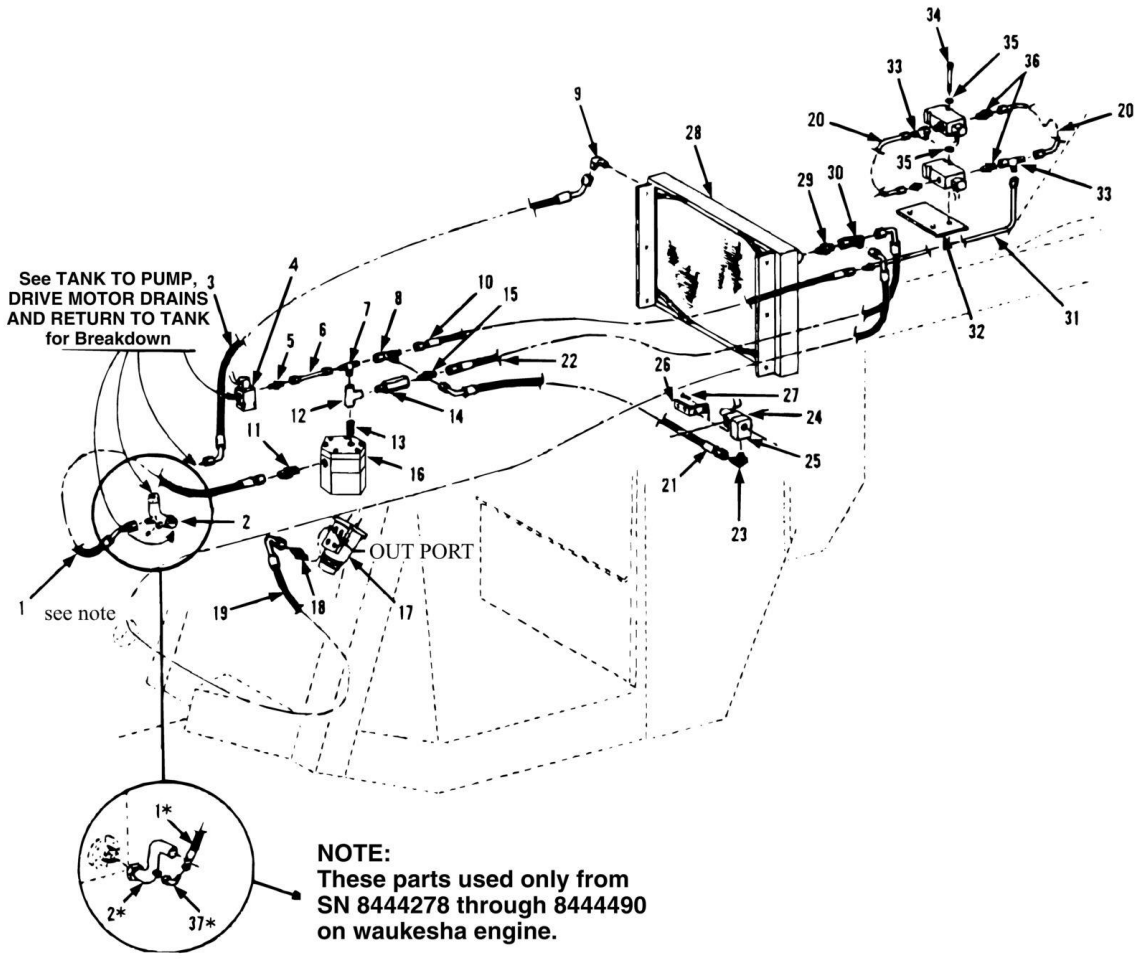
SECTION 8 - HYDRAULIC CIRCUIT

**FIGURE 8-33. HYDRAULICS - AUXILIARY AND ELECTRICAL F (AUXILIARY ELECTRICS FIELD KIT)
(SN 8344001L to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035169		AUXILIARY ELECTRICS FIELD KIT (includes the following items from pg 9-9)	
1	88501108	1	HEX JAM NUT, 1/2-13	
2	88501008	1	HEX NUT, 1/2-13	
3	90207041	1	SPRING RETAINER	
4	90200313	1	SPRING	
5	90403249	1	ADJUSTABLE BULKHEAD	
7	90207583	1	STRAIGHT BULKHEAD FITTING (includes nut)	
8	90028955	1	ELECTRICAL CONNECTOR (male)	
9	90207470	1	WIRING HARNESS	
18	90207243	1	CABLE COVER HOSE	
19	90207633	1	AUXILIARY WIRING HARNESS	
31	91043101	1	SHEAVE	
36	90027187	20	NYLON TIES	
41	90028978	1	CABLE CLAMP	
41	90207464	1	CUSHION CLAMP (not shown)	

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FIGURE 8-34. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8344001 through 8444277)



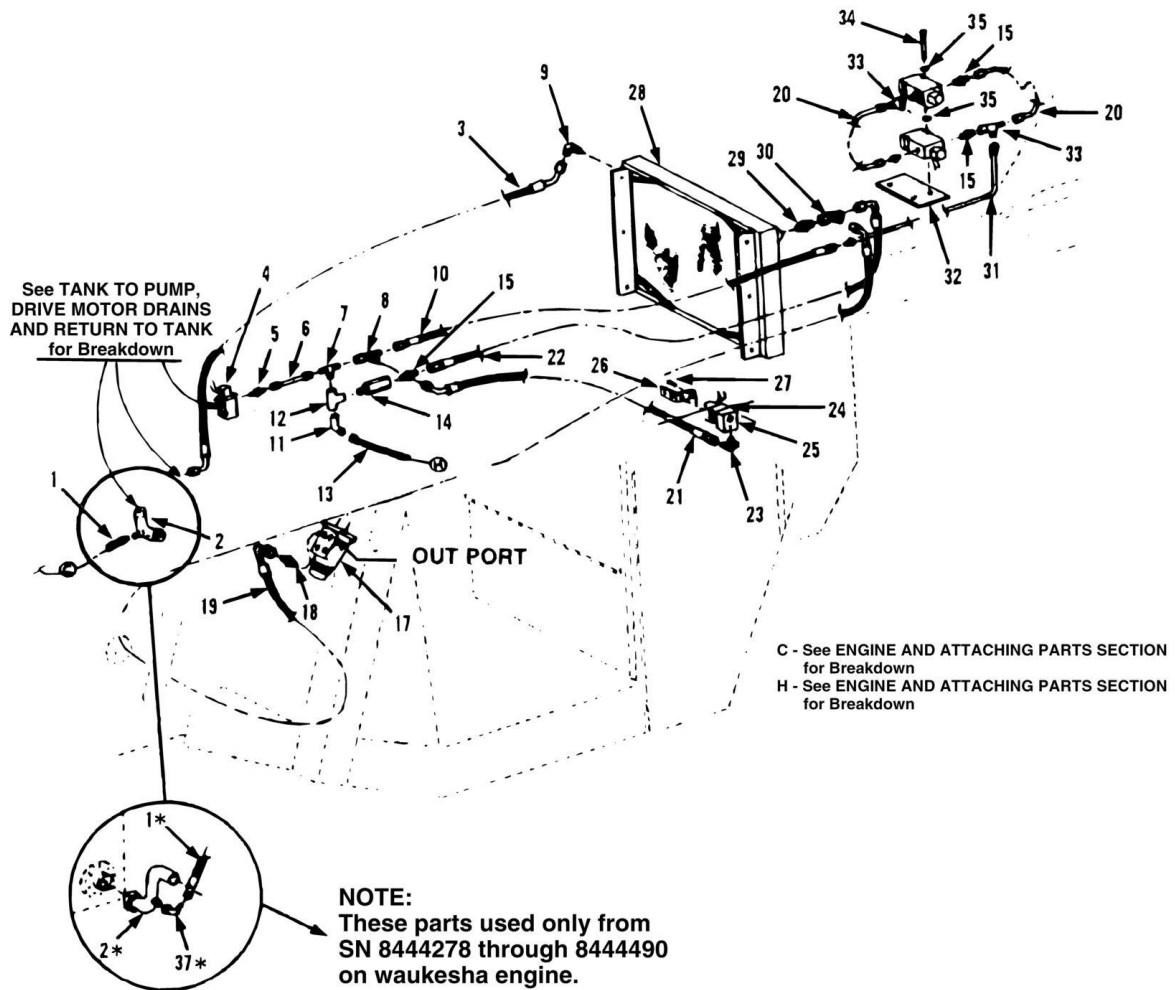
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-34. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8344001 through 8444277)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033051	1	HOSE (Waukesha engine) (SN 8444278 through 8444490)	
2	90410297	1	ELBOW (Waukesha engine) (SN 8444278 through 8444490)	
37	88662108	1	ELBOW - 90, (swivel) (Waukesha engine) (SN 8444278 through 8444490)	
1	90207407	1	HIGH PRESSURE HOSE	
2	90207688	1	TUBE ASSY	
3	90207398	1	HIGH PRESSURE HOSE	
4	90206769	3	SOLENOID VALVE	
5	90027360	1	CONNECTOR	
6	90602566	1	TUBE ASSY	
7	888661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
8	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
9	86821248	1	ELBOW - 90	
10	90207664	1	HIGH PRESSURE HOSE	
11	90028966	1	CONNECTOR	
12	88712073	1	TEE, 1/8	
13	88701003	1	CLOSE NIPPLE, 3/8X1	
14	90207353	1	CHECK VALVE	
15	88713038	1	MALE ELBOW - 45, 3/8X3/8 TUBE	
16	90403305	1	PILOT PUMP	
17	90206762	1	STEERING ORBITAL	
18	88662006	1	CONNECTOR (includes O-ring)	
18	88591205	1	O-RING (out port)	
19	84717521	1	HIGH PRESSURE HOSE	
20	90207666	2	TUBE ASSY	
21	90207694	1	HIGH PRESSURE HOSE	
22	90207408	1	HIGH PRESSURE HOSE	
23	90028499	1	90, ELBOW (adjustable)	
24	90207755	1	CONTROL VALVE	
25	90602895	1	ADAPTER BLOCK	
26	90207756	1	ANGLE BRACKET	
27	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
28	90206752	1	HYDRAULIC OIL COOLER	
29	88662020	1	CONNECTOR (includes o-ring)	
29	88591207	1	O-RING	
30	88662240	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
31	90207713	1	TUBE ASSY	
32	90207693	1	VALVE MOUNTING PLATE	
33	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
34	88201008	2	HEX HD CAPSCREW, 1/4-20x1-3/4 GR5	
35	88561107	4	FLAT WASHER, 1/4	

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FIGURE 8-35. HYDRAULICS-OIL AND PILOT PUMP (SN 8344001L through 8444490)



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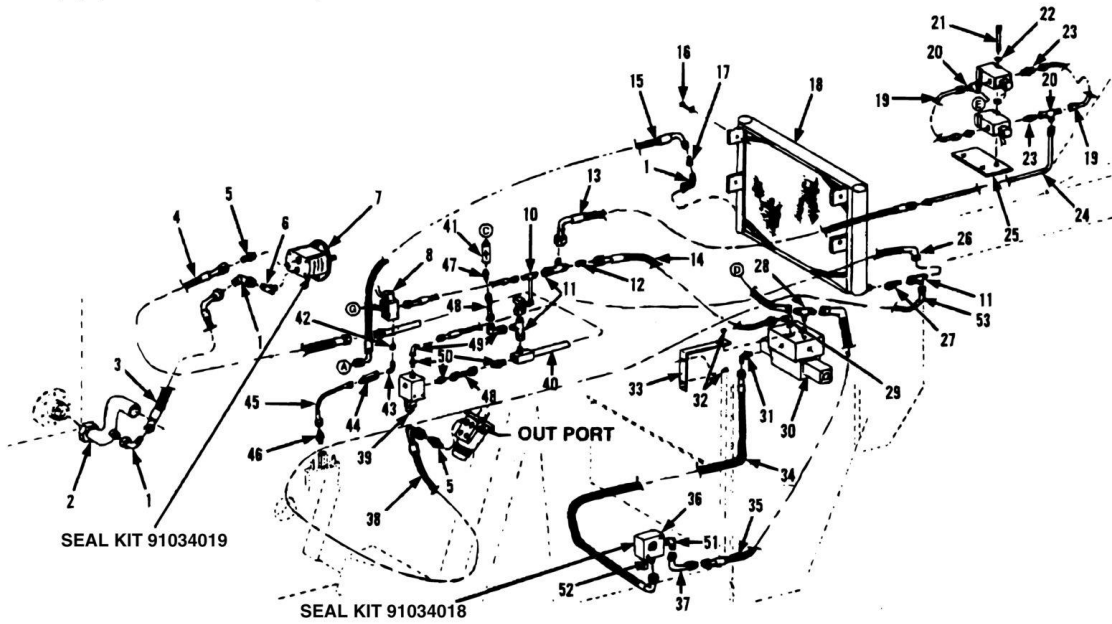
FIGURE 8-35. HYDRAULICS-OIL AND PILOT PUMP (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033051	1	HOSE (Waukesha engine) (SN 8444278 through 8444490)	
2	90410297	1	ELBOW (Waukesha engine) (SN 8444278 through 8444490)	
37	88662108	1	ELBOW, 90, (swivel) (Waukesha engine) (SN 8444278 through 8444490)	
1	91033179	1	HOSE	
2	91033178	1	SUCTION TUBE	
3	90207398	1	HIGH PRESSURE HOSE	
4	90206739	3	SOLENOID VALVE	
5	90027360	1	CONNECTOR	
6	90602566	1	TUBE ASSY	
7	88661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
8	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
9	86821248	1	ELBOW - 90	
10	90207664	1	HIGH PRESSURE HOSE	
11	88662085	1	ELBOW - 45, (includes o-ring)	
11	88591205	1	O-RING	
12	88712073	1	TEE, 1/8	
13	84717470	1	HOSE ASSY	
14	90207353	1	CHECK VALVE	
15	88713038	1	MALE ELBOW - 45, 3/8X3/8 TUBE	
16	91033156	1	PILOT PUMP (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
17	90206762	1	STEERING ORBITAL	
18	88662006	1	CONNECTOR (includes O-ring)	
18	88591205	1	O-RING	
19	84717521	1	HIGH PRESSURE HOSE	
20	90207666	2	TUBE ASSY	
21	90207694	1	HIGH PRESSURE HOSE	
22	90207408	1	HIGH PRESSURE HOSE	
23	90028499	1	ELBOW - 90, (adjustable)	
24	90207755	1	CONTROL VALVE	
25	90602895	1	ADAPTER BLOCK	
26	90207756	1	ANGLE BRACKET	
27	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
28	90206752	1	HYDRAULIC OIL COOLER	
29	88662020	1	CONNECTOR (includes o-ring)	
29	88591207	1	O-RING	
30	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
31	90207713	1	TUBE ASSY	
32	90207693	1	VALVE MOUNTING PLATE	
33	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
34	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
35	88591107	4	FLAT WASHER, 1/4	

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FIGURE 8-36. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8444491 through 8744114G, Excluding 8744079G)

- A - See HYDRAULIC-DRIVE AND STEERING CONTROL for Breakdown
- C - See BRAKES SECTION for Breakdown
- D,E,G, - See TANK TO PUMP, DRIVE MOTOR DRAINS AND RETURN TO TANK for Breakdown



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**FIGURE 8-36. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8444491 through 8744114G,
Excluding 8744079G)**

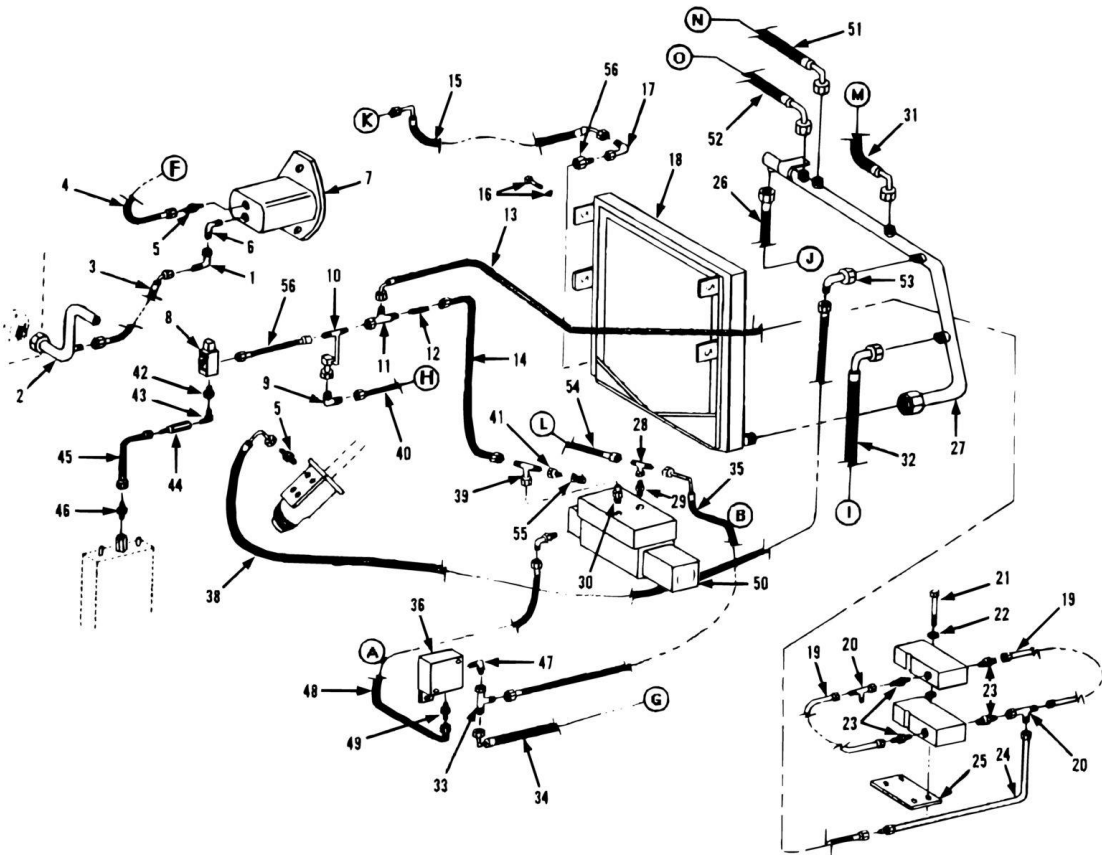
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662108	3	ELBOW - 90, (swivel nut)	
2	90410298	1	ELBOW	
3	84716985	1	HOSE ASSY	
4	91033082	1	HOSE ASSY	
5	88662024	2	CONNECTOR (includes o-ring)	
5	88591206	2	O-RING	
6	88662067	1	ELBOW - 90, (includes o-ring)	
6	88591207	1	O-RING	
7	91033122	1	PILOT PUMP	
7	86671112	1	GASKET	
8	90206739	1	SOLENOID VALVE	
9	84717468	1	HOSE ASSY	
10	91033073	1	TUBE ASSY	
10	91033138	AR	CLAMP	
10	77133498	1	COVE PLATE	
10	77133499	AR	HEX HD CAPSCREW	
11	88662240	3	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	91033100	1	INLINE STRAINER	
13	84717463	1	HIGH PRESSURE HOSE	
14	77133147	1	HOSE ASSY	
15	90207398	1	HIGH PRESSURE HOSE	
16	88201031	4	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
16	88551011	4	LOCKWASHER, 3/8	
16	88561107	4	FLAT WASHER, 3/8	
17	86923006	1	CONNECTOR	
18	91033050	1	OIL COOLER	
18	84521056	1	DRAIN	
19	90207666	2	TUBE LINE	
20	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
21	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
22	88561107	4	FLAT WASHER, 1/4	
23	90029915	4	CONNECTOR	
24	90207713	1	TUBE ASSY	
25	90207693	1	MOUNTING PLATE	
26	84717461	1	HOSE ASSY	
27	83662107	1	TUBE ASSY	
28	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
29	77131088	1	CONNECTOR	
30	91033097	1	DIRECTIONAL CONTROL VALVE	
31	90028499	1	CONNECTOR	
32	88201005	6	HEX HD CAPSCREW, 1/4-20X1, GR5	
32	88501004	4	HEX NUT, 1/4-20	
33	91031086	2	MOUNTING BRACKET	
34	77133342	1	HIGH PRESSURE HOSE	
35	84717466	1	HOSE ASSY	
36	91033096	1	INCHING VALVE	
37	91033130	1	TUBE LINE	
38	84717521	1	HOSE ASSY	
39	91033128	1	RELIEF VALVE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
40	91033075	1	TUBE ASSY	
40	77133035	AR	CLAMP	
40	77133052	1	COVER PLATE	
40	77133209	AR	HEX HD CAPSCREW	
41	83663087	1	CHECK VALVE	
42	88711381	1	REDUCING BUSHING, 3/8X1/4	
43	88473042	1	MALE ELBOW, 90, 1/4X5/16 TUBE	
44	83431005	1	ORIFICE CHECK VALVE	
45	84716238	1	HOSE ASSY	
46	88743036	1	MALE ELBOW, 45, 1/8X5/16 TUBE	
47	88662006	1	CONNECTOR (includes O-ring)	
47	88591205	1	O-RING	
48	90602566	2	TUBE LINE	
49	88662106	2	ELBOW - 90, (swivel nut)	
50	88713003	3	MALE ADAPTER, 3/8X1/2 TUBE	
51	83193008	1	METRIC ELBOW	
52	83193009	1	METRIC ADAPTER	
53	88662106	1	ELBOW - 90, (swivel nut)	

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FIGURE 8-37. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144259J to Present)



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FIGURE 8-37. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144259J to Present)

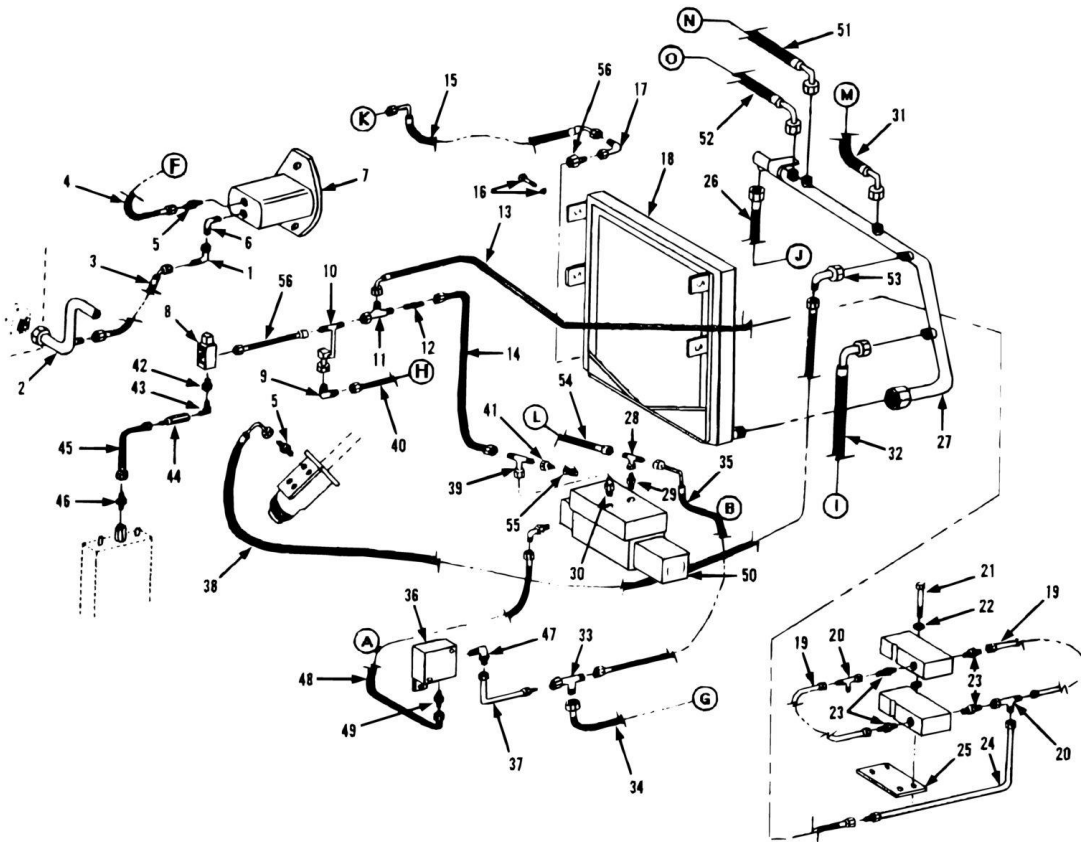
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662108	1	ELBOW - 90, (swivel nut)	
2	91033257	1	ELBOW	
3	77133875	1	HOSE ASSY	
4	84716251	1	HOSE ASSY	
5	88662024	2	CONNECTOR (includes o-ring)	
5	88591206	2	O-RING	
6	88662067	1	ELBOW - 90, (includes O-Ring)	
6	88591207	1	O-RING	
7	91033122	1	PILOT PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	90206739	1	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9	88661206	1	UNION ELBOW, 90	
10	91033073	1	TUBE ASSY	
11	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	91033100	1	INLINE STRAINER	
13	84717463	1	HOSE ASSY	
14	77133147	1	HOSE ASSY	
15	90207398	1	HOSE ASSY	
16	88201031	4	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
16	88551011	4	LOCKWASHER, 3/8	
16	88561109	4	FLAT WASHER, 3/8	
17	88662107	1	ELBOW - 90, (swivel nut)	
18	91033050	1	OIL COOLER	
19	90207666	2	TUBE LINE	
20	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
21	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
22	88561107	2	FLAT WASHER, 1/4	
23	90029915	4	CONNECTOR	
24	90207713	1	TUBE ASSY	
25	90207693	1	MOUNTING PLATE	
26	84717489	1	HOSE ASSY	
27	91043145	1	DRAIN MANIFOLD	
28	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
29	88662005	1	CONNECTOR (includes o-ring)	
29	88591204	1	O-RING	
30	88662026	1	CONNECTOR (includes o-ring)	
30	88591204	1	O-RING	
31	84717577	1	HOSE ASSY	
32	84717518	1	HOSE ASSY	
33	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
34	90207411	1	HOSE ASSY	
35	84717466	1	HOSE ASSY	
36	91033096	1	INCHING VALVE	
38	84717521	1	HOSE ASSY	
39	88662225	1	SWIVEL NUT BRANCH TEE, 1/2 TUBE	
40	84717413	1	HOSE ASSY	
41	77241003	1	ADAPTER	
42	88711381	1	REDUCING BUSHING, 3/8X1/4	
43	88713042	1	MALE ELBOW - 90, 1/4X5/16 TUBE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	83431005	1	ORIFICE CHECK VALVE	
45	84716238	1	HOSE ASSY	
46	88473036	1	MALE ELBOW - 45, 1/8X5/16 TUBE	
47	88662064	1	ELBOW - 90, (includes O-ring)	
47	88591204	1	O-RING	
48	77133342	1	HOSE ASSY	
49	88662005	1	CONNECTOR (includes o-ring)	
49	88591204	1	O-RING	
50	91033097	1	DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
51	77133167	1	HOSE ASSY	
52	84717577	1	HOSE ASSY	
53	88662106	1	ELBOW - 90, (swivel nut)	
54	84717520	1	HOSE ASSY	
55	91033032	1	MINI CHECK (stauff)	
56	84717468	1	HOSE ASSY	

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FIGURE 8-38. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8744115G to Present, Including 8744079G)



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FIGURE 8-38. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 8744115G to Present, Including 8744079G)

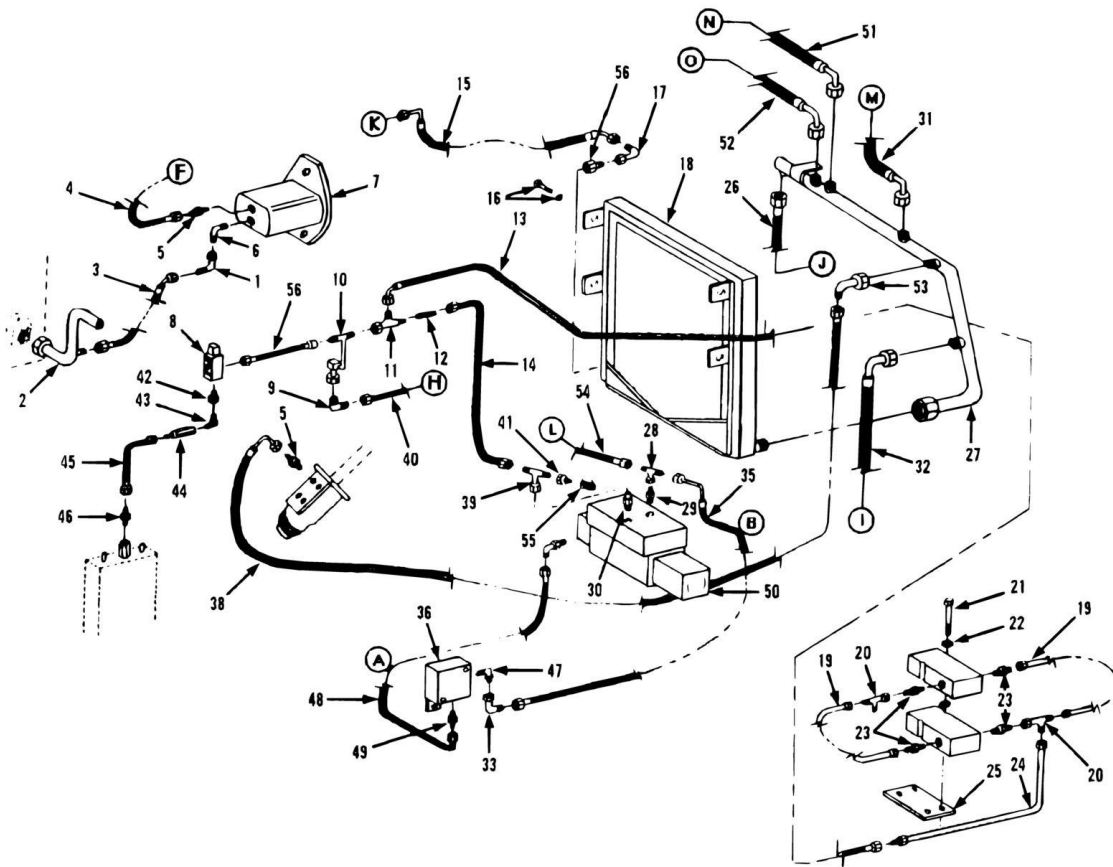
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662108	1	ELBOW - 90, (swivel nut)	
2	91033257	1	ELBOW	
3	77133875	1	HOSE ASSY	
4	84716251	1	HOSE ASSY	
5	88662024	2	CONNECTOR (includes o-ring)	
5	88591206	2	O-RING	
6	88662067	1	ELBOW - 90, (includes O-ring)	
6	88591207	1	O-RING	
7	91033122	1	PILOT PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	90206739	1	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9	88661206	1	UNION ELBOW, 90	
10	91033073	1	TUBE ASSY	
11	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	91033100	1	INLINE STRAINER	
13	94717463	1	HOSE ASSY	
14	77133147	1	HOSE ASSY	
15	90207398	1	HOSE ASSY	
16	88201031	4	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
16	88551011	4	LOCKWASHER, 3/8	
16	88561109	4	FLAT WASHER, 3/8	
17	88662107	1	ELBOW - 90, (swivel nut)	
18	91033050	1	OIL COOLER	
19	90207666	2	TUBE LINE	
20	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
21	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
22	88561107	2	FLAT WASHER, 1/4	
23	90029915	4	CONNECTOR	
24	90207713	1	TUBE ASSY	
25	90207693	1	MOUNTING PLATE	
26	84717489	1	HOSE ASSY	
27	91043145	1	DRAIN MANIFOLD	
28	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
29	88662005	1	CONNECTOR (includes o-ring)	
29	88591204	1	O-RING	
30	88662026	1	CONNECTOR (includes o-ring)	
30	88591204	1	O-RING	
31	84717577	1	HOSE ASSY	
32	84717518	1	HOSE ASSY	
33	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
34	90207411	1	HOSE ASSY	
35	84717466	1	HOSE ASSY	
36	91033096	1	INCHING VALVE	
37	91033130	1	TUBE LINE	
38	84717521	1	HOSE ASSY	
39	88662225	1	SWIVEL NUT BRANCH TEE, 1/2 TUBE	
40	84717413	1	HOSE ASSY	
41	77241003	1	ADAPTER	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
42	88711381	1	REDUCING BUSHING, 3/8X1/4	
43	88743042	1	MALE ELBOW - 90, 1/4X5/16 TUBE	
44	83431005	1	ORIFICE CHECK VALVE	
45	94716238	1	HOSE ASSY	
46	88743036	1	MALE ELBOW - 45, 1/8X5/16 TUBE	
47	88662064	1	ELBOW - 90, (includes O-ring)	
47	88591204		O-RING	
48	77133342	1	HOSE ASSY	
49	88662005	1	CONNECTOR (includes o-ring)	
49	88591204	1	O-RING	
50	91033097	1	DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
51	77133167	1	HOSE ASSY	
52	84717577	1	HOSE ASSY	
53	88662106	1	ELBOW - 90, (swivel nut)	
54	84717520	1	HOSE ASSY	
55	91033032	1	MINI CHECK (stauff)	
56	84717468	1	HOSE ASSY	

SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-39. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144452 to Present)



SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-39. HYDRAULICS-OIL COOLER AND PILOT PUMP (SN 0144452 to Present)

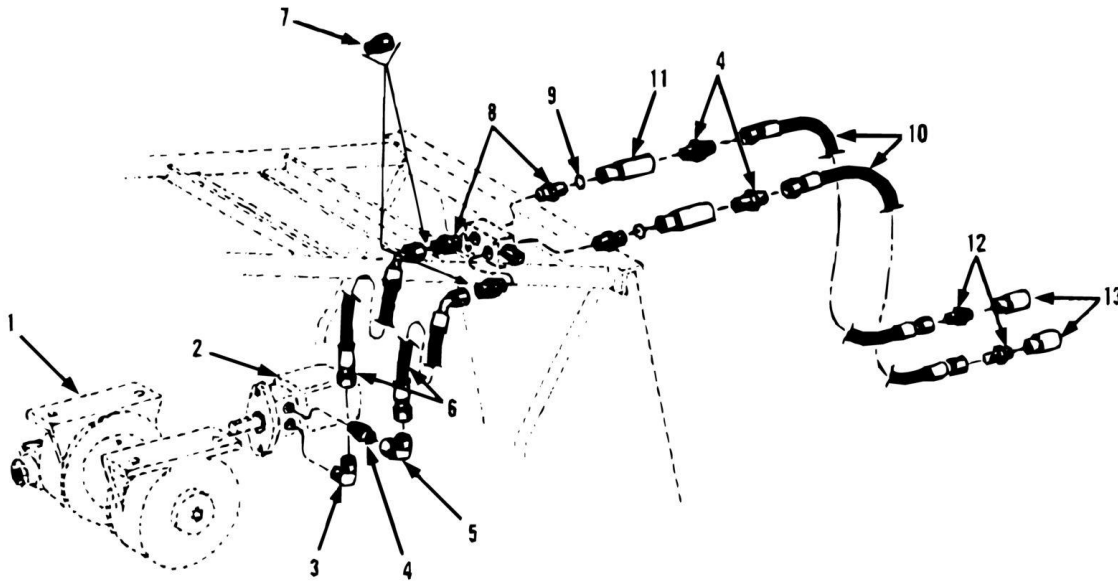
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662108	1	ELBOW - 90, (swivel nut)	
2	91033257	1	ELBOW	
3	77133875	1	HOSE ASSY	
4	84716251	1	HOSE ASSY	
5	88662024	2	CONNECTOR (includes o-ring)	
5	88591206	2	O-RING	
6	88662067	1	ELBOW - 90, (includes o-ring)	
6	88591207	1	O RING	
7	91033122	1	PILOT PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	90206739	1	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9	88661206	1	UNION ELBOW, 90	
10	91033073	1	TUBE ASSY	
11	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	91033100	1	INLINE STRAINER	
13	84717463	1	HOSE ASSY	
14	77133147	1	HOSE ASSY	
15	84717797	1	HOSE ASSY	
16	88201031	4	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
16	88551011	4	LOCK WASHER, 3/8	
16	88561109	4	FLAT WASHER, 3/8	
17	88662107	1	ELBOW - 90, (swivel nut)	
18	91033050	1	OIL COOLER	
19	90207666	2	TUBE LINE	
20	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
21	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
22	88561107	2	FLAT WASHER, 1/4	
23	88661009	4	FITTING	
24	902077163	1	TUBE ASSY	
25	90207693	1	MOUNTING PLATE	
26	84717489	1	HOSE ASSY	
27	91043145	1	DRAIN MANIFOLD	
28	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
29	88662005	1	CONNECTOR (includes o-ring)	
29	88591204	1	O-RING	
30	88662026	1	CONNECTOR (includes o-ring)	
30	88591204	1	O-RING	
31	84717577	1	HOSE ASSY	
32	84717518	1	HOSE ASSY	
33	88662105	1	ELBOW - 90, (swivel nut)	
34	84717468	1	HOSE ASSY	
35	84717466	1	HOSE ASSY	
36	91033096	1	INCHING VALVE	
38	84717521	1	HOSE ASSY	
39	88662225	1	SWIVEL NUT BRANCH TEE, 1/2 TUBE	
40	87417413	1	HOSE ASSY	
41	77241003	1	ADAPTER	
42	88711381	1	REDUCING BUSHING, 3/8X1/4	
43	88713042	1	MALE ELBOW - 90, 1/4X5/16 TUBE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	83431005	1	ORIFICE CHECK VALVE	
45	84716238	1	HOSE ASSY	
46	88743036	1	MALE ELBOW - 45, 1/8X5/16 TUBE	
47	88662064	1	ELBOW - 90, (includes o-ring)	
47	88591204		O RING	
48	77133342	1	HOSE ASSY	
49	88662005	1	CONNECTOR (includes o-rng)	
49	88591204	1	O-RING	
50	91033097	1	DIRECTIONAL CONTROL VALVE	
51	77133167	1	HOSE ASSY	
52	84717577	1	HOSE ASSY	
53	88662106	1	ELBOW - 90, (swivel nut)	
54	84717520	1	HOSE ASSY	
55	91033032	1	MINI CHECK (stauff)	

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FIGURE 8-40. TRUSS BOOM HYDRAULICS (SN 8344001L to Present)



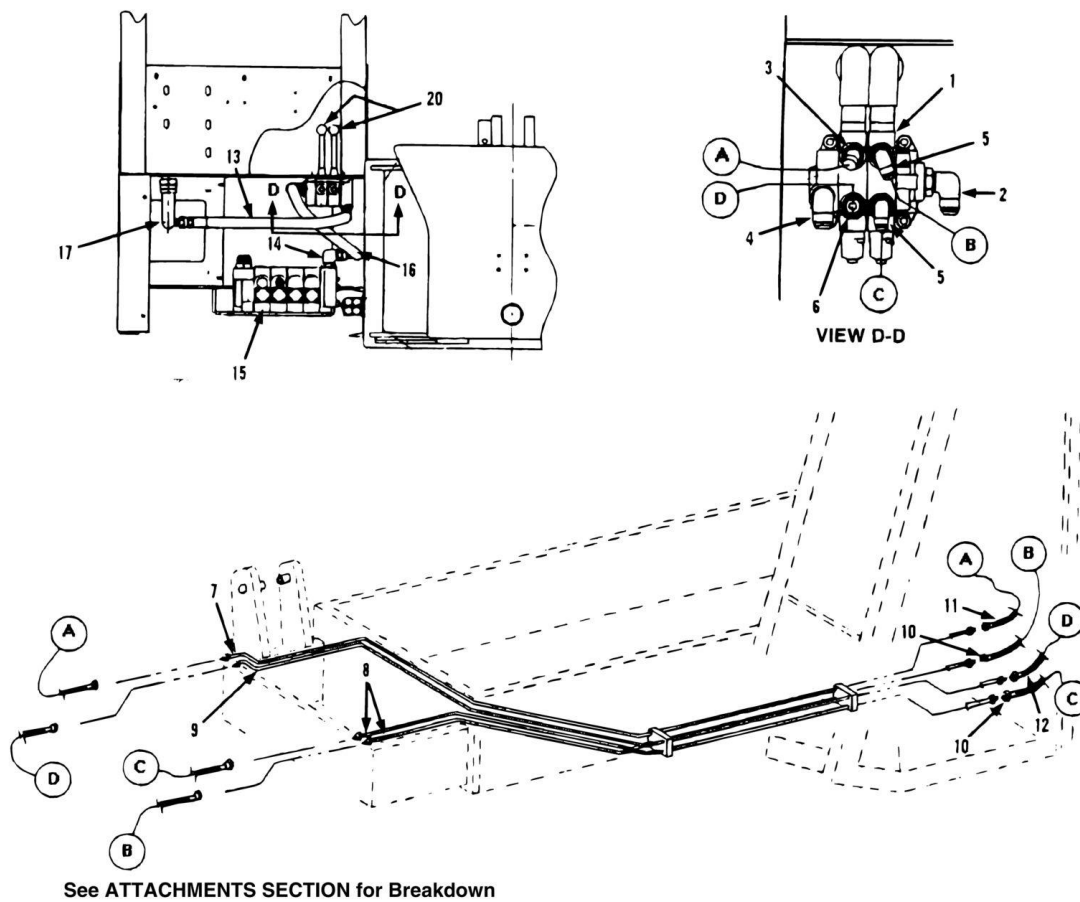
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-40. TRUSS BOOM HYDRAULICS (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207878	1	WINCH	
2	90207879	1	WINCH MOTOR	
3	88662059	1	ELBOW - 90, (includes o-ring)	
3	88591206	1	O-RING	
4	88662019	3	CONNECTOR (includes o-ring)	
4	88591206	3	O-RING	
5	88662106	1	ELBOW - 90, (swivel nut)	
6	90205121	2	HIGH PRESSURE HOSE	
7	90029935	2	REDUCER	
8	83451104	4	STRAIGHT ADAPTER	
9	90023116	2	O-RING	
10	90022042	2	HIGH PRESSURE HOSE	
11	90207880	2	FLOW LIMITER	
12	88743016	2	MALE ADAPTER, 1/2X1/2 TUBE	
13	90204245	2	QUICK DISCONNECT (female)	

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FIGURE 8-41. OUTRIGGER HYDRAULICS



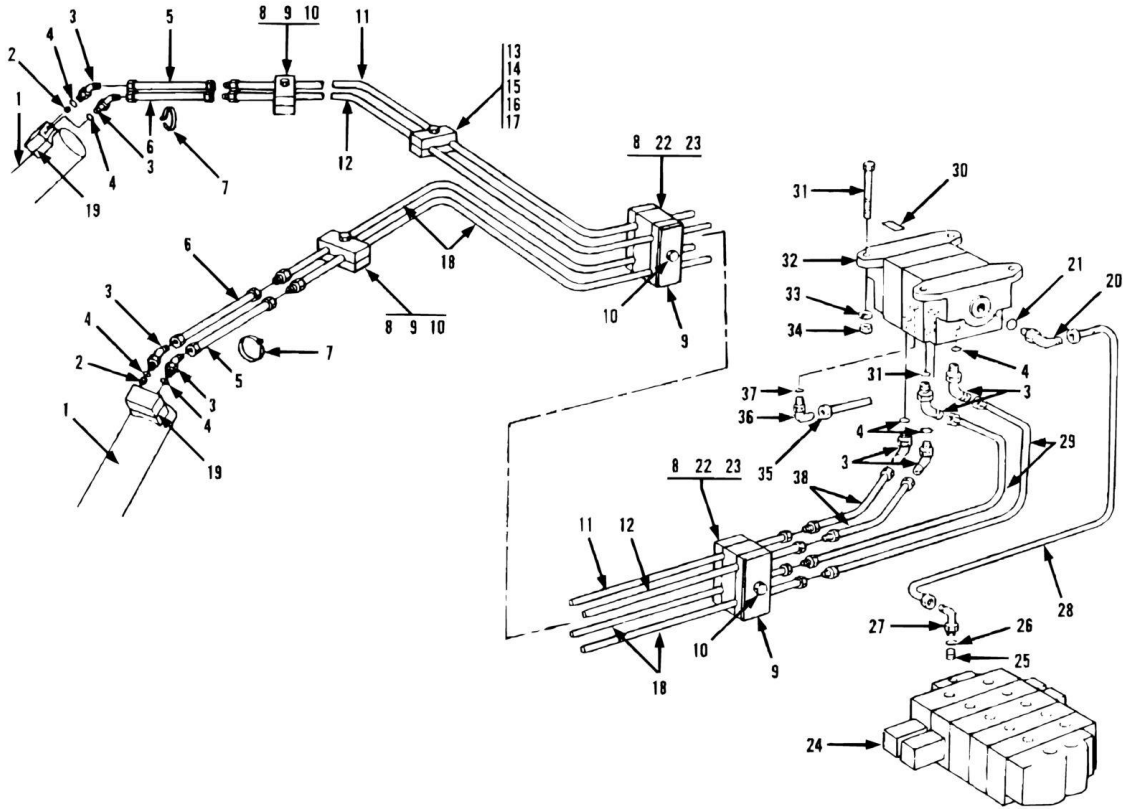
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-41. OUTRIGGER HYDRAULICS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035090	1	VALVE ASSY (consists of items 1 thru 6)	
1	91033144	1	VALVE	
2	88662067	1	ELBOW - 90, (includes o-ring)	
2	88591207	1	O-RING	
3	88662085	1	ELBOW - 45, (includes o-ring)	
3	88591205	1	O-RING	
4	88662060	1	ELBOW- 90, (includes o-ring)	
4	88591206	1	O-RING	
5	88662065	2	ELBOW - 90, (includes o-ring)	
5	88591205	2	O-RING	
6	88662036	1	CONNECTOR (includes o-ring)	
6	88591205	1	O-RING	
7	91033141	1	TUBE ASSY	
8	91033140	2	TUBE ASSY	
9	91033198	1	TUBE ASSY	
10	84717477	2	HOSE ASSY	
11	84717477	1	HOSE ASSY	
12	84717477	1	HOSE ASSY	
13	84717473	1	HOSE ASSY	
14	88662061	1	ELBOW - 90, (includes o-ring)	
14	88591209	1	O-RING	
15	91033168	1	MAIN HYDRAULIC VALVE	
16	84717474	1	HOSE ASSY	
17	91033142	1	TUBE ASSY	
18	91035091	AR	RETROFIT KIT (SN 8544556 through 8544615)	
19	91035092	AR	RETROFIT KIT (SN 8544616 through 8544624, Including 8544519 and 8544612)	
20	91034097	2	PLASTIC KNOB (brass insert)	

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FIGURE 8-42. OUTRIGGER CYLINDER



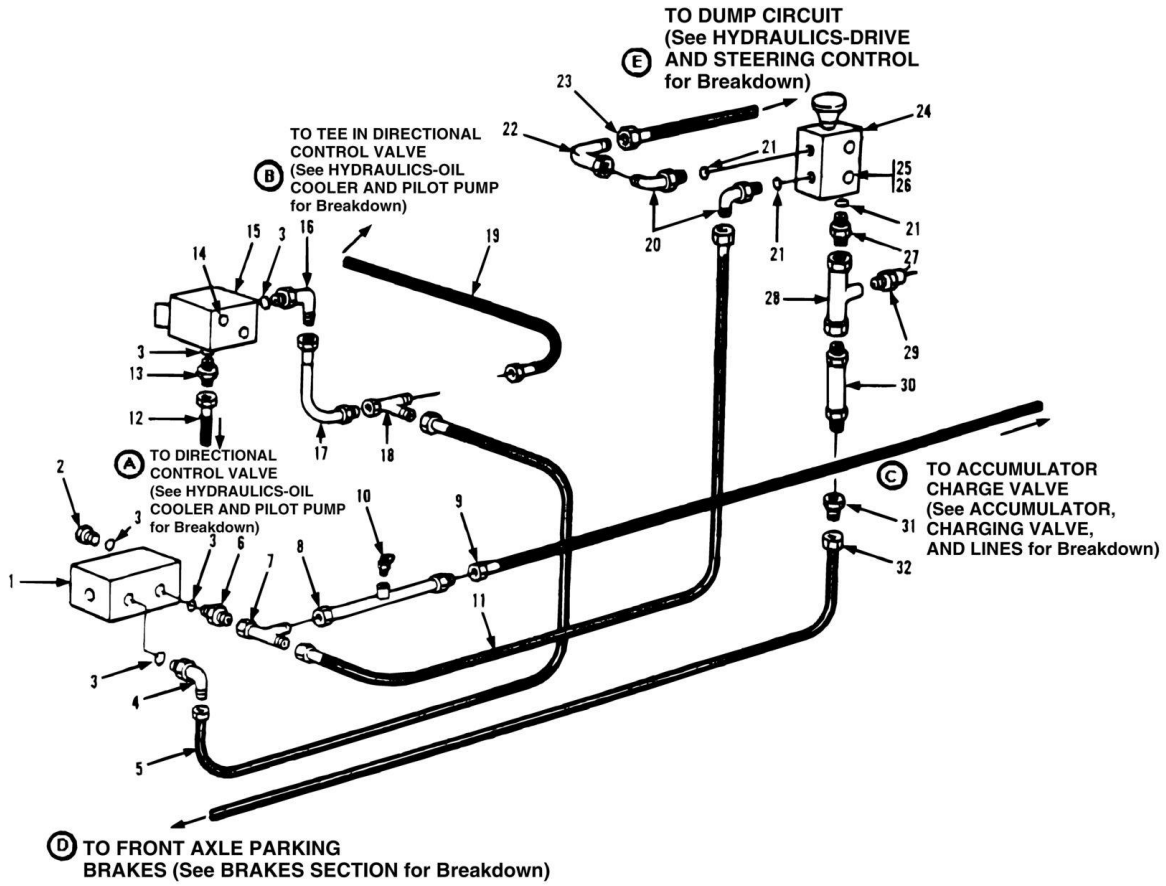
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-42. OUTRIGGER CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	OUTRIGGER CYLINDER ASSY, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
2	91033201	2	ORIFICE CHECK	
3	88662085	8	ELBOW, 45, (includes item 4)	
4	88591205	8	O-RING	
5	84717527	2	HOSE ASSY	
6	84717528	2	HOSE ASSY	
7	90027187	4	NYLON CLAMP	
8	77163168	6	CLAMP SET	
9	77133140	4	COVER PLATE	
10	77133177	4	HEX HD CAPSCREW	
11	91033141	1	TUBE ASSY	
12	91033198	1	TUBE ASSY	
13	77133499	2	HEX HD CAPSCREW	
14	77133498	1	COVER PLATE	
15	91033138	2	CLAMP	
16	91033199	1	SAFETY PLATE	
17	91033200	2	STACKING BOLT	
18	91033140	2	TUBE ASSY	
19		Ref	DUAL P.O. CHECK VALVE, (See HYDRAULIC COMPONENT SECTION for Breakdown)	
20	88662067	1	ELBOW, 90, (includes item 21)	
21	88591207	1	O-RING	
22	77133390	2	SAFETY CLIP	
23	77133389	2	STACK BOLT	
24		Ref	MAIN CONTROL VALVE ASSY. (See HYDRAULIC COMPONENT SECTION for Breakdown)	
25	88711284	1	HEX SOCKET PIPE PLUG, 3/4	
26	88591209	1	O-RING	
27	88662061	1	ELBOW, 90, (includes item 26)	
28	84717474	1	HOSE ASSY	
29	84717479	2	HOSE ASSY	
30	91023006	1	STABILIZER DECAL	
31	88201037	4	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
32		Ref	OUTRIGGER VALVE ASSY, (See HYDRAULIC COMPONENT SECTION for Breakdown)	
33	88551011	4	LOCKWASHER. 3/8	
34	88501006	4	HEX NUT, 3/8-16	
35	84717473	1	HOSE ASSY	
36	88662060	1	ELBOW, 90, (includes item 37)	
37	88591206	1	O-RING	
38	84717477	2	HOSE ASSY	

