

GRADALL[®]

Illustrated Parts Manual

Model 544C-10

SN 0255001 to Present

P/N - 91164001

*Revised
February 23, 2007*



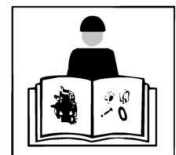
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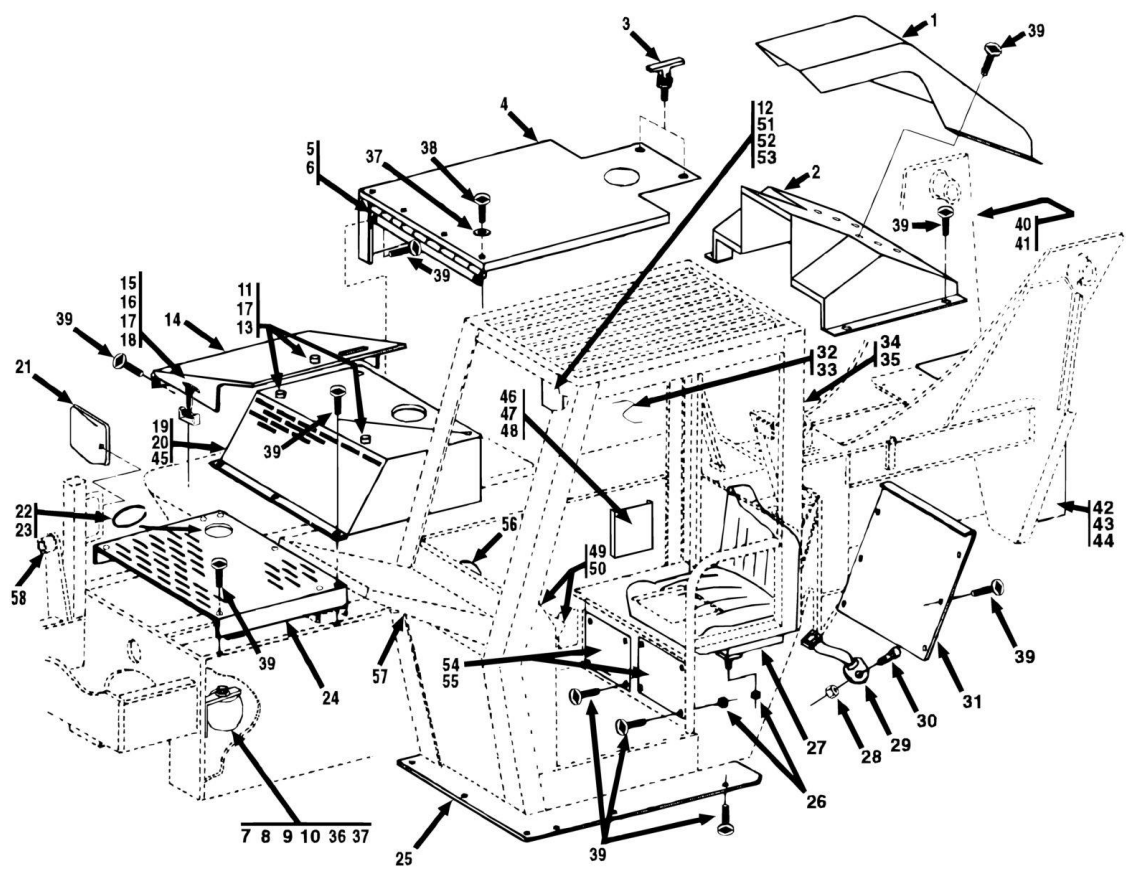
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SECTION 1 - CHASSIS AND ATTACHING PARTS

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FIGURE 1-1. FRAME SHROUDING AND TRIM



SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-1. FRAME SHROUDING AND TRIM