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FIGURE 8-43. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)



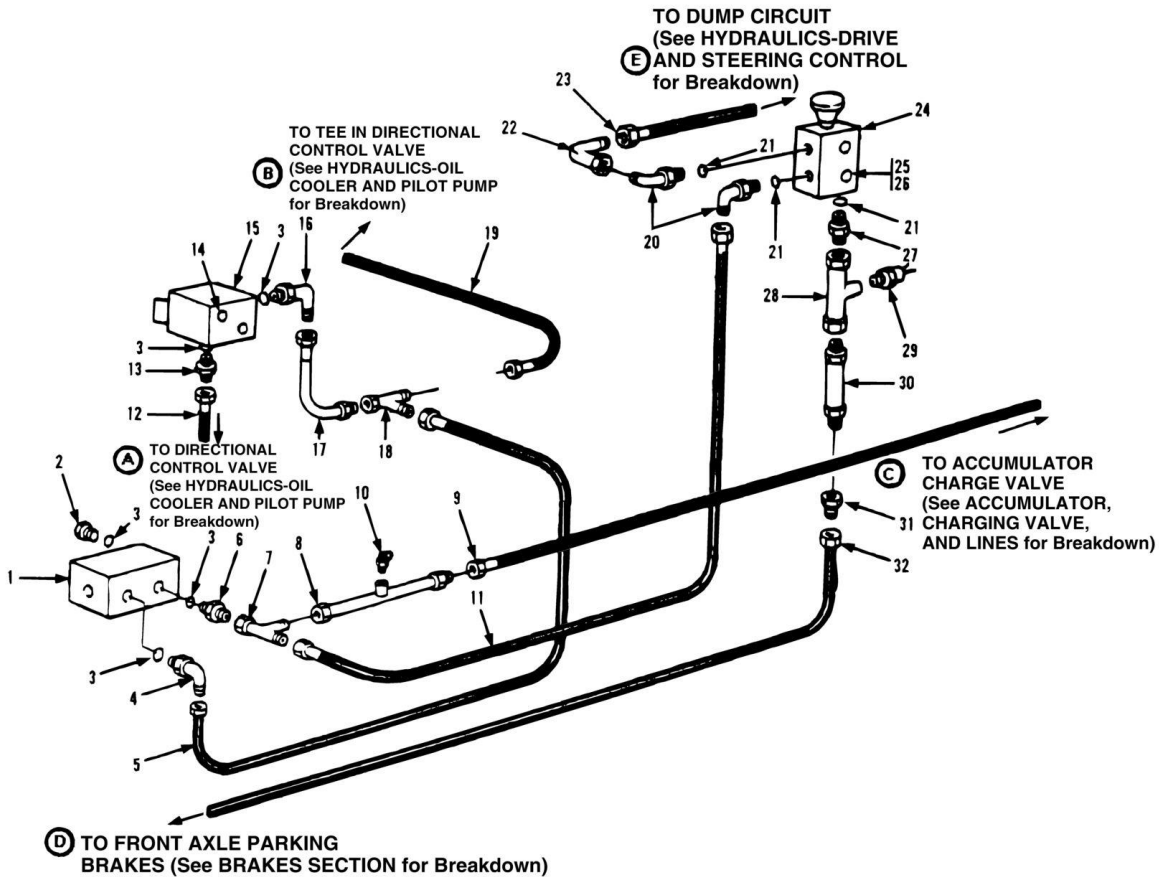
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-43. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)	
2	88662174	1	HEX HD PLUG (includes item 3)	
3	88591204	5	O-RING	
4	88662064	1	ELBOW - 90, (includes item 3)	
5	77133447	1	HOSE ASSY	
6	88662005	1	CONNECTOR (includes item 3)	
7	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	91043163	1	TUBE ASSY	
9		Ref	HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown)	
10	77133089	1	MINI-CHECK COUPLING	
11	84717508	1	HOSE ASSY	
12	77133342	1	HOSE ASSY	
13	88662005	1	CONNECTOR (includes item 3)	
14	88212228	2	SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8	
15	91033096	1	INCHING VALVE ASSY	
15	91034018	1	VALVE SEAL KIT	
16	88662064	1	ELBOW - 90, (includes item 3)	
17	91033130	1	TUBE ASSY	
18	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
19	84717466	1	HOSE ASSY	
20	88662065	2	ELBOW - 90, (includes item 21)	
21	88591205	3	O-RING	
22	88662105	1	ELBOW - 90, (swivel nut)	
23	77133167	1	HOSE ASSY	
24		Ref	PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)	
25	88261021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8	
26	88551010	2	LOCKWASHER, 5/16	
27	88662018	1	CONNECTOR (includes item 21)	
28	91043131	1	TUBE ASSY	
29	91043077	1	PRESSURE SWITCH	
30	91043143	1	CHECK VALVE	
31	88661342	1	TUBE END REDUCER, 1/2X3/8	
32		Ref	HOSE ASSY (See BRAKES SECTION for Breakdown)	

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FIGURE 8-44. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)



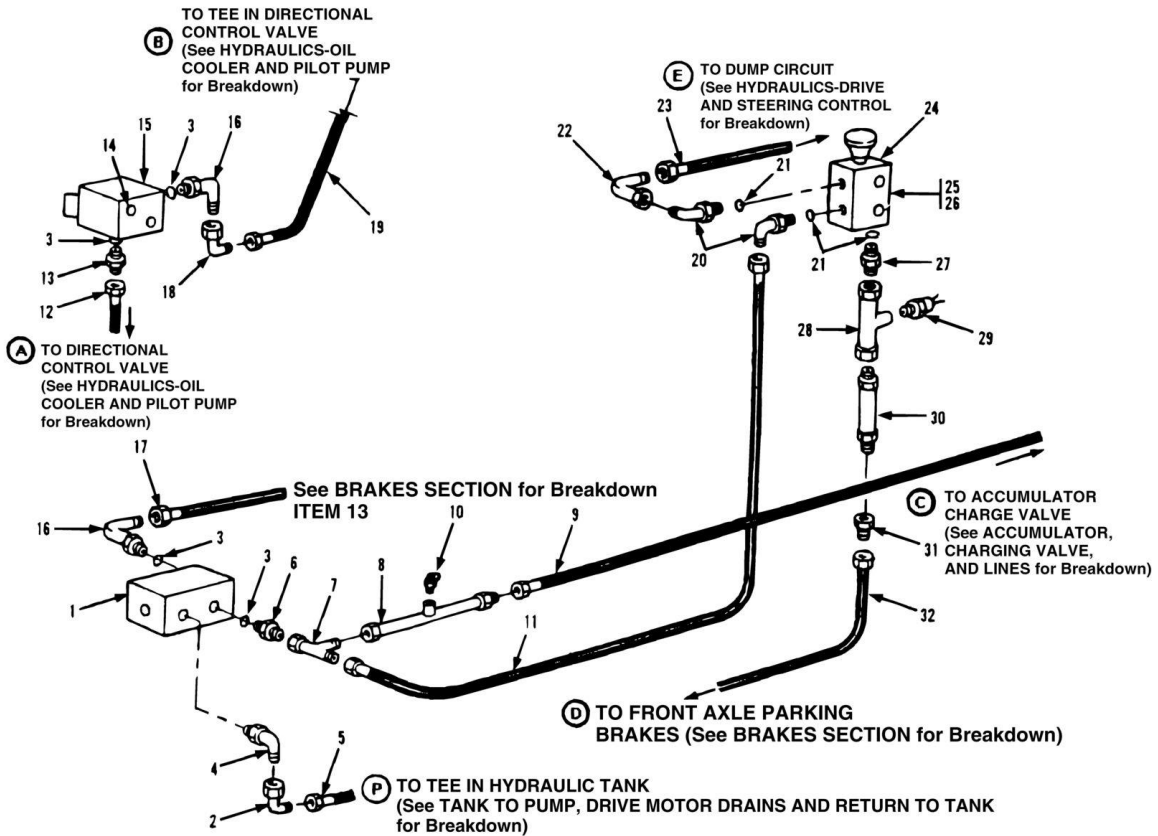
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-44. HYDRAULICS AND PARKING BRAKE LINES (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)	
2	88662174	1	HEX HD PLUG (includes item 3)	
3	88591204	5	O-RING	
4	88662064	1	ELBOW - 90, (includes item 3)	
5	90207411	1	HOSE ASSY	
6	88662005	1	CONNECTOR (includes item 3)	
7	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	91043163	1	TUBE ASSY	
9		Ref	HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown)	
10	77133089	1	MINI-CHECK COUPLING	
11	84717508	1	HOSE ASSY	
12	77133342	1	HOSE ASSY	
13	88662005	1	CONNECTOR (includes item 3)	
14	88212228	2	SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8	
15	91033096	1	INCHING VALVE ASSY	
15	91034018	1	VALVE SEAL KIT	
16	88662064	1	ELBOW - 90, (includes item 3)	
17	91033130	1	TUBE ASSY	
18	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
19	84717466	1	HOSE ASSY	
20	88662065	2	ELBOW - 90, (includes item 21)	
21	88591205	3	O-RING	
22	88662105	1	ELBOW - 90, (swivel nut)	
23	77133167	1	HOSE ASSY	
24		Ref	PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)	
25	88261021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8	
26	88551010	2	LOCKWASHER, 5/16	
27	88662018	1	CONNECTOR (includes item 21)	
28	91043131	1	TUBE ASSY	
29	91043077	1	PRESSURE SWITCH	
30	91043143	1	CHECK VALVE	
31	88661342	1	TUBE END REDUCER, 1/2X3/8	
32		Ref	HOSE ASSY (See BRAKES SECTION for Breakdown)	

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FIGURE 8-45. HYDRAULICS AND PARKING BRAKE LINES (SN 0144452 to Present)



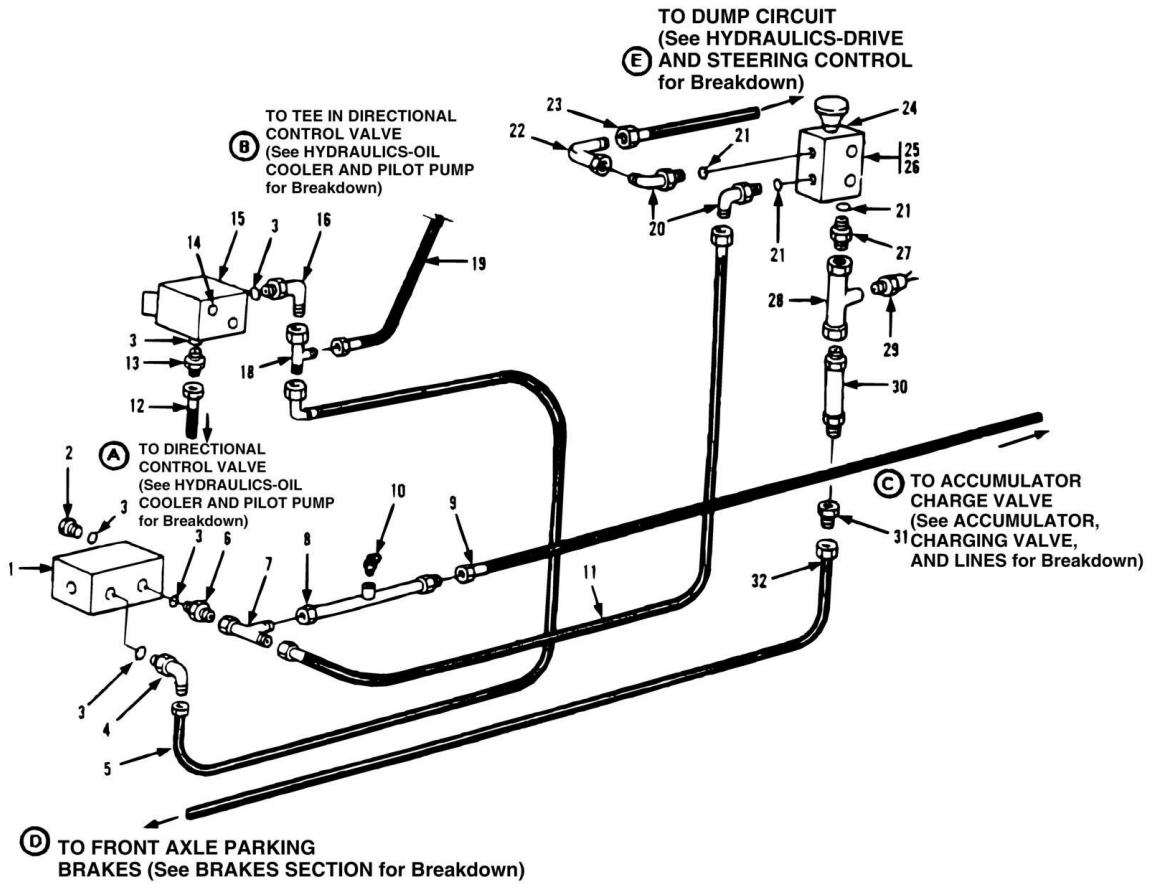
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-45. HYDRAULICS AND PARKING BRAKE LINES (SN 0144452 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033307	Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)	
2	88662106	1	ELBOW - 90, (swivel nut)	
3	88591204	5	O-RING	
4	77131088	1	ELBOW - 90	
5	90207842	1	HOSE ASSY	
6	88662005	1	CONNECTOR (includes item 3)	
7	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	91043163	1	TUBE ASSY	
9	84717561	1	HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown)	
10	77103089	1	MINI-CHECK COUPLING	
11	84717508	1	HOSE ASSY	
12	77133342	1	HOSE ASSY	
13	88662005	1	CONNECTOR (includes item 3)	
14	88212228	2	SOCKET HD CAPSCREW, 5-16-18X1-1/4, GR8	
15	91033096	1	INCHING VALVE ASSY	
15	91034018	AR	VALVE SEAL KIT	
16	88662064	1	ELBOW - 90, (includes item 3)	
17	84717523	1	HOSE ASSY	
18	88662105	1	ELBOW - 90, (swivel nut)	
19	84717466	1	HOSE ASSY	
20	88662065	2	ELBOW - 90, (includes item 21)	
21	88591205	3	O-RING	
22	88662105	1	ELBOW - 90, (swivel nut)	
23	77133167	1	HOSE ASSY	
24	91043090	Ref	PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)	
25	88261021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8	
26	88551010	2	LOCKWASHER, 5/16	
27	88662018	1	CONNECTOR (includes item 21)	
28	91043131	1	TUBE ASSY	
29	91043077	1	PRESSURE SWITCH	
30	91043143	1	CHECK VALVE	
31	88661342	1	TUBE END REDUCER, 1/2X3/8	
32	84717522	Ref	HOSE ASSY (See BRAKES SECTION for Breakdown)	

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FIGURE 8-46. HYDRAULICS AND PARKING BRAKE LINES (SN 0144259J to Present)



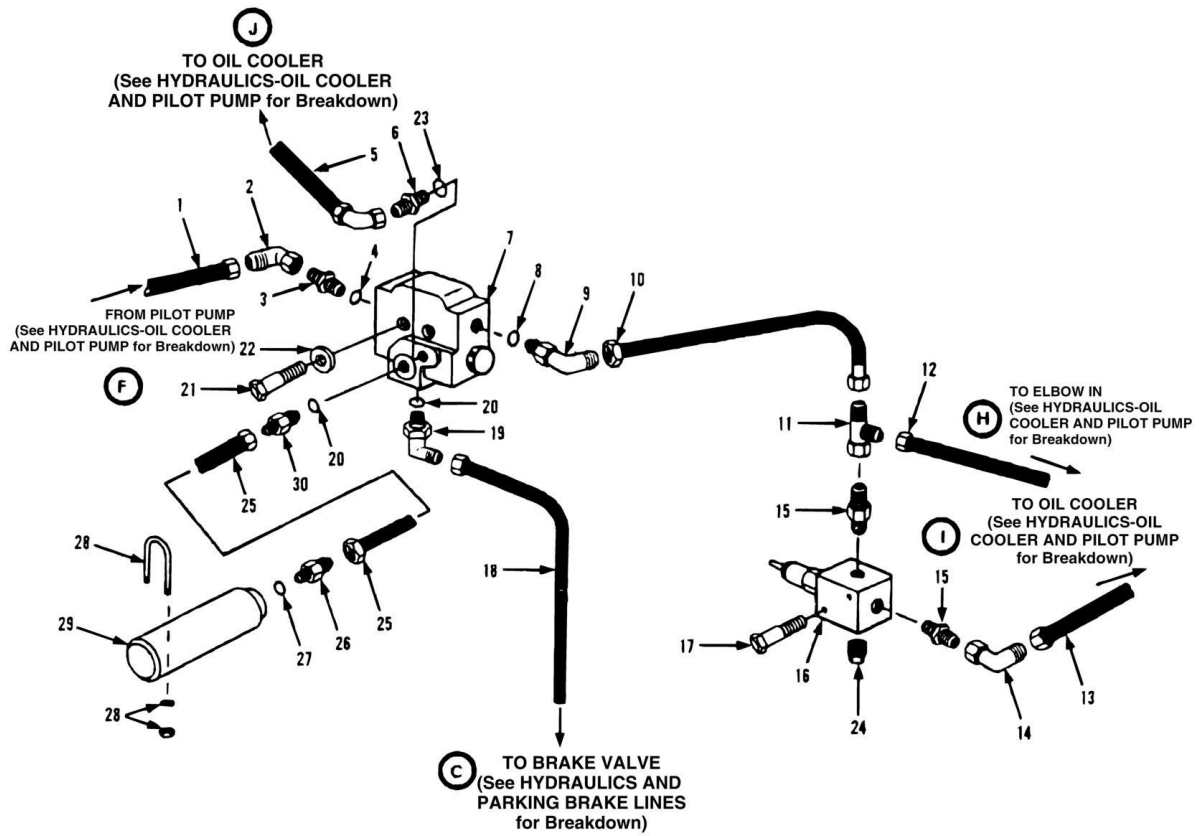
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FIGURE 8-46. HYDRAULICS AND PARKING BRAKE LINES (SN 0144259J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033307	Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENT SECTION for Breakdown)	
2	88662174	1	HEX HD PLUG (includes item 3)	
3	88591204	5	O-RING	
4	88662064	1	ELBOW - 90, (includes item 3)	
5	90207411	1	HOSE ASSY	
6	88662005	1	CONNECTOR (includes item 3)	
7	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	91043163	1	TUBE ASSY	
9		Ref	HOSE ASSY (See ACCUMULATOR, CHARGING VALVES AND LINES for Breakdown)	
10	77133089	1	MINI-CHECK COUPLING	
11	84717508	1	HOSE ASSY	
12	77133342	1	HOSE ASSY	
13	88662005	1	CONNECTOR (includes item 3)	
14	88212228	2	SOCKET HD CAPSCREW, 5/16-18x1-1/4, GR8	
15	91033096	1	INCHING VALVE ASSY	
15	91034018	1	VALVE SEAL KIT	
16	88662064	1	ELBOW - 90, (includes item 3)	
17	91033130	1	TUBE ASSY	
18	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
19	84717466	1	HOSE ASSY	
20	88662065	2	ELBOW - 90, (includes item 21)	
21	88591205	3	O-RING	
22	88662105	1	ELBOW - 90, (swivel nut)	
23	77133167	1	HOSE ASSY	
24	91043090	Ref	PARK BRAKE VALVE (See HYDRAULIC COMPONENT SECTION for Breakdown)	
25	88261021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8	
26	88551010	2	LOCKWASHER, 5/16	
27	88662018	1	CONNECTOR (includes item 21)	
28	91043131	1	TUBE ASSY	
29	91043077	1	PRESSURE SWITCH	
30	91043143	1	CHECK VALVE	
31	88661342	1	TUBE END REDUCER, 1/2X3/8	
32		Ref	HOSE ASSY (See BRAKES SECTION for Breakdown)	

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FIGURE 8-47. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0144407 to Present)



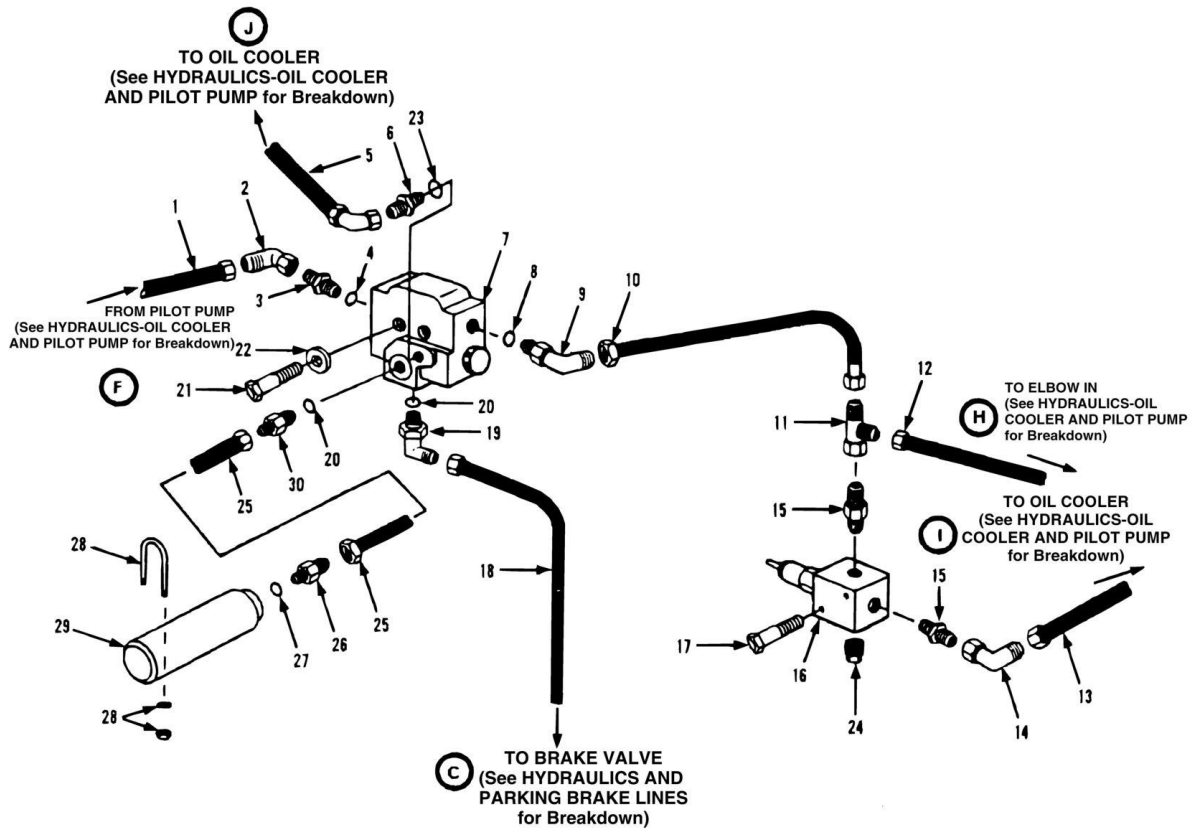
SECTION 8 - HYDRAULIC CIRCUIT

FIGURE 8-47. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0144407 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84716251	1	HOSE ASSY	
2	88662108	1	ELBOW, 90, (swivel nut)	
3	88662023	1	CONNECTOR (includes item #4)	
4	88591205	2	O-RING	
5	84717638	1	HOSE ASSY	
6	88662003	1	CONNECTOR (includes item #23)	
7		Ref	ACCUMULATOR CHARGE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	88591205	1	O-RING	
9	88662085	1	ELBOW, 45, (includes item #8)	
10	90207360	1	HOSE ASSY	
11	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	84717517	1	HOSE ASSY	
13	84717518	1	HOSE ASSY	
14	88662120	1	ELBOW, 45, (swivel nut)	
15	88743003	2	MALE ADAPTER, 3/8 X 1/2 TUBE	
16	91033128	1	RELIEF VALVE ASSY	
17	88201009	2	HEX HD CAPSCREW, 1/4-20 X 2, GR5	
18	84717561	1	HOSE ASSY	
19	88662065	1	ELBOW, 90, (includes item #20)	
20	88591205	1	O-RING	
21	88211046	2	SOCKET HD CAPSCREW, 1/4-20x2, GR8	
22	88551105	2	LOCK WASHER, 1/4 (hi-collar)	
23	88591202	1	O-RING	
24	88711282	1	SOCKET HD PIPE PLUG, 3/8	
25	84717610	1	HOSE ASSY	
26	88662020	1	CONNECTOR (includes item #27)	
27	88591207	1	O-RING	
28	83683175	2	CLAMP	
29	91053380	1	ACCUMULATOR	
29	91054003	1	ACCUMULATOR (uncharged)	
30	88662006	1	CONNECTOR (includes item #4)	

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FIGURE 8-48. ACCUMULATOR, CHARGING VALVE AND LINES (SN 87444115G to Present, Including 8744079G)



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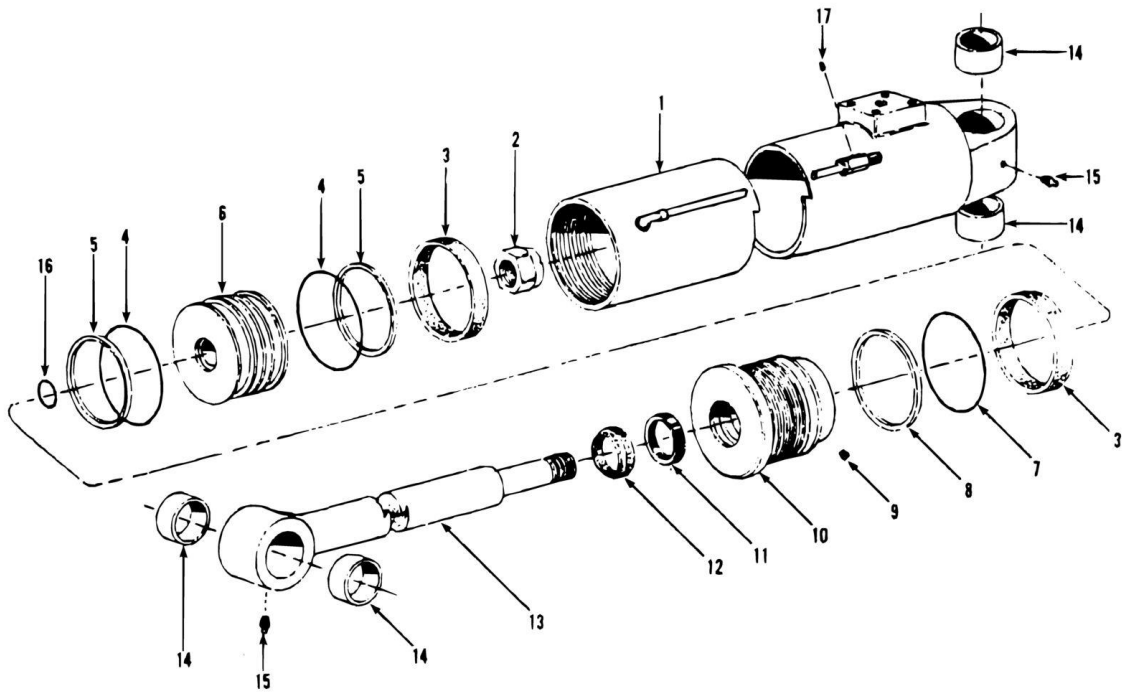
FIGURE 8-48. ACCUMULATOR, CHARGING VALVE AND LINES (SN 87444115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84716251	1	HOSE ASSY	
2	88662108	1	ELBOW, 90, (swivel nut)	
3	88662023	1	CONNECTOR (includes item #4)	
4	88591205	2	O-RING	
5	84717638	1	HOSE ASSY	
6	88662003	1	CONNECTOR (includes item #23)	
7		Ref	ACCUMULATOR CHARGE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	88591205	1	O-RING	
9	88662085	1	ELBOW, 45, (includes item #8)	
10	90207360	1	HOSE ASSY	
11	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	84717517	1	HOSE ASSY	
13	84717518	1	HOSE ASSY	
14	88662120	1	ELBOW, 45, (swivel nut)	
15	88743003	2	MALE ADAPTER, 3/8 X 1/2 TUBE	
16	91033128	1	RELIEF VALVE ASSY	
17	88201009	2	HEX HD CAPSCREW, 1/4-20 X 2, GR5	
18	84717561	1	HOSE ASSY	
19	88662065	1	ELBOW, 90, (includes item #20)	
20	88591205	1	O-RING	
21	88211046	2	SOCKET HD CAPSCREW, 1/4-20x2, GR8	
22	88551105	2	LOCKWASHER, 1/4 (hi-collar)	
23	88591202	1	O-RING	
24	88711282	1	SOCKET HD PIPE PLUG, 3/8	
25	84717610	1	HOSE ASSY	
26	88662020	1	CONNECTOR (includes item #27)	
27	88591207	1	O-RING	
28	83683175	2	CLAMP	
29	91053380	1	ACCUMULATOR	
29	91054003	1	ACCUMULATOR (uncharged)	
30	88662006	1	CONNECTOR (includes item #4)	

SECTION 9 - HYDRAULIC COMPONENTS

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (90801333) LIFT CYLINDER 6000# (SN 8344001L to Present)



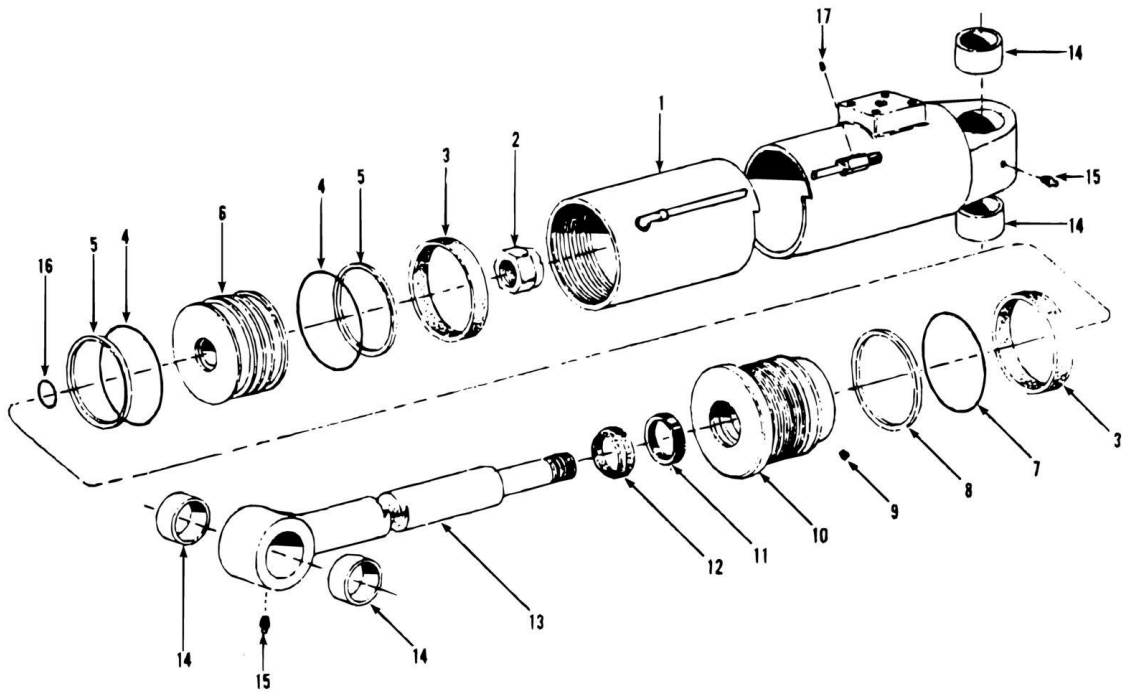
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (90801333) LIFT CYLINDER 6000# (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801333	2	CYLINDER, LIFT, (6000 LB units)	
1	90207962	1	BARREL	
2	90027961	1	NUT	
3	90207960	2	RING, WEAR	
4	90207958	2	O-RING, PISTON	
5	90207957	2	SEAL, PISTON	
6	90207959	1	PISTON	
7	90207963	1	O-RING	
8	90207964	1	RING, BACKUP	
9	91044084	1	SCREW, SET	
10	90207965	1	BEARING, ROD	
11	90207966	1	SEAL, ROD	
12	90207967	1	WIPER	
13	90207968	1	ROD, PISTON	
14	90205414	2	BUSHING	
15	90022217	2	FITTING, GREASE	
16	90023222	1	O-RING, PISTON ROD	
17	90207970	1	PLUG, PIPE	
17	90207956	AR	KIT, SEAL	

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FIGURE 9-2. (9080180) LIFT CYLINDER 8000# (SN 8344001L to Present)



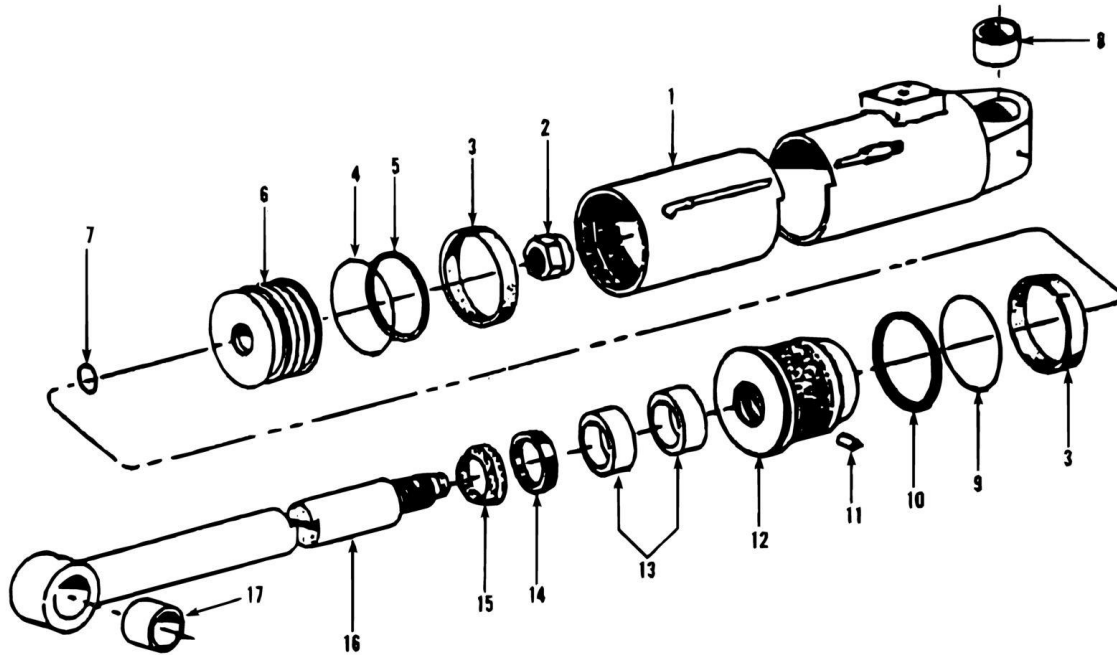
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. (9080180) LIFT CYLINDER 8000# (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801180	2	CYLINDER, LIFT, (8000 LB units)	
1	90206978	1	BARREL	
2	90022232	1	NUT, 1-1/2IN NC, (self locking)	
3	90022260	2	RING, WEAR	
4	90023157	2	O-RING SEAL	
5	90022240	2	SEAL, PISTON	
6	90400393	1	PISTON	
7	90023349	1	O-RING	
8	90025349	1	RING, BACKUP	
9	90206042	1	PLUG, NYLON	
10	90400074	1	BEARING, ROD	
11	90022250	1	SEAL, ROD	
12	90022280	1	WIPER	
13	90206979	1	ROD, PISTON	
14	90205414	4	BUSHING	
15	90022217	2	FITTING, GREASE	
16	90023128	1	O-RING, PISTON	
16	90207953	AR	KIT, SEAL	

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FIGURE 9-3. (91033286) (IOWA) LIFT CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

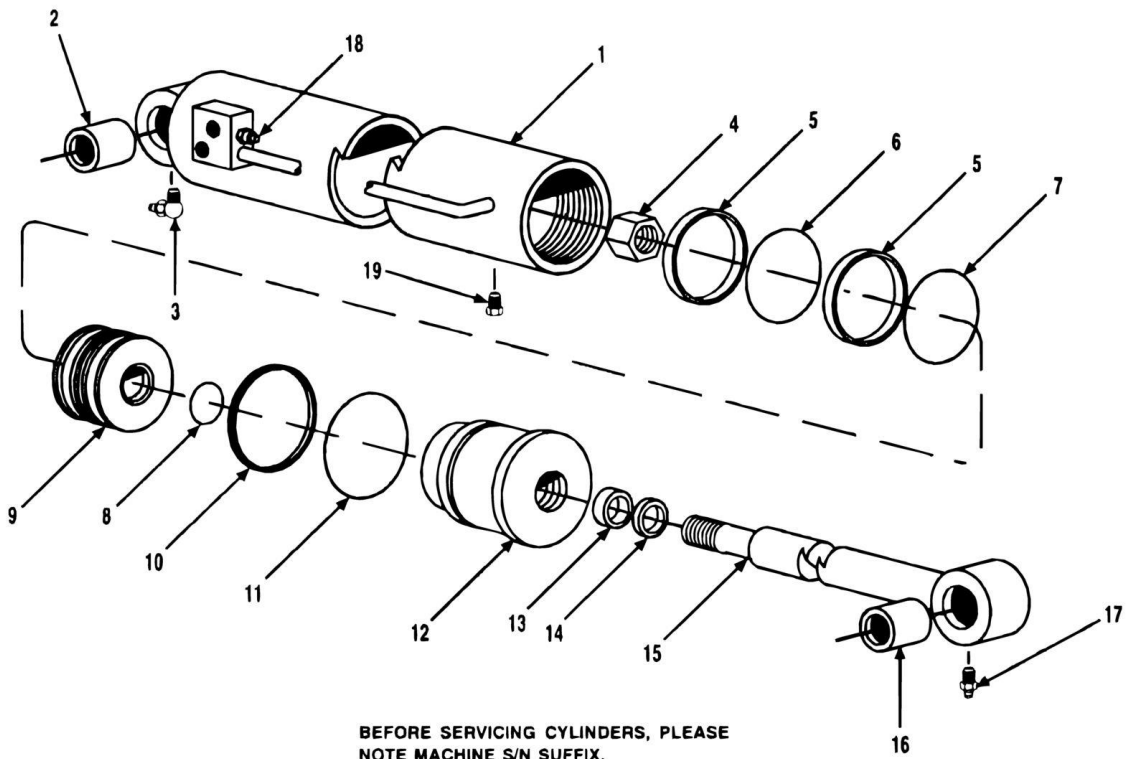
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91033286) (IOWA) LIFT CYLINDER (SN 0144293H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033286	2	LIFT CYLINDER ASSY, (includes all items)	
	91034140	1	SEAL KIT, (includes items 3, 4, 5, 7, 9, 10, 11, 13, 14 & 15)	
1	91034138	1	CASE ASSY, (includes item 8)	
2	90134153	1	HEX LOCKNUT, (lubricate and torque to 1200 ft lbs)	
3	Kit	2	WEAR RING	
4	Kit	1	O-RING	
5	Kit	1	PISTON SEAL	
6	91034139	1	PISTON	
7	Kit	1	O-RING	
8	91034154	1	BUSHING	
9	Kit	1	O-RING	
10	Kit	1	BACK UP RING	
11	Kit	1	NYLON PLUG	
12	91034136	1	HEAD	
13	Kit	2	WEAR RING	
14	Kit	1	U-CUP	
15	Kit	1	WIPER	
16	91034137	1	SHAFT ASSY, (includes item 17)	
17	91404352	1	BUSHING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-4. (91033370) LIFT CYLINDERS (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

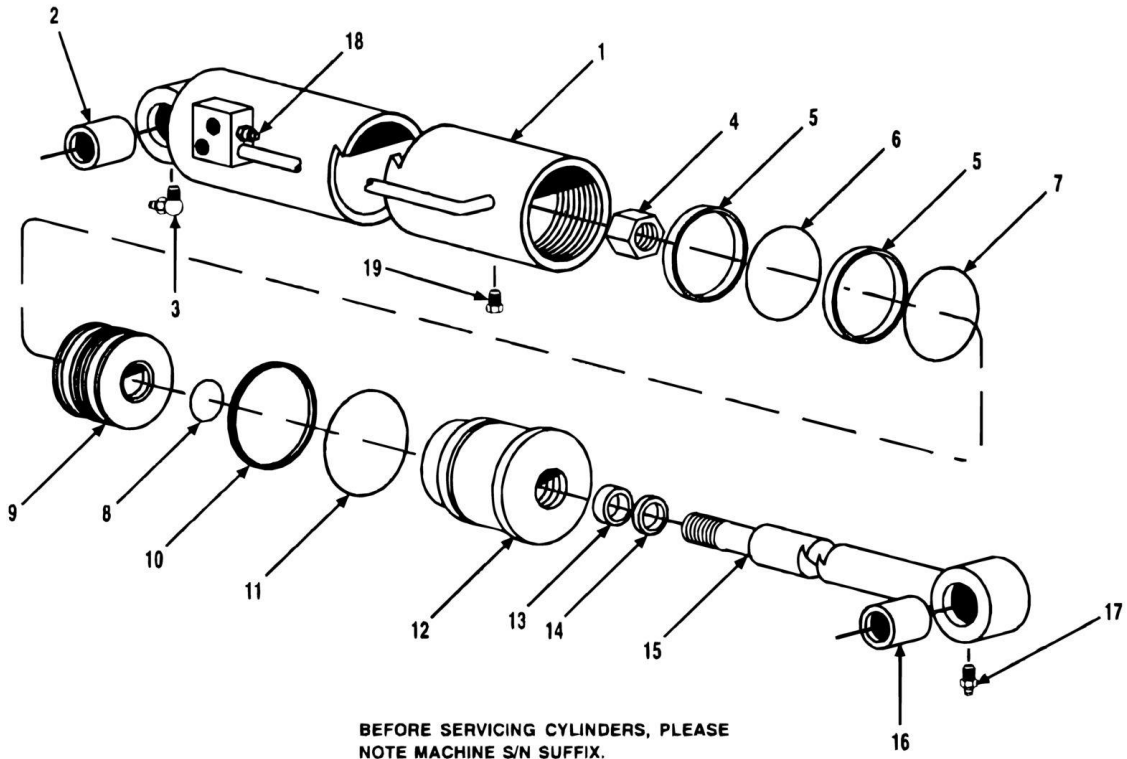
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-4. (91033370) LIFT CYLINDERS (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033370	2	LIFT CYLINDER ASSY, 6000 lbs, (includes all items)	
	91034284	AR	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91034285	1	TUBE ASSY, (includes item 2)	
2	91084176	1	BUSHING	
3	91034438	1	LUBE FITTING, 90, 1/4-28	
4	91034286	1	LOCKNUT, (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034287	1	PISTON	
10	Kit	1	BACKUP RING	
11	Kit	1	O-RING	
12	91034439	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91034440	1	ROD ASSY, (includes item 6)	
16	91044370	1	BUSHING	
17	91084343	1	LUBE FITTING, STRAIGHT, 1/4-28	
18	91034308	1	COUNTERBALANCE VALVE	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-5. (91033371) LIFT CYLINDERS (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

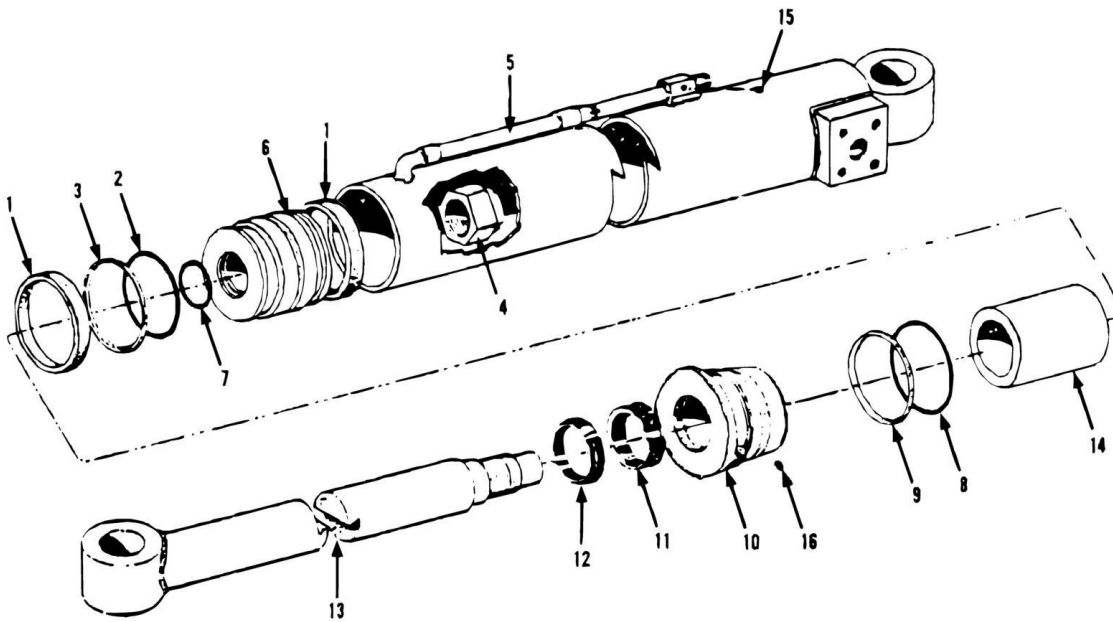
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91033371) LIFT CYLINDERS (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033371	2	LIFT CYLINDER ASSY, 8000 lbs, (includes all items)	
	91034278	AR	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91034279	1	TUBE ASSY, (includes item 2)	
2	91084176	1	BUSHING	
3	88671027	1	LUBE FITTING, 90, 1/4-28	
4	91034280	1	LOCKNUT, (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	Kit	1	BACKUP RING	
11	Kit	1	O-RING	
12	91034282	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91034283	1	ROD ASSY, (includes item 16)	
16	91044370	1	BUSHING	
17	88671033	1	LUBE FITTING, STRAIGHT, 1/4-28	
18	91033430	1	COUNTERBALANCE VALVE	
19	91034332	1	SET SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-6. (90801293) CROWD CYLINDER (SN 8344001L to Present)



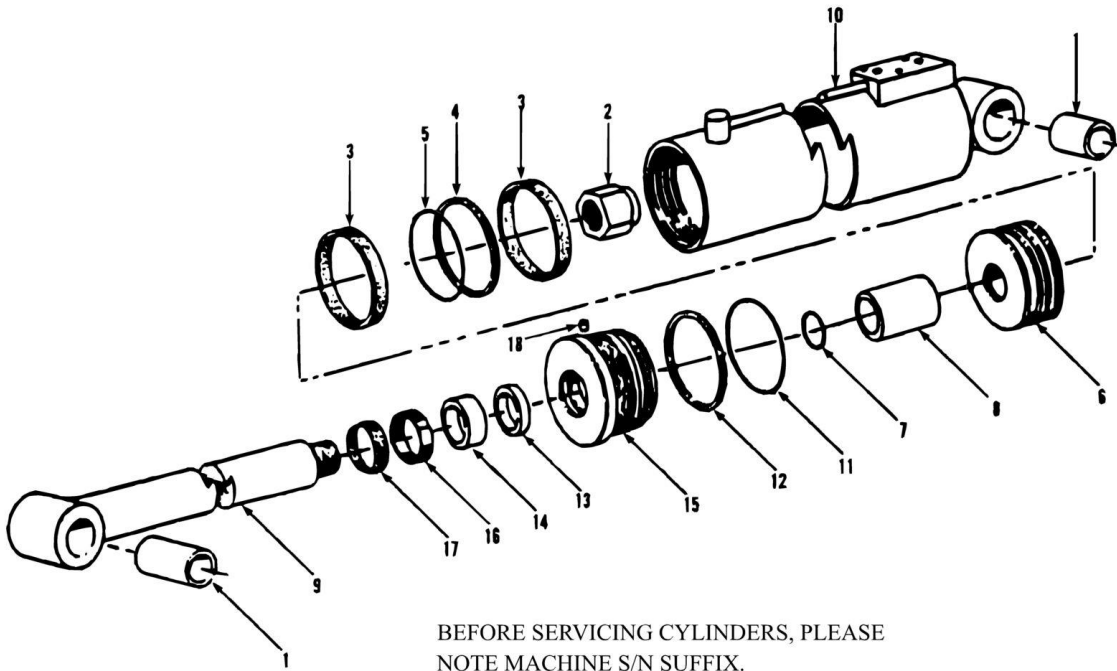
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-6. (90801293) CROWD CYLINDER (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90208023	1	SEAL KIT (includes 1, 2, 3, 7, 8, 9, 11 & 12)	
	90801293	1	CROWD CYLINDER	
1	90022295	2	WEAR RING	
2	90023153	1	O-RING	
3	90206799	1	PISTON SEAL	
4	90022232	1	NUT	
5	90602804	1	BARREL	
6	90206795	1	PISTON	
7	90023128	1	O-RING, PISTON ROD	
8	90023342	1	O-RING, ROD BEARING	
9	90024342	1	BACK-UP RING	
10	90206794	1	ROD BEARING	
11	90207986	1	ROD SEAL	
12	90206798	1	WIPER RING	
13	90602805	1	PISTON ROD	
14	90206796	1	SPACER	
15	90022217	1	PIPE PLUG	
16	90206042	1	NYLON PLUG	

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FIGURE 9-7. (91033290) (IOWA) CROWD CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.

"H" DESIGNATES IOWA CYLINDERS

"J" DESIGNATES JARP CYLINDERS

"S" DESIGNATES SEITZ CYLINDERS

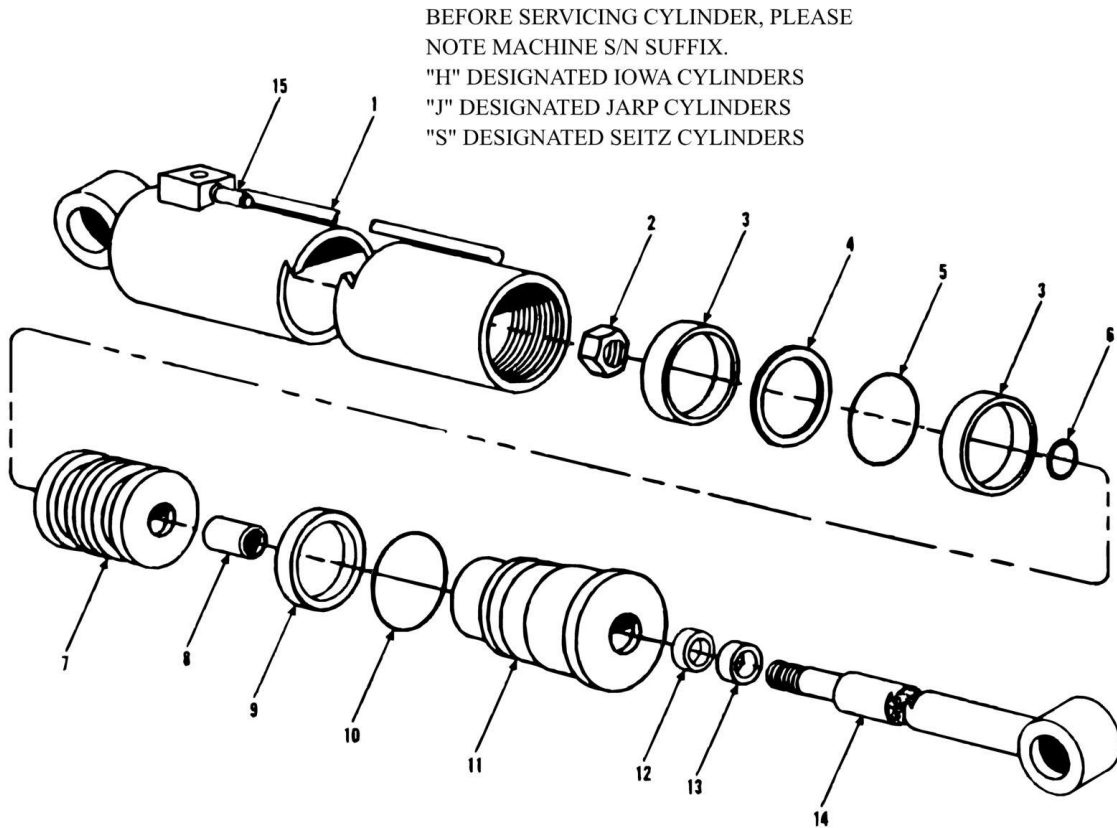
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. (91033290) (IOWA) CROWD CYLINDER (SN 0144293H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033290	1	CROWD CYLINDER ASSY, (includes all items)	
	91034223	1	SEAL KIT, (includes items 3, 4, 5, 7, 11, 12, 13, 14, 16, 17 & 18)	
1	91034218	2	BUSHING	
2	91064017	1	LOCKNUT	
3	Kit	2	WEAR RING	
4	Kit	1	PISTON SEAL	
5	Kit	1	O-RING	
6	91044274	1	PISTON	
7	Kit	1	O-RING	
8	91034219	1	STROKE LIMITER	
9	91034220	1	SHAFT ASSY, (includes item 1)	
10	91034221	1	CASE ASSY, (includes item 1)	
11	Kit	1	O-RING	
12	Kit	1	BACKUP RING	
13	Kit	1	WEAR RING	
14	Kit	1	WEAR RING	
15	91034222	1	CYLINDER HEAD	
16	Kit	1	U-CUP	
17	Kit	1	WIPER RING	
18	Kit	1	NYLON PLUG	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

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FIGURE 9-8. (91033368) CROWD CYLINDER (SN 0144784S to Present)



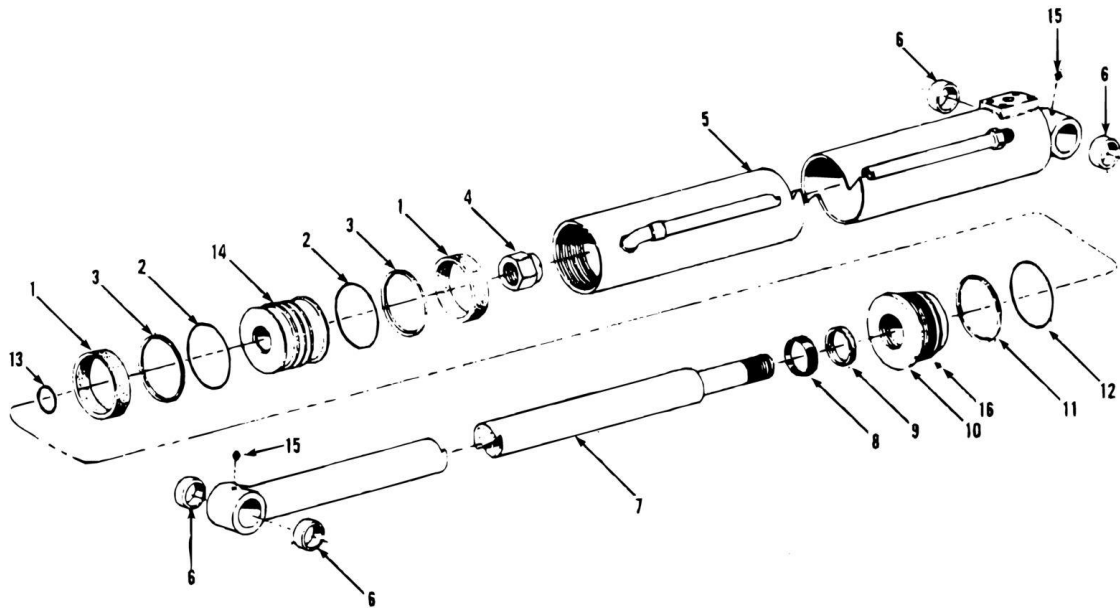
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-8. (91033368) CROWD CYLINDER (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033368	1	CROWD CYLINDER ASSY, (includes all items)	
	91034290	AR	SEAL KIT, (includes items 3, 4, 5, 6, 9, 10, 12 & 13)	
1		Ref	TUBE ASSY	
2	91034286	1	LOCKNUT, (torque to 590 ft lbs)	
3	Kit	2	WEAR RING	
4	Kit	1	SEAL	
5	Kit	1	O-RING	
6	Kit	1	O-RING	
7	91034291	1	PISTON	
8	91034292	1	STOP TUBE	
9	Kit	1	BACKUP RING	
10	Kit	1	O-RING	
11	91034293	1	GLAND	
12	Kit	1	SEAL	
13	Kit	1	WIPER	
14	91034294	1	ROD ASSY	
15	91034308	1	COUNTER BALANCE VALVE	
15	91044524	1	COUNTER BALANCE VALVE SEAL KIT	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-9. TILT AND TILT COMP CYL 6000# (SN 8344001L through 8344011L)



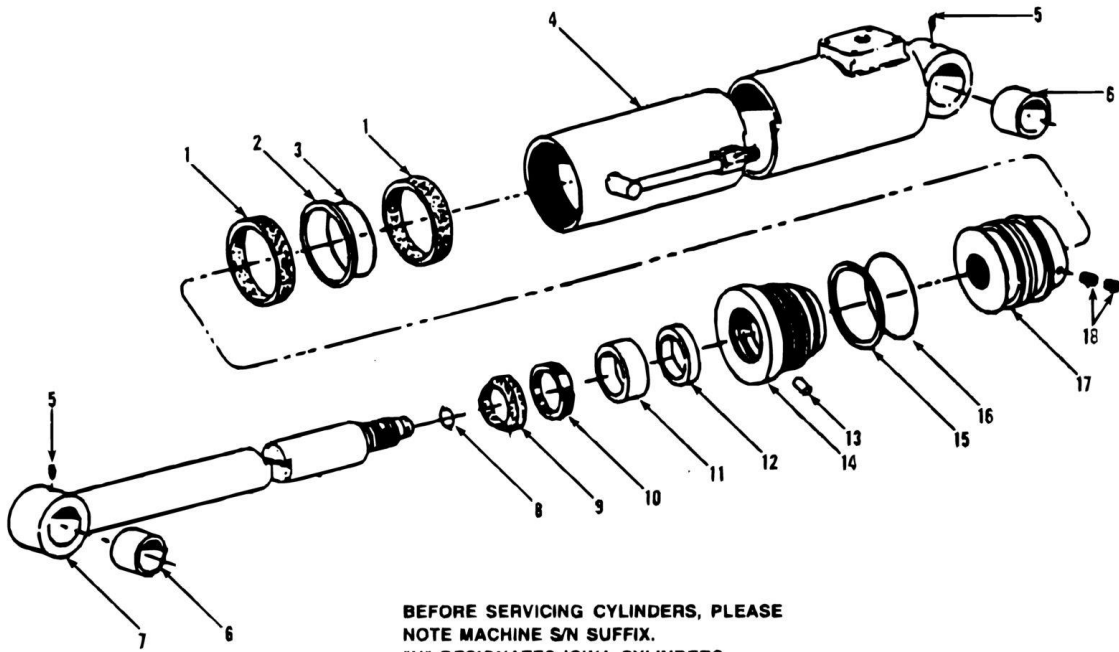
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-9. TILT AND TILT COMP CYL 6000# (SN 8344001L through 8344011L)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801291		TILT COMPENSATING CYLINDER	
	90801292		TILT CYLINDER	
	90201553	AR	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12, & 13)	
1	91034040	2	WEAR RING	
2	91034041	2	PISTON O-RING	
3	90022239	2	PISTON SEAL	
4	90022232	1	SELF LOCKING NUT	
5	91034053	1	CYLINDER BARREL (tilt comp.)	
5	91034042	1	CYLINDER BARREL (tilt)	
6	90206793	4	BUSHING	
7	91034054	1	PISTON ROD (tilt comp.)	
7	91034050	1	PISTON ROD (tilt)	
8	91034051	1	WIPER RING	
9	91034052	1	ROD SEAL	
10	90400062	1	ROD BEARING	
11	91034045	1	BACK-UP RING	
12	91034046	1	ROD BEARING O-RING	
13	91034047	1	PISTON ROD O-RING	
14	90402123	1	PISTON	
15	88671001	2	LUBE FITTING - STRAIGHT - 1/8	
16	90206042	1	NYLON PLUG	

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FIGURE 9-10. (91033287) (IOWA) TILT CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

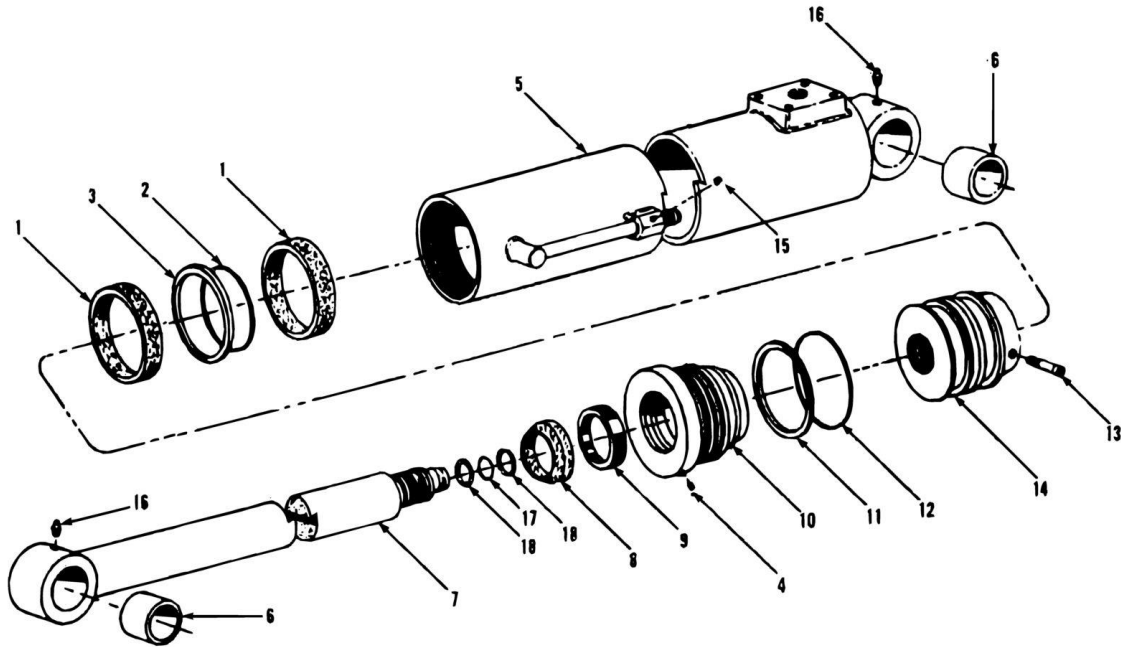
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-10. (91033287) (IOWA) TILT CYLINDER (SN 0144293H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033287	1	TILT CYLINDER ASSY, (includes all items)	
	91034150	1	SEAL KIT, (includes items 1, 2, 3, 8 thru 13, 15 & 16)	
1	Kit	2	WEAR RING	
2	Kit	1	PISTON SEAL	
3	Kit	1	O-RING	
4	91034148	1	CASE ASSY, (includes item 6)	
5	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
6	91404352	2	BUSHING	
7	91034147	1	SHAFT ASSY, (includes item 6)	
8	Kit	1	O-RING	
9	Kit	1	WIPER	
10	Kit	1	U-CUP	
11	Kit	1	WEAR RING, (wide)	
12	Kit	1	WEAR RING, (narrow)	
13	Kit	1	NYLON PLUG	
14	91034146	1	HEAD	
15	Kit	1	BACK-UP RING	
16	Kit	1	O-RING	
17	91034149	1	PISTON, (lubricate and torque to 550 ft lbs)	
18	91034155	2	SET SCREW	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

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FIGURE 9-11. (90801328) (JARP) TILT COMP CYL 6000# (SN 8744142G to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

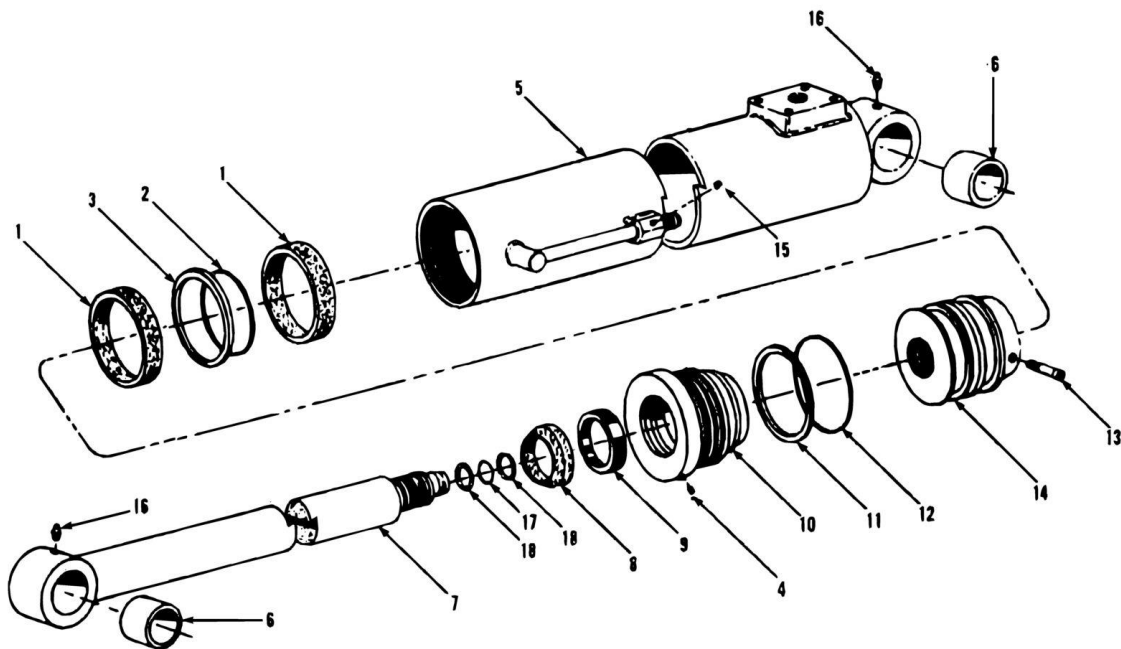
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-11. (90801328) (JARP) TILT COMP CYL 6000# (SN 8744142G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801328		TILT COMPENSATING CYLINDER, (includes all items)	
	90207954	AR	SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12, 17 & 18)	
1	Kit	2	WEAR RING	
2	90023157	1	PISTON O-RING	
3	90022240	1	PISTON SEAL	
4	90207535	1	SET SCREW	
5	90207539	1	CYLINDER BARREL	
6	90205414	2	BUSHING	
7	90207541	1	PISTON ROD	
8	90022280	1	WIPER RING	
9	90022250	1	ROD SEAL	
10	90207543	1	ROD BEARING	
11	90025349	1	BACK-UP RING	
12	90023349	1	ROD BEARING O-RING	
13	90207544	1	SET SCREW, (rod bearing)	
14	90207542	1	PISTON	
15	90207536	1	PIPE PLUG	
16	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
17	90207533	1	O-RING, (stem)	
18	90207534	2	BACK-UP RING	

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FIGURE 9-12. (90801327) (JARP) TILT CYL (SN 8744142G to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

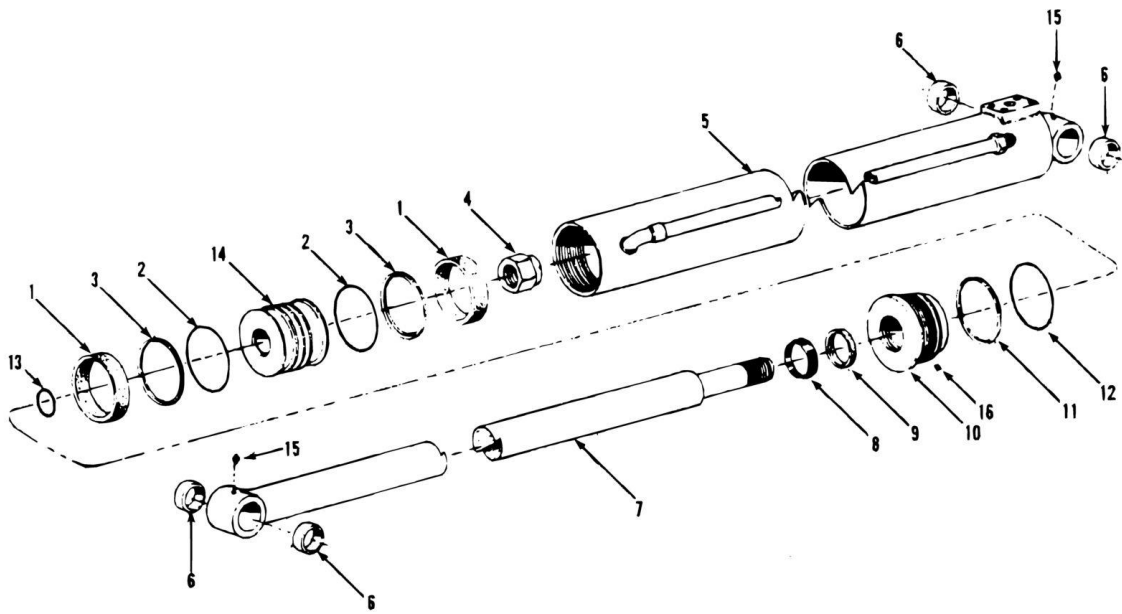
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (90801327) (JARP) TILT CYL (SN 8744142G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801327	2	TILT CYLINDER, (includes all items)	
	90207957	AR	SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12, 17 & 18)	
1	Kit	2	WEAR RING	
2	90023157	1	PISTON O-RING	
3	90022240	1	PISTON SEAL	
4	90207535	1	SET SCREW	
5	90207538	1	CYLINDER BARREL	
6	90205414	2	BUSHING	
7	90207540	1	PISTON ROD	
8	90022280	1	WIPER RING	
9	90022250	1	ROD SEAL	
10	90207543	1	ROD BEARING	
11	90025349	1	BACK-UP RING	
12	90023349	1	ROD BEARING O-RING	
13	90207544	1	SET SCREW, (rod bearing)	
14	90207542	1	PISTON	
15	90207536	1	PIPE PLUG	
16	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
17	90207533	1	O-RING, (stem)	
18	90207534	2	BACK-UP RING	

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FIGURE 9-13. TILT AND TILT COMP CYL 6000# (SN 8344012L through 8744136G)



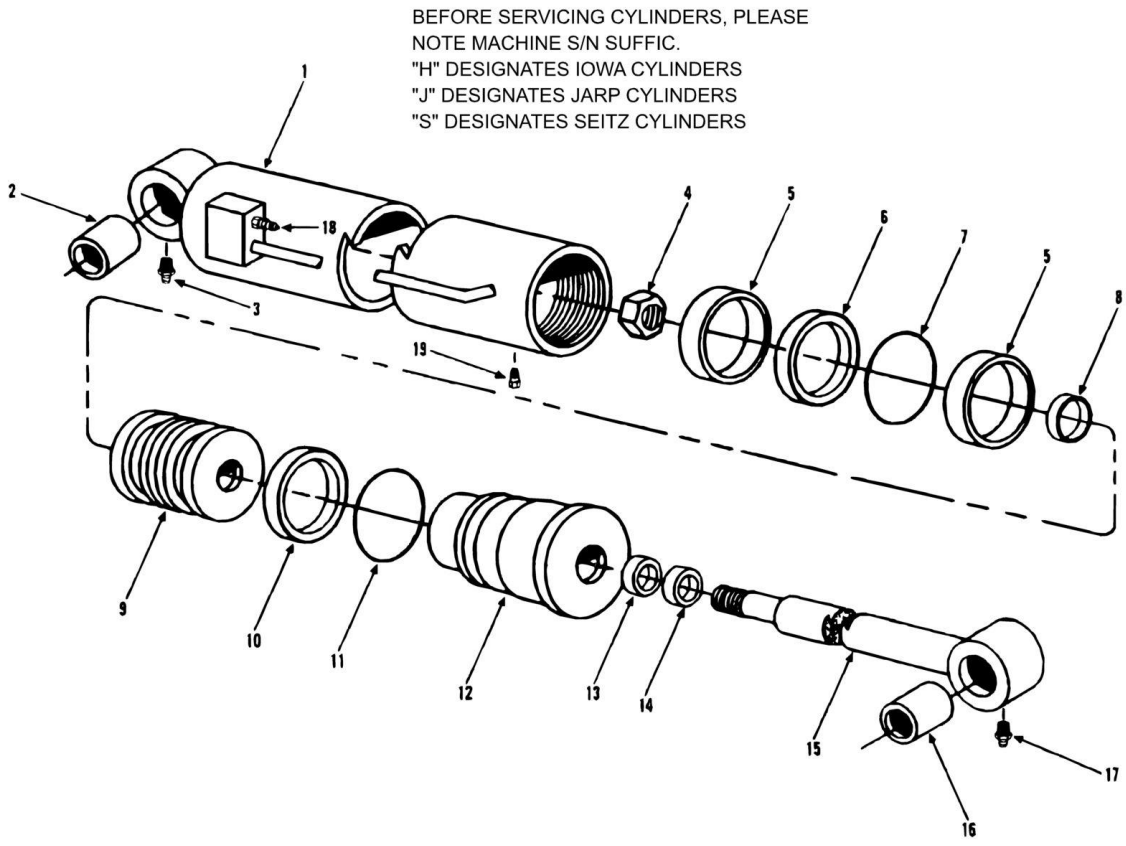
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-13. TILT AND TILT COMP CYL 6000# (SN 8344012L through 8744136G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801356		TILT COMPENSATING CYLINDER	
	90801357		TILT CYLINDER	
	91034049	AR	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12 & 13)	
1	91034040	2	WEARING	
2	91304041	2	PISTON O-RING	
3	90022239	2	PISTON SEAL	
4	90022232	1	SELF LOCKING NUT	
5	91034053	1	CYLINDER BARREL (tilt comp)	
5	91034052	1	CYLINDER BARREL (tilt)	
6	90206793	4	BUSHING	
7	91034055	1	PISTON ROD (tilt comp)	
7	91034043	1	PISTON ROD (tilt)	
8	90022280	1	WIPER RING	
9	91034044	1	ROD SEAL	
10	90402122	1	ROD BEARING	
11	91034045	1	BACK-UP RING	
12	91034046	1	ROD BEARING O-RING	
13	91034047	1	PISTON ROD O-RING	
14	90402123	1	PISTON	
15	88671001	2	LUBE FITTING- STRAIGHT 1/8	
16	91034048	1	NYLON PLUG	

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FIGURE 9-14. (91033369) (SEITZ) TILT CYLINDER (SN 0144784S to Present)



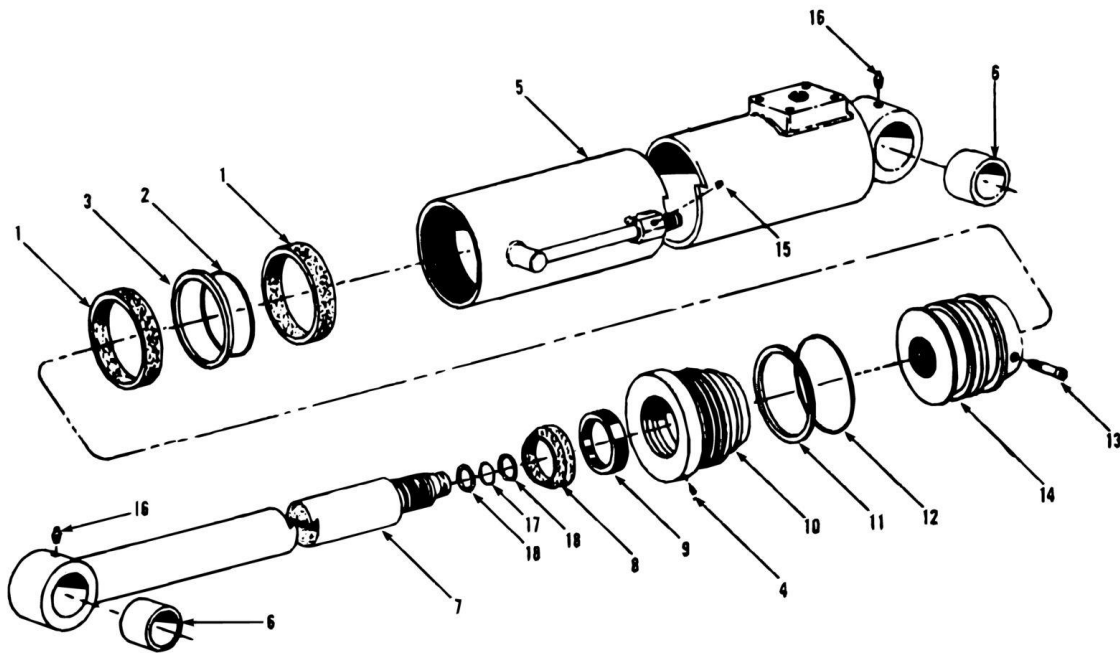
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. (91033369) (SEITZ) TILT CYLINDER (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033369	1	TILT CYLINDER ASSY, (includes all items)	
	91034278	AR	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91034295	1	TUBE ASSY, (includes item 2)	
2	91084176	1	BUSHING	
3	88671027	1	LUBE FITTING, 90, 1/4-28	
4	91034280	1	LOCKNUT, (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	Kit	1	BACK-UP RING	
11	Kit	1	O-RING	
12	91034282	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91034296	1	ROD ASSY, (includes item 16)	
16	91084176	1	BUSHING	
17	88671033	1	LUBE FITTING, STRAIGHT, 1/4-28	
18	91033430	1	COUNTER BALANCE VALVE	
19	91034332	1	SET SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

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FIGURE 9-15. (90801328) (JARP) TILT CYL 8000# (SN 8344001L to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

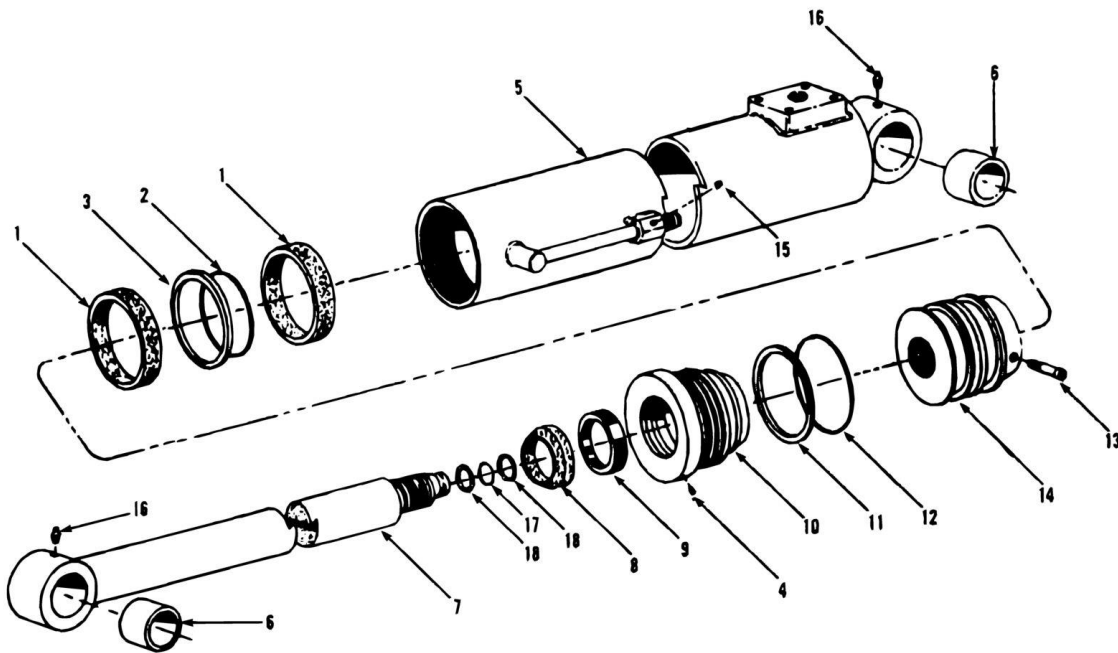
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-15. (90801328) (JARP) TILT CYL 8000# (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801328	1	TILT COMP. CYL ASSY, (includes all items)	
	90207954	1	SEAL KIT, (includes 1, 2, 3, 8, 9, 11, 12, 17 & 18)	
1	Kit	2	WEAR RING	
2	90023157	1	O-RING, (piston)	
3	90022240	1	PISTON SEAL	
4	90207535	1	SET SCREW, (piston)	
5	90207539	1	CYLINDER BARREL	
6	90205414	2	BUSHING	
7	90207541	1	PITON ROD	
8	90022280	1	WIPER RING	
9	90022250	1	ROD SEAL	
10	90207543	1	ROD BEARING	
11	90025349	1	BACK-UP RING	
12	90023349	1	O-RING, (rod bearing)	
13	90207544	1	SET SCREW, (rod bearing)	
14	90207542	1	PISTON	
15	90207536	1	PIPE PLUG	
16	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
17	90207533	1	O-RING, (stem)	
18	90207534	2	BACK-UP RING	

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FIGURE 9-16. (90801327) (JARP) TILT COMP CYL (SN 8344001L to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

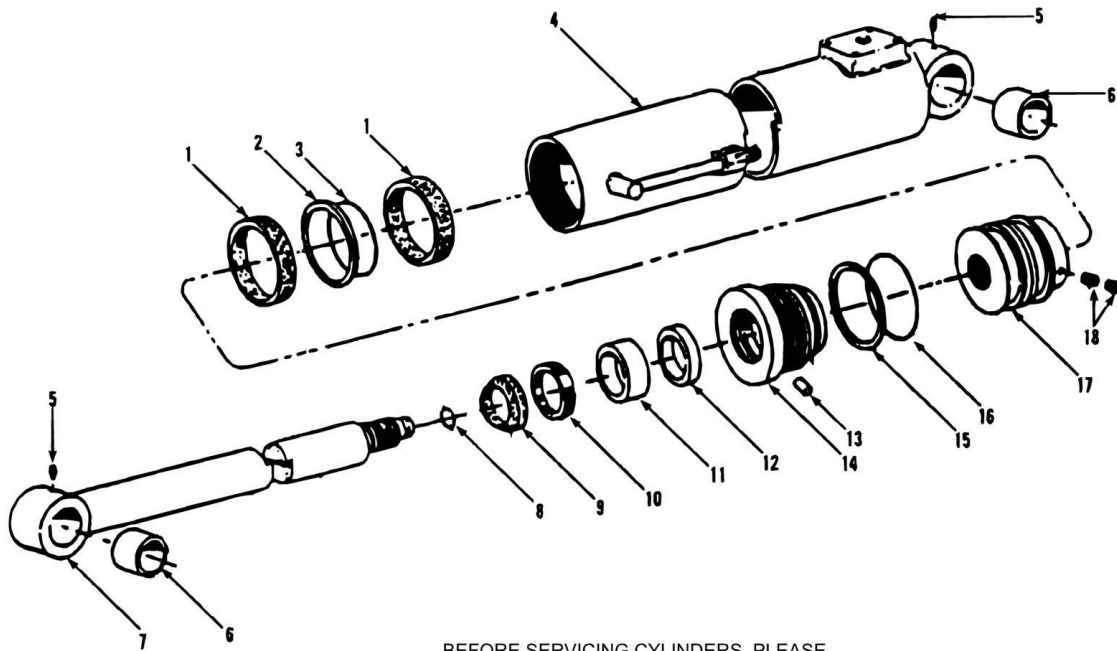
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-16. (90801327) (JARP) TILT COMP CYL (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801327	2	TILT CYLINDER, (includes all items)	
	90207954	AR	SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12, 17 & 18)	
1	Kit	2	WEAR RING	
2	90023157	1	O-RING, (piston)	
3	90022240	1	PISTON SEAL	
4	90207535	1	SET SCREW, (piston)	
5	90207538	1	CYLINDER BARREL	
6	90205414	2	BUSHING	
7	90207540	1	PISTON ROD	
8	90022280	1	WIPER RING	
9	90022250	1	ROD SEAL	
10	90207543	1	ROD BEARING	
11	90025349	1	BACK-UP RING	
12	90023349	1	O-RING, (rod bearing)	
13	90207544	1	SET SCREW, (rod bearing)	
14	90207542	1	PISTON	
15	90207536	1	PIPE PLUG	
16	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
17	90207533	1	O-RING, (stem)	
18	90207534	2	BACK-UP RING	

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FIGURE 9-17. (91033288) (IOWA) COMPENSATING CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

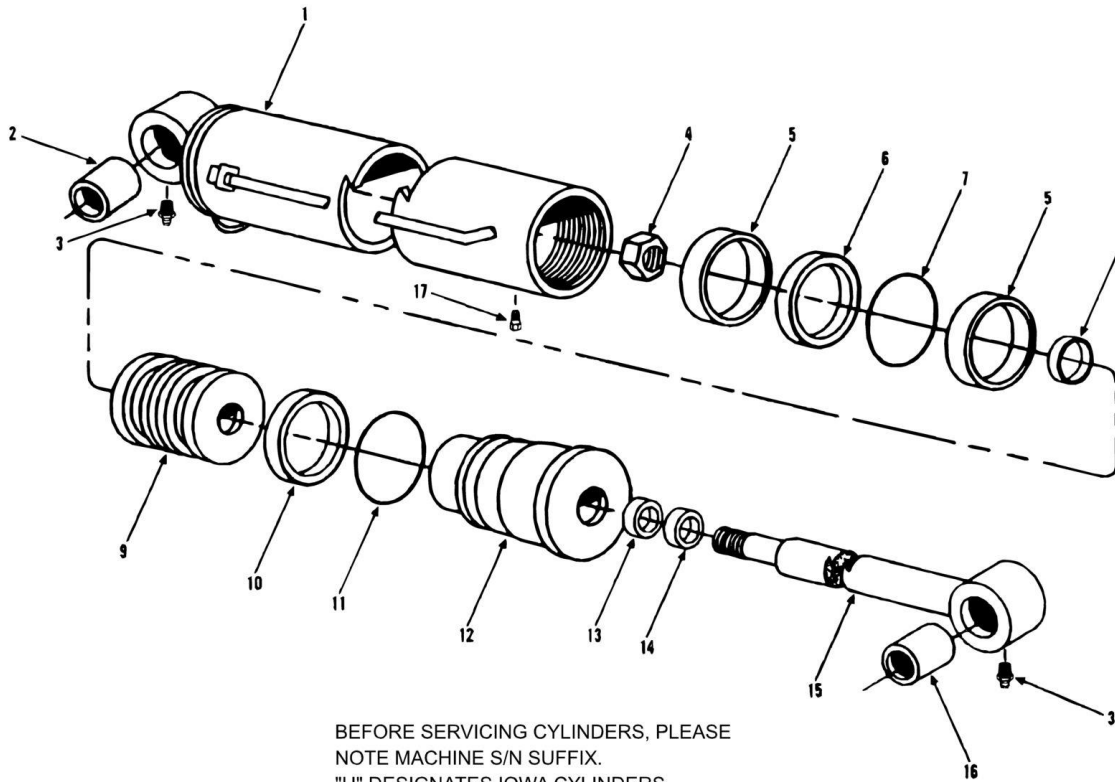
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-17. (91033288) (IOWA) COMPENSATING CYLINDER (SN 0144293H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033288	1	COMPENSATING CYLINDER ASSY, (includes all items)	
	91034150	1	SEAL KIT, (includes items 1, 2, 3, 8 thru 13, 15 & 16)	
1	Kit	2	WEAR RING	
2	Kit	1	PISTON SEAL	
3	Kit	1	O-RING	
4	91034152	1	CASE ASSY, (includes item 6)	
5	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
6	91404352	2	BUSHING	
7	91034151	1	SHAFT ASSY, (includes item 6)	
8	Kit	1	O-RING	
9	Kit	1	WIPER	
10	Kit	1	U-CUP	
11	Kit	1	WEAR RING, (wide)	
12	Kit	1	WEAR RING, (narrow)	
13	Kit	1	NYLON PLUG	
14	91034146	1	HEAD	
15	Kit	1	BACK-UP RING	
16	Kit	1	O-RING	
17	91034149	1	PISTON, (lubricate and torque to 550 ft lbs)	
18	91034155	2	SET SCREW	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

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FIGURE 9-18. (91043304) (SEITZ) COMPENSATING CYLINDER (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

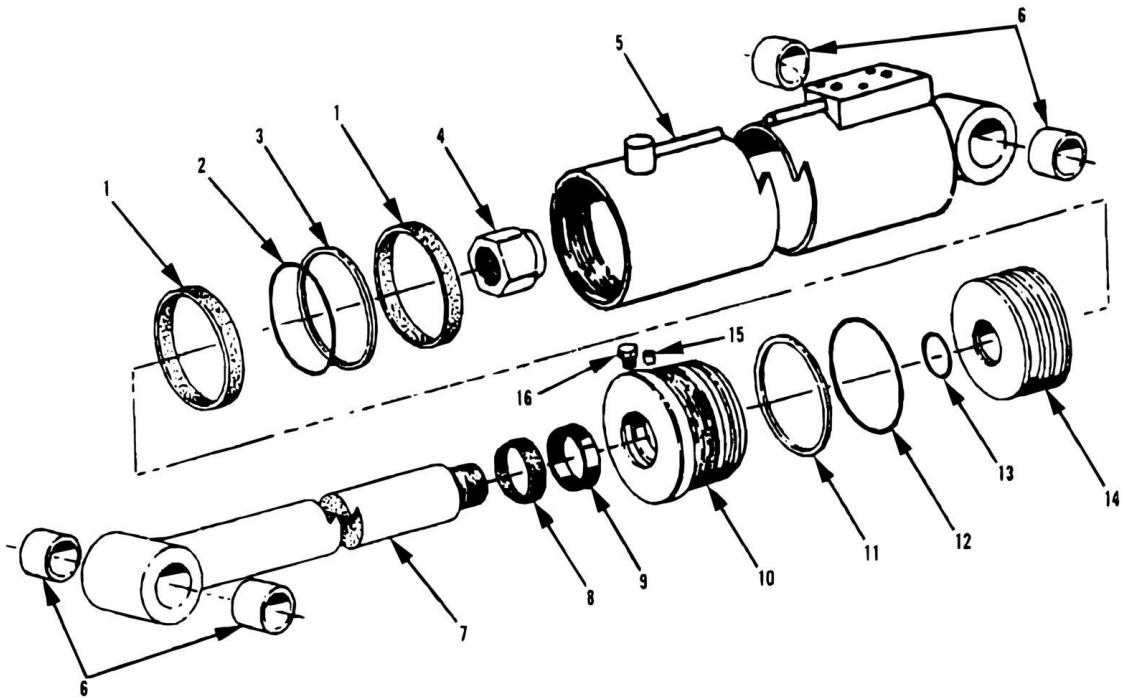
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-18. (91043304) (SEITZ) COMPENSATING CYLINDER (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043304	1	COMPENSATING CYLINDER ASSY, (includes all items)	
	91034278	AR	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91044313	1	TUBE ASSY, (include item 2)	
2	90184176	1	BUSHING	
3	88671033	2	LUBE FITTING, STRAIGHT, 1/4-28	
4	91034280	1	LOCKNUT, (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	Kit	1	BACKUP RING	
11	Kit	1	O-RING	
12	91034314	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91044315	1	ROD ASSY, (includes item 16)	
16	91084176	1	BUSHING	
17	91034332	1	SET SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-19. (91043139) SWAY CYLINDER (SN 8644031G to Present)



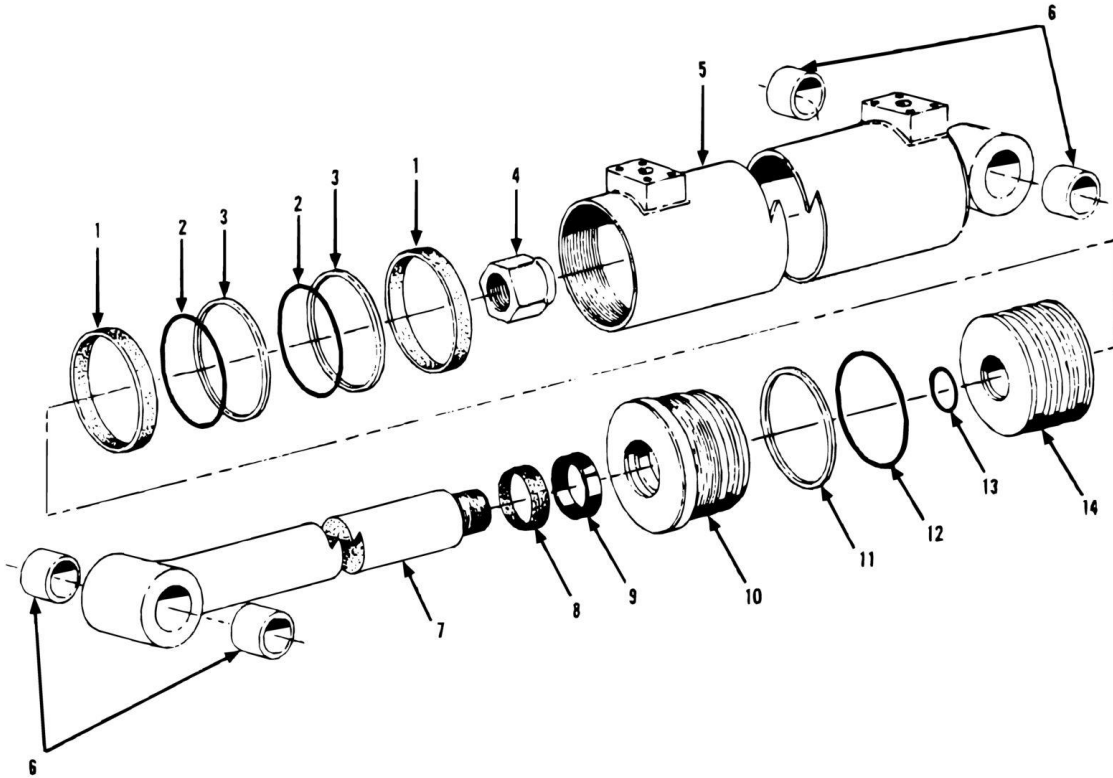
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-19. (91043139) SWAY CYLINDER (SN 8644031G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043139	1	SWAY CYLINDER ASSY, (includes all items)	
	91044205	1	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12, 13 & 15)	
1	91034040	2	WEAR RING	
2	91034041	1	O-RING	
3	Kit	1	PISTON SEAL	
4	91044206	1	SELF-LOCKING NUT (lubricate and torque to 550-600 ft lbs)	
5	91044207	1	CYLINDER BARREL ASSY (includes item 6)	
6	91044075	4	BUSHING	
7	91044208	1	PISTON ROD ASSY (includes item 6)	
8	91034051	1	WIPER RING	
9	91034052	1	ROD SEAL	
10	90400062	1	ROD BEARING (lubricate and torque to 250-300 ft lbs)	
11	91034045	1	BACK-UP RING	
12	91034046	1	O-RING	
13	91044209	1	O-RING	
14	91044210	1	PISTON ASSY (includes item 1, 2, 3 & 13)	
15	90206042	1	NYLON PLUG	
16	91044073	1	HEX HD CAPSCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-20. SWAY CYLINDER (SN 8344001L through 8644030G)



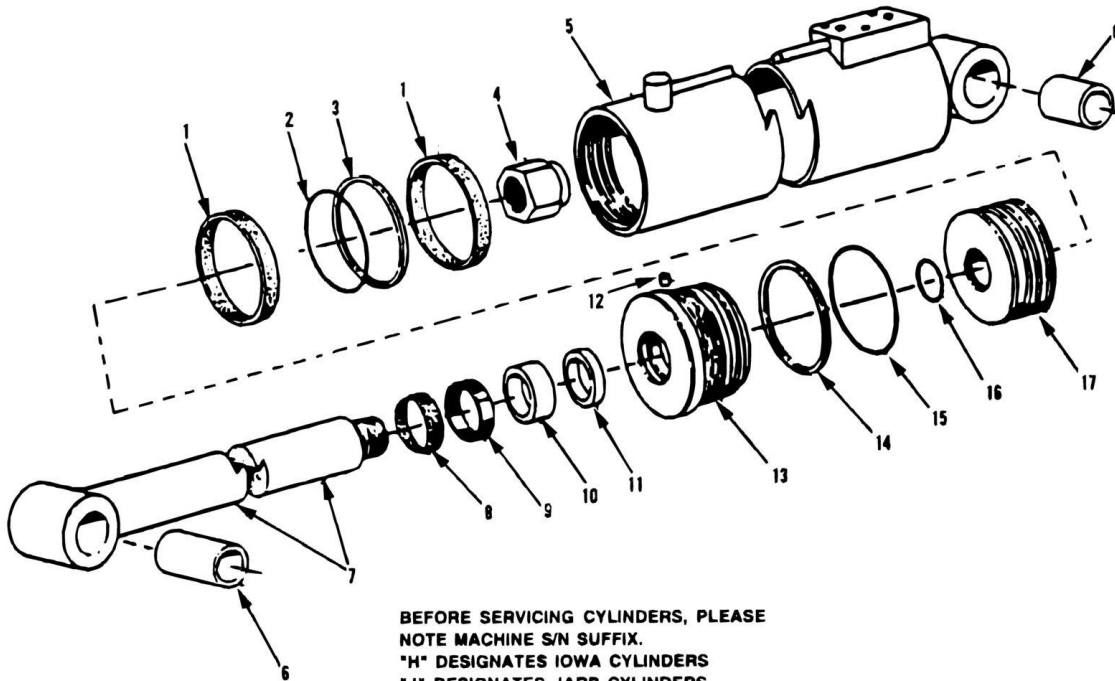
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-20. SWAY CYLINDER (SN 8344001L through 8644030G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801270	1	SWAY CYLINDER	
	90201553	AR	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 1 & 13)	
1	90022259	2	WEAR RING	
2	90023153	2	PISTON O-RING	
3	90022239	2	PISTON SEAL	
4	90022232	1	SELF-LOCKING NUT	
5	90207898	1	CYLINDER BARREL	
6	90205414	4	BUSHING	
7	90207900	1	PISTON ROD	
8	90022279	1	WIPER RING	
9	90022249	1	SEAL ROD	
10	90400062	1	ROD BEARING	
11	90025342	1	BACK-UP RING	
12	90023342	1	ROD BEARING O-RING	
13	90023128	1	PISTON ROD O-RING	
14	90400061	1	PISTON	