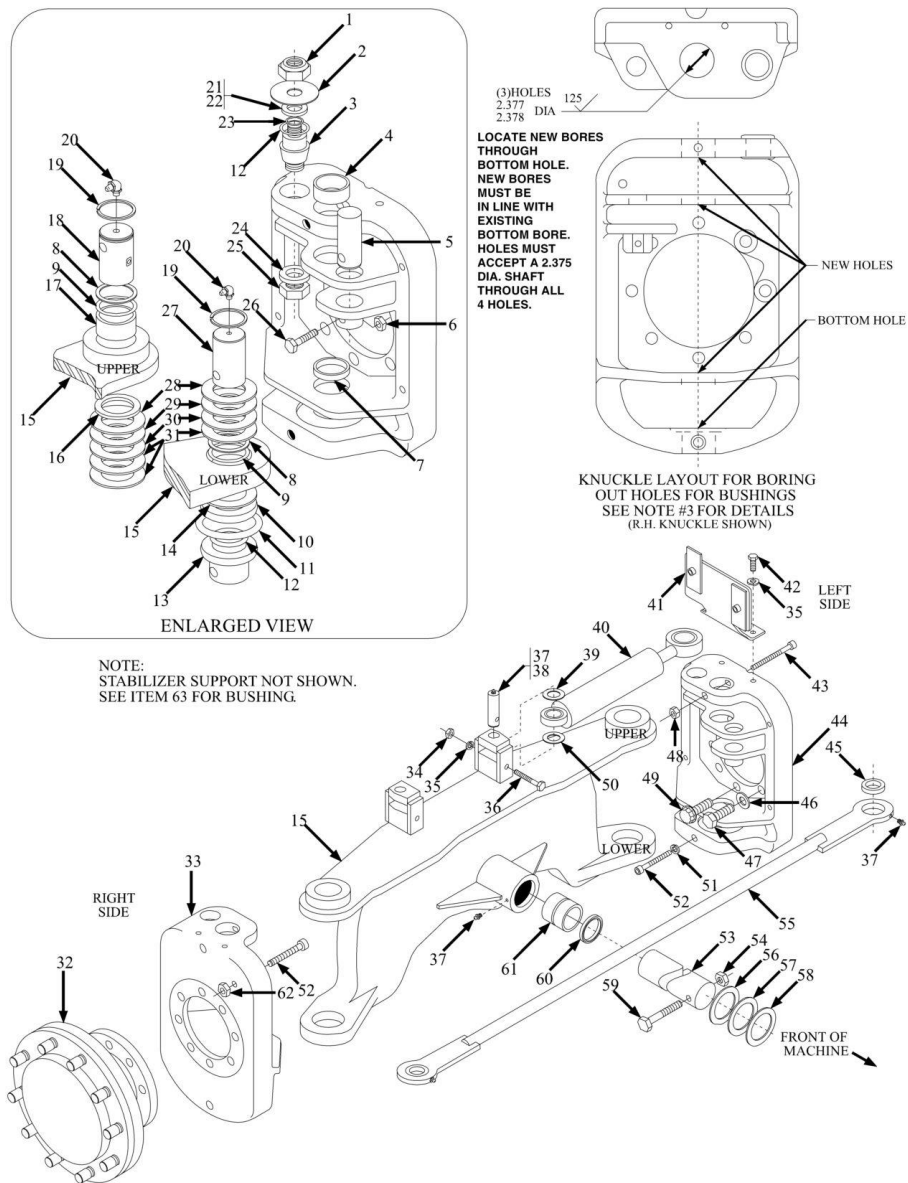
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91166001	Ref	FRAME WELDMENT	
	91146012	Ref	CAB WELDMENT	
1	91146048	1	REAR COVER CENTER	
2	91146050	1	REAR COVER WELDMENT	
3	91303021	2	T-HANDLE	
4	91146049	1	REAR ENGINE COVER	
5	91141218	1	HINGE	
6	91141254	1	FLAT BAR	
7	24921393	1	HORN	
8	24921394	1	HORN BRACKET	
9	24921395	1	NUT	
10	88201017	1	HEX HD CAPSCREW, 5/16-18X5/8	
11	91083173	5	RUBBER HD SCREW BUMPER	
12	91033320	1	TILT GAGE	
13	88501612	5	HEX NUT, #10-24	
14	91146060	1	TANK COVER WELDMENT	
15	90207458	2	DRAW LATCH	
16	88301193	8	RD HD MACHINE SCREW, #10-32X1/2	
17	88551007	13	LOCK WASHER, #10	
18	88501613	4	HEX NUT, #10-32	
19	91166043	1	FRONT ENGINE COVER	
20	91143148	1	RUBBER AIR DAM	
21	83683291	1	MIRROR	
22	90206194	48 in	TRIM-LOCK	
23	14402248	AR	ADHESIVE	
24	91141211	1	DECK COVER	
25	91081709	1	BELLY PAN	
26	77143006	8	WHIZ-LOCK NUT, 5/16-18	
27	91033485	1	SEAT W/ARMREST (STD)	
27	91124107	1	SLIDE ADJ KIT (use with std seat)	
27	91043237	1	GRAMMER SEAT (OPTIONAL)	
28	88501007	2	HEX NUT, 7/16-14	
29	91033029	1	SEAT BELT (not used with optional seat)	
30	88201050	2	HEX HD CAPSCREW, 7/16-14X1	
31	91141198	1	REAR CAB COVER	
32		Ref	RIGHT SIDE WINDOW (See CAB GLASS for Breakdown)	
33	91083161	1	WEATHER STRIPPING	
34		Ref	REAR WINDOW (See CAB GLASS for Breakdown)	
35	91083159	1	WEATHER STRIPPING	
36	88551010	1	LOCKWASHER, 5/16	
37	88561003	1	FLAT WASHER, 5/16	
38	91123124	4	WHIZ-LOC SCREW, 5/16-18X1/2	
39	77143003	49	WHIZ-LOC SCREW, 5/16-18X5/8	
40	91233012	1	BACKUP ALARM	
41	88212224	2	SOCKET HD CAPSCREW, 5/16-18X5/8	
42	91140001	1	COUNTERWEIGHT	
43	88201142	4	HEX HD CAPSCREW, 1-8 x 4-1/2, (hand torque to 545-595 ft lb)	
44	88561011	4	WASHER, 1IN	
45	90200755	24 in	WEATHER STRIPPING	
46	91033102	1	MANUAL HOLDER	