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FIGURE 9-21. (91043205) (IOWA) SWAY CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

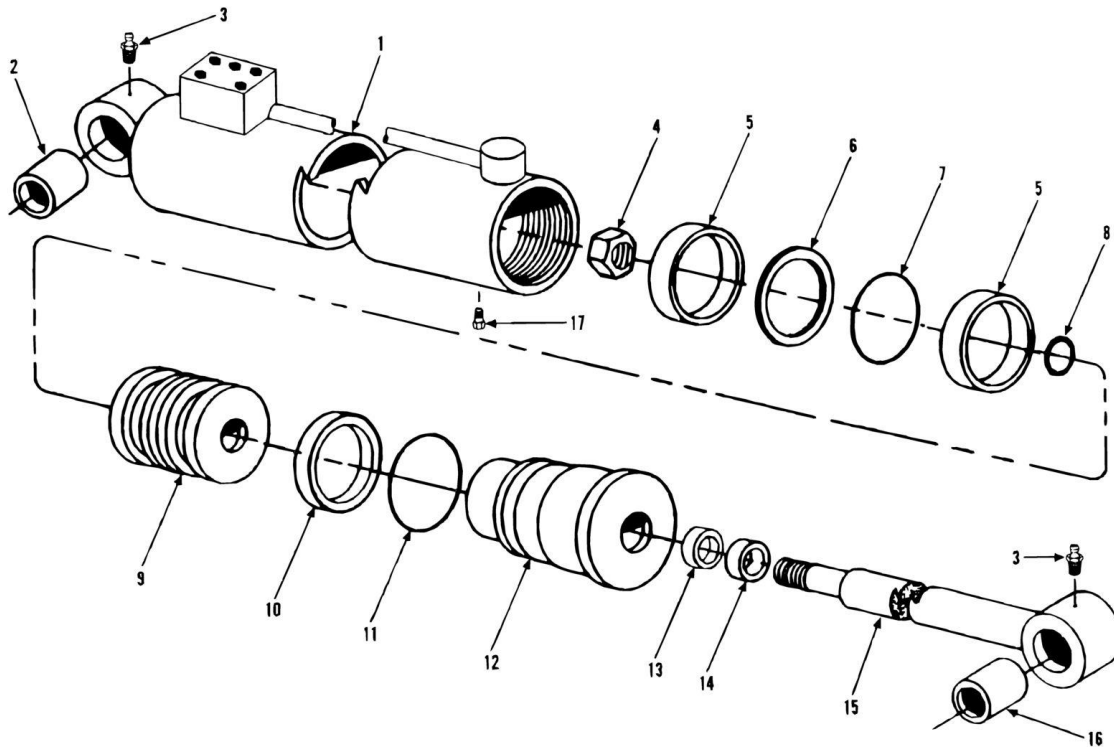
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-21. (91043205) (IOWA) SWAY CYLINDER (SN 0144293H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043205	1	SWAY CYLINDER ASSY, (includes all items)	
	91044275	1	SEAL KIT, (includes items 1, 2, 3, 8 thru 11, 14, 15 & 16)	
1	Kit	2	WEAR RING	
2	Kit	1	O-RING	
3	Kit	1	PISTON SEAL	
4	91064017	1	HEX LOCKNUT, (lubricate and torque to 625 ft lbs)	
5	91044273	1	CASE ASSY, (includes item 6)	
6	91404352	2	BUSHING	
7	91044272	1	SHAFT ASSY, (includes item 6)	
8	Kit	1	WIPER	
9	Kit	1	U-CAP	
10	Kit	1	WEAR RING, (wide)	
11	Kit	1	WEAR RING, (narrow)	
12		Ref	NYLON PLUG	
13	91044271	1	HEAD	
14	Kit	1	BACK-UP RING	
15	Kit	1	O-RING	
16	Kit	1	O-RING	
17	91044274	1	PISTON	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-22. (91033367) SWAY CYLINDER (SN 0144762 to Present)



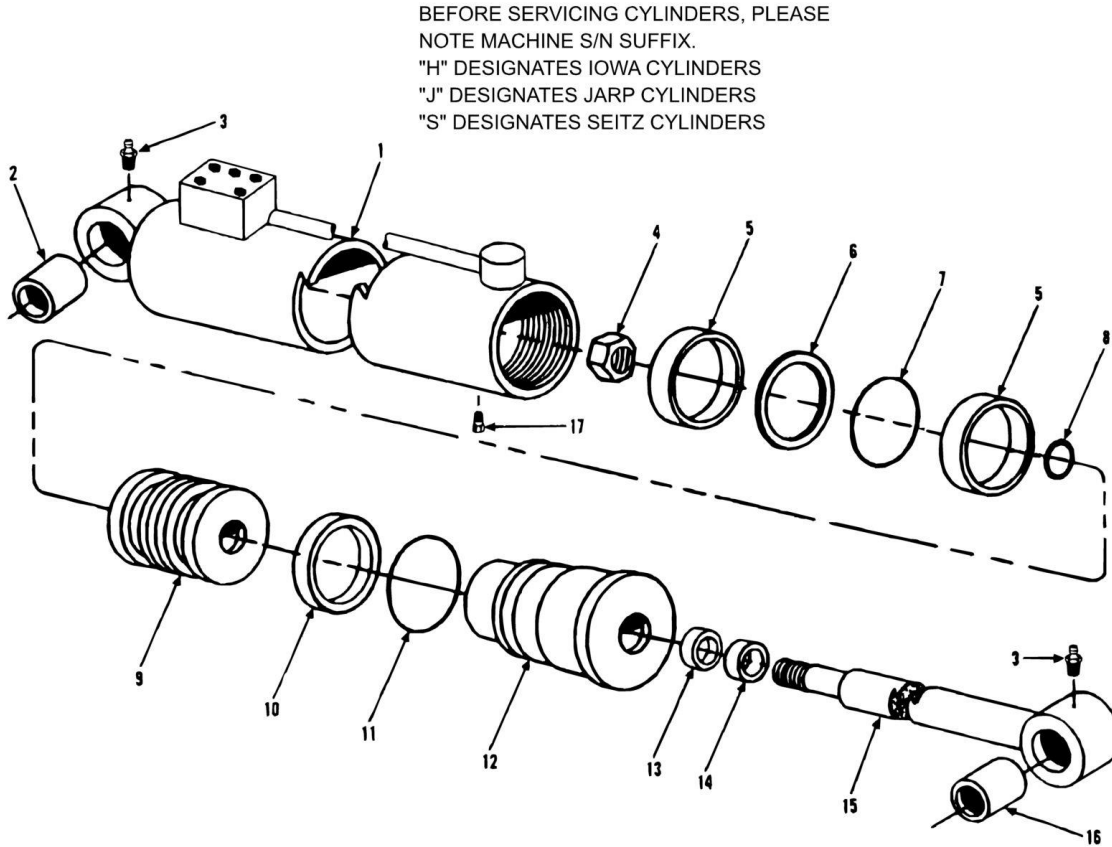
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-22. (91033367) SWAY CYLINDER (SN 0144762 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033367	1	SWAY CYLINDER ASSY, (includes all items)	
	91034297	AR	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91034298	1	TUBE ASSY, (includes item #2)	
2	91084176	1	BUSHING	
3	88671033	2	LUBE FITTING-STRAIGHT, 1/4-28	
4	91034286	1	LOCKNUT, (torque to 590 ft lb)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034291	1	PISTON	
10	Kit	1	BACKUP RING	
11	Kit	1	O-RING	
12	91034299	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91044300	1	ROD ASSY, (includes item 16)	
16	91084176	1	BUSHING	
17	91034332	1	SET SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-23. (91033367) SWAY CYLINDER (SN 0144784S to Present)



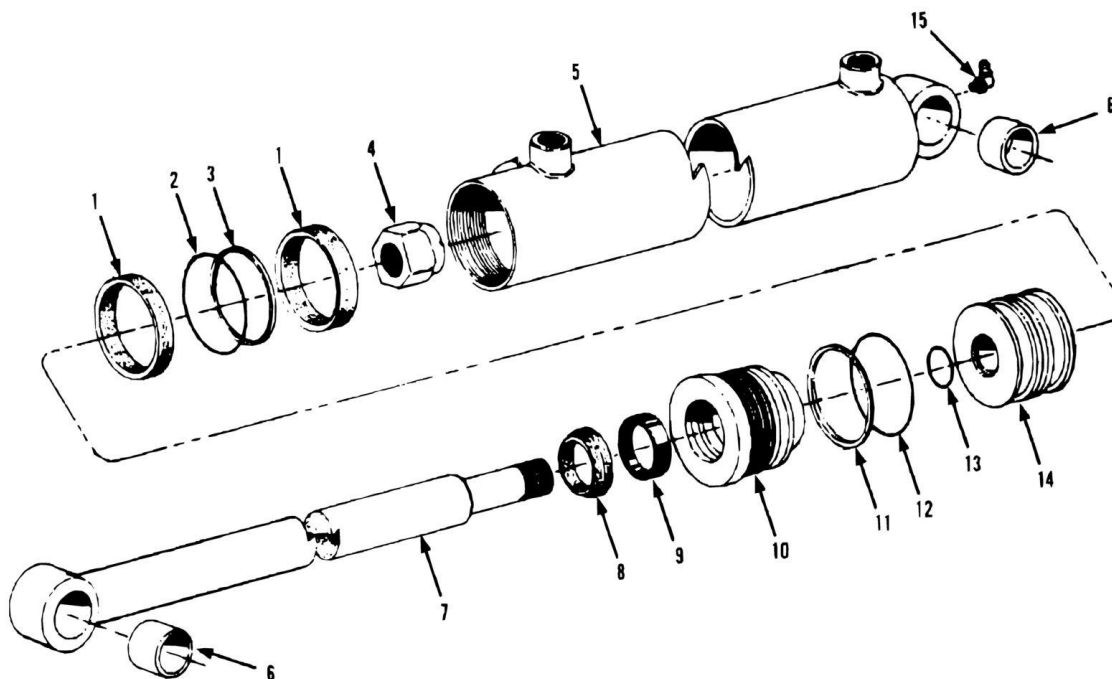
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-23. (91033367) SWAY CYLINDER (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033367	1	SWAY CYLINDER ASSY, (includes all items)	
	91034297	AR	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91034298	1	TUBE ASSY, (includes item #2)	
2	91084176	1	BUSHING	
3	88671033	1	LUBE FITTING, STRAIGHT, 1/4-28	
4	91034286	2	LOCKNUT, (torque to 590 ft lb)	
5	Kit	1	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034291	1	PISTON	
10	Kit	1	BACKUP RING	
11	Kit	1	O-RING	
12	91034299	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91044300	1	ROD ASSY, (includes item 16)	
16	91084176	1	BUSHING	
17	91034332	1	SET SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-24. (90801313) (JARP) STEERING CYLINDER (SN 8344001J to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.

"H" DESIGNATES IOWA CYLINDERS

"J" DESIGNATES JARP CYLINDERS

"S" DESIGNATES SEITZ CYLINDERS

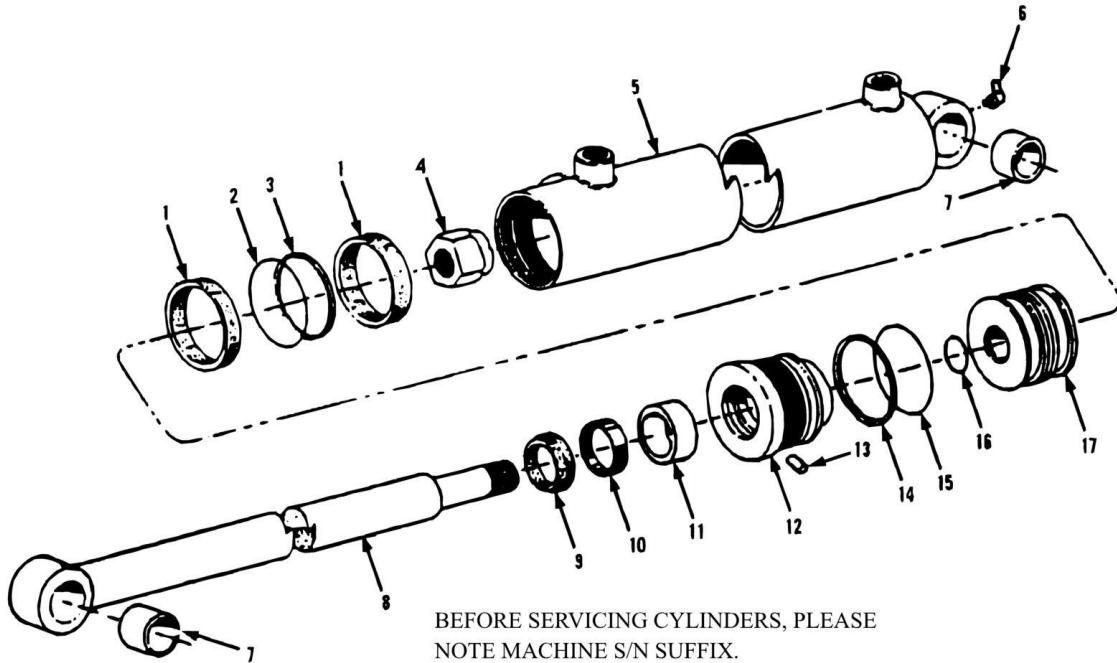
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-24. (90801313) (JARP) STEERING CYLINDER (SN 8344001J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801313	2	STEERING CYLINDER ASSY, (includes all items)	
	90202551	AR	SEAL KIT, (includes items 1, 2, 3, 8, 9, 11, 12 & 13)	
1	90022257	2	WEAR RING	
2	90023145	1	O-RING	
3	90022237	1	PISTON SEAL	
4	90022230	1	SELF LOCKING NUT	
5	90207821	1	BARREL	
6	90205450	2	BUSHING	
7	90207822	1	PISTON ROD	
8	90022277	1	WIPER RING	
9	90022247	1	ROD SEAL	
10	90402099	1	ROD BEARING	
11	90024232	1	BACK-UP RING	
12	90023232	1	O-RING	
13	90023117	1	O-RING	
14	90402098	1	PISTON	
15	88671027	1	LUBE FITTING, 90, 1/4-28	

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FIGURE 9-25. (91033291) (IOWA) STEERING CYLINDER (SN 0144293H to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.

"H" DESIGNATES IOWA CYLINDERS

"J" DESIGNATES JARP CYLINDERS

"S" DESIGNATES SEITZ CYLINDERS

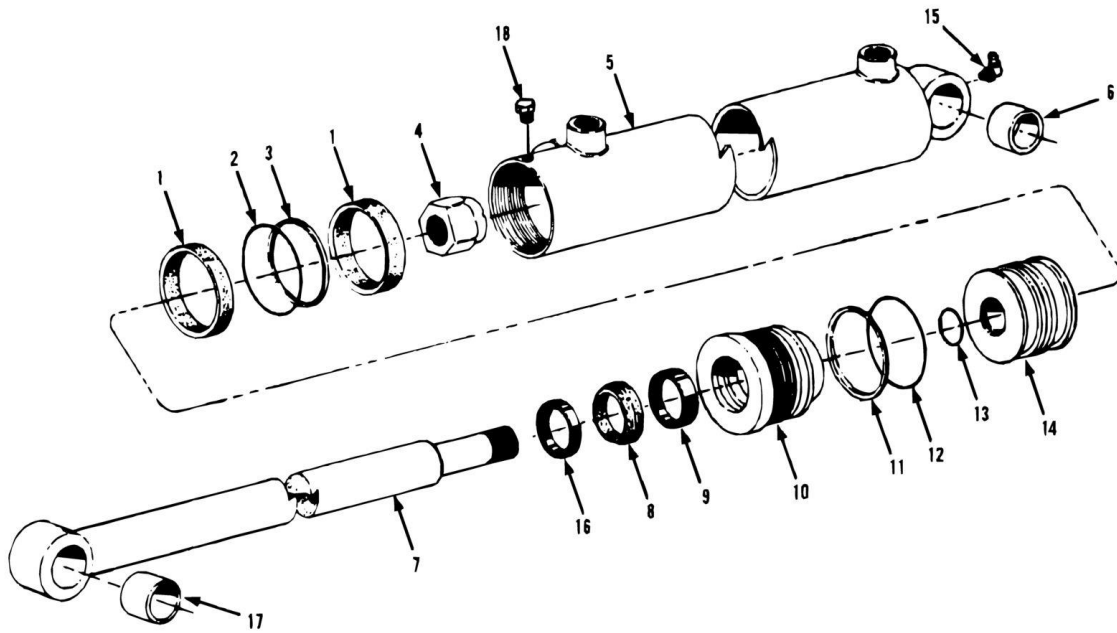
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-25. (91033291) (IOWA) STEERING CYLINDER (SN 0144293H to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033291	2	STEERING CYLINDER ASSY, (includes all items)	
	91034145	1	SEAL KIT, (includes items 1, 2, 3, 9, 10, 11, 13, 14, 15 & 16)	
1	Kit	1	WEAR RING	
2	Kit	1	O-RING	
3	Kit	1	PISTON SEAL	
4	91034156	1	HEX LOCKNUT, (lubricate and torque to 250 ft lb)	
5	91034143	1	CASE ASSY, (includes item 7)	
6	88671027	1	LUBE FITTING, 90, 1/4-28	
7	91034157	2	BUSHING	
8	91034142	1	SHAFT ASSY, (includes item 7)	
9	Kit	1	WIPER	
10	Kit	1	U-CUP	
11	Kit	1	WEAR RING	
12	91034141	1	HEAD	
13	Kit	1	NYLON PLUG	
14	Kit	1	BACK-UP RING	
15	Kit	1	O-RING	
16	Kit	1	O-RING	
17	91034144	1	PISTON	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

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FIGURE 9-26. (90453034) STEERING CYLINDER; FOR SERVICE ONLY



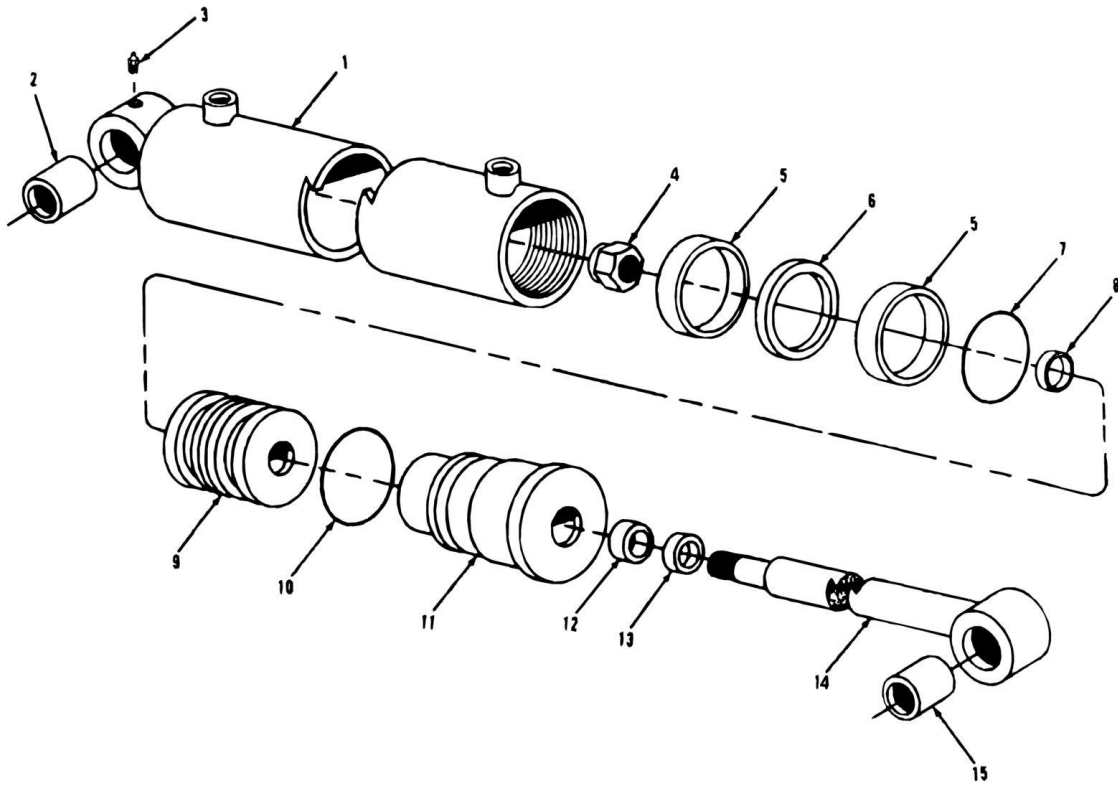
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-26. (90453034) STEERING CYLINDER; FOR SERVICE ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90453034	2	STEERING CYLINDER ASSY, (includes all items)	
	91144006	AR	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12, 13 & 16)	
1	91164019	2	WEAR RING	
2	91164020	1	O-RING	
3	91164021	1	PISTON SEAL	
4	91144038	1	SELF LOCKING NUT	
5	91034435	1	BARREL	
6	91034157	1	BUSHING	
7	91034436	1	PISTON ROD	
8	91204469	1	WIPER RING	
9	91204468	1	U-CUP	
10	91144040	1	HEAD (lubricate and torque 100-400 ft lb)	
11	91164024	1	BACK-UP RING	
12	91034437	1	O-RING	
13	91164022	1	O-RING	
14	91144039	1	PISTON	
15	91144125	1	LUBE FITTING-90, - 1/4-28	
16	91164025	1	STEP SEAL	
17	91124087	1	BUSHING	
18	91124096	1	SET SCREW	

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FIGURE 9-27. OPTIONAL EQUIPMENT (91033366) SWING CYLINDER ASSEMBLY (SN 0144752 to Present)



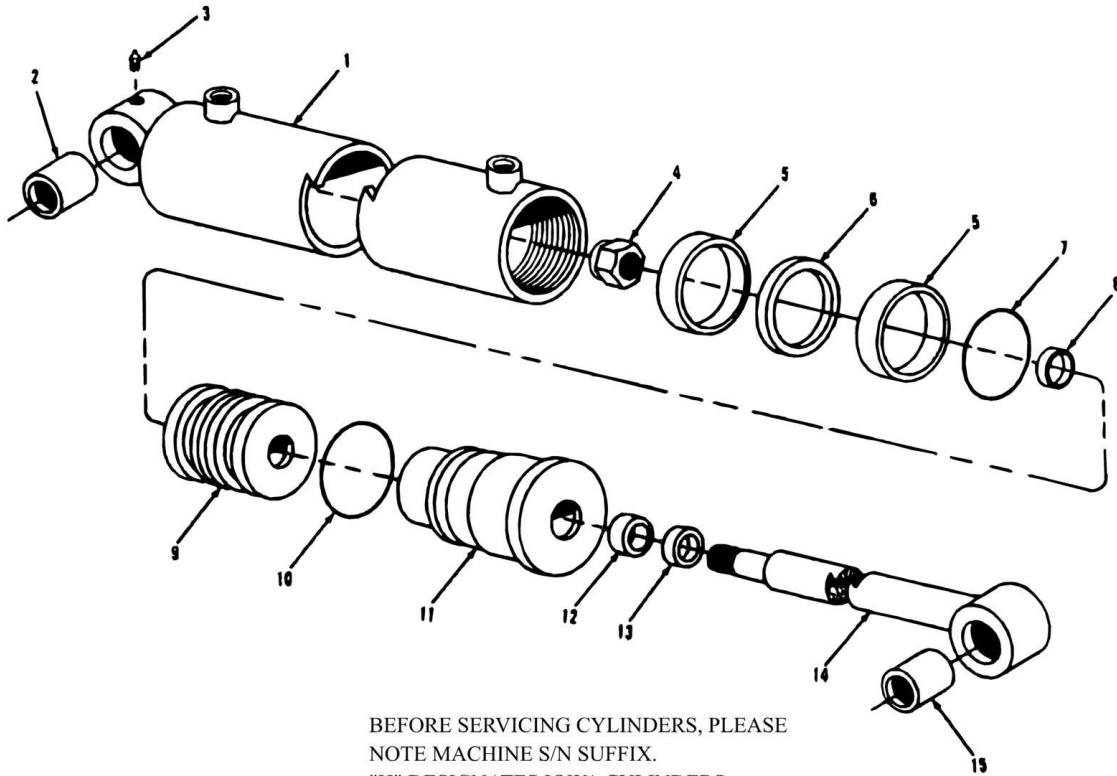
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-27. OPTIONAL EQUIPMENT (91033366) SWING CYLINDER ASSEMBLY (SN 0144752 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033366	2	SWING CYLINDER ASSY, (includes all items)	
	91034301	Ref	SEAL KIT, (includes items 5, 6, 7, 8, 10, 12 & 13)	
1	91034302	1	TUBE ASSY	
2	91084194	1	BUSHING	
3	88671033	1	LUBE FITTING-STRAIGHT, 1/4-28	
4	91034303	1	LOCKNUT, (torque to 235 ft lb)	
5	91044463	2	WEAR RING	
6	91044464	1	SEAL	
7	91044465	1	O-RING	
8	91044466	1	O-RING	
9	91034304	1	PISTON	
10	91044467	1	O-RING	
11	91034305	1	GLAND	
12	91044468	1	SEAL	
13	91044469	1	WIPER	
14	91034306	1	ROD ASSY	
15	91044470	1	BUSHING	

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FIGURE 9-28. (91033366) STEERING CYLINDER ASSEMBLY (SN 0144784S to Present)



BEFORE SERVICING CYLINDERS, PLEASE
NOTE MACHINE S/N SUFFIX.
"H" DESIGNATES IOWA CYLINDERS
"J" DESIGNATES JARP CYLINDERS
"S" DESIGNATES SEITZ CYLINDERS

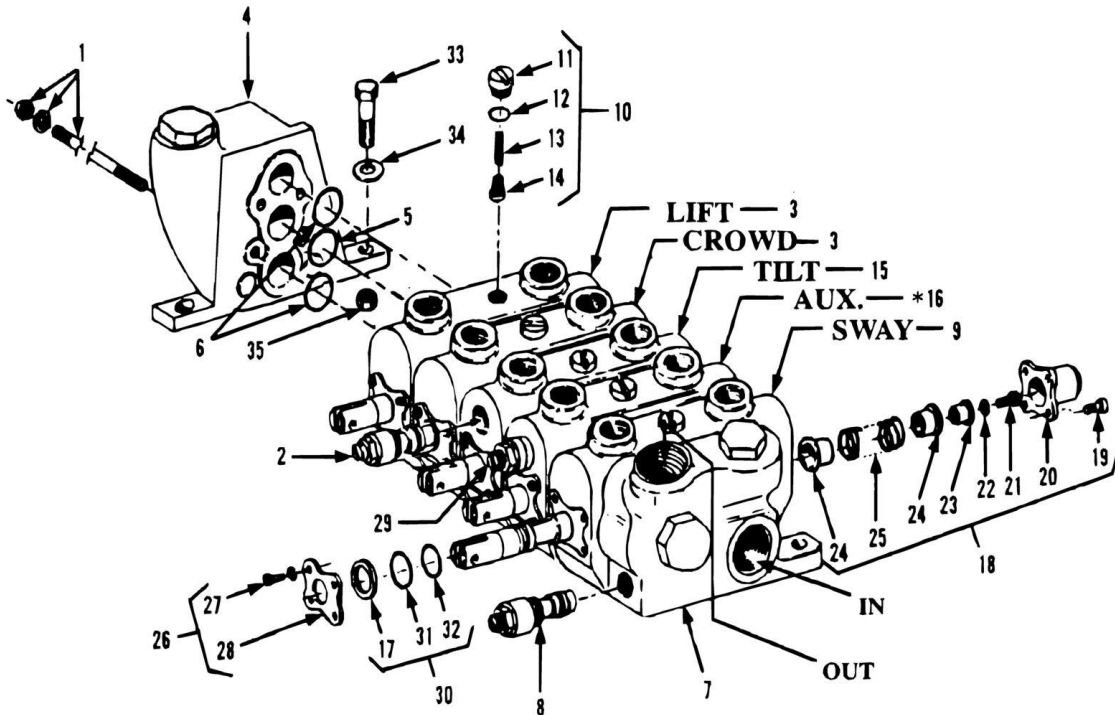
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-28. (91033366) STEERING CYLINDER ASSEMBLY (SN 0144784S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033366	2	STEERING CYLINDER ASSY, (includes all items)	
	91034301	Ref	SEAL KIT, (includes items 5, 6, 7, 8, 10, 12 & 13)	
1	91034302	1	TUBE ASSY	
2	91084194	1	BUSHING	
3	88671033	1	LUBE FITTING, STRAIGHT, 1/4-28	
4	91034303	1	LOCKNUT, (torque to 235 ft lb)	
5	91044463	2	WEAR RING	
6	91044464	1	SEAL	
7	91044465	1	O-RING	
8	91044466	1	O-RING	
9	91034304	1	PISTON	
10	91044467	1	O-RING	
11	91034305	1	GLAND	
12	91044468	1	SEAL	
13	91044469	1	WIPER	
14	91034306	1	ROD ASSY	
15	91044470	1	BUSHING	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-29. MAIN HYDRAULIC CONTROL VALVE (SN 8344001L to Present)



* 91033168 VALVE DOES NOT INCLUDE
AUXILIARY VALVE SECTION. ORDER
KIT #91033239 FOR THE SECTION,
O-RINGS, AND STUDS

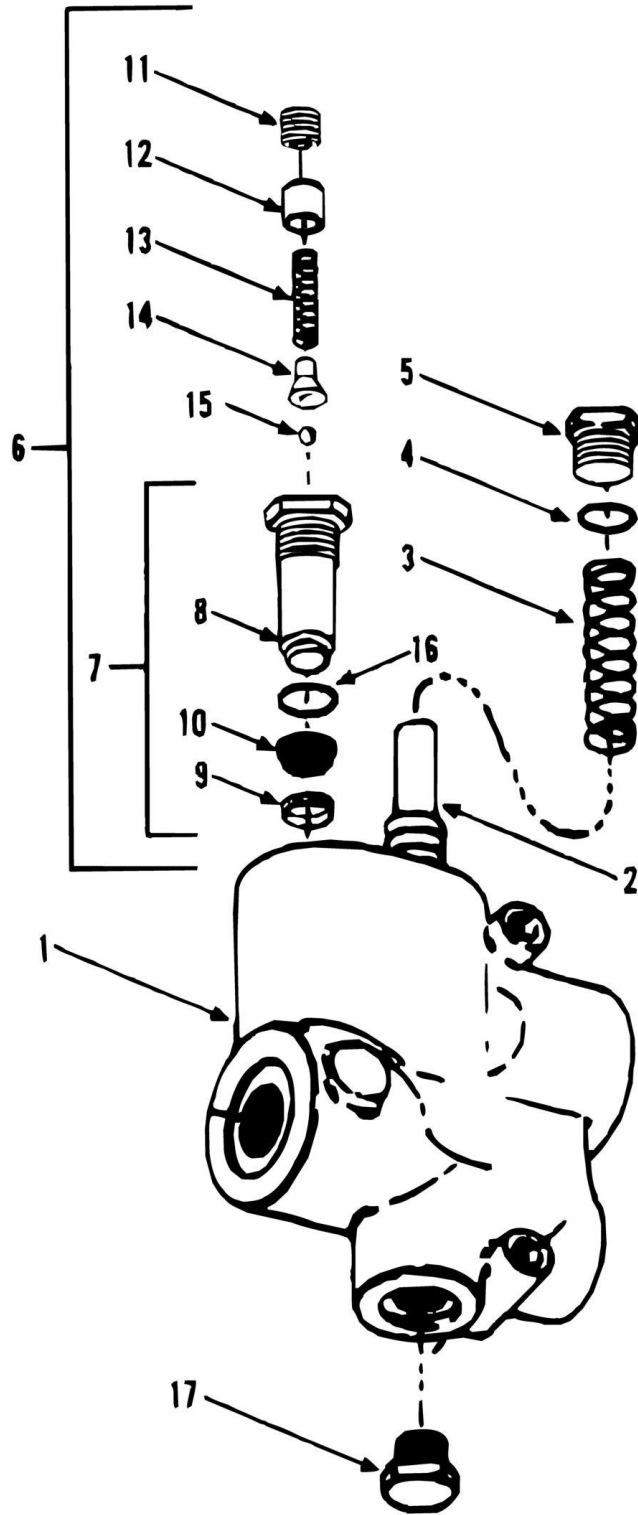
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-29. MAIN HYDRAULIC CONTROL VALVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033168		CONTROL VALVE (4 section)	
	91033296		CONTROL VALVE (5 section)	
1	91034105		STUD ASSY KIT (4 section)	
1	91034070		STUD ASSY KIT (5 section)	
2	90206415	1	POST RELIEF	
2	91034237	AR	SEAL KIT	
3	91034102	2	VALVE SECTION (includes 10 thru 14)	
4	91034104	1	COVER PLATE ASSY (right end)	
5	90206422	1	O-RING	
6	90206423	2	O-RING	
7	91044114	1	COVER PLATE ASSY (left end) (includes item 8)	
8	90208136	1	MAIN RELIEF VALVE ASSY (3000 PSI)	
8	91034236	AR	SEAL KIT	
9	90206421	1	VALVE SECTION (includes 10 thru 14)	
10	90206413	AR	LOAD CHECK POPPET ASSY (includes items 11 thru 14)	
11		Ref	LOAD CHECK PLUG	
12		Ref	O-RING	
13		Ref	SPRING	
14		Ref	POPPET	
15	90206420	1	VALVE SECTION (with port relief) (includes item 21)	
16	91034072	1	VALVE SECTION (includes item 29)	
17	90206418	AR	SEAL PLATE	
18	90206427	AR	NEUTRAL POSITIONER (consists of items 19 thru 25)	
19	88301548	4	FILLISTER HD MACHINE SCREW 14-20x1	
20	90206431	1	BONNET	
21	88211069	1	SOCKET HD CAPSCREW, 3/8-16X3/4, GR8	
22	88551011	1	LOCKWASHER, 3/8	
23	90206430	1	SPOOL COLLAR	
24	90206428	2	STOP COLLAR	
25	90206429	1	SPRING	
26	90206419	AR	RETAINER PLATE KIT (consists of items 27 & 28)	
27	Kit	1	SCREW	
28	Kit	1	RETAINER PLATE	
29	91034074	1	PORT RELIEF	
30	91034159	AR	SPOOL SEAL KIT (consists of items 17, 31 & 32)	
31	Kit	1	O-RING	
32	Kit	1	O-RING	
33	88201072	3	HEX HD CAPSCREW, 1/4-20x1-3/4, GR5	
34	88561107	3	FLAT WASHER, 1/4	
35	88501008	3	HEX NUT, 1/4	
36	90206417	AR	SECTION SEAL KIT (consists of items 5, 6, 12, 17, 31 & 32)	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-30. PRIORITY FLOW CONTROL (SN 8344001L to Present)



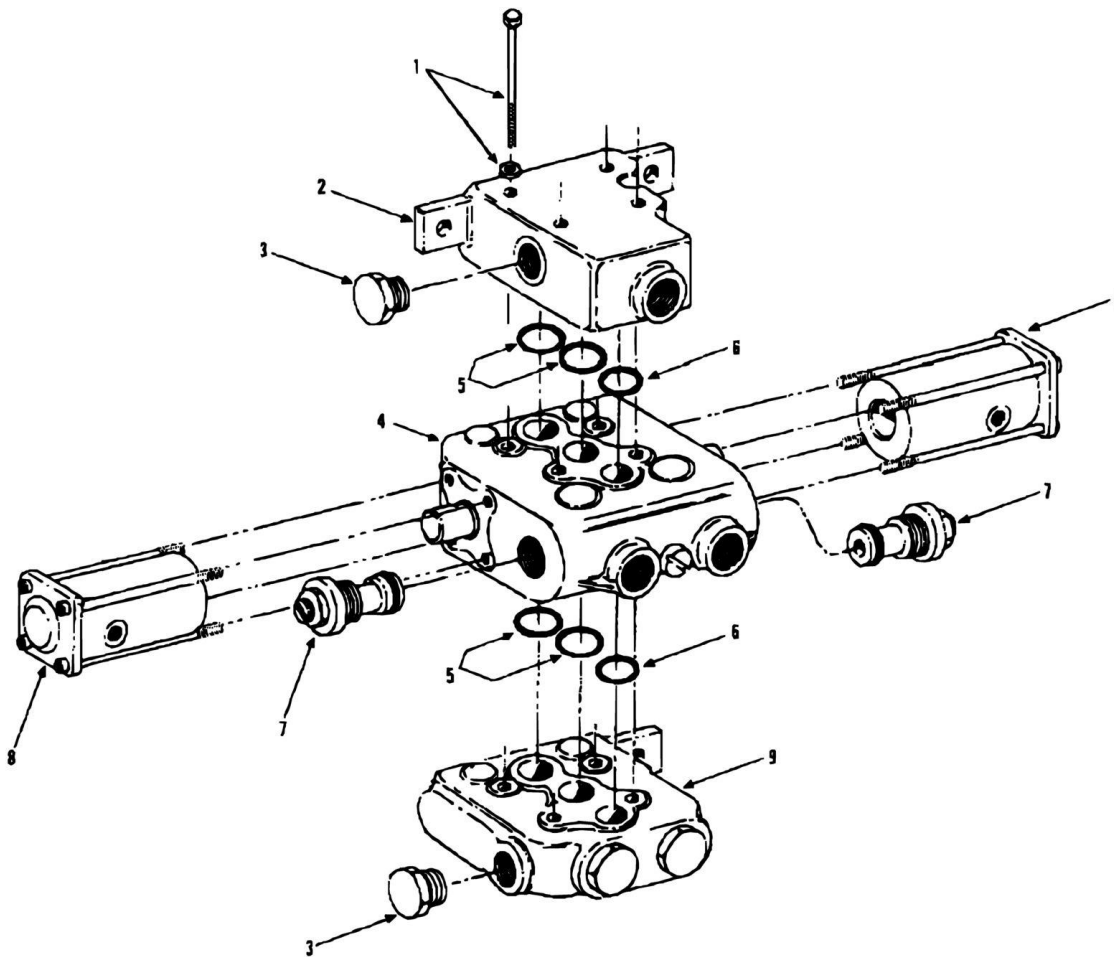
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-30. PRIORITY FLOW CONTROL (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033240	1	PRIORITY VALVE (includes all items) 2500 PSI RELIEF SETTING	
1	90206548	1	HOUSING (includes item 2)	
2	90206549	1	SPOOL	
3	90206550	1	SPRING	
4	88591206	1	O-RING	
5	90206552	1	PLUG	
6	90206553	1	RELIEF CARTRIDGE (includes items 7 thru 16)	
7	90206554	1	RELIEF VALVE SUB BODY (includes item 8 thru 10)	
8	90206555	1	BODY	
9	90206556	1	RING	
10	90206557	1	SCREEN	
11	90206558	1	RELIEF VALVE ADJUSTING SCREW	
12	90206559	1	SPRING GUIDE	
13	90206560	1	SPRING	
14	90206561	1	BALL HOLDER	
15	90206562	1	BALL	
16	88591205	1	O-RING	
17	90206564	1	PLUG	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-31. FORWARD-REVERSE CONTROL (SN 8344001L to Present)



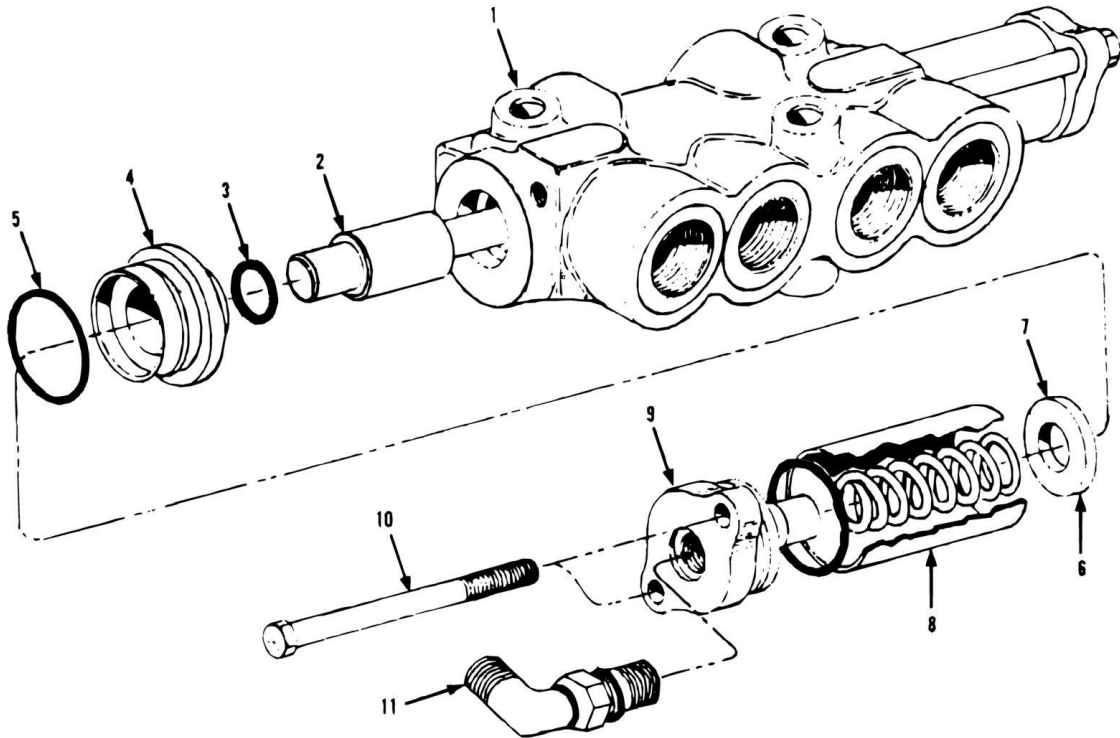
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-31. FORWARD-REVERSE CONTROL (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90206737	1	FOWARD REVERSE CONTROL VALVE, (includes all items)	
1	90026155	4	HEX HD CAPSCREW, 3/8-16 x 5	
1	88551011	4	LOCKWASHER, 3/8	
2	90208137	1	OUTLET SECTION	
3	88662180	2	HEX HD PLUG, (includes o-ring)	
3	88591210	2	O-RING	
4	90208191	1	WORK SECTION	
5	90206423	4	O-RING	
6	90206422	2	O-RING	
7	90208139	2	PORT RELIEF CARTRIDGE, (two backup and one o-ring)	
8	90208140	2	REMOTE HYDRAULIC ACTUATOR	
9	90208141	1	INLET SECTION	
10	91033040		PLUG, (not shown), (replaces anticavitation check)	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-32. SERIES PARALLEL CONTROL VALVE (SN 8344001L to Present)



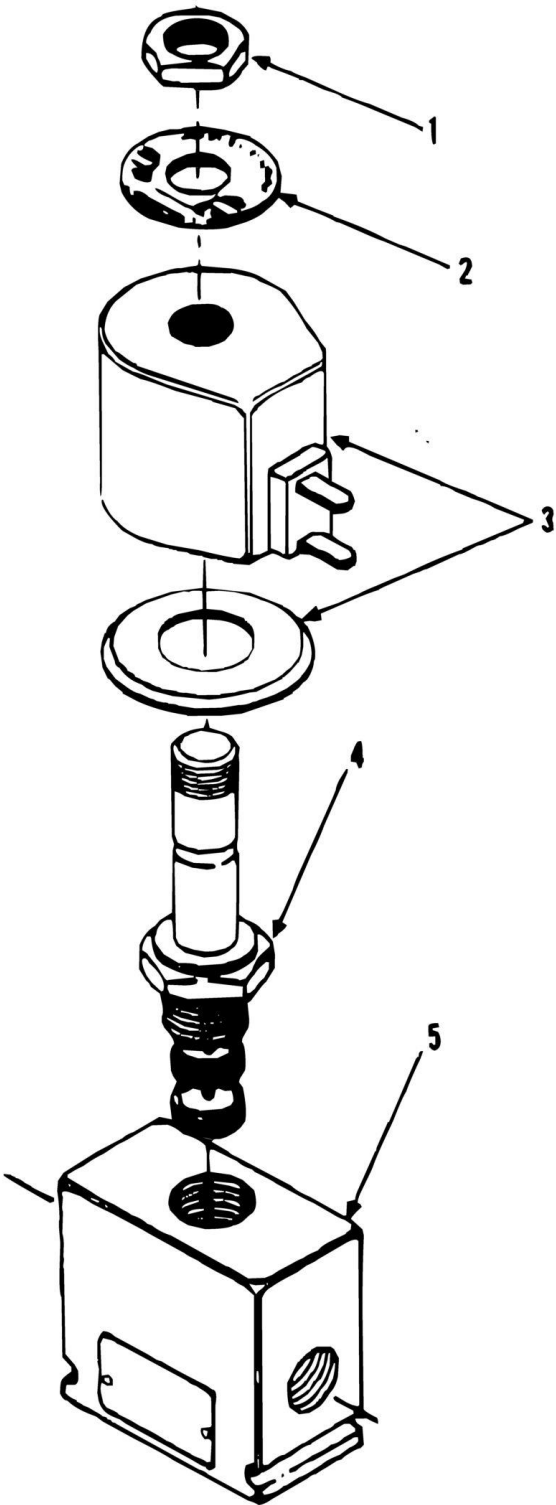
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-32. SERIES PARALLEL CONTROL VALVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90206738	1	SERIES PARALLEL VALVE	
	N.S.S.	1	HOUSING	
	N.S.S.	1	SPOOL	
3	90208060	2	O-RING	
4	90208058	2	PLUG	
5	90208065	4	O-RING	
6	90208062	2	SPACER	
7	90208064	2	SPRING	
8	90208061	2	TUBE	
9	90208059	2	CAP	
10	90208063	4	SCREW	
11	88662064	2	ELBOW - 90, (includes o-ring)	
11	88591204	2	O-RING	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-33. SOLENOID VALVE (SN 8344001L to Present)



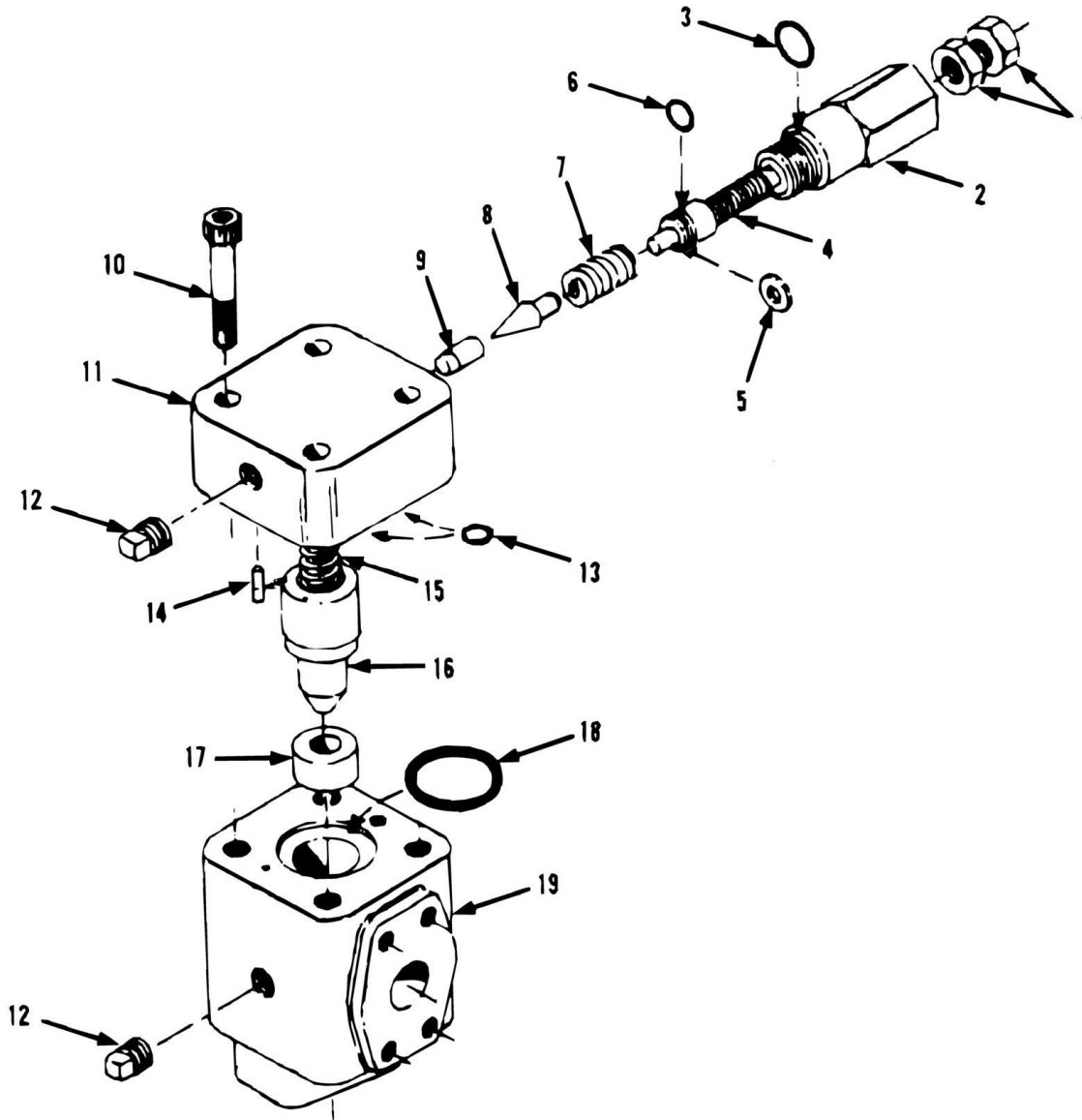
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-33. SOLENOID VALVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90206739	1	SOLENOID VALVE ASSY, THREE WAY - TWO POSITION (includes all items)	
	91044001	1	SEAL KIT	
1	90208066	1	NUT	
2	90208067	1	NAME PLATE	
3	77384267	1	SOLENOID COIL ASSY	
4	90208071	1	VALVE ASSY	
5	90208072	1	VALVE BODY	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-34. REAR DRIVE MAIN RELIEF (SN 8344001L through 8744114G, Excluding 8744079G)



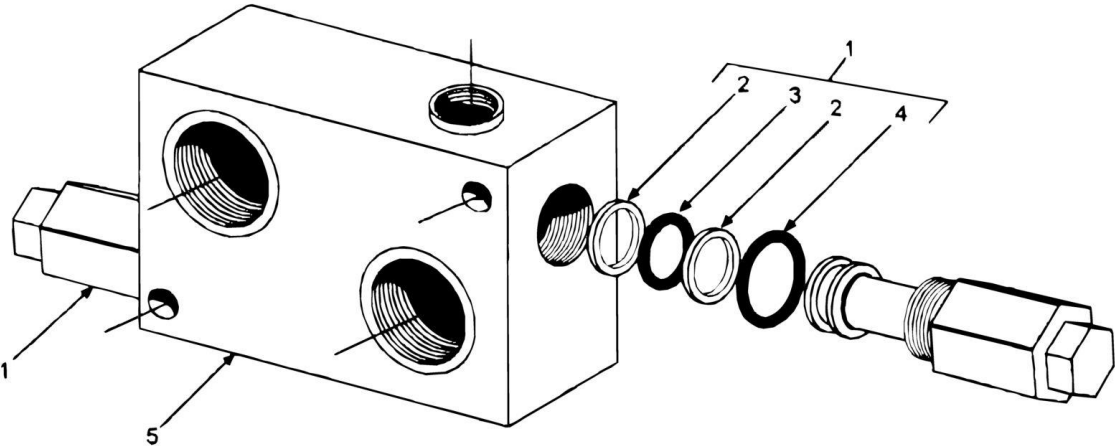
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-34. REAR DRIVE MAIN RELIEF (SN 8344001L through 8744114G, Excluding 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90207314		REAR DRIVE MAIN RELIEF VALVE (includes items 1 thru 19)	
1	88501406	2	HEX JAM NUT, 3/8-24	
2	90208040	1	HEAD	
3	90208041	1	O-RING	
4	90208042	1	ADJUSTING SCREW	
5	90208043	1	SHIM	
6	90208044	1	O-RING	
7	90208045	1	SPRING	
8	90208046	1	CONE	
9	90208047	1	SEAT	
10	90208048	1	SCREW	
11	90208049	1	CAP	
12	90027462	2	PIPE PLUG	
13	90208050	1	O-RING	
14	90208051	1	PIN	
15	90208052	1	SPRING	
16	90208053	1	PISTON	
17	90208054	1	SEAT	
18	90208055	1	O-RING	
19	90208056	1	VALVE BODY	
20	90208057	AR	SEAL KIT (consists of items 3, 6, 13 & 18)	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-35. CROSSOVER RELIEF VALVE (SN 8344001L to Present)



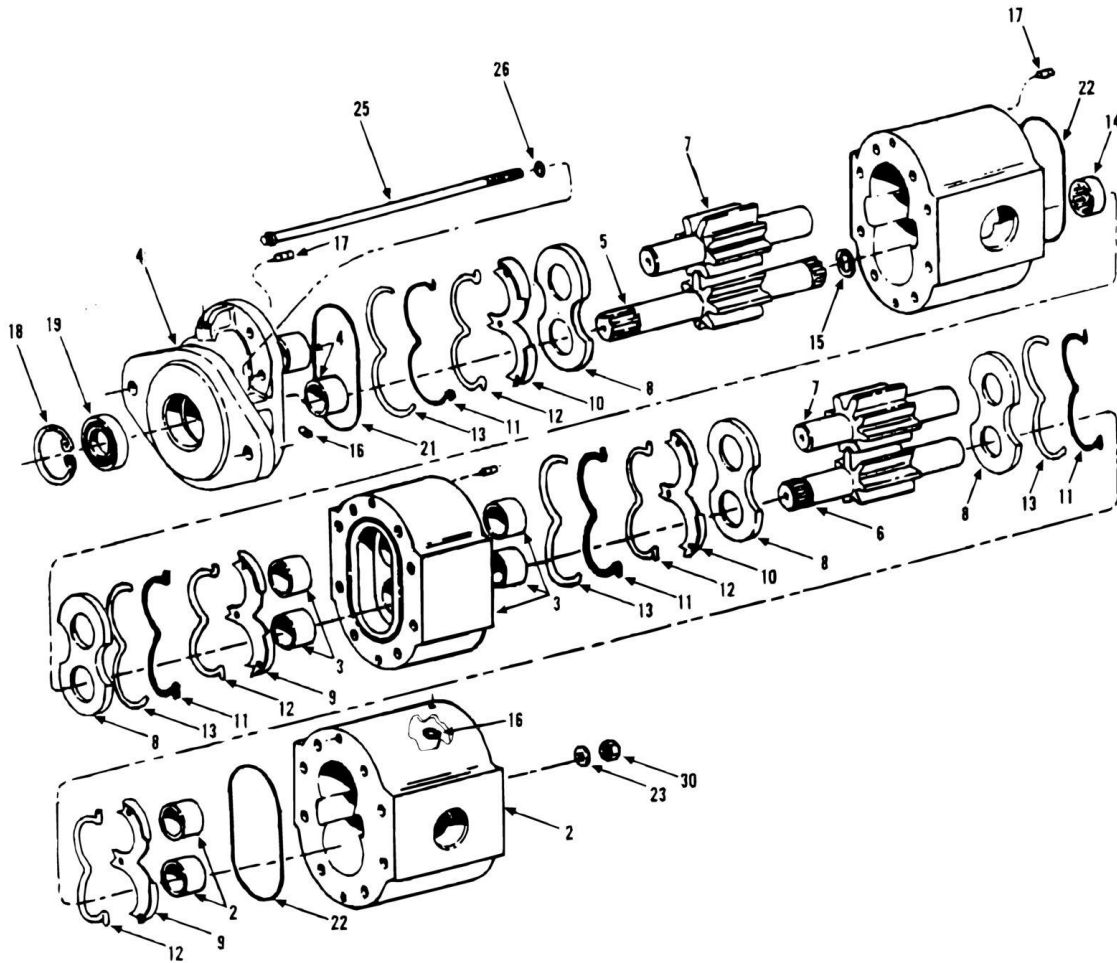
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-35. CROSSOVER RELIEF VALVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90602706	1	CROSSOVER RELIEF VALVE (includes all items)	
1	90203440	2	RELIEF CARTRIDGE (with seals)	
2	90203437	4	BACK-UP RING (2 per cartridge)	
3	90203438	2	O-RING (1 per cartridge)	
4	90203439	2	O-RING (1 per cartridge)	
	N.S.S.	1	BODY	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-36. PUMP-MAIN HYDRAULIC (SN 8344001L to Present)



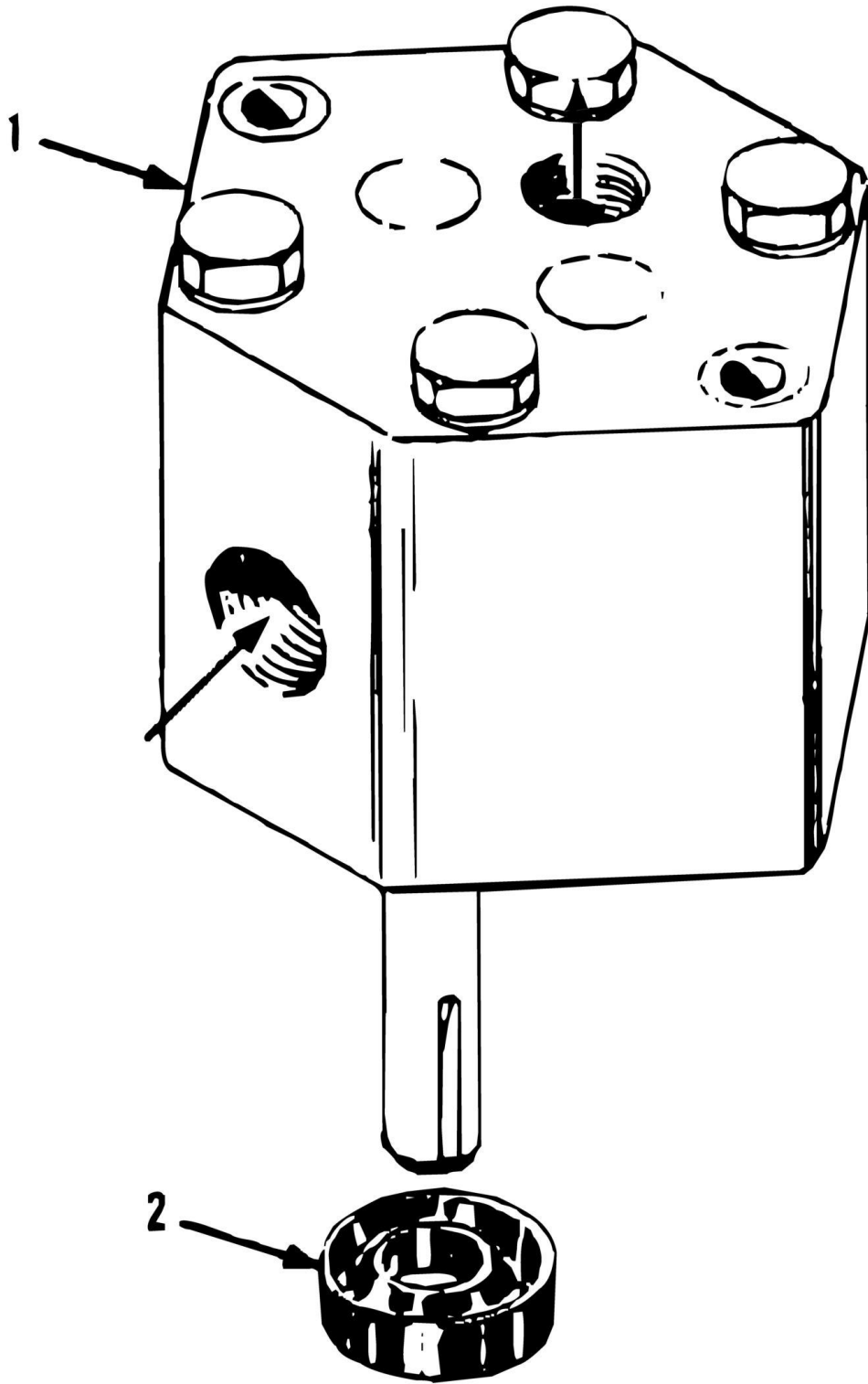
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-36. PUMP-MAIN HYDRAULIC (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90207615		MAIN HYDRAULIC PUMP (includes all items)	
1	90208026	1	FRONT GEAR BODY (includes bushings)	
2	90202417	1	REAR GEAR BODY (includes bushings)	
3	90202419	1	BRG PLATE (includes bushings)	
4	91044211	1	FLANGE	
5	90208030	1	DRIVE GEAR (front)	
6	90202416	1	DRIVE GEAR (rear)	
7	90202415	2	IDLER GEAR	
8	91044220	4	PRESSURE PLATE	
9	90202406	2	ISOLATION PLATE (top)	
10	90202407	2	ISOLATION PLATE (bottom)	
11	90202403	4	O-RING SEAL	
12	90202405	4	RETAINER RING	
13	90202404	4	BACK-UP RING	
14	91044218	1	SPLINE COUPLING	
15	90202402	1	SNAP RING	
16	90202435	2	BALL, 1/4IN	
17	90202376	6	DOWEL	
18	90202371	1	SEAL	
19	90202372	1	SNAP RING	
20	90202398	8	HEX NUT, 1/2-20	
21	90202379	1	O-RING	
22	90202396	2	O-RING	
23	91044222	1	FLATWASHER	
24	91044213	1	PLUG (not shown)	
25	90208038	8	STUD	
26	90202383	8	O-RING	

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FIGURE 9-37. PUMP- PILOT WAUHESHA ENGINE ONLY (SN 8344001L through 8444490)



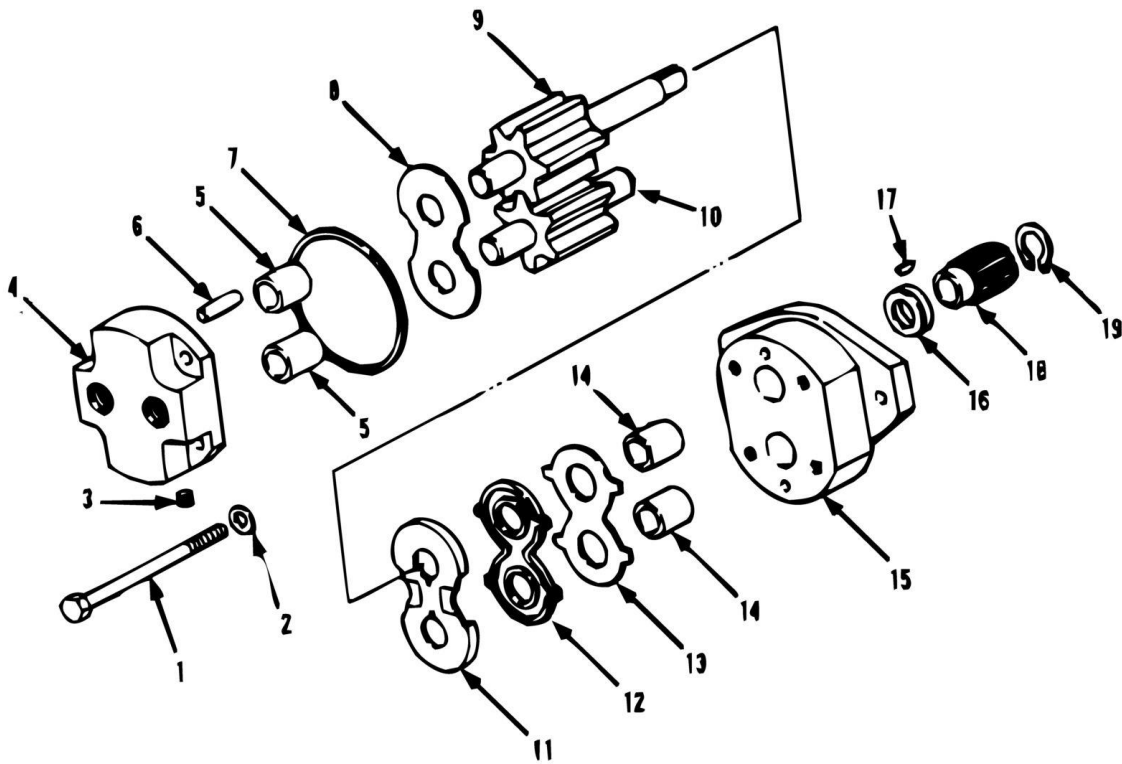
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-37. PUMP- PILOT WAUHESHA ENGINE ONLY (SN 8344001L through 8444490)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90403305	1	AUXILIARY HYDRAULIC PUMP	
2	90208039	1	SEAL	

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FIGURE 9-38. PILOT PUMP (SN 8444491G to Present)



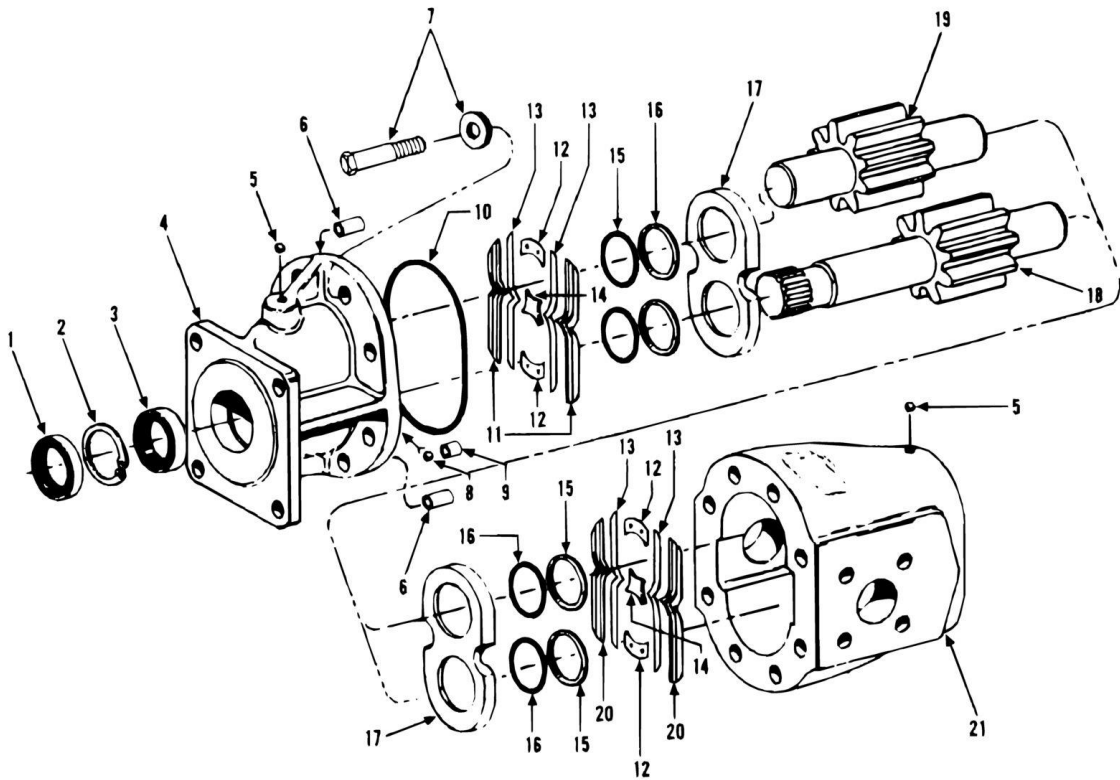
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-38. PILOT PUMP (SN 8444491G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033122	1	PILOT PUMP ASSY (includes all items)	
	91034019	1	SEAL KIT (includes items 7, 12, 13, 16 & 17)	
1	88201038	4	HEX HED CAPSCREW, 3/8-16X1-3/4, GR5 (lubricate and torque to 34-38 ft lb)	
2	91034058	4	WASHER	
3	91034059	1	PIPE PLUG	
4	91034060	1	REAR COVER ASSY (includes item 5)	
5	91034061	2	SLEEVE BEARING	
6	91034062	2	DOWEL PIN	
7	Kit	1	SQUARE CUT RING	
8	91034063	1	THRUST PLATE (install with bronze side facing gear)	
9	91034064	1	DRIVE GEAR	
10	91034065	1	DRIVEN GEAR	
11	91034066	1	WEAR PLATE	
12	Kit	1	LOADING SEAL SPACER	
13	Kit	1	LOADING SEAL	
14	91034061	2	SLEEVE BEARING	
15	91034067	1	BODY ASSY (includes item 14)	
16	Kit	1	SHAFT SEAL	
17	Kit	1	WOODRUFF KEY	
18	91034068	1	DRIVE COUPLING	
19	91034069	1	EXTERNAL RETAINING RING	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-39. MOTOR-REAR DRIVE (SN 8344001L to Present)



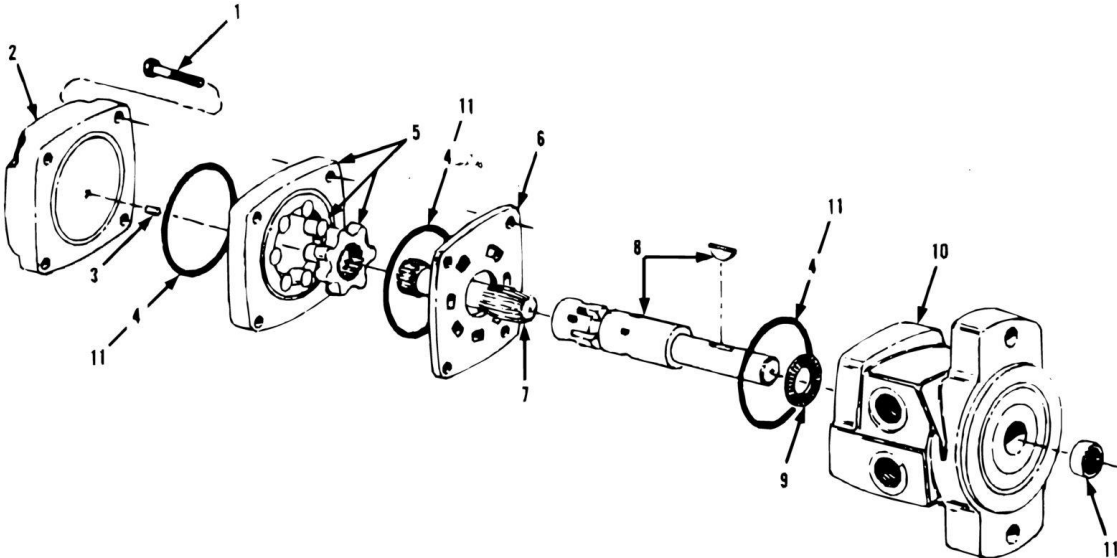
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-39. MOTOR-REAR DRIVE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90206748		REAR DRIVE MOTOR (includes all items)	
1	90202371	1	SHAFT SEAL (outer)	
2	90202372	1	SNAP RING	
3	90205716	1	SHAFT SEAL (inner)	
4	90208193	1	FLANGE (with bushings)	
5	90202435	2	BALL, 1/4IN	
6	90202376	2	DOWEL	
7	90027736	8	HEX HD CAPSCREW, 1/2-13x1-1/4 GR8	
7	91044222	8	WASHER	
8	90202377	2	CHECK BALL, 1/2IN	
9	90202378	2	CHECK BALL RETAINER	
10	90202379	1	O-RING	
11	90202390	2	TOP ISOLATION PLATE	
12	90202391	4	END SEPARATOR	
13	90202393	4	SEALING STRIP	
14	90202392	2	CENTER SEPERATOR	
15	90208194	4	O-RING	
16	90202381	4	BACK-UP RING	
17	90202382	2	PRESSURE PLATE	
18	90208196	1	DRIVE GEAR	
19	90208197	1	IDLER GEAR	
20	90202389	2	BOTTOM ISOLATION PLATE	
21	90208198	1	PLATE (with bushings)	

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FIGURE 9-40. WINCH MOTOR (SN 8344001L to Present)



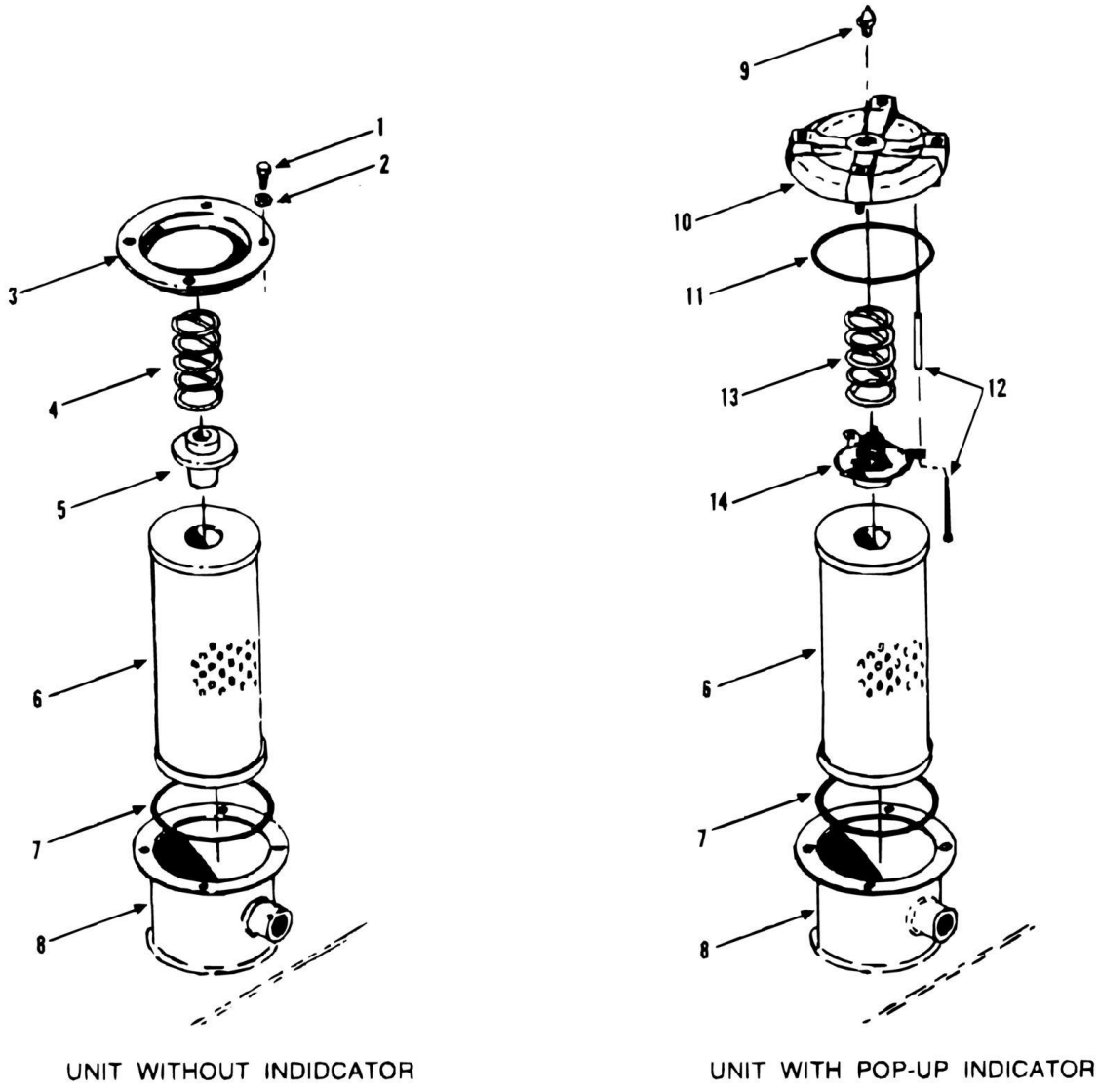
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-40. WINCH MOTOR (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90207879	1	WINCH MOTOR (includes all items)	
1	83201057	4	HEX HD CAPSCREW, 3/8-16X2, GR8	
2	90208203	1	END COVER	
3	90208204	1	PIN	
4	90208205	3	SEAL	
5	90208206	1	ROLLER - STATOR ASSY	
6	90208207	1	WEAR PLATE	
7	90208208	1	DRIVE LINK	
8	90208209	1	SHAFT	
9	90208210	1	THRUST BEARING	
10	90208211	1	FRONT HOUSING	
11	90208212	1	SHAFT SEAL KIT (includes item 4)	

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FIGURE 9-41. FILTER-OIL RESERVOIR WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)



UNIT WITHOUT INDICATOR

UNIT WITH POP-UP INDICATOR

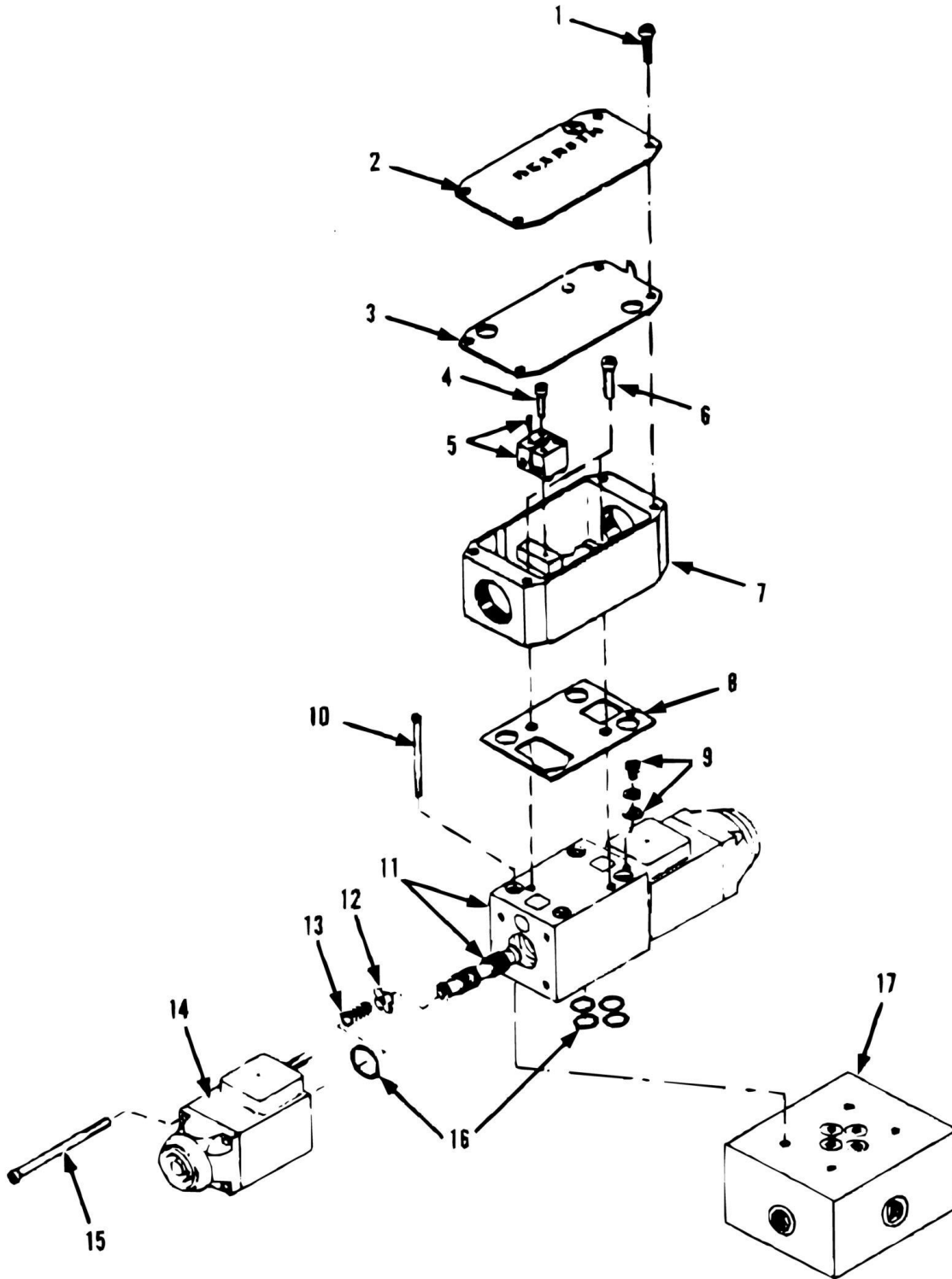
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-41. FILTER-OIL RESERVOIR WAUKESHA AND PERKINS ENGINE (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201018	4	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
2	88551010	4	LOCKWASHER, 5/6	
3	90208200	1	CAP	
4	90208201	1	SPRING	
5	90208202	1	BYPASS VALVE	
6	91033318	1	ELEMENT	
7	90023246	1	O-RING	
8	91035023	1	HYDRAULIC OIL TANK ASSY (Prior to SN 8444319)	
8	91035052	1	HYDRAULIC OIL TANK ASSY (SN 8444319 through 8644765)	
8	91035094	1	HYDRAULIC OIL TANK ASSY (SN 8644766 to Present)	
9	91034009	1	POP-UP INDICATOR	
10	91034007	1	CAP ASSY (includes items 11 & 12)	
11	91034329	1	O-RING	
12	91034330	4	BOLT	
13	91034010	1	SPRING	
14	91034008	1	BYPASS VALVE	

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FIGURE 9-42. DIRECTIONAL CONTROL VALVE PERKINS ENGINE (SN 8444491G to Present)



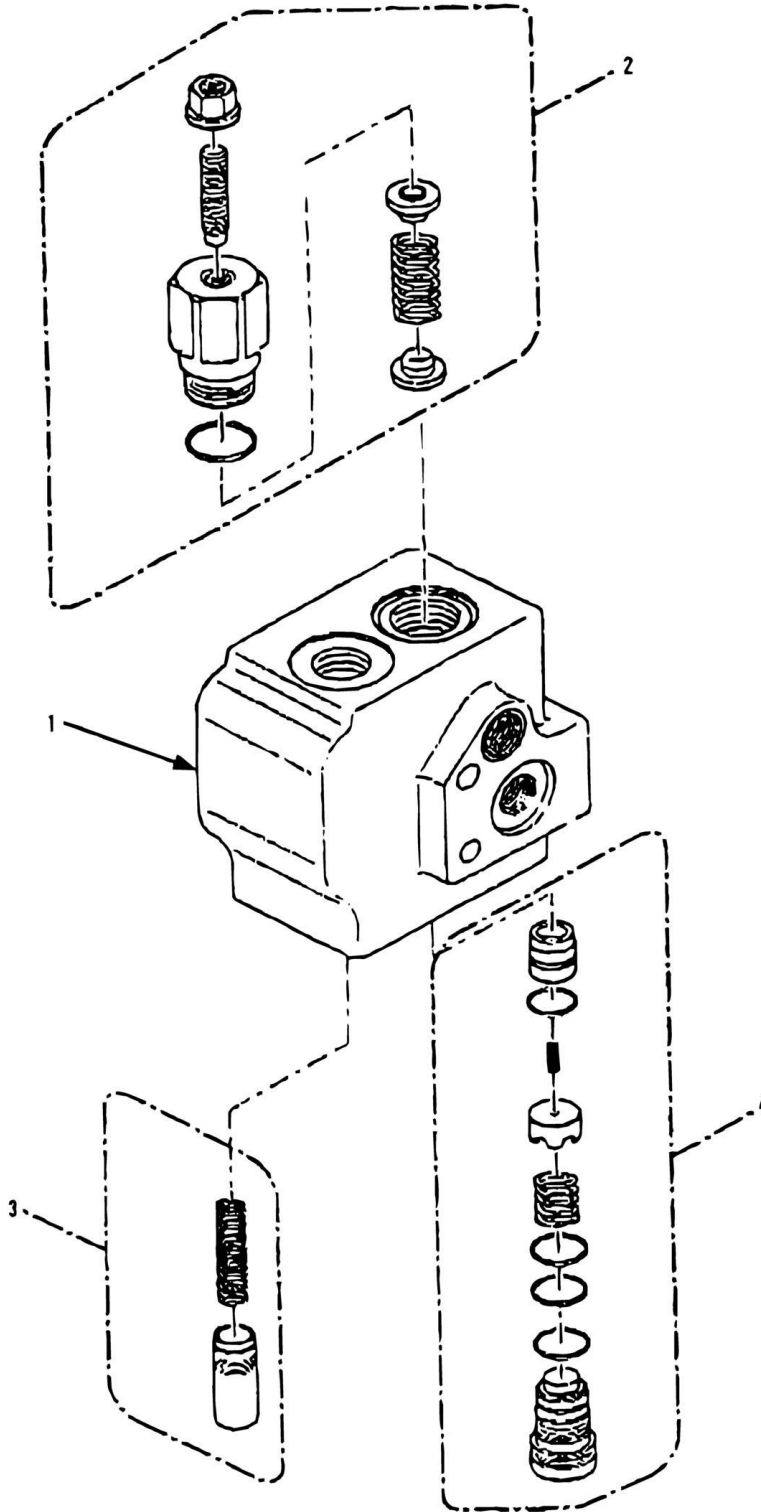
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-42. DIRECTIONAL CONTROL VALVE PERKINS ENGINE (SN 8444491G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033097	1	DIRECTIONAL CONTROL VALVE (includes all items)	
1		Ref	SCREW M4 x 16 x 16	
2		Ref	NAMEPLATE	
3	91034011	1	GASKET	
4		Ref	SCREW	
5	91034012	2	TERMINAL BLOCK	
6		Ref	SCREW, M4 X 15	
7		Ref	TERMINAL BOX	
8	91034013	1	GASKET	
9		Ref	GROUNDING SCREW, M4 x 6	
10		Ref	MOUNTING BOLT, 10-24x2	
11	N.S.S.	1	SPOOL AND HOUSING	
12	91034014	2	SPACER	
13	91034015	2	SPRING	
14	91034016	2	SOLENOID	
15		Ref	SCREW, M4 X 65	
16	91034017	1	O-RING KIT	
17		Ref	MANIFOLD	

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FIGURE 9-43. (91043296) ACCUMULATOR CHARGE VALVE (SN 8744115G to Present, Including 8744079G)



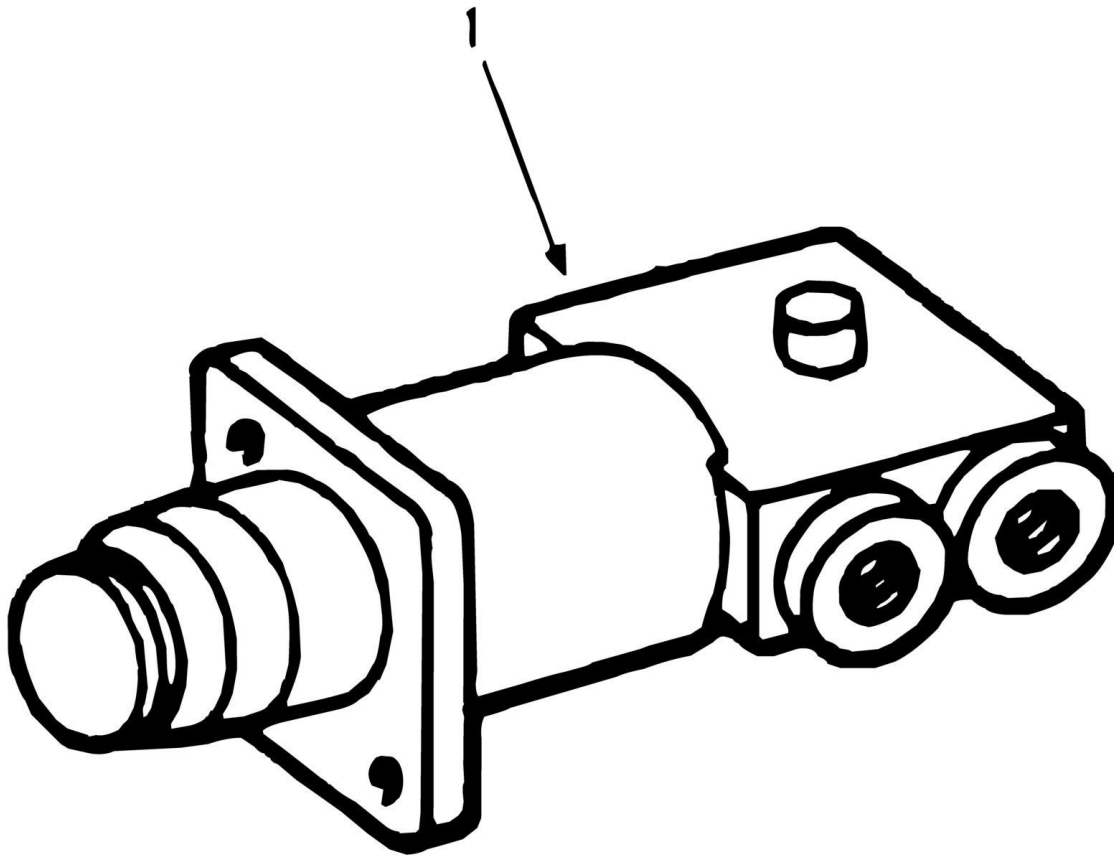
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-43. (91043296) ACCUMULATOR CHARGE VALVE (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043296	1	ACCUMULATOR CHARGE VALVE	
2	91044538	1	LG SPRING REPAIR KIT	
3	91044539	1	SPOOL AND SM SPRING REPAIR KIT	
4	91044540	1	ELEMENT AND SEAL KIT	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-44. BRAKE VALVE (SN 8744115G to Present, Including 8744079G)



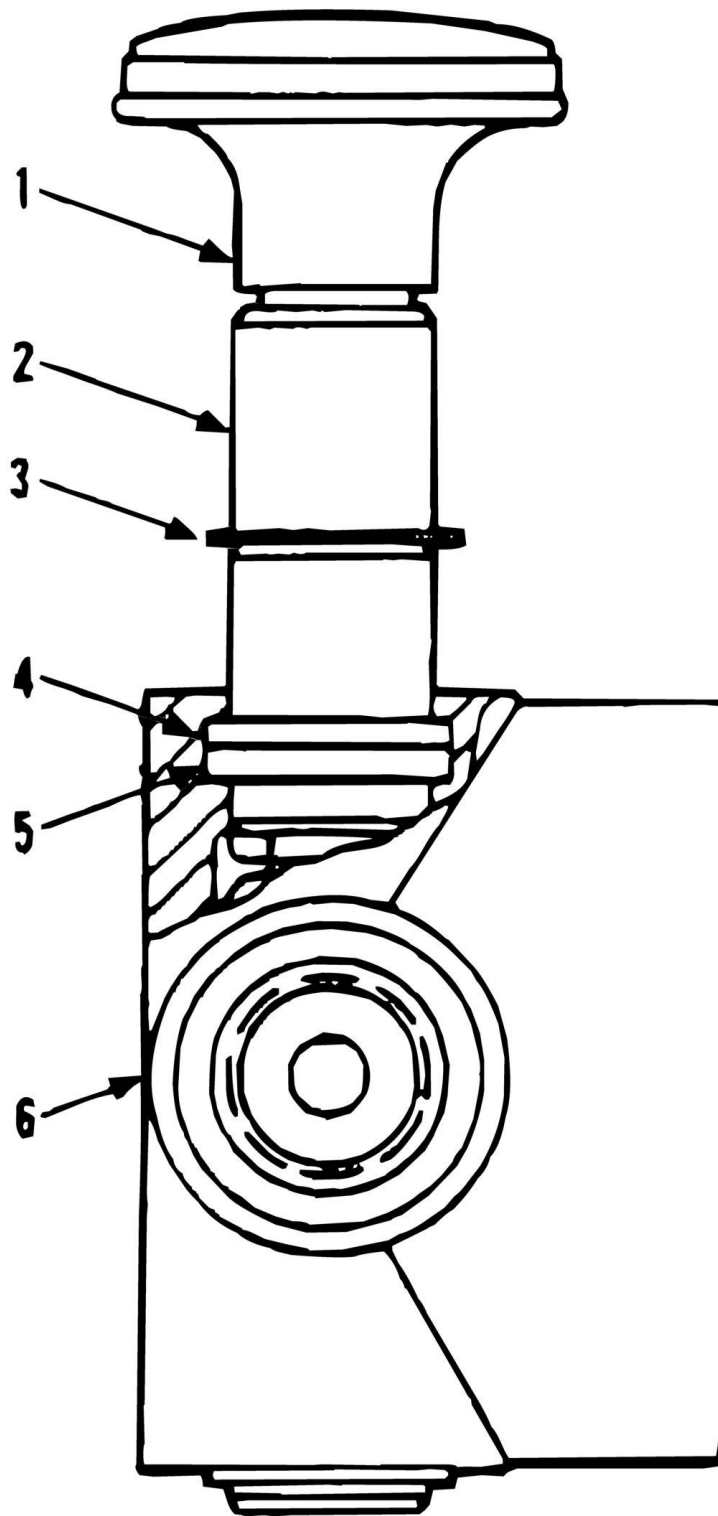
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-44. BRAKE VALVE (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033307	1	BRAKE VALVE ASSY (no service parts available)	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-45. PARKING BRAKE VALVE (SN 8744115G to Present, Including 8744079G)



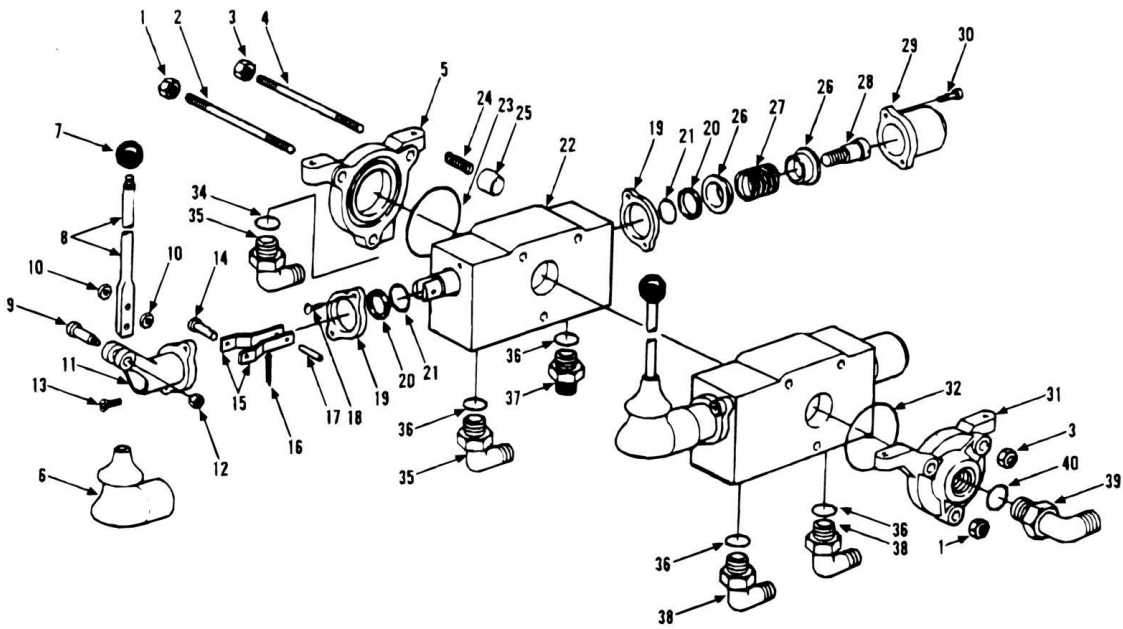
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-45. PARKING BRAKE VALVE (SN 8744115G to Present, Including 8744079G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043090	1	PARKING BRAKE VALVE (includes items 1 thru 6)	
1	91044297	1	KNOB	
2	91044126	1	SPOOL	
3	91044127	1	RETAINING RING	
4	91044128	1	BACK-UP RING	
5	91044129	1	O-RING	
6	91044130	1	HOUSING	
7	91033378	1	RUBBER BOOT (not shown)	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-46. OUTRIGGER VALVE ASSEMBLY



SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-46. OUTRIGGER VALVE ASSEMBLY

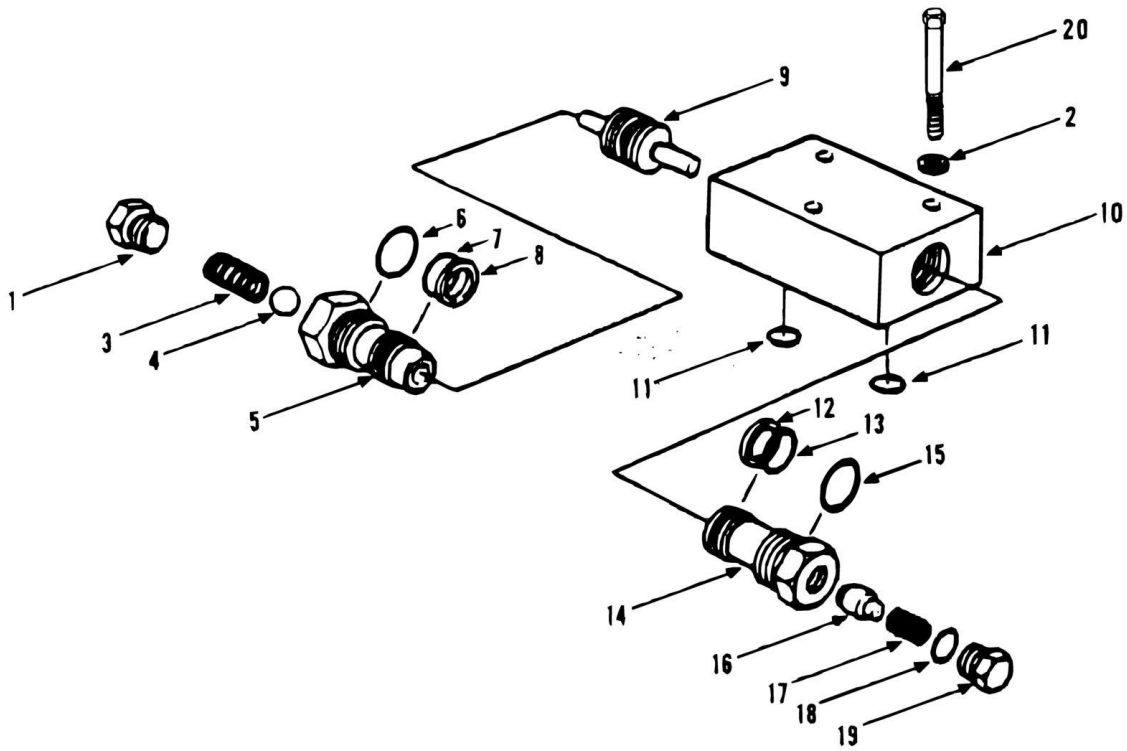
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035090	1	OUTRIGGER CONTROL VALVE ASSY (includes all items)	
	91033144	1	OUTRIGGER CONTROL VALVE ASSY (includes item 1 thru 32)	
	91034124	1	TIE ROD KIT (includes items 1 thru 4)	
	91034125	2	HANDLE ASSY (includes items 6 thru 17)	
	91034126	2	SPOOL SECTION ASSY (includes items 18 thru 30)	
1	Kit	1	SPECIAL NUT	
2	Kit	1	TIE ROD	
3	Kit	1	SPECIAL NUT	
4	Kit	2	TIE ROD	
5		Ref	OUTLET SECTION	
6	91034127	1	BOOT	
7	91034128	1	KNOB	
8	91034129	1	HANDLE BRACKET	
9		Ref	PIVOT BOLT	
10		Ref	FLAT WASHER	
11		Ref	HANDLE	
12		Ref	HEX NUT	
13		Ref	SOCKET HD CAPSCREW	
14		Ref	PIN	
15		Ref	LINK	
16		Ref	RETAINER	
17		Ref	ROLL PIN	
18		Ref	ROUND HD MACHINE SCREW	
19		Ref	SEAL PLATE	
20	91034130	2	WIPER	
21	91034131	2	O-RING	
22		Ref	HOUSING AND SPOOL ASSY (NOT SOLD SEPARATELY, ORDER P/N 91034126)	
23	91034132	1	O-RING	
24	91034133	1	SPRING	
25	91034134	1	O-RING	
26		Ref	SPRING SEAT	
27	91034135	1	SPRING	
28		Ref	SPOOL END	
29		Ref	SPOOL CAP	
30		Ref	SOCKET HD CAPSCREW	
31		Ref	INLET HOUSING ASSY (includes item 32)	
32	91034132	1	O-RING	
33	88662060	1	ELBOW, 90, (includes item 34)	
34	88591206	1	O-RING	
35	88662085	1	ELBOW, 45, (includes item 36)	
36	88591205	4	O-RING	
37	88662036	1	CONNECTOR (includes item 36)	
38	88662065	2	ELBOW, 90, (includes item 36)	
39	88662067	1	ELBOW, 90, (includes item 40)	
40	88591207	1	O-RING	
		Ref	NOTE: QUANTITIES ARE SHOWN FOR ONE HANDLE ASSY AND ONE SPOOL SECTION ASSY.	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	NOTE: WHEN REPLACING A SPOOL SECTION, REMOVE SCREWS (18) AND REPLACE WITH SCREWS 13 TO SECURE THE HANDLE BRACKET.	
		Ref	NOTE: ONLY PART NUMBERED PARTS ARE AVAILABE FOR SERVICE REPLACEMENT.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-47. DUAL P.O. CHECK VALVE