SECTION 1 - CHASSIS AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	88321030	4	SELF TAPPING SCREW	
48	88554900	4	INTERNAL TOOTH WASHER	
49	91163136	1	SERIAL NUMBER AND ATTACH PLATE	
50	88341022	4	DRIVE SCREW	
51	88204912	1	HEX HD CAPSCREW, 1/4-20 x 1	
52	88561107	1	FLATWASHER	
53	88521204	1	LOCK NUT, 1/4-20	
54	91081475	1	HEATER COVERPLATE	
55	91141329	1	VALVE ACCESS COVER	
56	91163087	2	LOAD CHART BRACKET	
56	88261017	2	BUTTON HD HEX SOCKET CAPSCREW, 1/4-20X7/8IN	
57	91141048	1	FENDER	
58	91143051	1	BUSHING	

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-2. REAR AXLE AND ATTACHING PARTS



- NOTE #1: Cylinder base end must be free to rotate. Shim steer cylinder base end as required to maintain a total max. gap of 1/16".
- NOTE #2: Shim bottom knuckles as required to maintain no more than 1/32" movement. Shim top knuckles as required to maintain no more than 1/16" gap. Must have a minimum of one shim.
- NOTE #3: All machines need to bore Steering Knuckles to use items 4 & 7. See diagram on previous page. Unless you have purchased new Steering Knuckles part number, 9112-0003 & 9112-0004.
- NOTE #4: See OPTION SECTION for details on the Rear Axle Rework Kit and the Rear Axle Advantage Kit.

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-2. REAR AXLE AND ATTACHING PARTS

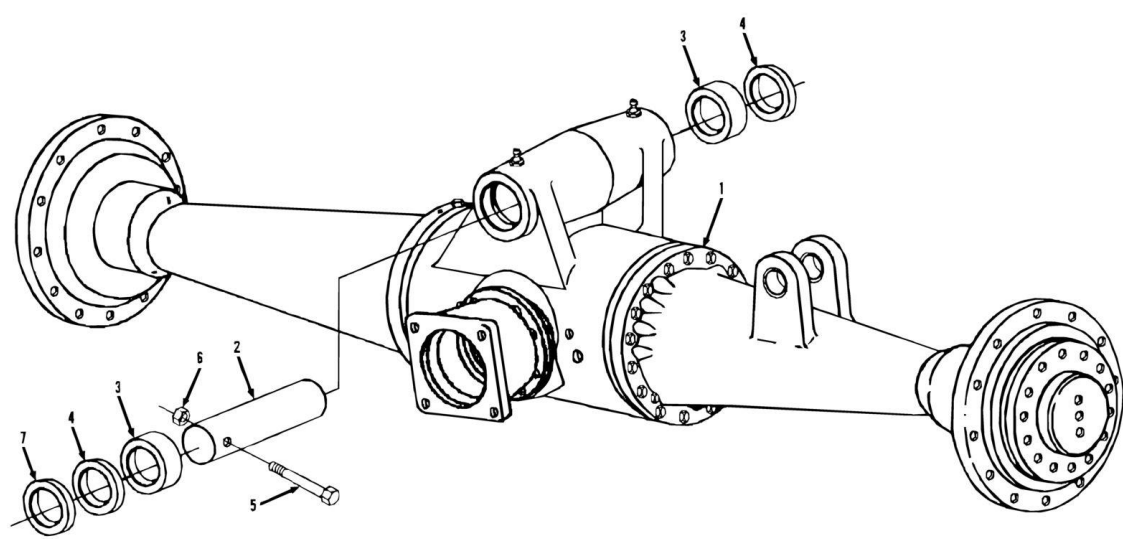
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145099	1	STEERING KNUCKLE KIT, (includes items 2, 4, 7, 8, 9, 11 thru 14, 16, 18 thru 23, 27 thru 31, 51 and two of item 52, one kit does both sides)	
	91045152	AR	STEERING CYLINDER PIN KIT (includes one each of items 1, 2, 3, 12 21 thru 25, one kit needed for each side)	
1	88521312	2	HEX LOCK NUT, 3/4-10, (torque to 160-175 ft lbs)	
2	91081415	2	DIRT SHIELD	
3	91041481	2	STEERING CYLINDER PIN	
4	91121239	2	BUSHING, (see note #3)	
5	91041439	2	TIE ROD PIN	
6	88521306	2	LOCK NUT, 3/8-16	
7	91121240	4	BUSHING, (see note #3)	
8	91123030	4	BACK-UP RING	
9	88591032	4	O-RING	
10	91123027	2	BUSHING	
11	91123029	2	O-RING	
12	88591104	4	O-RING	
13	91121091	2	THRUST BUSHING	
14	91041733	AR	SHIM	
15	91166013	1	REAR AXLE WELDMENT, (includes items 10, 17, 61, & 63)	
16	86921268	2	LIP SEAL	
17	91123028	2	BUSHING	
18	91081693	2	UPPER KING PIN	
19	88581323	4	RETAINING RING	
20	88671022	4	LUBE FITTING, 90, 1/8	
21	91041732	2	SPACER, (3/16 thick)	
22	91041438	2	SPACER	
23	88591019	2	O-RING	
24	91041459	2	WASHER	
25	88501416	2	HEX JAM NUT, 1-14, (torque to 225-250 ft lbs)	
26	83201140	2	HEX HD CAPSCREW, 3/8-16X2-3/4, GR8	
27	91141424	2	LOWER KING PIN	
28	91041449	4	SHIM, (.060 thick, see note #2)	
29	91041450	4	SHIM, (.0478 thick, see note #2)	
30	91041451	6	SHIM, (.106 thick, see note #2)	
31	91041596	4	SHIM, (20 gauge, see note #2)	
32		Ref	DRIVE HUB, (See DRIVE TRAIN SECTION for Breakdown)	
33	91120004	1	R.H. STEERING KNUCKLE, (see note #3)	
34	88501006	2	HEX NUT, 3/8-16	
35	88551011	6	LOCK WASHER, 3/8	
36	83201144	2	HEX HD CAPSCREW, 3/8-16X5-3/4, GR8	
37	88671001	6	LUBE FITTING, STRAIGHT, 1/8	
38	91081695	2	STEERING CYLINDER PIVOT PIN	
39	91041598	AR	SHIM, (.060 thick, see note #1)	
40		Ref	STEERING CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
41	91166056	1	L.H. TUBE SUPPORT	
41	91166055	1	R.H. TUBE SUPPORT	
42	88201035	4	HEX HD CAP SCREW, 3/8-16X1, GR5	
43	88211121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8	

SECTION 1 - CHASSIS AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	91120003	1	L.H.STEERING KNUCKLE, (see note #3)	
45	91043247	2	SELF-ALIGNING BUSHING	
46	86681572	12	HARDENED WASHER, 3/4	
47	83201006	12	HEX HD CAPSCREW, 3/4-10X2, GR8, (torque to 270-290 ft lbs)	
48	88521208	2	HEX LOCKNUT, 1/2-13	
49	91043222	4	CAPSCREW 12PT, 3/4-10X2, GR8, (torque to 270-290 ft lbs)	
50	90201918	AR	SHIM, (10 gauge, see note #1)	
51	88551153	2	LOCK WASHER, 5/8	
52	88212321	4	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
53	91081177	1	REAR AXLE MOUNTING PIN	
54	85101098	1	HEX NUT, 1-1/4-7	
55	91166063	1	TIE ROD, (includes item 45)	
56	91161066	AR	SHIM, (.0598 thick)	
57	91161067	AR	SHIM, (.1046 thick)	
58	91161068	AR	SHIM, (.1345 thick)	
59	90020247	1	HEX HD CAPSCREW, 1-1/4-7X6, GR5	
60	24601570	2	LIP SEAL	
61	91123031	2	BUSHING	
62	88501110	2	HEX NUT, 5/8-11	
63	91163019	2	BUSHING, (stabilizer support, not shown)	