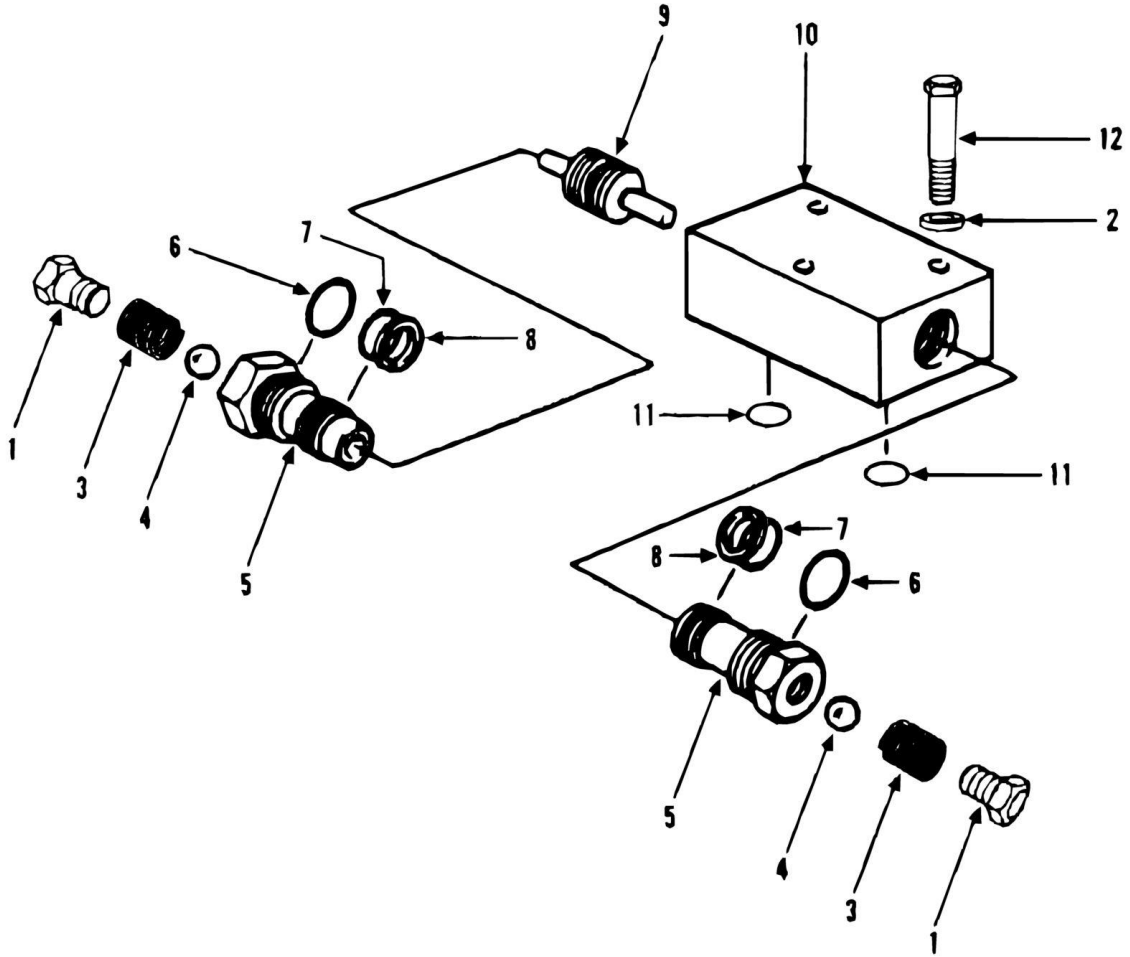
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-47. DUAL P.O. CHECK VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043258		DUAL P.O. CHECK VALVE ASSY (includes all items except 2, 20)	
	91044304		CHECK CARTRIDGE ASSY (includes items 1, 3, 4, 5, 6, 7, 8,)	
	91034107		CHECK CARTRIDGE ASSY W/ THERMAL RELIEF (includes items 12 thru 19)	
1	91044308	1	PLUG	
2	88551011	3	LOCKWASHER, 3/8	
3	91044309	1	SPRING	
4	91034111	1	BALL	
5	91034112	1	CARTRIDGE BODY	
6	91044305	1	O-RING	
7	91044306	1	O-RING	
8	91044307	1	BACK-UP RING	
9	91034116	1	PISTON	
10	91034117	1	BODY	
11	91034118	2	O-RING	
12	91034115	1	BACK-UP RING	
13	91034114	1	O-RING	
14	91034112	1	CARTRIDGE BODY	
15	91034113	1	O-RING	
16	91034119	1	THERMAL RELIEF ASSY	
17	91034120	1	SPRING	
18	91034109	1	O-RING	
19	91034121	1	PLUG	
20	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4 GR5	
21	88551011	3	LOCKWASHER, 3/8	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-48. DUAL P.O. CHECK VALVE (SN 8644031G to Present)



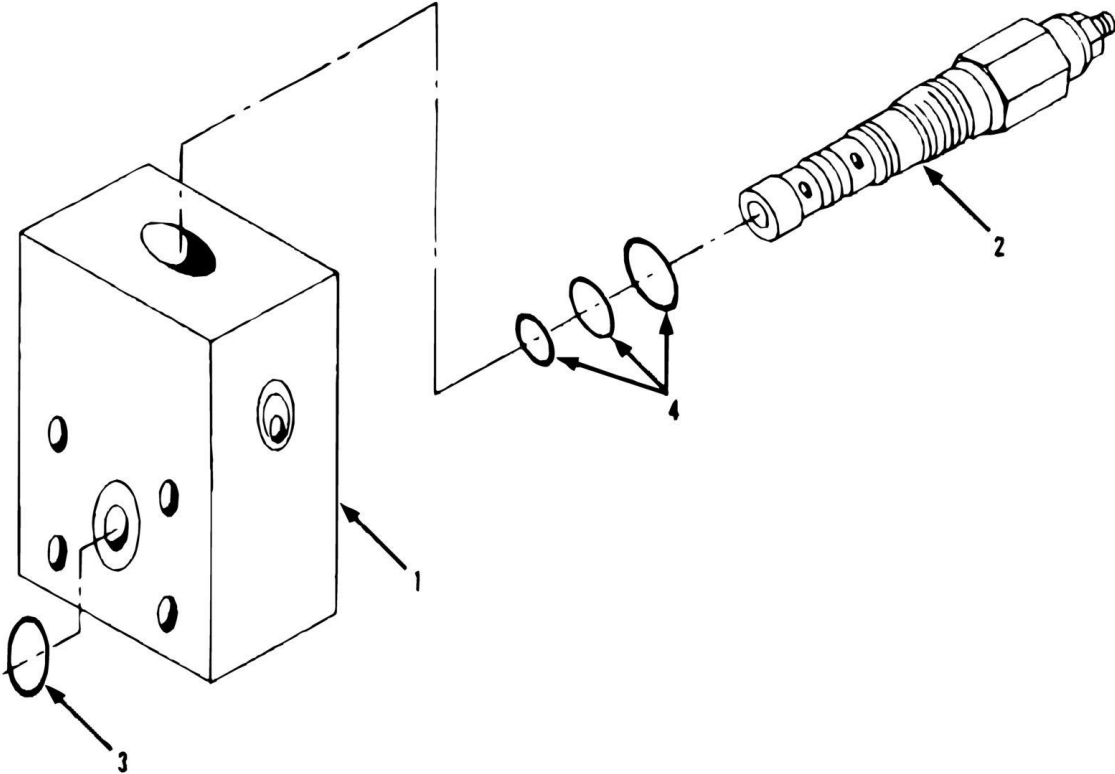
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-48. DUAL P.O. CHECK VALVE (SN 8644031G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91053354	2	DUAL P.O. CHECK VALVE ASSY (includes all items except items 2, 12)	
1	91034272	1	PLUG	
2	88551011	3	LOCKWASHER, 3/8	
3	91034110	1	SPRING	
4	91034111	1	BALL	
5	91034112	1	CARTRIDGE BODY	
6	91034113	1	O-RING	
7	91034114	1	O-RING	
8	91034115	1	BACK-UP RING	
9	91034116	1	PISTON	
10	91034117	1	BODY	
11	91034273	2	O-RING	
12	88201041	3	HEX HD CAPSCREW, 3/8-16x2-1/2, GR5	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-49. COUNTERBALANCE CONTROL VALVE (SN 0144637J to Present)



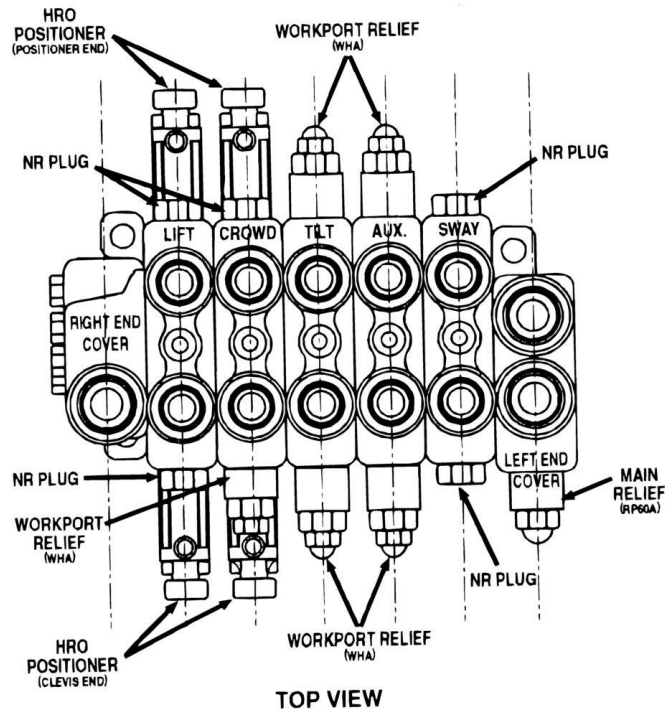
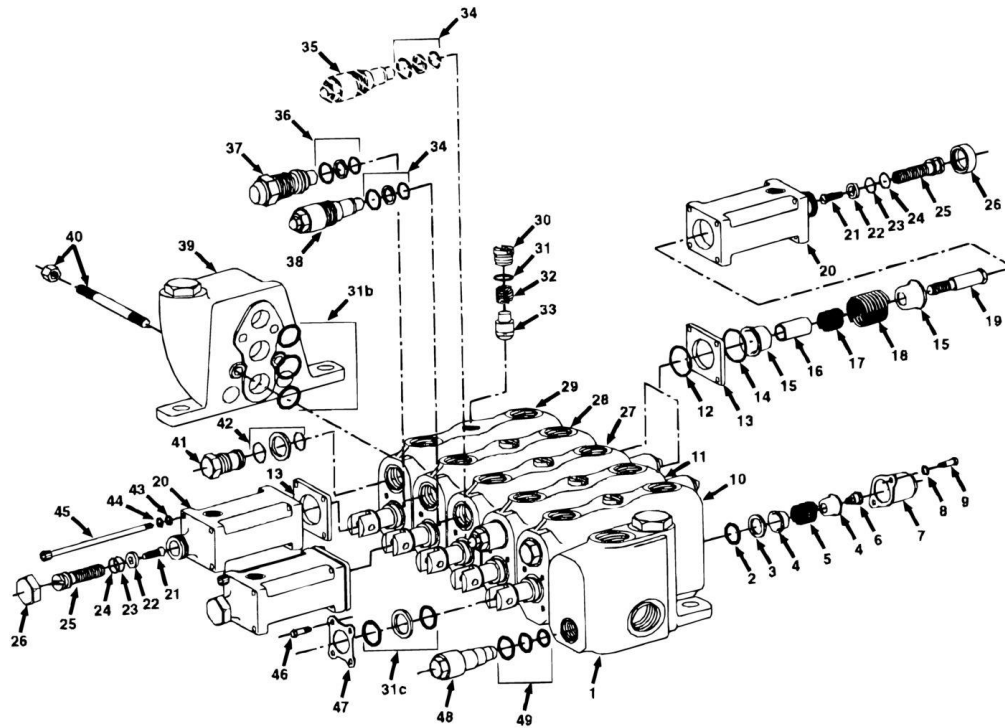
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-49. COUNTERBALANCE CONTROL VALVE (SN 0144637J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043232	1	COUNTERBALANCE VALVE	
2	91043245	1	LOAD CONTROL VALVE	
3	88591102	1	O-RING	
4	91034276	1	SEAL KIT	

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FIGURE 9-50. (91043065) MAIN CONTROL VALVE ASSEMBLY



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FIGURE 9-50. (91043065) MAIN CONTROL VALVE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043065	1	MAIN CONTROL VALVE ASSY, (includes all items)	
	90206417	AR	SEAL KIT, (includes items 31, 31b & 31c)	
	91044123	AR	SECTION SEAL KIT, (includes items 31b)	
	91034159	AR	SPOOL SEAL KIT, (includes items 31c)	
	90206419	AR	RETAINER PLATE ASSY, (includes items 46 & 47)	
	91044509	AR	HRO POSITIONER SEAL KIT, (includes items 12, 14, 23 & 24)	
	91044526	AR	NR PLUG KIT, (includes items 41 & 42)	
	91044527	AR	NR PLUG SEAL KIT, (items 42)	
	90206427	3	NEUTRAL POSITIONER KIT, (includes items 2 thru 9)	
	91044510	2	HRO POSITIONER KIT, SPOOL POSITIONER END, (includes items 12 thru 26)	
	91044534	2	HRO POSITIONER KIT, CLEVIS END, (includes items 13, 20 thru 26, 43, 44 & 45)	
	91044530	AR	WH TYPE PORT RELIEF VALVE SEAL KIT, (includes items 36)	
	91044533	AR	WHA PORT RELIEF VALVE SEAL KIT, (includes items 49)	
	91034236	AR	MAIN RELIEF VALVE SEAL KIT, (includes items 49)	
1	91044114	1	COVER PLATE ASSY, (left end), (includes item 48 & 49)	
2	Kit	3	O-RING	
3	Kit	3	WASHER	
4	Kit	3	SPRING COLLAR	
5	Kit	3	SPRING	
6	Kit	3	SPOOL COLLAR	
7	Kit	3	BONNET	
8	Kit	6	LOCKWASHER	
9	Kit	6	SCREW	
10	90206421	1	SWAY SECTION	
11	91044117	1	AUXILIARY SECTION	
12	Kit	4	O-RING	
13	91044516	4	SEAL PLATE	
14	Kit	1	O-RING	
15	91044521	2	STOP COLLAR	
16	91044520	2	STOP SLEEVE	
17	91044519	2	SPRING	
18	91044518	2	SPRING	
19	91044517	2	POSITIONER SPUD	
20	91044515	4	BONNET	
21	91044513	4	SCREW, COUNTER SUNK	
22	91044514	4	TRAVEL STOP	
23	Kit	4	O-RING	
24	Kit	4	BACK-UP RING	
25	91044512	2	SCREW	
26	91044511	4	BOOT	
27	91044519	1	TILT SECTION	
28	91044121	1	CROWD SECTION	
29	91044122	1	LIFT SECTION	
30	91044535	5	LOAD CHECK PLUG	
31	Kit	5	O-RING	
32		Ref	SPRING	
33		Ref	5 POPPET	
34		Ref	WHA RELIEF SEALS	

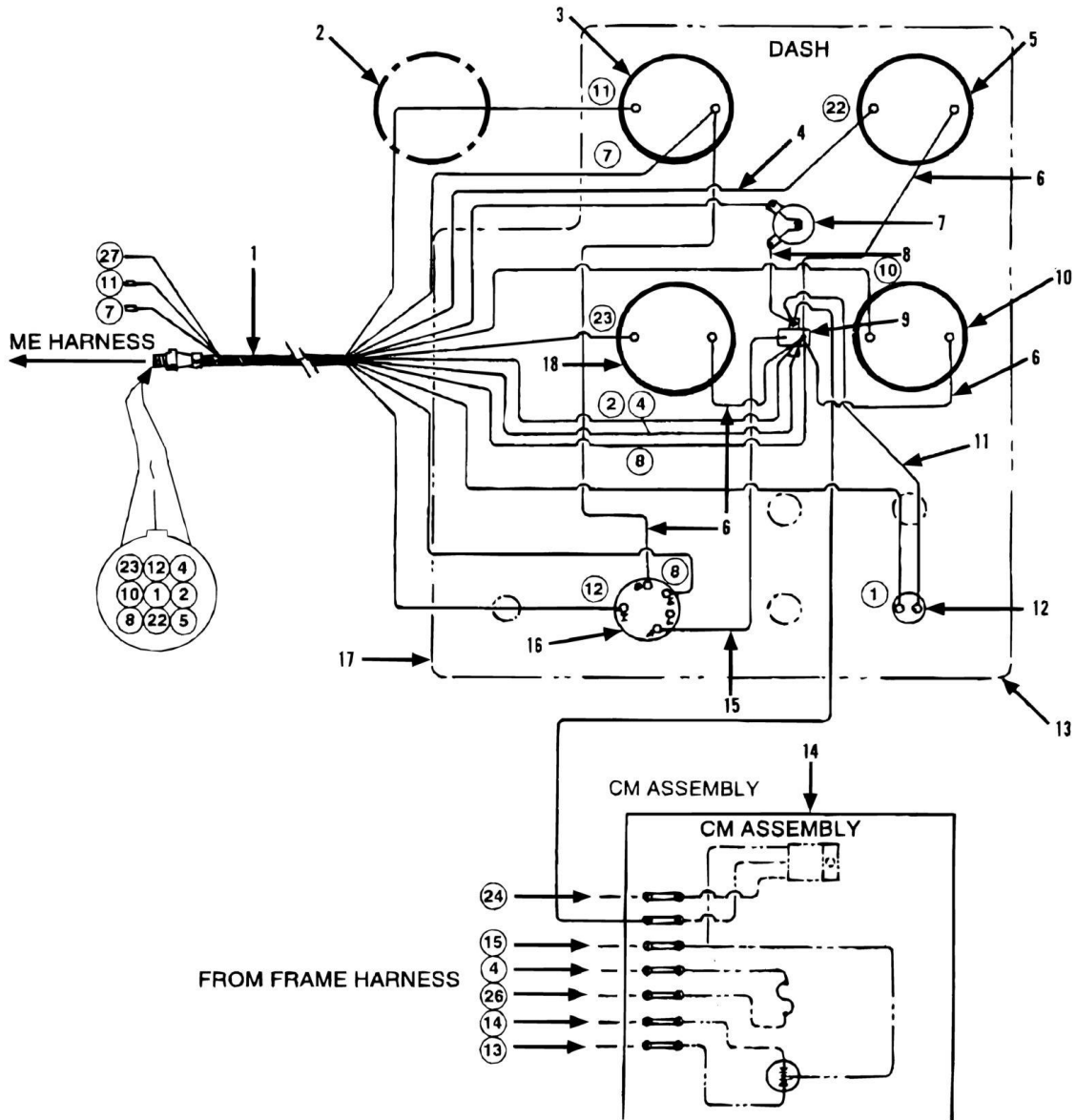
SECTION 9 - HYDRAULIC COMPONENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
35	91044531	2	WHA RELIEF, (1500 psi)	
36		Ref	WH RELIEF SEALS	
37	91044529	1	WH RELIEF, (2650 psi)	
38	91044532	2	WHA RELIEF, (3250 psi)	
39	91044124	1	COVER PLATE ASSY, (right end)	
40	91044125	1	STUD ASSY, (includes four studs and four nuts), (lubricate and torque to 23-27 FT LB)	
41	91044526	5	NR PLUG	
42	Kit	AR	NR PLUG SEALS	
43	91084232	16	BEARING PLATE	
44	91084231	16	LOCKWASHER	
45	91044522	16	HEX HD CAPSCREW, 1/4-20X3-1/2	
46	Kit	12	CAPSCREW	
47	Kit	3	RETAINER PLATE	
48	9008136	1	MAIN RELIEF VALVE ASSY	
49	91034236	1	MAIN RELIEF SEALS	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 10-1. WIRING - DASH WAUKESHA ENGINE (SN 8344001L through 8444489)



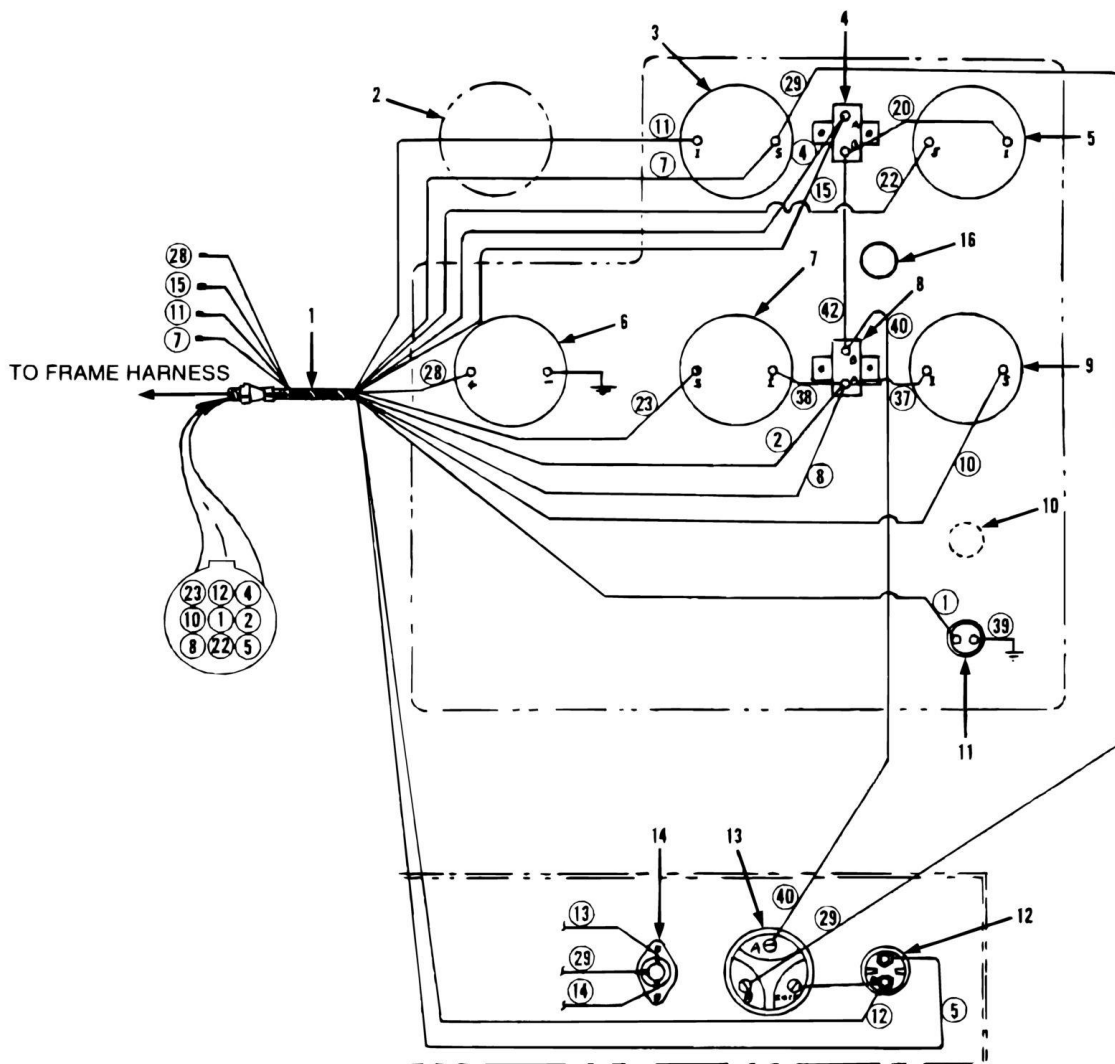
SECTION 10 - ELECTRICAL

FIGURE 10-1. WIRING - DASH WAUKESHA ENGINE (SN 8344001L through 8444489)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90602893	1	DASH HARNESS	
2	90203923	1	TRANSMISSION TEMPERATURE GAUGE	
3	90205685	1	AMP GAUGE	
4	90207857	1	JUMPER WIRE	
5	90205686	1	FUEL GAUGE	
6	90200351	2	JUMPER WIRE	
7	90200192	1	BRAKE WARNING LIGHT	
8	90200349	1	JUMPER WIRE	
9	90200506	1	CIRCUIT BREAKER	
10	90205690	1	OIL PRESSURE GAUGE	
11	90200353	1	JUMPER WIRE	
12	90200434	1	HORN BUTTON	
13	90207866	1	GROUND WIRE	
14	90403420	1	CM ASSEMBLY	
15	90205661	1	JUMPER WIRE	
16	90200170	1	IGNITION SWITCH	
17	90403178	1	INSTRUMENT PANEL	
17	90403130	1	INSTRUMENT PANEL DECAL	
18	90205687	1	TEMPERATURE GAUGE	

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FIGURE 10-2. WIRING - DASH PERKINS ENGINE (SN 844490 to Present)



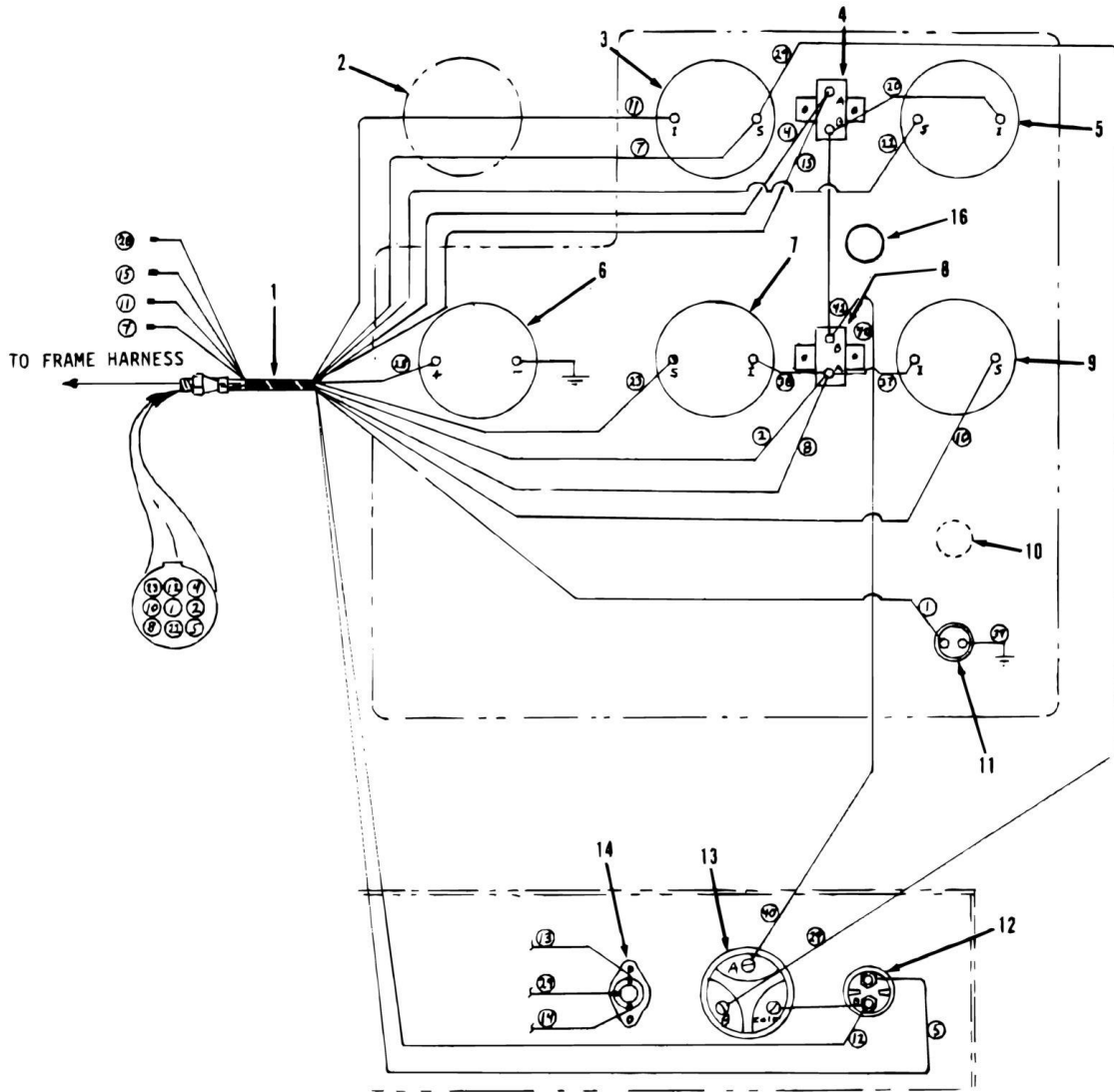
SECTION 10 - ELECTRICAL

FIGURE 10-2. WIRING - DASH PERKINS ENGINE (SN 8444490 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033112	1	DASH HARNESS	
2	91033282	1	TRANSMISSION TEMPERATURE GAUGE	
3	90205685	1	AMP GAUGE	
4	91033111	1	CIRCUIT BREAKER	
5	90205686	1	FUEL GAUGE	
6	90205688	1	HOUR GAUGE	
7	90205687	1	WATER TEMPERATURE GAUGE	
8	90200506	1	CIRCUIT BREAKER	
9	90205690	1	OIL PRESSURE GAUGE (80 PSI)	
9	91033247	1	OIL PRESSURE GAUGE (100 PSI)	
10	86661083	1	PLUG	
11	90200434	1	HORN BUTTON	
12	90205927	1	STARTER BUTTON	
13	91033110	1	IGNITION SWITCH	
14	90207646	1	BLACK BOX (diode)	
15	91031102	1	INSTRUMENT PANEL	
16	91033084	1	BRAKE WARNING LIGHT	

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FIGURE 10-3. DASH WIRING PERKINS ENGINE (SN 8444490 to Present)



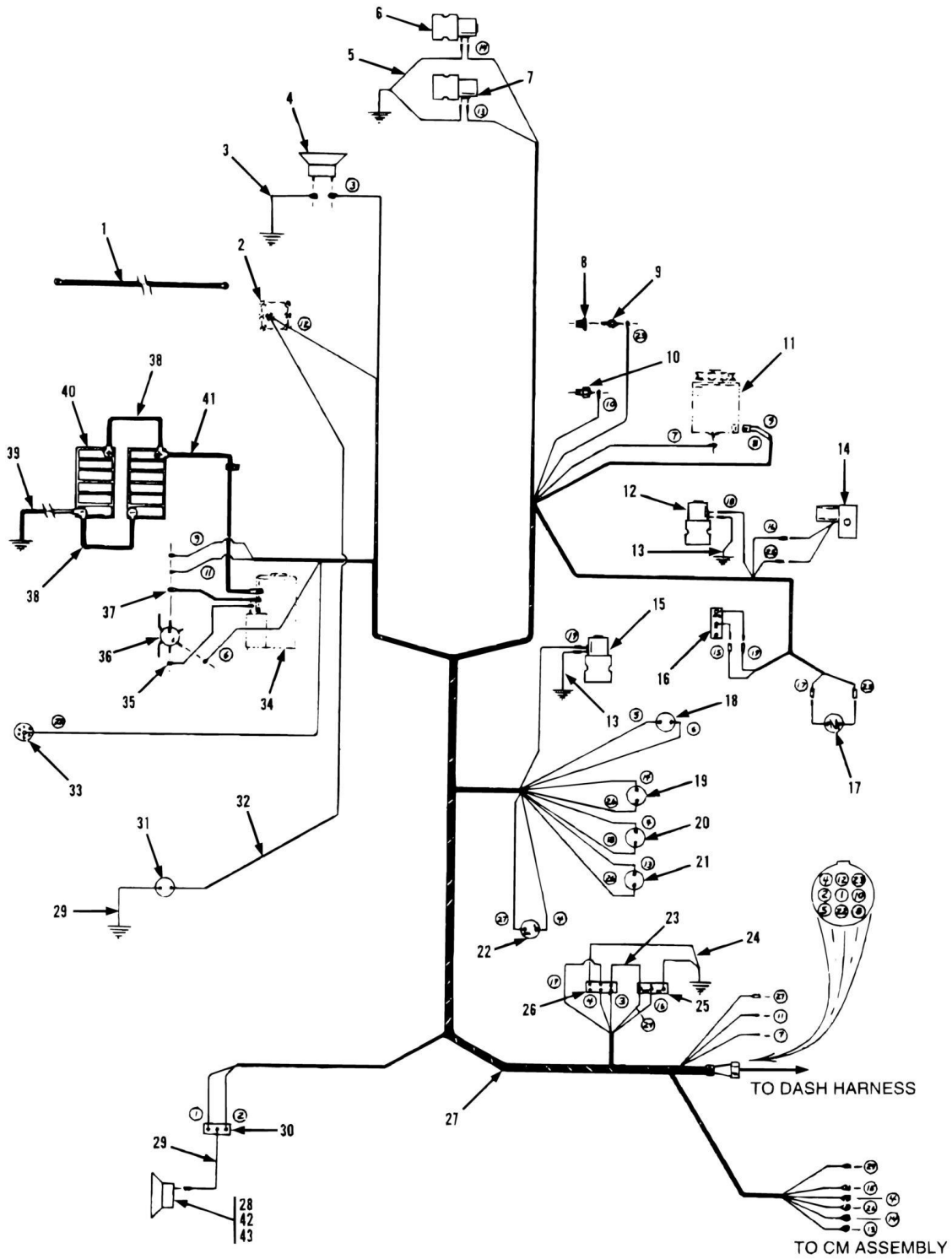
SECTION 10 - ELECTRICAL

FIGURE 10-3. DASH WIRING PERKINS ENGINE (SN 8444490 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033112	1	DASH HARNESS	
2	91033282	1	TRANSMISSION TEMPERATURE GAUGE	
3	90205685	1	AMP GAUGE	
4	91033111	1	CIRCUIT BREAKER	
5	90205686	1	FUEL GAUGE	
6	90205688	1	HOUR GAUGE	
7	90205687	1	WATER TEMPERATURE GAUGE	
8	90200506	1	CIRCUIT BREAKER	
9	90205690	1	OIL PRESSURE GAUGE (80 PSI)	
9	91033247	1	OIL PRESSURE GAUGE (100 PSI)	
10	86661083	1	PLUG	
11	90200434	1	HORN BUTTON	
12	90205927	1	STARTER BUTTON	
13	91033110	1	IGNITION SWITCH	
14	90207646	1	BLACK BOX (diode)	
15	91031102	1	INSTRUMENT PANEL	
16	91033184	1	BRAKE WARNING LIGHT	

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FIGURE 10-4. WIRING - FRAME AND WAUKESHA DIESEL ENGINE (SN 8344001L through 8444490G)



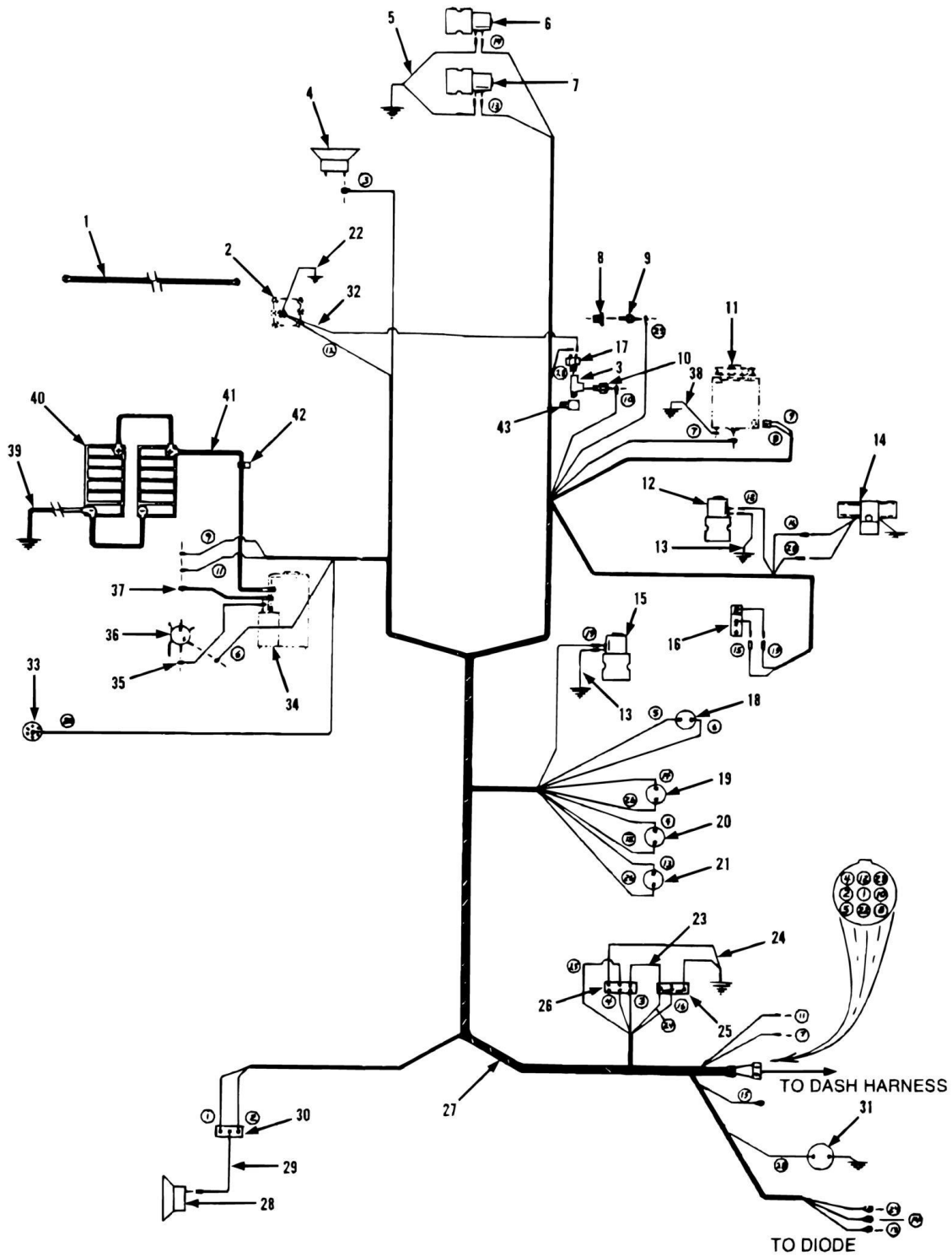
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FIGURE 10-4. WIRING - FRAME AND WAUKESHA DIESEL ENGINE (SN 8344001L through 8444490G)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90200811	1	GROUND CABLE	
2		Ref	FUEL SHUT OFF SWITCH, (comes with engine)	
3	90206325	1	JUMPER WIRE	
4	77223003	1	BACK-UP ALARM	
5	90207717	1	JUMPER WIRE	
6	90206739	1	SERIES SOLENOID VALVE	
7	90206739	1	PARALLEL SOLENOID VALVE	
8	88711381	1	REDUCING BUSHING, 3/8X1/4	
9	90206124	1	WATER TEMPERATURE SENDER	
10	91033139	1	OIL PRESSURE SENDER	
11		Ref	ALTERNATOR, (comes with engine)	
12	90206739	1	CAVITATION SOLENOID VALVE	
13	90207719	1	JUMPER WIRE	
14	90207755	1	PILOT PRESSURE FORWARD REVERSE CONTROL	
15	90206739	1	LOW TORQUE INCHING SOLENOID VALVE	
16	90200616	1	LOW TORQUE INCHING SWITCH	
17	90207752	1	FORWARD REVERSE INCHING POT	
18	90204973	1	NUETRAL START SWITCH, (requires 2-8998-1036 pan head screws for connecting wires)	
19	91033235	1	SECOND GEAR SWITCH	
20	91033235	1	THIRD GEAR SWITCH	
21	91033235	1	FIRST GEAR SWITCH	
22	90207823	1	BRAKE PRESSURE SWITCH	
23	90207524	1	JUMPER WIRE	
24	90207773	1	JUMPER WIRE	
25	90200616	1	FORWARD SWITCH	
26	90207482	1	REVERSE SWITCH	
27	90801336	1	ENGINE FRAME HARNESS	
28	24921393	1	HORN	
29	90202886	2	JUMPER WIRE	
30	88661084	1	HORN RELAY	
31	90205688	1	HOUR METER	
32	90206079	1	JUMPER WIRE	
33	90400654	1	FUEL GAUGE SENDER	
34	91034057	1	STARTER	
35	90205205	1	JUMPER WIRE	
36	90402427	1	STARTER SOLENOID	
37	90207497	1	JUMPER CABLE	
38	85841094	2	CLAMP	
39	91033042	1	CABLE	
40		Ref	BATTERY, (purchase locally)	
41	91033041	1	CABLE	
42	24921394	1	BRACKET	
43	24921395	1	NUT	

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FIGURE 10-5. WIRING - FRAME AND PERKINS DIESEL ENGINE (SN 844491 to Present)



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FIGURE 10-5. WIRING - FRAME AND PERKINS DIESEL ENGINE (SN 844491 to Present)

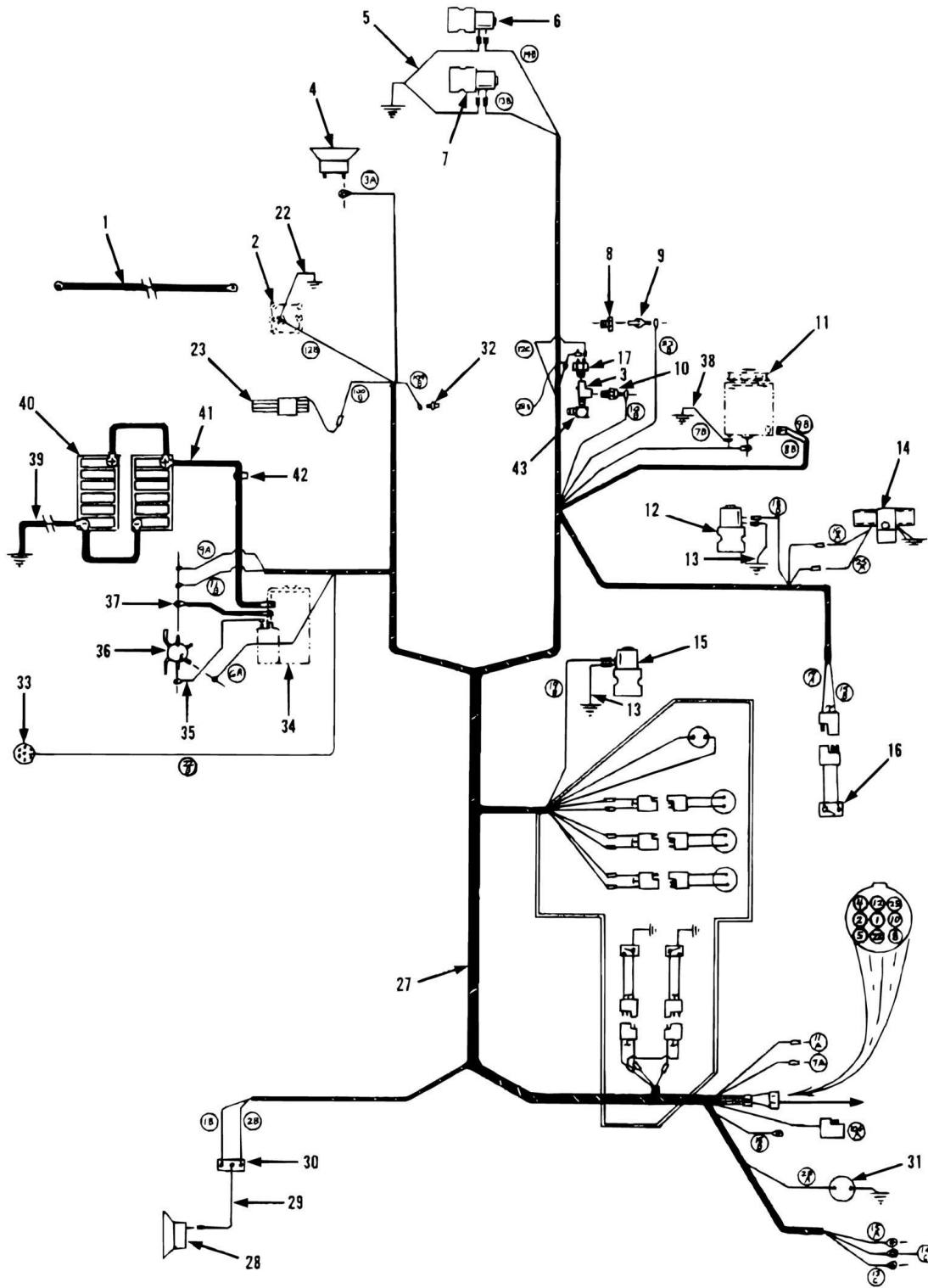
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90200811	1	GROUND CABLE	
2		Ref	FUEL SHUT OFF SWITCH (comes with engine)	
3	88712231	1	STREET TEE - 1/8	
4	77223003	1	BACK-UP ALARM	
5	90207717	1	JUMPER WIRE	
6	90206739	1	SERIES SOLENOID VALVE	
7	90206739	1	PARALLEL SOLENOID VALVE	
8	88711383	1	REDUCING BUSHING 1/2x3/8	
9	90206124	1	WATER TEMPERATURE SENDER	
10	91033139	1	OIL PRESSURE SENDER	
11	91033234	1	ALTERNATOR	
12	90206739	1	CAVITATION SOLENOID VALVE	
13	90207719	1	JUMPER WIRE	
14	91033097	1	PILOT PRESSURE FORWARD REVERSE CONTROL VALVE	
15	90206739	1	LOW TORQUE INCHING SOLENOID VALVE	
16	91033098	1	TRANSMISSION DISCONNECT SWITCH (SN 8544670 to Present)	
16	91033202	1	TRANSMISSION DISCONNECT SWITCH (SN 8544671 to Present)	
17	24741047	1	HOUR METER SWITCH	
18	90204973	1	NEUTRAL START SWITCH	
18	89981036	2	PAN HEAD SCREW	
19	91033235	1	SECOND GEAR SWITCH	
20	91033235	1	THIRD GEAR SWITCH	
21	91033235	1	FIRST GEAR SWITCH	
21	90207225	3	SWITCH BOOT (not shown-used on 90206757 switches)	
22	91031197	1	JUMPER WIRE	
23	90207524	1	JUMPER WIRE	
24	90207773	1	JUMPER WIRE	
25	90200616	1	FORWARD SWITCH (SN 8444491 through 8544670)	
25	91033202	1	REVERSE SWITCH (SN 8544671 to Present)	
26	90207482	1	REVERSE SWITCH (SN 8444491 through 8544670)	
26	91033202	1	REVERSE SWITCH (SN 8544671 to Present)	
27	91033079	1	ENGINE FRAME HARNESS	
28	24921393	1	HORN	
28	24921394	1	BRACKET	
28	24921395	1	NUT	
29	90202886	1	JUMPER WIRE	
30	86661084	1	HORN RELAY	
31	90205688	1	HOUR METER	
32	91031198	1	JUMPER WIRE	
32	86661143	1	TERMINAL ADAPTER	
33	90400654	1	FUEL GAUGE SENDER	
34	91033262	1	STARTER	
35	90205205	1	JUMPER WIRE	
36	90402427	1	STARTER SOLENOID	
37	90207497	1	JUMPER CABLE	
38	90207630	1	JUMPER CABLE	
39	91033042	1	GROUND CABLE	
40		Ref	BATTERY (purchase locally)	

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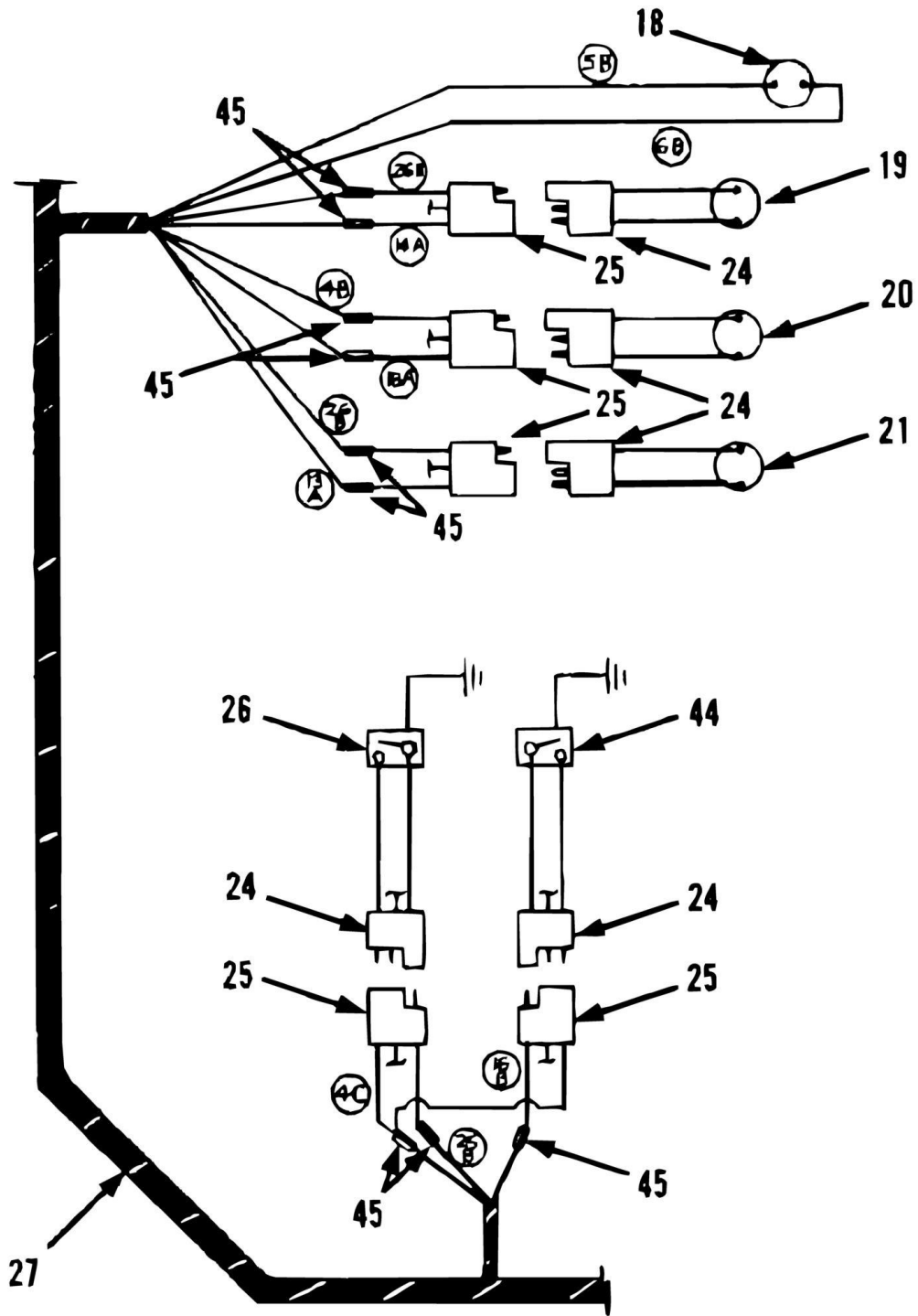
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	91033086	1	POSITIVE CABLE	
42	85841094	1	CLAMP	
42	77103006	2	NUT	
43	88691345	1	ELBOW - 90	
		Ref	NOTE: TO UPDATE MACHINES WITH OLD STYLE SWITCHES TO NEW STYLE SWITCHES. ORDER 91035110 MICROSWITCHES KIT.	

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FIGURE 10-6. WIRING - FRAME AND ENGINE (SN 0144367J to Present)



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VIEW A

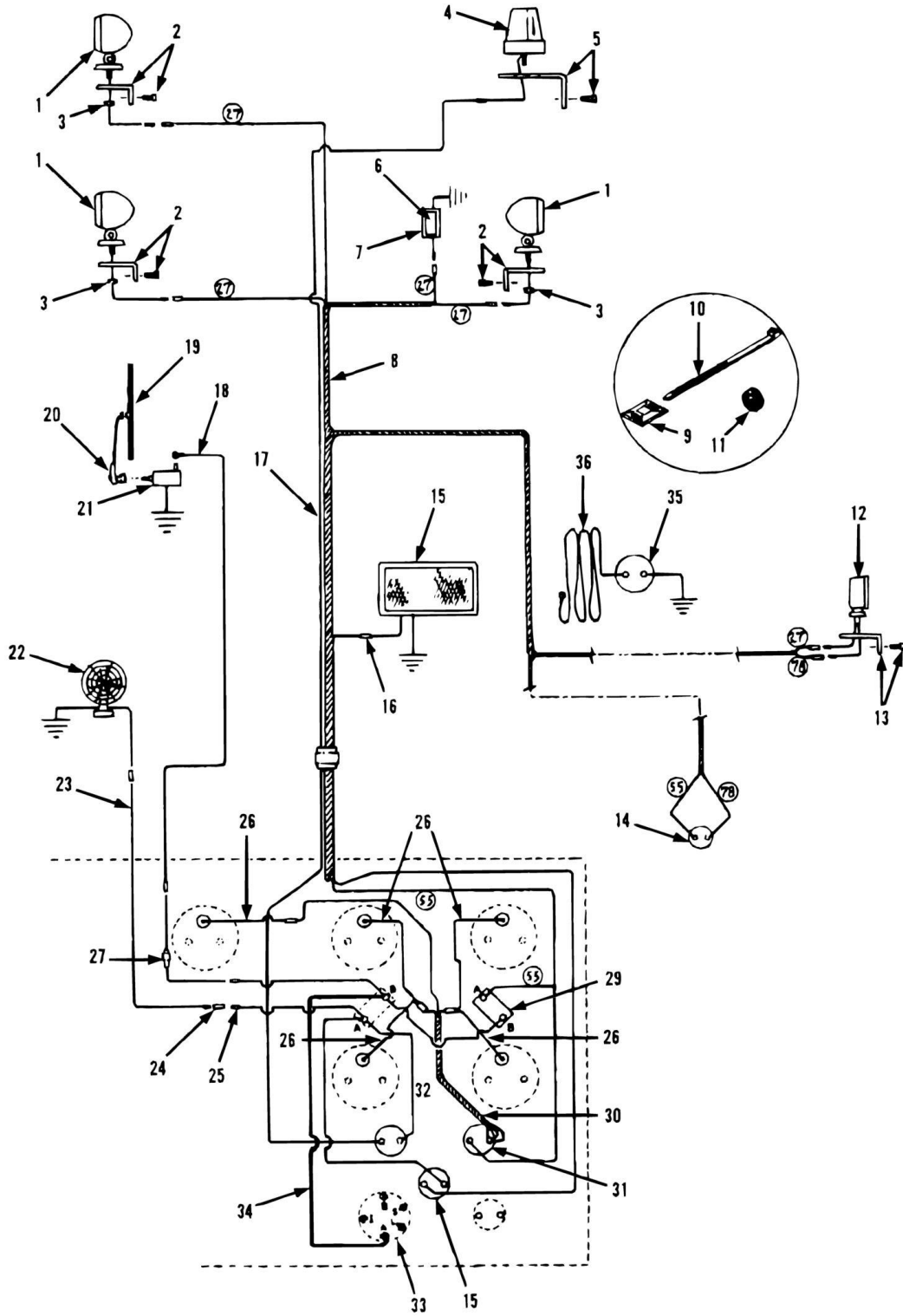
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FIGURE 10-6. WIRING - FRAME AND ENGINE (SN 0144367J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90200811	1	GROUND CABLE	
2		Ref	FUEL SHUT OFF SWITCH, (comes with engine)	
3	88712231	1	STREET TEE, 1/8	
4	77223003	1	BACK-UP ALARM	
5	90207717	1	JUMPER WIRE	
6	90206739	1	SERIES SOLENOID VALVE	
7	90206739	1	PARALLEL SOLENOID VALVE	
8	88711383	1	REDUCING BUSHING, 1/2X3/8	
9	90206124	1	WATER TEMPERATURE SENDER	
10	91033139	1	OIL PRESSURE SENDER	
11	91033234	1	ALTERNATOR	
12	90206739	1	CAVITATION SOLENOID VALVE	
13	90207719	2	JUMPER WIRE	
14	91033097	1	PILOT PRESSURE FORWARD REVERSE CONTROL VALVE	
15	90206739	1	LOW TORQUE INCHING SOLENOID VALVE	
16	91033202	1	TRANSMISSION DISCONNECT SWITCH	
17	24741047	1	HOURMETER SWITCH	
18	90204973	1	NEUTRAL START SWITCH	
18	89981036	2	PAN HD SCREW	
19	91035112	1	SECOND GEAR SWITCH	
20	91035112	1	THIRD GEAR SWITCH	
21	91035112	1	FIRST GEAR SWITCH	
22	91031197	1	JUMPER WIRE	
23	91033270	1	PRIMER PUMP	
24	83483114	6	3 WAY CONNECTOR, (male)	
25	83483113	6	3 WAY CONNECTOR, (female)	
26	91033202	1	FORWARD SWITCH	
27	91033079	1	ENGINE FRAME HARNESS	
28	24921393	1	HORN	
28	24921394	1	BRACKET	
28	24921395	1	NUT	
29	90202886	1	JUMPER WIRE	
30	86661084	1	HORN RELAY	
31	90205688	1	HOUR METER	
32	91033283	1	OIL TEMPERATURE SENDER	
33	90400654	1	FUEL LEVEL SENDER	
34	91033323	1	STARTER	
35	90205205	1	JUMPER WIRE	
36	90402427	1	STARTER SOLENOID	
37	90207497	1	JUMPER CABLE	
38	90207630	1	JUMPER WIRE	
39	91033042	1	GROUND CABLE	
40	90203359	2	BATTERY, (12 volt, 590 amps), TOP STUD, BCI GROUP 27	
41	91033086	1	POSITIVE CABLE	
42	85841094	1	CLAMP	
42	77103006	2	NUT	
43	88691345	1	ELBOW, 90	
44	91033202	1	REVERSE SWITCH	
45	86683480	9	CRIMP ON CONNECTOR	

SECTION 10 - ELECTRICAL

FIGURE 10-7. LIGHT WIRING (SN 8344001L to Present)



SECTION 10 - ELECTRICAL

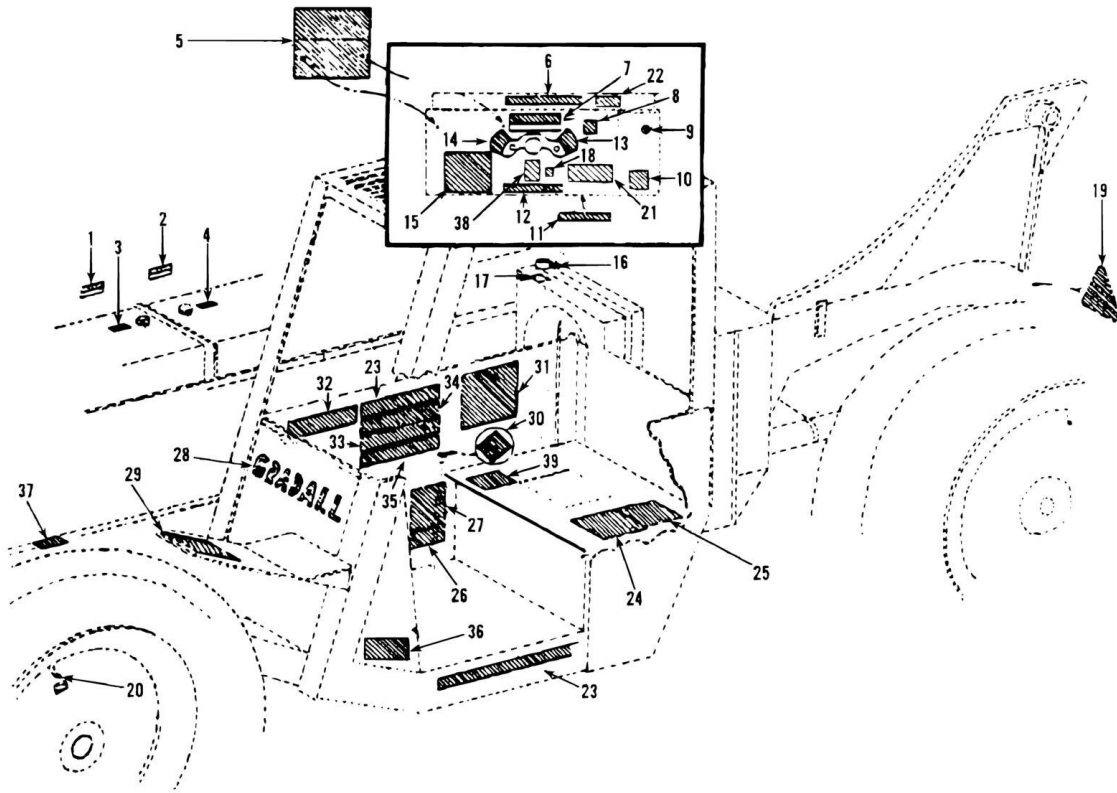
FIGURE 10-7. LIGHT WIRING (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90200586	3	WORK LIGHT	
1	88201032	AR	HEX HD CAPSCREW, 3/8-16X5/8, GR5	
2	90206129	3	LIGHT MOUNTING BRACKET	
2	90027316	6	SELF TAPPING SCREW	
3	88501006	AR	HEX NUT, 3/8-16	
4	90200685	1	ROTATING BEACON	
4	88201014	2	HEX HD CAPSCREW, 1/4-20X3-1/4, GR5	
4	88501004	2	HEX NUT, 1/4-20	
5	90400706	1	BEACON MOUNTING BRACKET	
5	90027316	3	SELF TAPPING SCREW	
6	90204009	1	DOME LIGHT	
7	90400670	1	DOME LIGHT BRACKET	
7	88321022	2	SELF TAPPING SCREW, 8-32X3/8	
8	90602748	1	CAB WIRING HARNESS	
9	90206310	7	STRAP ANCHOR	
10	90027187	7	TIE STRAP	
11	90027214	AR	RUBBER GROMMET (use at cab roof and cab front)	
11	90202303	AR	RUBBER GROMMET (use at cab rear and seat deck)	
12	90205912	1	TAIL AND STOP LIGHT	
13	90206130	1	TAIL LIGHT MOUNTING BRACKET	
13	88201032	2	HEX HD CAPSCREW, 3/8-16X5/8, GR5	
14	90200615	1	BRAKE LIGHT SWITCH	
15	90200679	1	HEATER (includes switch)	
16	90206134	1	CONNECTOR	
17	90206133	2	WIRE (heater and beacon)	
18	90200914	1	WIRE (windshield wiper)	
19	90206024	1	WIPER BLADE	
20	90200952	1	WIPER ARM	
21	90206023	1	WIPER MOTOR	
22	90200680	1	DEFROSTER FAN	
23	90206358	1	FAN WIRE	
24	90026830	AR	WIRE CONNECTOR	
25	90203628	1	FAN WIRE	
26	90200347	5	GAUGE LIGHT WIRING KIT (consists of snap-in light and wire)	
27	90203376	1	WIPER WIRE FUSE	
28	90200349	1	WIRE (fuse to circuit breaker)	
29	90206131	1	CIRCUIT BREAKER	
29	88501613	4	HEX NUT, #10-32	
30	90403076	1	DASH LIGHT WIRING HARNESS	
31	90200171	2	LIGHTS AND BEACON LIGHT SWITCH	
32	90200352	1	WIRE (circuit breaker to heater switch, breaker to beacon switch, and breaker to breaker)	
33	90200170	1	IGNITION SWITCH	
33	91033110	1	IGNITION SWITCH (SN 8444491 to Present)	
34	90205661	1	WIRE (ignition accessory terminal to circuit breaker)	
35	90205688	1	HOUR METER	
36	90206079	1	WIRE (hour meter to fuel switch)	

SECTION 11 - MISCELLANEOUS

SECTION 11 - MISCELLANEOUS

FIGURE 11-1. FRAME DECALS (SN 8344001L to Present)



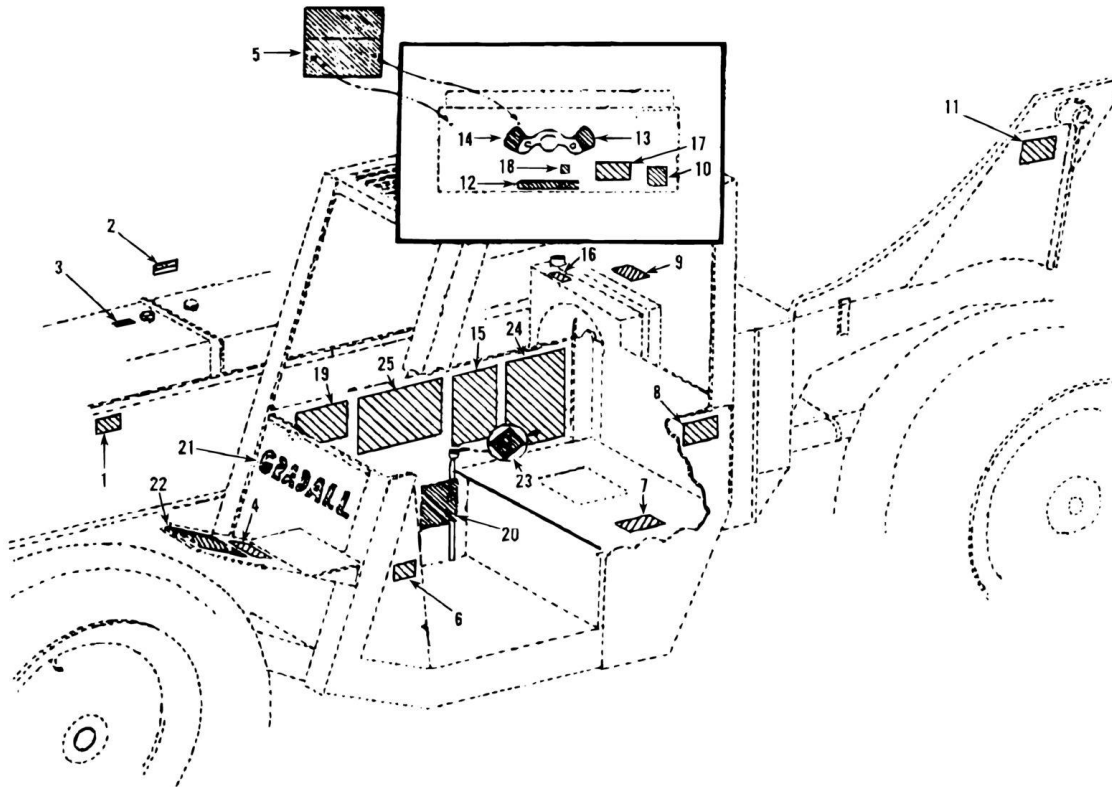
SECTION 11 - MISCELLANEOUS

FIGURE 11-1. FRAME DECALS (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91003051	1	WARNING DECAL	
2	91003052	1	WARNING DECAL	
3	77023006	1	HYDRAULIC OIL DECAL	
4	77023008	1	DEI SEL FUEL DECAL	
5	91033020	1	LIFT CAPACITY DECAL (6000# unit)	
5	91033021	1	LIFT CAPACITY DECAL (8000# unit)	
5	90207488	1	MOUNTING PLATE	
5	88204912	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
5	88561107	2	FLAT WASHER, 1/4	
5	88521304	2	HEX LOCKNUT	
6	91033014	1	WARNING DECAL	
7	91033010	1	WARNING DECAL	
8	91003041	1	TRANSMISSION TEMP. DECAL	
9	91033025	1	BRAKE DECAL	
10	91033089	1	DASH DECAL	
11	91033022	1	REAR DRIVE DECAL	
12	91033024	1	HUB LOCKOUT DECAL	
13	91003039	1	SHIFT DECAL	
14	91003040	1	FORWARD-REVERSE DECAL	
15	91033012	1	TILT AND SWAY DECAL	
16	91033011	1	WARNING DECAL	
17	91003032	1	COOLANT DECAL	
18	91033244	1	AUXILIARY CONTROL DECAL	
19	91033094	1	SLOW MOVING VEHICLE EMBLEM	
20	91033009	4	TIRE PRESSURE DECAL	
21	91033157	1	CAUTION DECAL	
22	91033135	1	BRAKE WARNING DECAL	
23	91003036	12	OPERATOR PROTECTION DECAL	
24	91033026	1	MICO DECAL	
25	91033027	1	LOCK PLATE	
26	91003002	1	ATTACHMENT CAPACITY PLATE	
26	88344901	4	DRIVE SCREW, #10X1/2	
27	91033001	1	SERIAL NUMBER PLATE	
27	88344901	4	DRIVE SCREW, #10X1/2	
28	83641675	1	"GRADALL" DECAL, WHITE	
29	83601011	1	DANGER DECAL	
30	91003044	1	BOOM OPERATOR DECAL	
31	91033019	1	SERVICE DECAL (Waukesha)	
31	91033249	1	SERVICE DECAL (Perkins)	
32	91003030	1	PATENT DECAL	
33	91003029	1	WARNING DECAL	
34	91003050	1	WARNING DECAL	
35	90206140	1	RUB PLATE	
36	77023003	1	CLIMBING DECAL	
37	91033044	1	ACCUMULATOR DECAL (Waukesha)	
38	91033090	1	TRUSS BOOM WINCH DECAL	
39	91026006	1	STABILIZER DECAL	

SECTION 11 - MISCELLANEOUS

FIGURE 11-2. FRAME DECALS (SN 0144637J to Present)



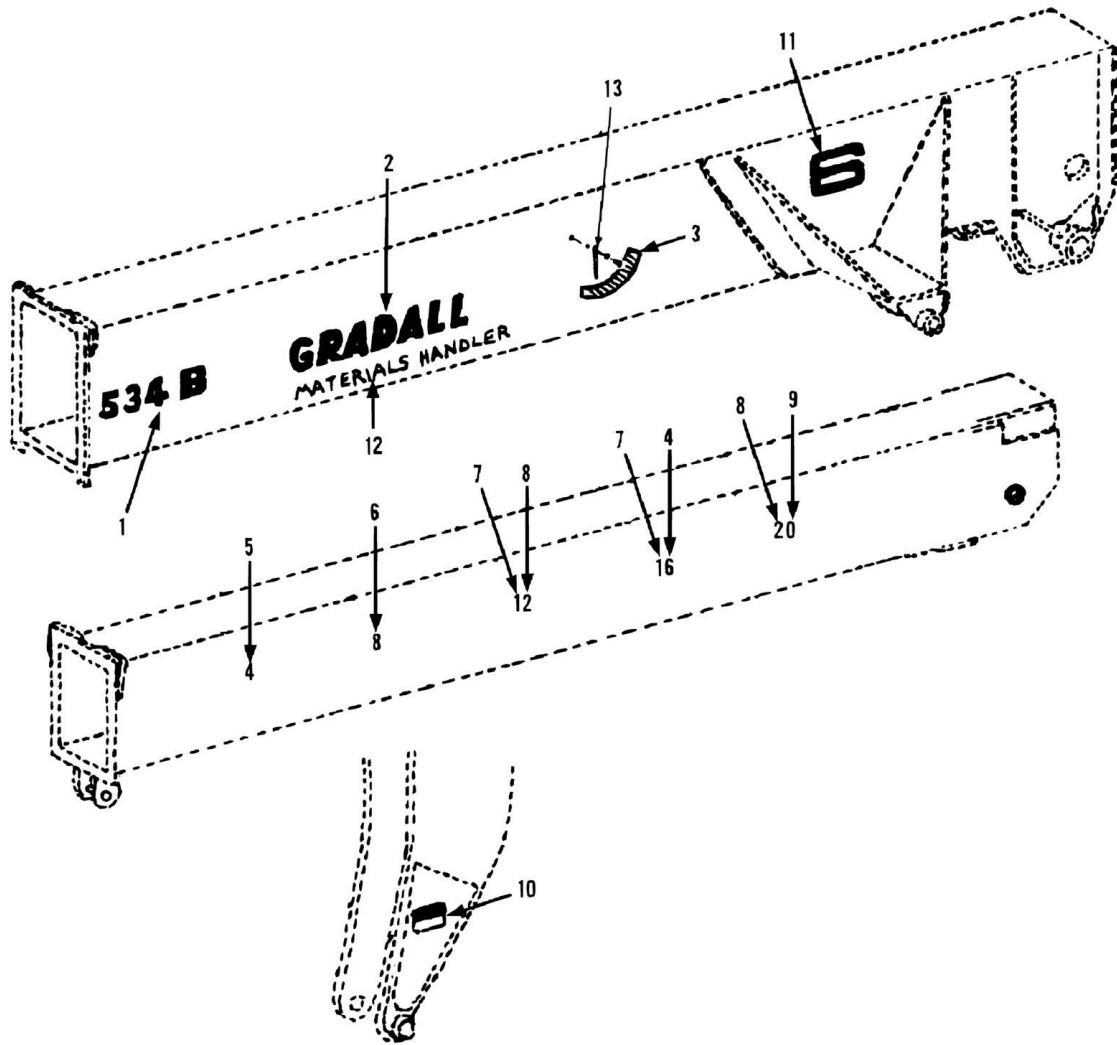
SECTION 11 - MISCELLANEOUS

FIGURE 11-2. FRAME DECALS (SN 0144637J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	77023007	1	BATTERY INSTRUCTION STICKER	
2	91003052	1	WARNING DECAL	
3	77023006	1	HYDRAULIC OIL DECAL	
4	91043215	1	WARNING DECAL	
5	91033311	1	LIFT CAPACITY DECAL (8K units)	
5	91033020	1	LIFT CAPACITY DECAL (6K units)	
6	91043211	1	RIDER WARNING DECAL	
7	91043129	1	PARKING BRAKE DECAL	
8	77333027	1	MADE IN U.S.A DECAL	
9	77343018	1	HOT EXHAUST DECAL	
10	91033089	1	DASH DECAL	
11	91043209	2	PINCH POINT DECAL	
12	91033024	1	HUB LOCKOUT DECAL	
13	91003039	1	SHIFT DECAL	
14	91003040	1	FORWARD-REVERSE DECAL	
15	91033242	1	6FT MAST DECAL (8K units)	
15	91033243	1	6FT MAST DECAL (6K units)	
16	91033011	1	WARNING DECAL	
17	91033362	1	CAUTION DECAL	
18	91033244	1	AUXILIARY CONTROL DECAL	
19	91003030	1	PATENT DECAL	
20	91033278	1	SN AND ATTACHMENT PLATE (6K units)	
20	91033279	1	SN AND ATTACHMENT PLATE (8K units)	
21	83641675	1	"GRADALL" DECAL, WHITE	
22	83601011	1	DANGER DECAL	
23	91003044	1	BOOM OPERATING DECAL	
24	91033312	1	SERVICE DECAL	
25	91063047	1	WARNING DECAL	

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FIGURE 11-3. BOOM DECALS (SN 8344001L to Present)



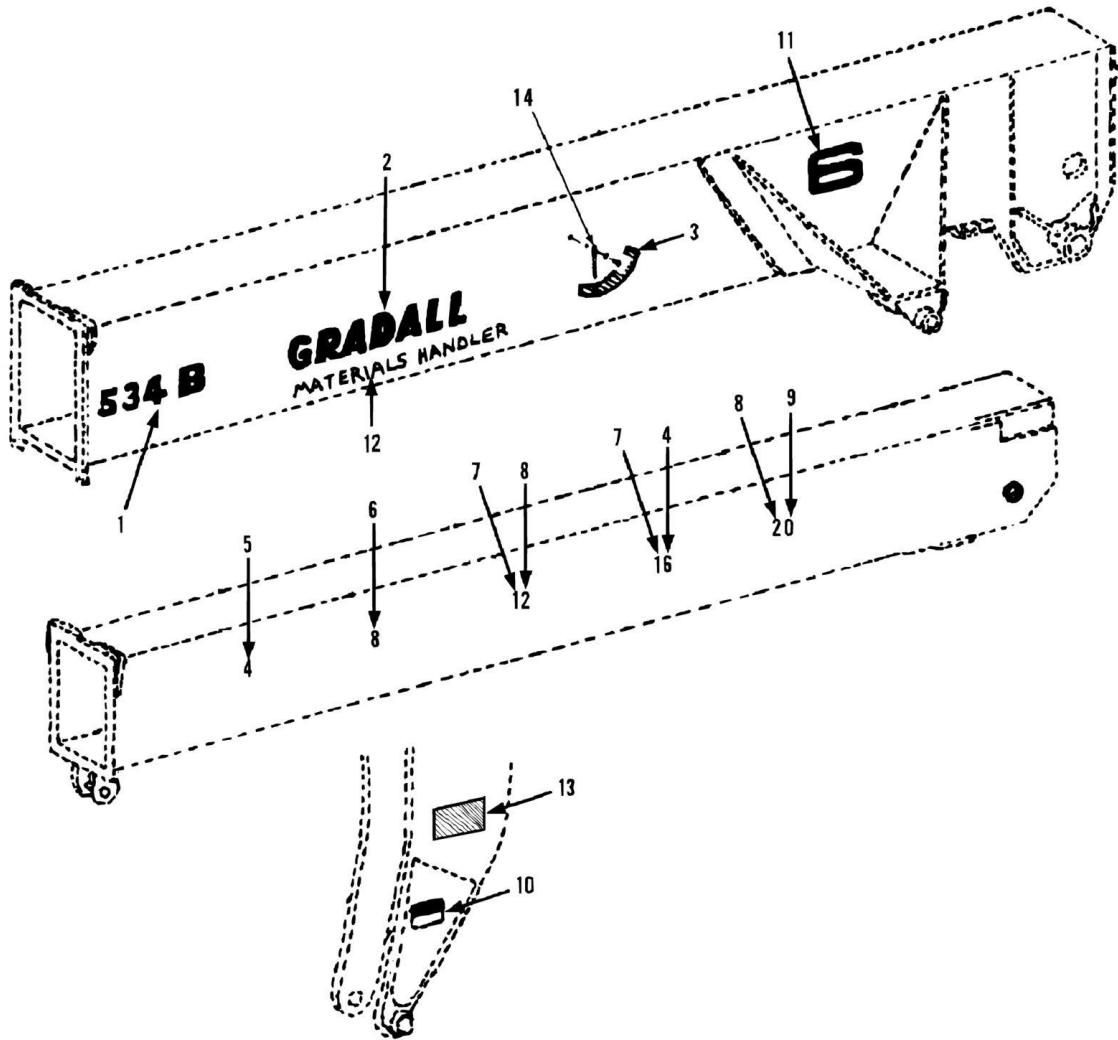
SECTION 11 - MISCELLANEOUS

FIGURE 11-3. BOOM DECALS (SN 8344001L to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033003	2	"534B" DECAL, STANDARD (white)	
1	91033002	2	"534B" DECAL, OPTIONAL (black)	
2	91003006	2	"GRADALL" DECAL, STANDARD (white)	
2	91043132	2	"GRADALL" DECAL, OPTIONAL (black)	
3	91003031	1	BOOM ANGLE INDICATOR DECAL	
4	91003025	1	"6" DECAL, STANDARD (white)	
4	91043137	1	"6" DECAL, OPTIONAL (black)	
5	91003020	1	"4" DECAL, STANDARD (white)	
5	91043136	1	"4" DECAL, OPTIONAL (black)	
6	91003027	1	"8" DECAL, STANDARD (white)	
6	91043138	1	"8" DECAL, OPTIONAL (black)	
7	91003016	2	"1" DECAL, STANDARD (white)	
7	91043134	2	"1" DECAL, OPTIONAL (black)	
8	91003018	2	"2" DECAL, STANDARD (white)	
8	91043135	2	"2" DECAL, OPTIONAL (black)	
9	91003014	2	"0" DECAL, STANDARD (white)	
9	91043133	2	"0" DECAL, OPTIONAL (black)	
10	91033023	1	WARNING DECAL	
11	91033018	2	"6" DECAL, STANDARD (white)	
11	91033218	2	"6" DECAL, OPTIONAL (black)	
11	91033016	2	"8" DECAL, STANDARD (white)	
11	91033216	2	"8" DECAL, OPTIONAL (black)	
12	91043039	2	"MATERIALS HANDLER" DECAL, STANDARD (white)	
12	91043038	2	"MATERIALS HANDLER" DECAL, OPTIONAL (black)	
13	90200445	1	BOOM ANGLE INDICATOR	
13	90200688	1	BEARING	
13	88561111	1	FLAT WASHER, 1/2	
13	90026491	1	SHOULDER BOLT	

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FIGURE 11-4. BOOM DECALS (SN 0144637J to Present)



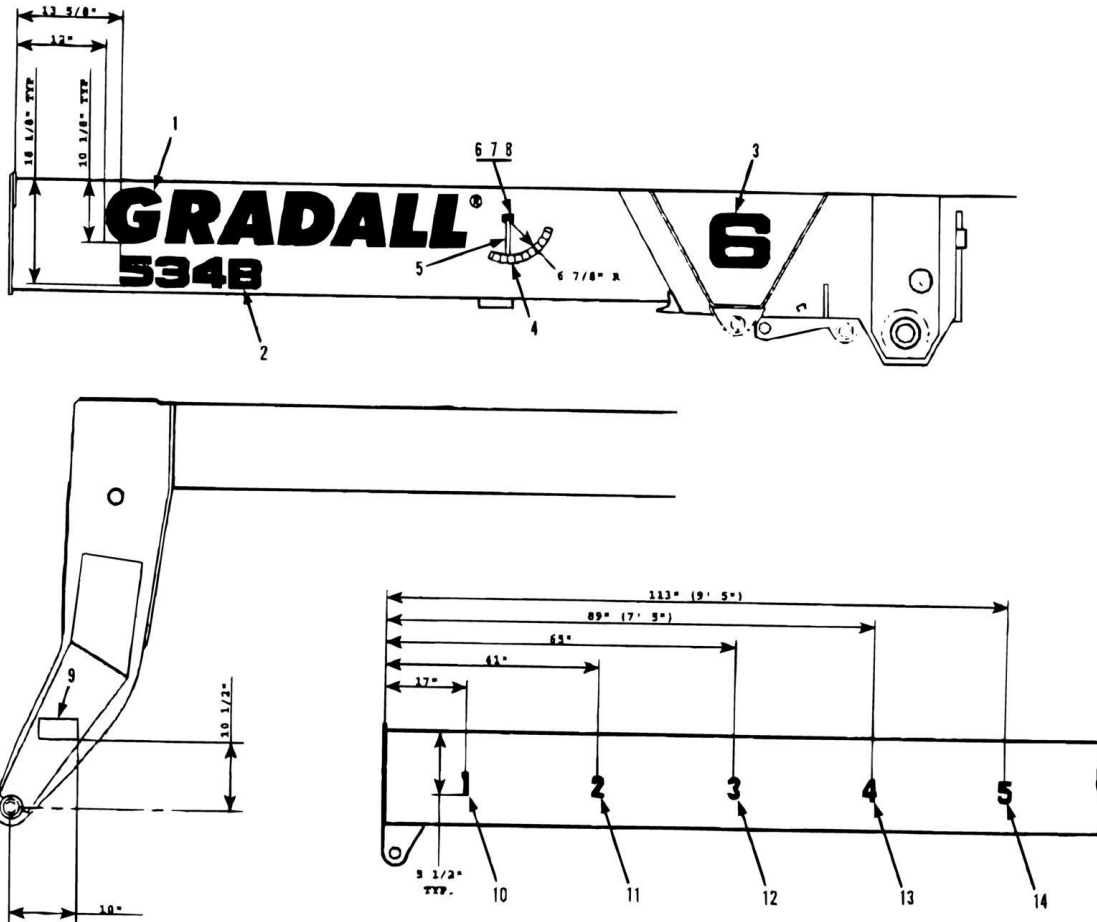
SECTION 11 - MISCELLANEOUS

FIGURE 11-4. BOOM DECALS (SN 0144637J to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033003	2	"534B" DECAL, STANDARD (white)	
1	91033002	2	"534B" DECAL, OPTIONAL (black)	
2	91003006	2	"GRADALL" DECAL, STANDARD (white)	
2	91043132	2	"GRADALL" DECAL, OPTIONAL (black)	
3	91003031	1	BOOM ANGLE INDICATOR	
4	91003025	1	"6" DECAL, STANDARD (white)	
4	91043137	1	"6" DECAL, OPTIONAL (black)	
5	91003020	1	"4" DECAL, STANDARD (white)	
5	91043136	1	"4" DECAL, OPTIONAL (black)	
6	91003027	1	"8" DECAL, STANDARD (white)	
6	91043138	1	"8" DECAL, OPTIONAL (black)	
7	91003016	2	"1" DECAL, STANDARD (white)	
7	91043134	2	"1" DECAL, OPTIONAL (black)	
8	91003018	2	"2" DECAL, STANDARD (white)	
8	91043135	2	"2" DECAL, OPTIONAL (black)	
9	91003014	2	"0" DECAL, STANDARD (white)	
9	91043133	1	"0" DECAL OPTIONAL (black)	
10	91033023	2	WARNING DECAL	
11	91033018	2	"6" DECAL, STANDARD (white)	
11	91033218	2	"6" DECAL, OPTIONAL (black)	
11	91033016	2	"8" DECAL, STANDARD (white)	
11	91033216	2	"8" DECAL, OPTIONAL (black)	
12	91043039	2	"MATERIALS HANDLER" DECAL, STANDARD (white)	
12	91043038	2	"MATERIALS HANDLER" DECAL, OPTIONAL (black)	
13	83601011	1	WARNING DECAL	
14	90200445	1	BOOM ANGLE INDICATOR	
14	90200688	1	BEARING	
14	88561108	1	FLAT WASHER, 1/2	
14	90026491	1	SHOULDER BOLT	

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FIGURE 11-5. BOOM DECALS (SN 8644859G to Present)



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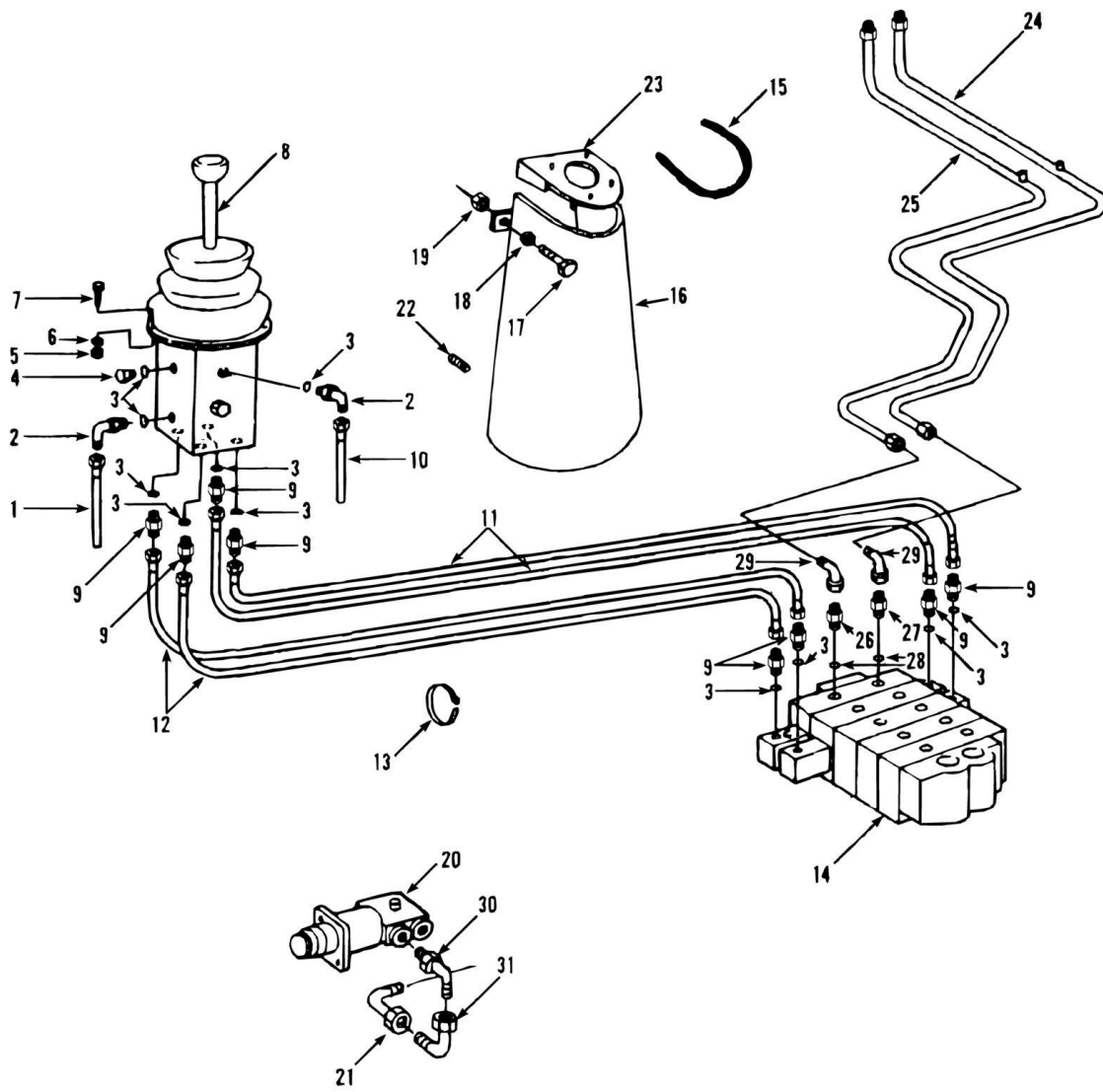
FIGURE 11-5. BOOM DECALS (SN 8644859G to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91123037	2	"GRADALL" DECAL, WHITE	
1	91123038	2	"GRADALL" DECAL, BLACK	
2	91033392	2	"534B" DECAL, WHITE	
2	91033393	2	"534B" DECAL, BLACK	
3	91033018	2	"6" DECAL, WHITE	
3	91033218	2	"6" DECAL, BLACK	
4	91003031	1	BOOM ANGLE DECAL, WHITE	
5	90200445	1	PENDULUM	
6	90200688	1	BEARING	
7	90026491	1	SHOULDER BOLT, 1/4-20	
8	88561108	1	FLATWASHER, 5/16	
9	91033023	1	QUICK SWITCH DECAL	
10	91003016	1	"1" DECAL, WHITE	
10	91043134	1	"1" DECAL, BLACK	
11	91003018	1	"2" DECAL, WHITE	
11	91043135	1	"2" DECAL, BLACK	
12	91123042	1	"3" DECAL, WHITE	
12	91123043	1	"3" DECAL, BLACK	
13	91003020	1	"4" DECAL, WHITE	
13	91043136	1	"4" DECAL, BLACK	
14	91123044	1	"5" DECAL, WHITE	
14	91123045	1	"5" DECAL, BLACK	

SECTION 12 - OPTIONAL EQUIPMENT

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-1. JOYSTICK



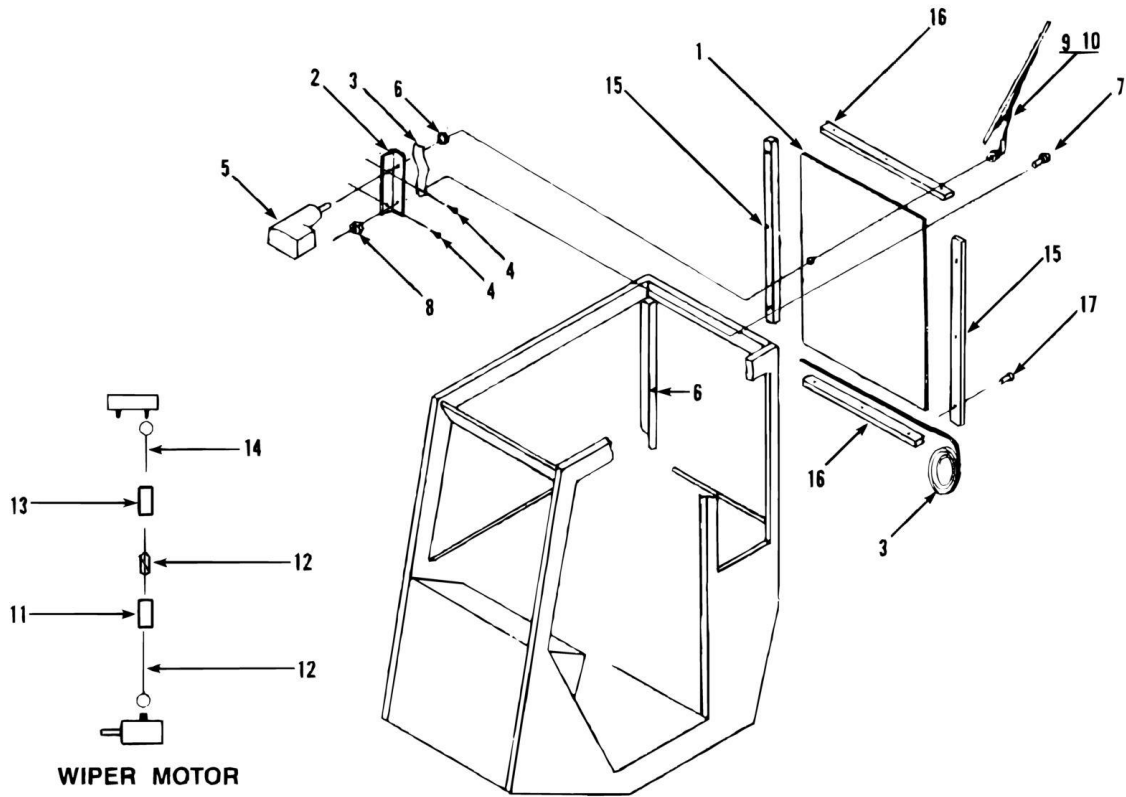
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-1. JOYSTICK

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045173		JOYSTICK INSTALLATION (includes all items)	
1	84717587	1	HOSE ASSY	
2	88662064	2	ELBOW, 90, (includes item 3)	
3	88591204	12	O-RING	
4	88662174	2	HEX HD PLUG (includes item 3)	
5	88501004	4	HEX NUT, 1/4-20	
6	88551009	4	LOCKWASHER, 1/4	
7	88201004	4	HEX HD CAPSCREW, 1/4-20X7/8 GR5	
8	91043064	1	HYDRAULIC CONTROLLER ASSY	
9	88662005	8	CONNECTOR (includes item 3)	
10	77133167	1	HOSE ASSY	
11	84717458	2	HOSE ASSY	
12	84717519	2	HOSE ASSY	
13	90027187	7	NYLON TIE WRAP	
14	91043065	1	MAIN CONTROL VALVE	
15	90206192	17 in	TRIM LOK	
16	91046056	1	JOYSTICK COVER	
17	88201018	2	HEX HD CAPSCREW, 5/16-18x3/4 GR5	
18	88551010	2	LOCKWASHER, 5/16	
19	88501005	2	HEX NUT, 5/16-18	
20	91033307	1	BRAKE VALVE	
21	88662105	1	ELBOW-90, (swivel nut)	
22	85051384	2	WELD STUD, 5/16-18X1	
23	91046047	1	JOYSTICK MOUNT WELDMENT	
24	91043095	1	TUBE ASSY	
25	91043096	1	TUBE ASSY	
26	88662038	1	CONNECTOR (includes item 28)	
27	88662008	1	CONNECTOR (includes item 28)	
28	88591207	2	O-RING	
29	88662108	2	ELBOW-90, (swivel nut)	
30	88662064	1	ELBOW-90, (includes o-ring)	
30	88591204	1	O-RING	
31	77131088	1	ELBOW -90	

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FIGURE 12-2. REAR WIPER INSTALLATION



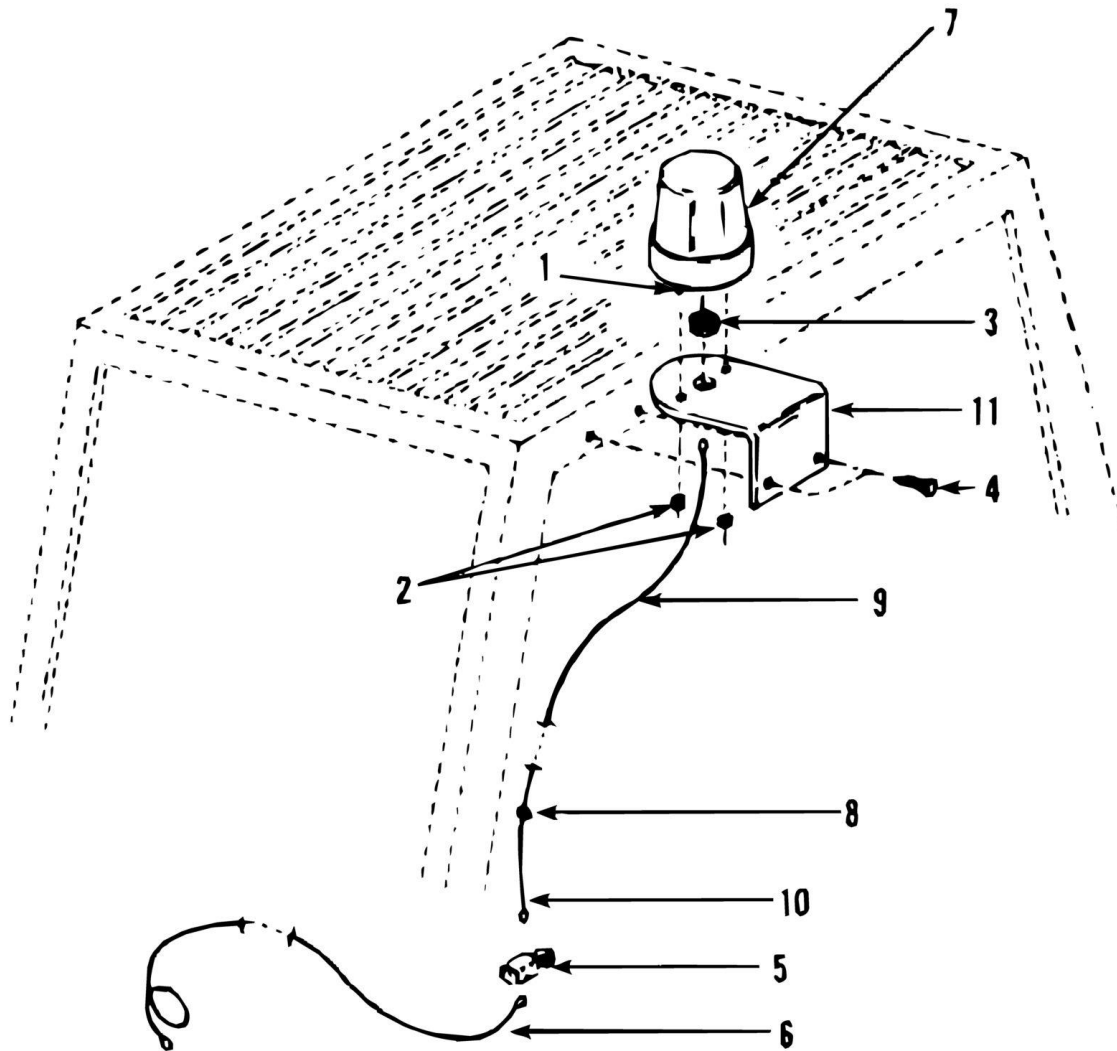
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-2. REAR WIPER INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90403109		REAR WIPER INSTALLATION (includes items 2 thru 14)	
1	90403035	Ref	REAR WINDOW	
2	90206025	1	WIPER MOTOR MOUNT	
3	90200755	AR	WEATHER STRIPPING	
4	90027319	2	SELF TAPPING SCREW, 1/4-20X1	
5	90206023	1	WIPER MOTOR	
6	90027214	2	GROMMET	
7	88201003	1	HEX HD CAPSCREW, 1/4-20x3/4 GR5	
8	88501004	1	HEX NUT, 1/4-20	
9	90206024	1	WIPER BLADE	
10	90206374	1	WIPER ARM	
11	90206312	1	JUMPER WIRE	
12	86683480	2	CRIMP ON CONNECTOR	
13	90203376	1	FUSE	
14	90200349	1	JUMPER WIRE	
15	90206019	Ref	WINDOW HOLD DOWN BAR	
16	90206018	Ref	WINDOW HOLD DOWN BAR	
17	90027315	Ref	SELF TAPPING SCREW, 1/4-20X1-1/4	

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FIGURE 12-3. ROTATING BEACON ASSY



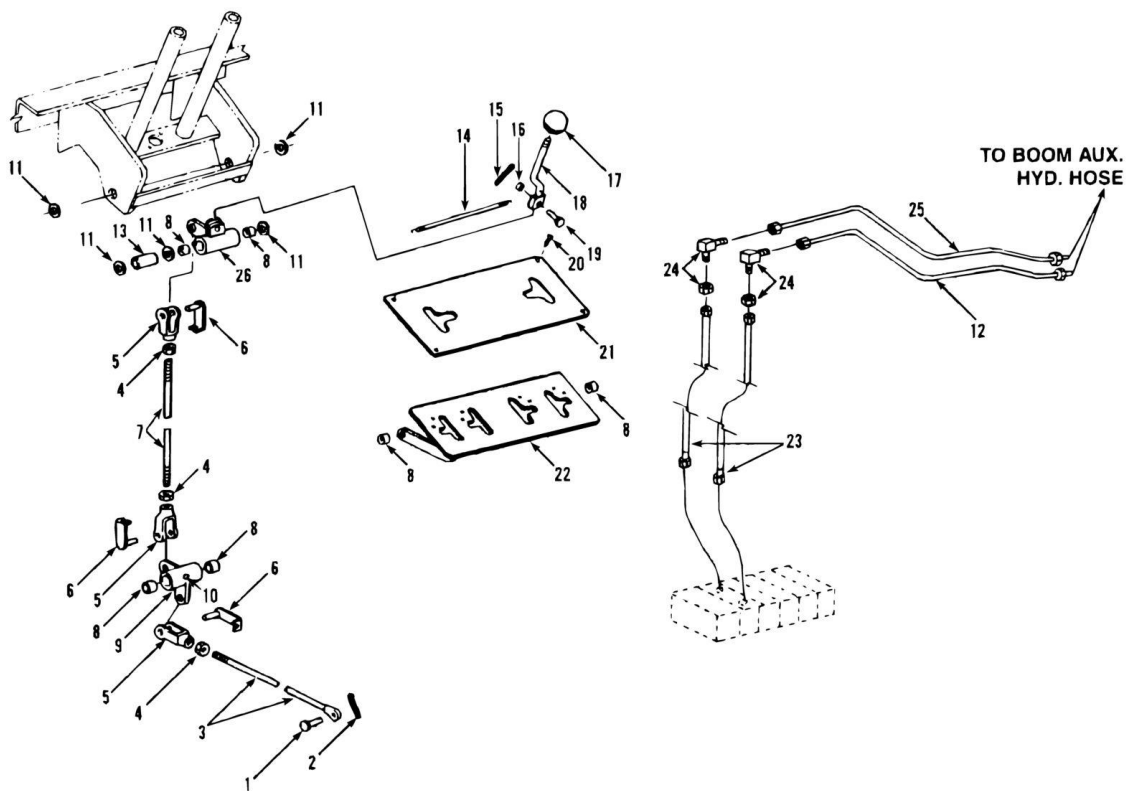
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-3. ROTATING BEACON ASSY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035007		ROTATING BEACON ASSY (includes all items)	
1	88201014	2	HEX HD CAPSCREW, 1/4-20X3-1/4 GR5	
2	88501004	2	HEX NUT, 1/4-20	
3	90027214	2	BUTTON GROMMET	
4	90027316	3	SELF TAPPING SCREW	
5	90200171	1	SWITCH	
6	90200352	1	JUMPER WIRE	
7	90200685	1	ROTATING BEACON	
8	90202303	1	BUTTON GROMMET	
9	90206132	1	JUMPER WIRE	
10	90206133	1	JUMPER WIRE	
11	90400706	1	BEACON BRACKET	

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FIGURE 12-4. AUXILIARY HYDRAULICS



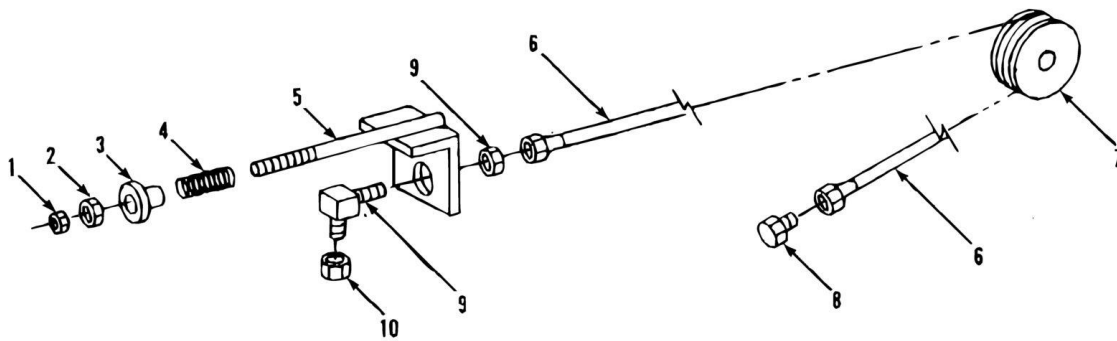
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-4. AUXILIARY HYDRAULICS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045022	Ref	AUXILIARY HYDRAULIC ASSY (includes all items)	
1	90021552	1	CLEVIS PIN	
2	88631301	1	COTTER PIN, 1/16X1/2	
3	91046051	1	CONTROL ROD	
4	88501406	3	HEX JAM NUT, 3/8-24	
5	88821004	3	ADJUSTABLE YOKE END, 3/8-24	
6	90027987	3	SPRING CLEVIS	
7	90202361	1	ROD	
8	90200290	6	NEEDLE BEARING	
9	90205533	1	BELLCRANK	
10	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
11	88561113	10	FLAT WASHER, 5/8	
12	90207393	1	TUBE ASSY	
13	91031189	1	SPACER	
14	90200559	1	SPRING	
15	88631309	1	COTTER PIN, 3/32X3/4	
16	90200688	1	BEARING	
17	90200299	1	KNOB	
18	90205981	1	HANDLE	
19	90021557	1	CLEVIS PIN	
20	90020489	4	PAN HEAD SCREW, #2	
21	90206045	1	CONTROL PANEL	
22	90402904	1	CONTROL PANEL	
23	90022046	2	HOSE ASSY	
24	90029938	2	BULKHEAD FITTING - 90, (includes nut)	
25	91043196	1	TUBE ASSY	
26	90205983	1	BELLCRANK	

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FIGURE 12-5. WINCH DRAIN LINES



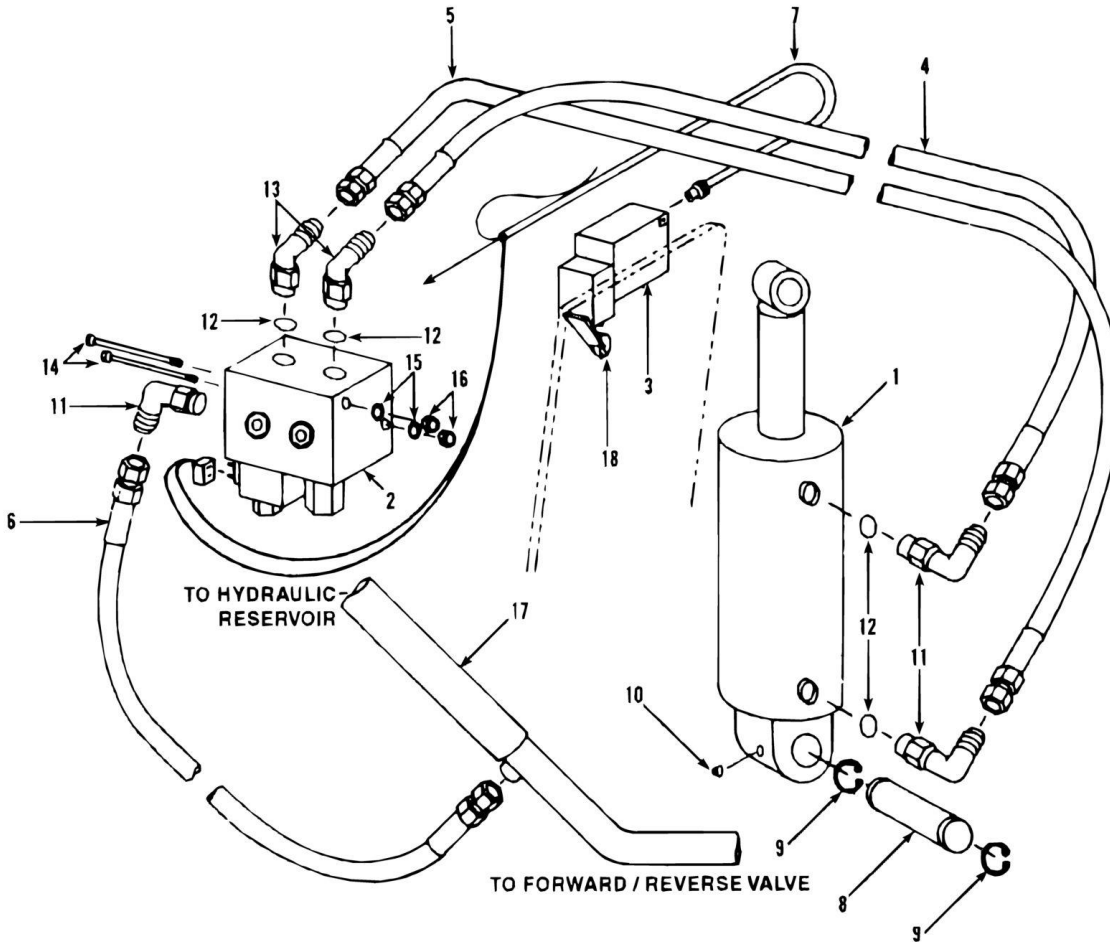
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FIGURE 12-5. WINCH DRAIN LINES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035133	Ref	WINCH DRAIN LINE PARTS (includes all items)	
1	88501108	1	HEX JAM NUT, 1/2-13	
2	88501008	1	HEX NUT, 1/2-13	
3	90207041	1	SPRING RETAINER	
4	90200313	1	SPRING	
5	90403249	1	HOSE TAKE-UP WELDMWENT	
6	90206888	1	HOSE ASSY	
7	91043101	1	HOSE TAKE-UP SHEAVE	
8	88661385	1	HOSE HD PLUG, 1/2	
9	90027180	1	90, BULKHEAD FITTING (includes nut)	
10	88661365	1	HEX CAP, 1/2	

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FIGURE 12-6. STABILIZER



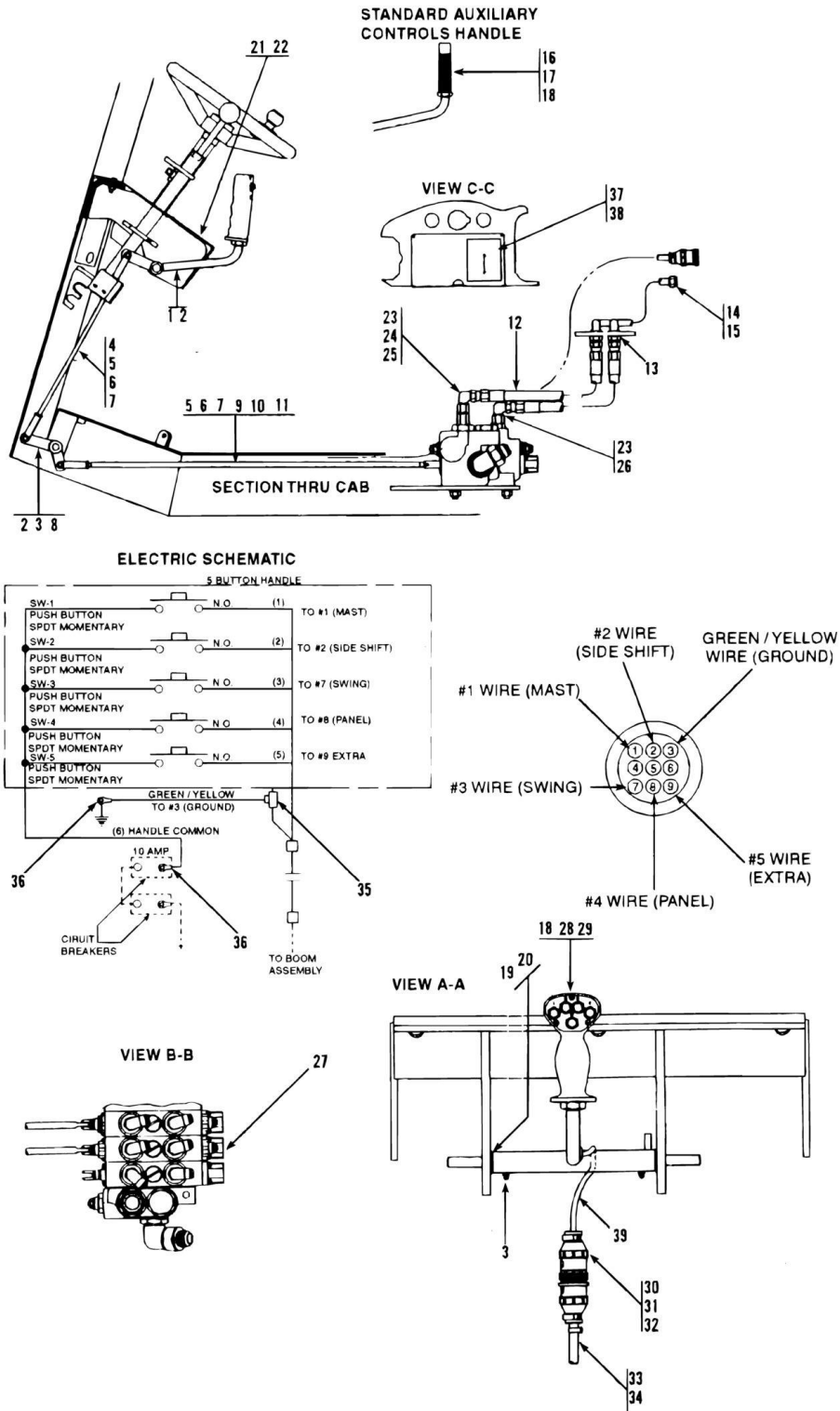
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FIGURE 12-6. STABILIZER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043274	1	STABILIZER CYLINDER	
2	91113003	1	STABILIZER VALVE	
3	91043123	1	SWITCH (includes item 18)	
4	84717847	1	HOSE ASSY	
5	84717848	1	HOSE ASSY	
6	84716426	1	HOSE ASSY	
7	91045034	1	BOOM SWITCH HARNESS	
8	91041227	2	PIN	
9	88581140	4	RETAINING RING	
10	88671008	2	LUBE FITTING, STRAIGHT 1/4-28	
11	88662065	3	ELBOW, 90, (includes item 12)	
12	88591205	5	O-RING	
13	88662085	2	ELBOW, 45, (includes item 12)	
14	83201073	2	HEX HD SCREW, 3/8-16X4-1/2	
15	88551011	2	LOCKWASHER, 3/8	
16	88501006	2	HEX NUT, 3/8-16	
17	91043144	1	DUMP TUBE	
18	91044475	1	LEVER/ROLLER ASSY	

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FIGURE 12-7. AUXILIARY CONTROLS ASSY



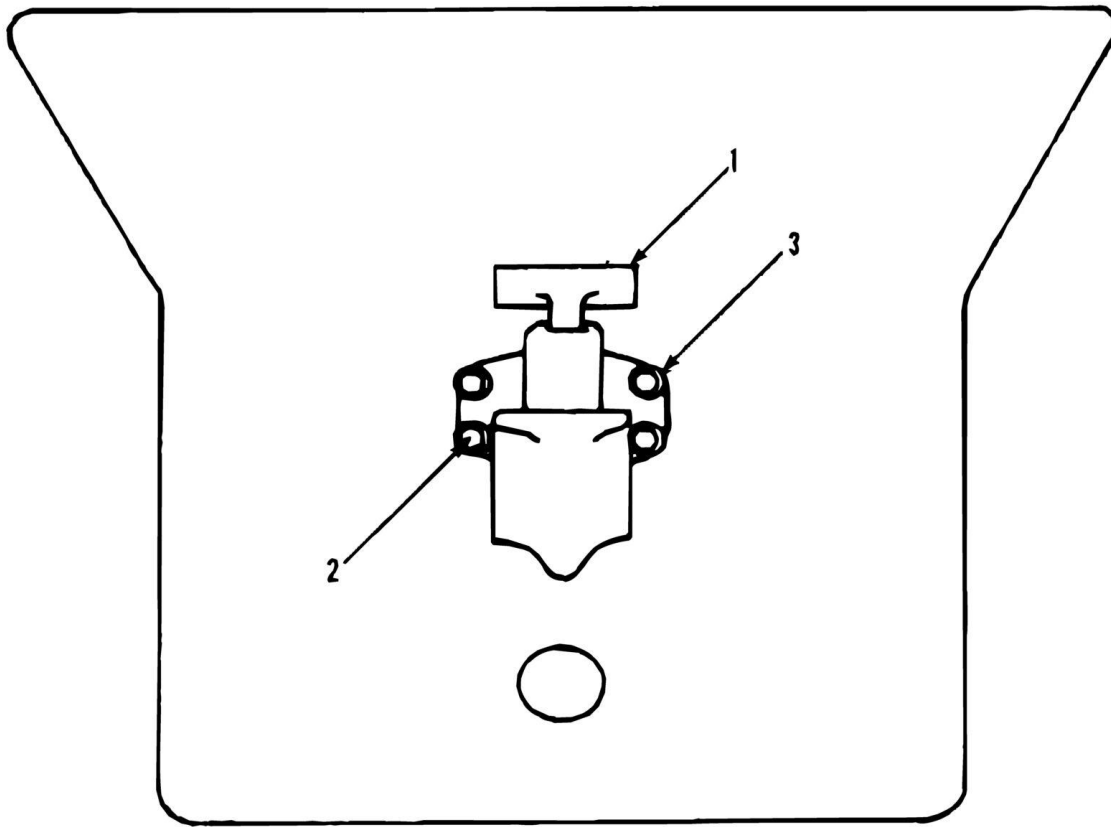
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FIGURE 12-7. AUXILIARY CONTROLS ASSY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035220	Ref	AUXILIARY CONTROLS ASSEMBLY (includes items 1 thru 22, & item 38)	
	91035221	Ref	AUXILIARY FIELD INSTALLATION (includes items 1 thru 27, & item 38)	
	91035222	Ref	AUXILIARY ELECTRIC INSTALLATION (includes items 28 thru 37, & item 39)	
1	91036107	1	AUXILIARY HANDLE WELDMENT	
2	90200290	4	BEARING	
3	88671008	3	LUBE FITTING, STRAIGHT 1/4-28	
4	90202361	1	LINKAGE ROD	
5	88821004	3	ADJUSTABLE YOKE END	
6	90027987	3	SPRING CLEVIS	
7	88501406	3	HEX JAM NUT, 3/8-24	
8	90205533	1	BELLCRANK	
9	91046051	1	LINKAGE ROD	
10	90021552	1	CLEVIS PIN	
11	88631301	1	COTTER PIN, 1/6X1/2	
12	90022043	2	HOSE ASSY	
13	90029938	2	90, BULKHEAD ELBOW	
14	90207393	1	TUBE ASSY	
15	91043196	1	TUBE ASSY	
16	91031465	1	HANDLE INSERT	
17	90200774	1	HANDLE GRIP	
18	88501112	1	HEAVY HEX JAM NUT, 3/4-10	
19	88561115	4	FLATWASHER, 3/4	
20	90028662	2	WAVE BEND WASHER	
21	91031464	1	COVER PANEL	
22	88321015	Ref	SELF TAPPING SCREW, #6-32X1/2	
23	88662107	2	ELBOW, 90, (swivel nut)	
24	86923006	1	ADAPTER, 3/4X5/8	
25	88662008	1	CONNECTOR (includes o-ring)	
25	88591207	1	O-RING	
26	88662022	1	CONNECTOR (includes O-ring)	
26	88591207	1	O-RING	
27	91033239	1	CONVERSION KIT	
28	91033387	1	5 BUTTON HANDLE	
29	91033425	1	GROMMET	
30	90028956	1	CONNECTOR BODY	
31	90028958	6	TERMINAL	
32	90028978	1	CABLE CLAMP	
33	90403396	1	AUXILIARY WIRING HARNESS	
34	90027187	4	TY-RAP	
35	90028968	1	CONNECTOR	
36	91033391	2	INSULATED RING TERMINAL	
37	91033394	1	AUXILIARY CONTROL DECAL	
38	91033417	1	AUXILIARY CONTROL DECAL	
39	Bulk	12 in	LOOM, 5/16IN ID	

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FIGURE 12-8. PINTLE HOOK



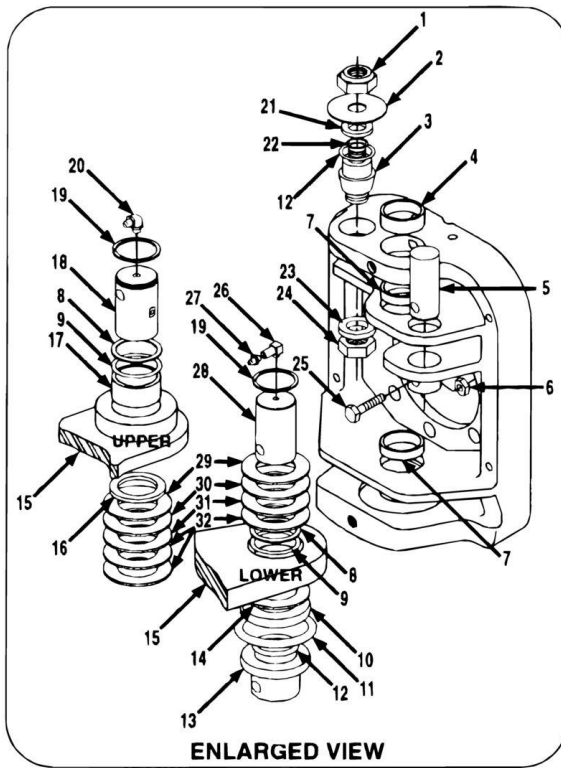
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FIGURE 12-8. PINTLE HOOK

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035101	Ref	PINTLE HOOK INSTALLATION (includes all items)	
1	90200602	1	PINTLE	
2	83201120	4	HEX HD CAPSCREW, 1/2-13X1-3/4 GR8	
3	88551013	4	LOCKWASHER, 1/2	

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FIGURE 12-9. (91045129) STEER AXLE ADVANTAGE KIT

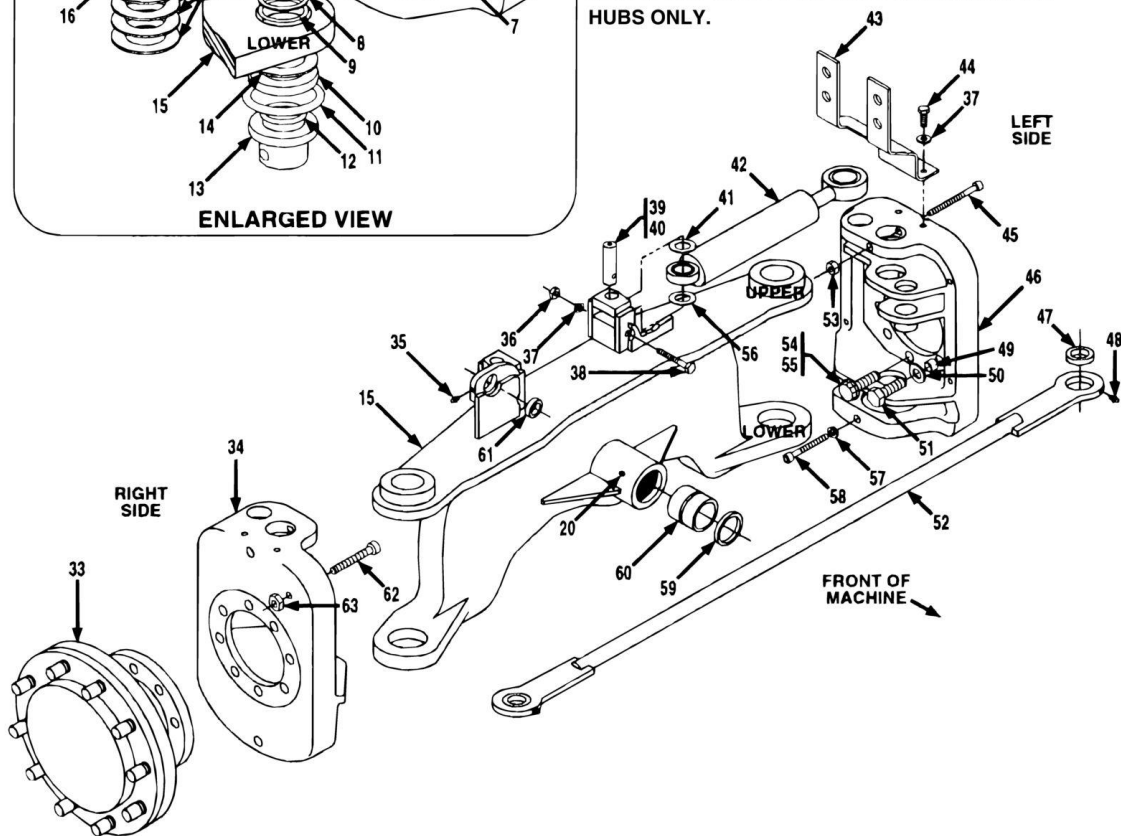


NOTE #1: CUSTOMER TO USE EXISTING WHEEL HUBS & HARDWARE, DRIVE MOTORS, DRIVE MOTOR TUBE ASSEMBLIES, AND DRAIN LINE HOSES OR ORDER SEPARATELY IF REPLACEMENT IS REQUIRED.

NOTE #2: CYLINDER BASE END MUST BE FREE TO ROTATE. SHIM STEER CYLINDER BASE END AS REQUIRED TO MAINTAIN A TOTAL MAX. GAP OF 1/16IN.

NOTE #3: SHIM BOTTOM KNUCKLES AS REQUIRED TO MAINTAIN NO MORE THAN 1/32IN MOVEMENT. SHIM TOP KNUCKLES AS REQUIRED TO MAINTAIN NO MORE THAN 1/16IN GAP. MUST HAVE A MINIMUM OF ONE SHIM.

NOTE #4: ITEM 55 TO BE USED WITH FAIRFIELD HUBS ONLY.



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FIGURE 12-9. (91045129) STEER AXLE ADVANTAGE KIT

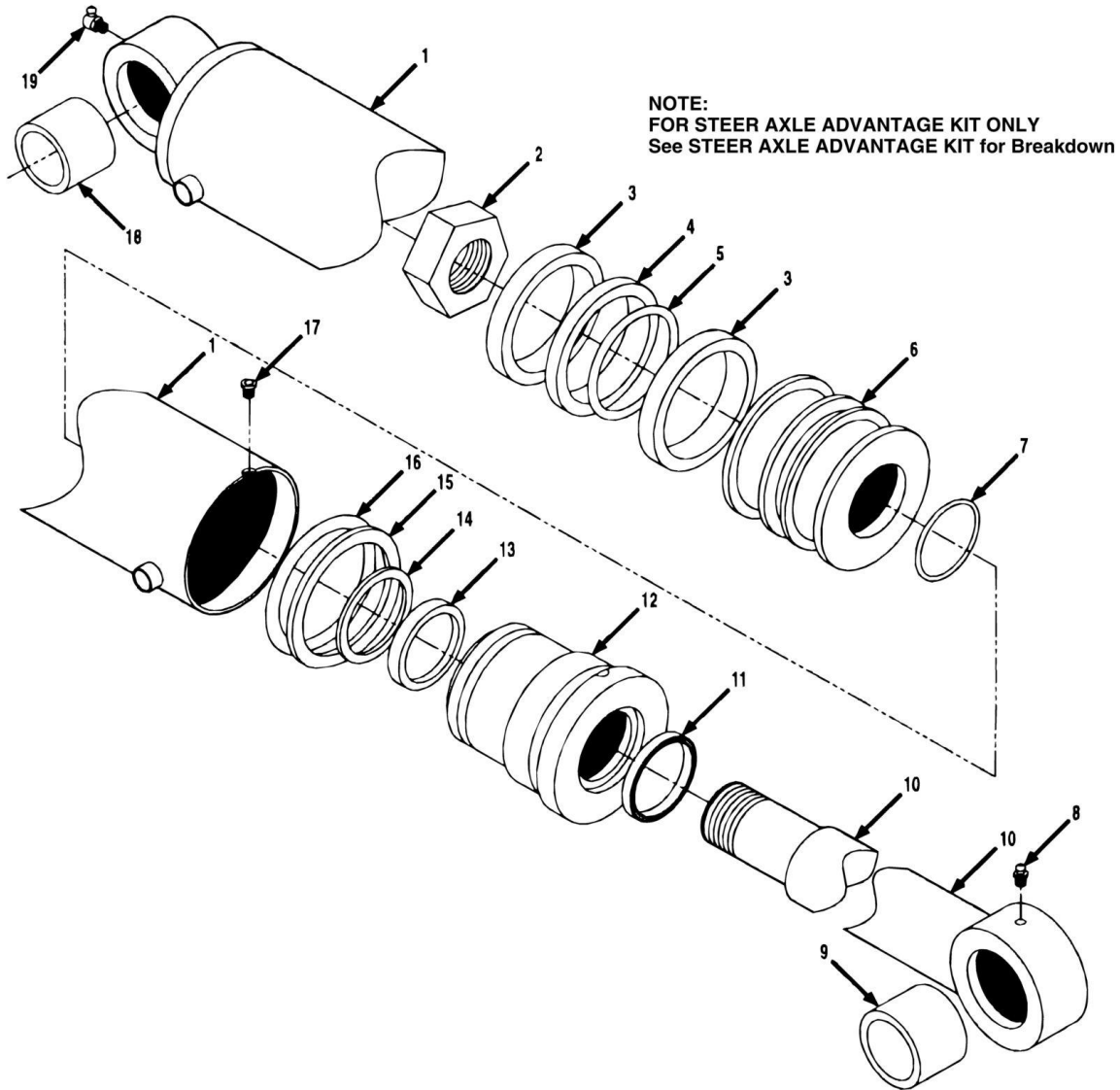
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045129	Ref	STEER AXLE ADVANTAGE KIT (includes all items except 33, 50, & 51)	
	91035240	1	STEERING KNUCKLE KIT (includes items 2, 4, 7 thru 14, 16 thru 22, 28 thru 32, 45, 53, 57 & 58 - one kit does both sides)	
	91045152	Ref	STEERING CYLINDER PIN KIT (includes one each of items 1, 2, 3, 12 & 21 thru 24- one kit needed for each side)	
1	88521312	2	HEX LOCKNUT, 3/4-10 (torque to 160-175 ft lbs)	
2	91081415	2	DIRT SHIELD	
3	91041481	2	STEERING CYLINDER PIN (knuckle end)	
4	91121239	2	BUSHING	
5	91041439	2	TIE ROD PIN	
6	88521306	2	LOCKNUT, 3/8-16	
7	91121240	4	BUSHING	
8	91123030	4	BACK-UP RING	
9	88591032	4	O-RING	
10	91123027	2	BUSHING (lower)	
11	91123029	2	O-RING	
12	88591104	4	O-RING	
13	91121091	2	THRUST BUSHING	
14	91041733	AR	SHIM	
15	91046126	1	REAR AXLE WELDMENT (includes items 10, 17, 60 & 61)	
16	86921268	2	LIP SEAL	
17	91123028	2	BUSHING (upper)	
18	91081693	2	UPPER KING PIN	
19	88581323	4	RETAINING RING	
20	88671022	4	LUBE FITTING, 30, 1/8	
21	91041732	AR	SPACER	
21	91041438	AR	SPACER	
22	88591019	2	O-RING	
23	91041459	2	WASHER	
24	88501416	2	HEX JAM NUT, 1-14 (torque to 225-250 ft lbs)	
25	83201140	2	HEX HD CAPSCREW, 3/8-16X2-3/4, GR8	
26	91033444	2	STREET ELBOW	
27	91033445	2	LUBE FITTING	
28	91141424	2	LOWER KING PIN	
29	91041596	AR	SHIM (30 gauge thick, see note #3)	
30	91041449	AR	SHIM (.060 thick, see note #3)	
31	91041450	AR	SHIM (.0478 thick, see note #3)	
32	91041451	AR	SHIM (.106 thick, see note #3)	
33		Ref	DRIVE HUB (use existing hubs)	
34	91120004	1	R.H. STEERING KNUCKLE	
35	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
36	88501006	2	HEX NUT, 3/8-16	
37	88551011	6	LOCKWASHER, 3/8	
38	83201144	2	HEX HD CAPSCREW, 3/8-16X5-3/4, GR5	
39	91081695	2	STEERING CYLINDER PIVOT PIN (axle end)	
40	88711280	2	HEX SOCKET PIPE PLUG, 1/8	
41	91041598	AR	SHIM (see note #2)	
42		Ref	STEERING CYLINDER ASSY (See STEERING CYLINDER for Breakdown)	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	91081523	1	L.H. TUBE SUPPORT	
43	91081522	1	R.H. TUBE SUPPORT	
44	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
45	88211121	2	SOCKET HD CAPSCREW, 4/2-13X6-1/2, GR8	
46	91120003	1	L.H. STEERING KNUCKLE	
47	91043247	2	SELF-ALIGNING BUSHING	
48	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
49	91041731	16	SPACER	
50		Ref	HARDENED WASHER, 3/4 (use existing hardware)	
51		Ref	HEX HD CAPSCREW, 3/4-10X2 (use existing hardware)	
52	91166063	1	TIE ROD (includes item 47)	
53	88521208	2	HEX LOCKNUT, 1/2	
54	91043222	2	12 PT SCREWM 3/4-10X2, GR8 (lubricate and torque to 270-290 ft lbs) (see note #4)	
55	91043494	2	12PT SCREW, 5/8-1X2-1/4, GR8 (torque to 200 ft lbs) (see note #4)	
56	90201918	AR	SHIM (10 gauge thick, see note #2)	
57	88551153	2	LOCKWASHER, 5/8	
58	88212321	2	SLOT HD CAPSCREW, 5/8-11X3-3/4, GR8	
59	24601570	2	LIP SEAL	
60	91123031	2	BUSHING	
61	91041489	2	BUSHING	
62	88212321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
63	88501110	2	HEAVY HEX JAM NUT, 5/8-11	

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FIGURE 12-10. (91033499) STEERING CYLINDER STEER AXLE ADVANTAGE KIT (ONLY)



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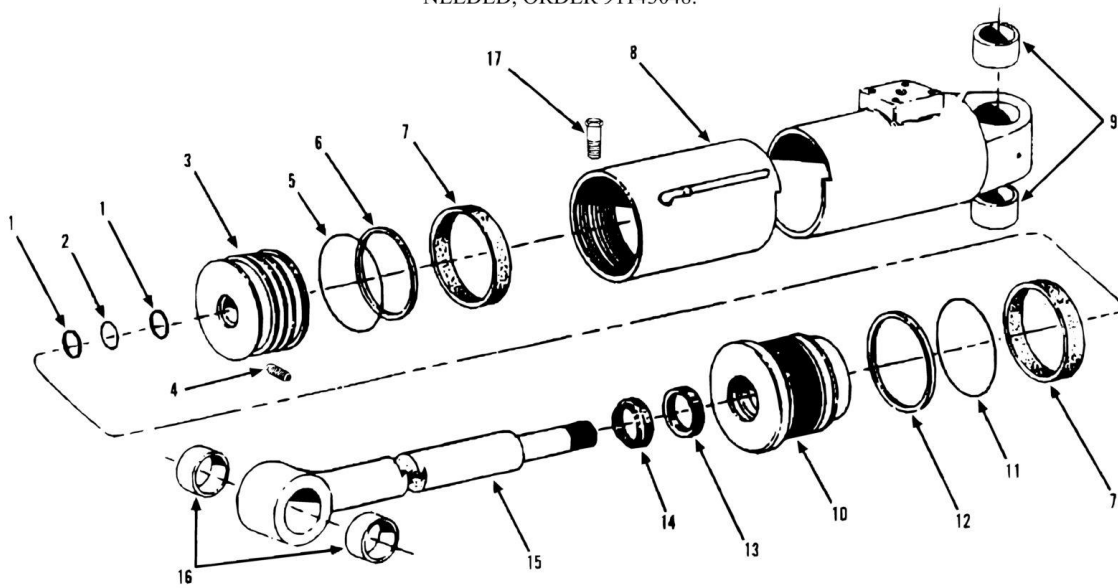
FIGURE 12-10. (91033499) STEERING CYLINDER STEER AXLE ADVANTAGE KIT (ONLY)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033499	1	STEERING CYLINDER ASSY (includes all items)	
	91144006	1	SEAL KIT (includes items 3, 4, 5, 7, 11, 13 thru 16)	
1		Ref	CASE ASSY	
2	91144038	1	LOCKNUT (torque to 400-425 ft lbs)	
3	Kit	2	WEAR RING	
4	Kit	1	PISTON SEAL	
5	Kit	1	O-RING	
6	91144039	1	PISTON	
7	Kit	1	O-RING	
8	91144128	1	LUBE FITTING	
9	91144042	1	BUSHING	
10	91144041	1	ROD ASSY	
11	Kit	1	WIPER	
12	91144040	1	CYLINDER HEAD (torque to 100-400 ft lbs)	
13	Kit	1	U-CUP	
14	Kit	1	STEP SEAL	
15	Kit	1	BACK-UP RING	
16	Kit	1	O-RING	
17	91124096	1	SELF TAPPING SCREW	
18	91144267	1	BUSHING	
19	91144125	1	LUBE FITTING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-11. (91033127) OUTRIGGER CYLINDER (SN 8344001L through 01552994)

NOTE: THIS COMPLETE OUTRIGGER CYLINDER ASSY IS NO LONGER AVAILABLE. IF A COMPLETE OUTRIGGER CYLINDER IS NEEDED, ORDER 91143048.



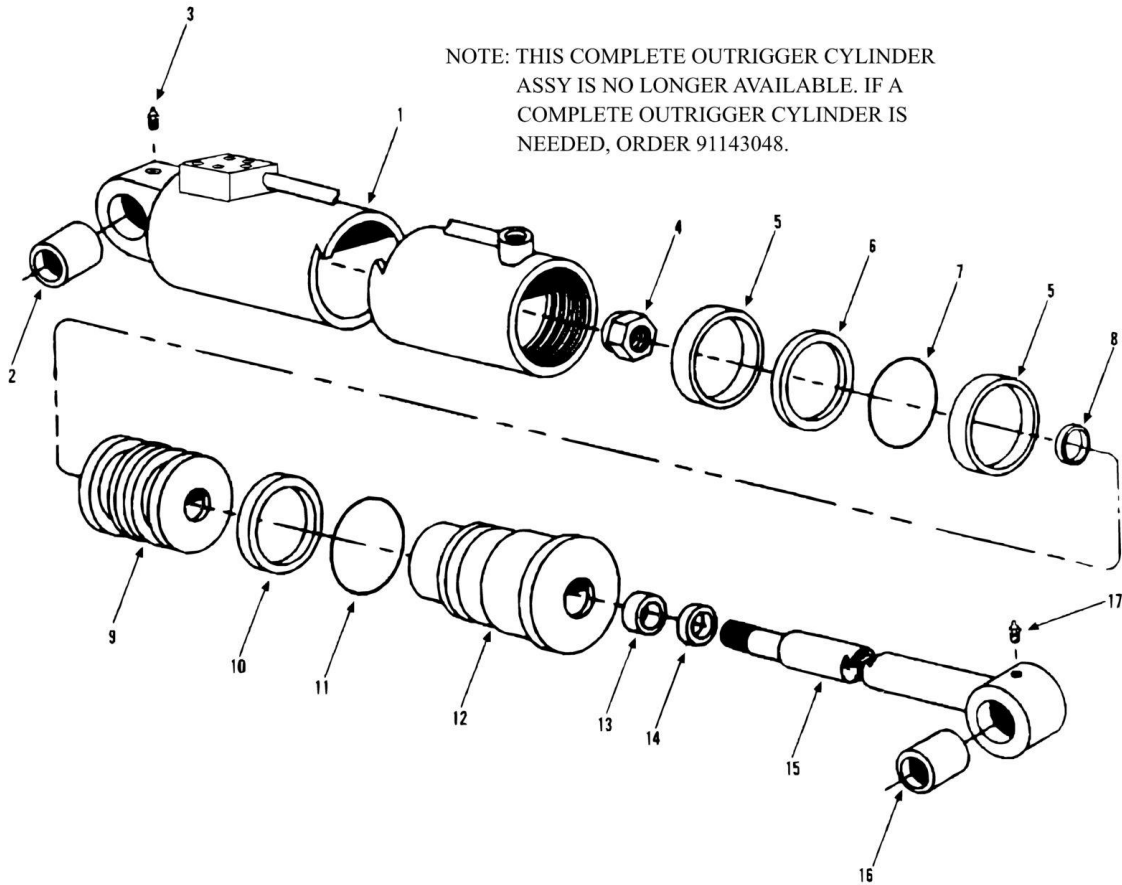
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-11. (91033127) OUTRIGGER CYLINDER (SN 8344001L through 01552994)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033127	2	OUTRIGGER CYLINDER ASSY, (includes all items)	
	91044065	1	SEAL KIT, (includes items 1, 2, 5, 6, 7, 11, 12, 13 & 14)	
1	Kit	2	BACKUP RING	
2	Kit	1	O-RING	
3	91044066	1	PISTON ASSY, (includes items 5, 6, 7; lubricate and torque to 1,450-1,550 ft lbs)	
4	91044067	1	SET SCREW, (lubricate and torque to 12-14 ft lbs)	
5	Kit	1	O-RING	
6	Kit	1	PISTON SEAL	
7	Kit	2	WEAR RING	
8	91044068	1	BARREL ASSY, (includes item 9)	
9	91044069	2	BUSHING	
10	91044070	1	ROD BEARING ASSY, (includes items 11 thru 14; lubricate and torque to 250-300 ft lbs)	
11	Kit	1	O-RING	
12	Kit	1	BACKUP RING	
13	Kit	1	ROD SEAL	
14	90022280	1	WIPER	
15	91044071	1	PISTON ROD ASSY, (includes item 16)	
16	91044072	2	BUSHING	
17	91044073	1	HEX HD SELF-TAPPING SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-12. (91043305) OUTRIGGER CYLINDER (SN 01552995 to Present)



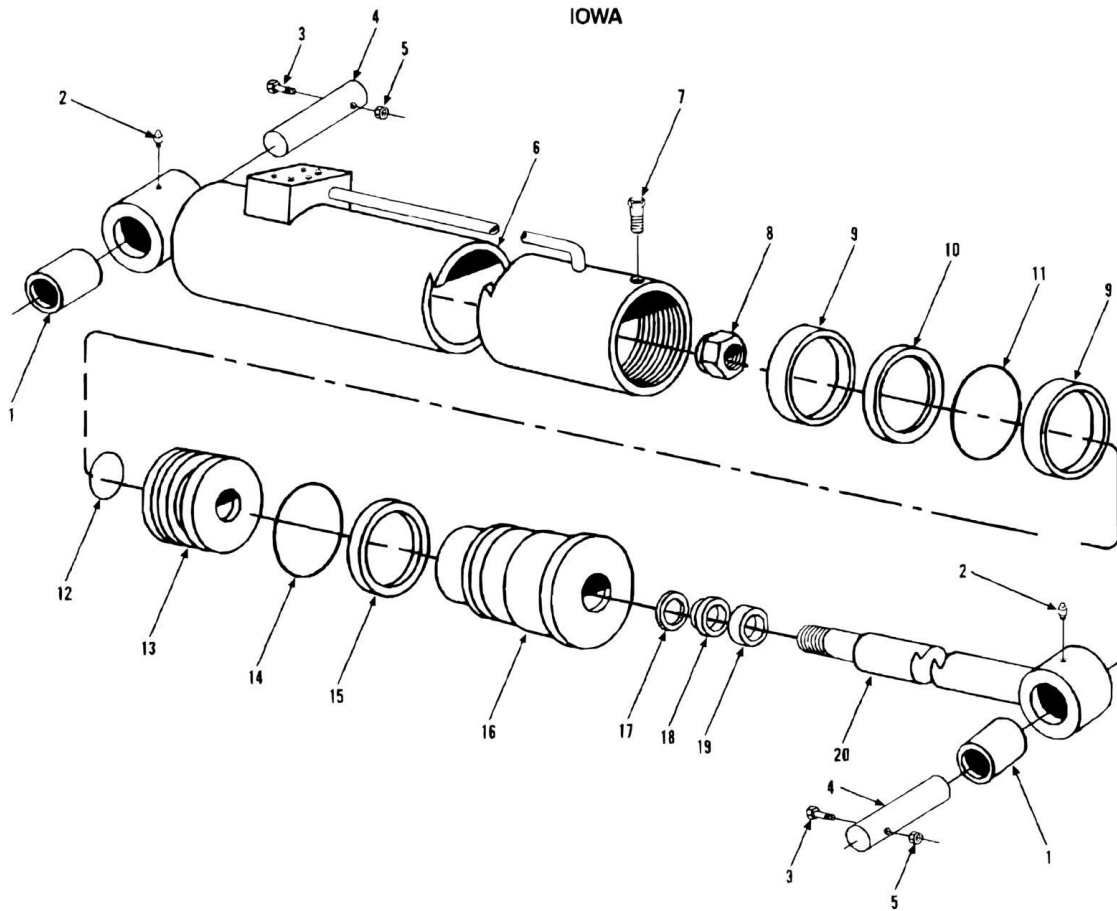
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-12. (91043305) OUTRIGGER CYLINDER (SN 01552995 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043305	2	OUTRIGGER CYLINDER ASSY, (includes all items)	
	91034278	1	SEAL KIT, (includes items 5, 6, 7, 8, 10, 11, 13, & 14)	
1	91044316	1	TUBE ASSY	
2	91044371	1	BUSHING	
3	88671018	1	LUBE FITTING, 45, 1/8	
4	91034280	1	LOCK NUT, (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	Kit	1	BACK-UP RING	
11	Kit	1	O-RING	
12	91034282	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91044317	1	ROD ASSY	
16	91044371	1	BUSHING	
17	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-13. (91143048) OUTRIGGER CYLINDER



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-13. (91143048) OUTRIGGER CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143048	2	OUTRIGGER CYLINDER, (includes items 1, 2 & 6 thru 20)	
	91144004	1	SEAL KIT, (includes items 9, 10, 11, 12, 14, 15, 17, 18 & 19)	
1	91154002	2	BUSHING	
2	88671001	2	GREASE FITTING	
3	83201073	2	HEX HD CAPSCREW, 3/8-16X4-1/2, GR5	
4	91031141	2	SHOE PIN	
5	88521206	2	HEX LOCKNUT, 3/8-16, (nylok)	
6	91154003	1	CASE ASSY	
7	91144017	1	CAPSCREW, #8-32X.375	
8	91034153	1	LOCKNUT	
9	Kit	2	WEAR RING	
10	Kit	1	PISTON SEAL	
11	Kit	1	O-RING	
12	Kit	1	O-RING	
13	91034139	1	PISTON	
14	Kit	1	O-RING	
15	Kit	1	BACK-UP RING	
16	91144024	1	CYLINDER HEAD	
17	Kit	1	STEP SEAL	
18	Kit	1	U-CUP	
19	Kit	1	WIPER	
20	91154004	1	ROD ASSY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 13 - REAR COVER

SECTION 13 - REAR COVER

FIGURE 13-1. REAR COVER



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