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-3. FRONT AXLE MOUNTING



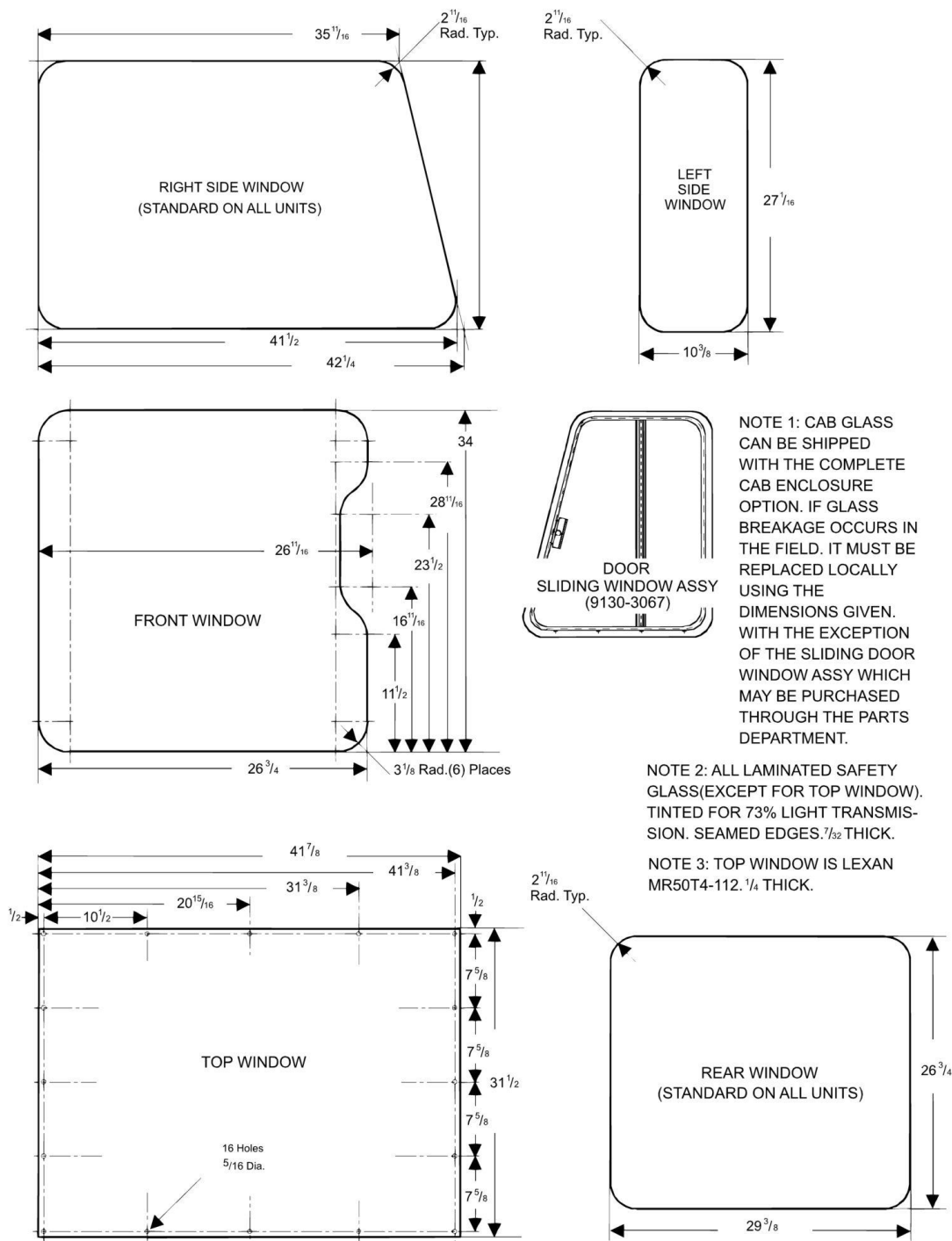
SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-3. FRONT AXLE MOUNTING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	FRONT AXLE ASSY (See DRIVE TRAIN SECTION for Breakdown)	
2	91081176	1	FRONT SWAY PIN	
3	90205891	2	SPACER	
4	91031014	2	SHIM WASHER	
5	83201031	1	HEX HD CAPSCREW, 1-8 x 5	
6	88521016	1	HEX LOCK NUT, 1-8	
7	91083480	1	SHIM WASHER	

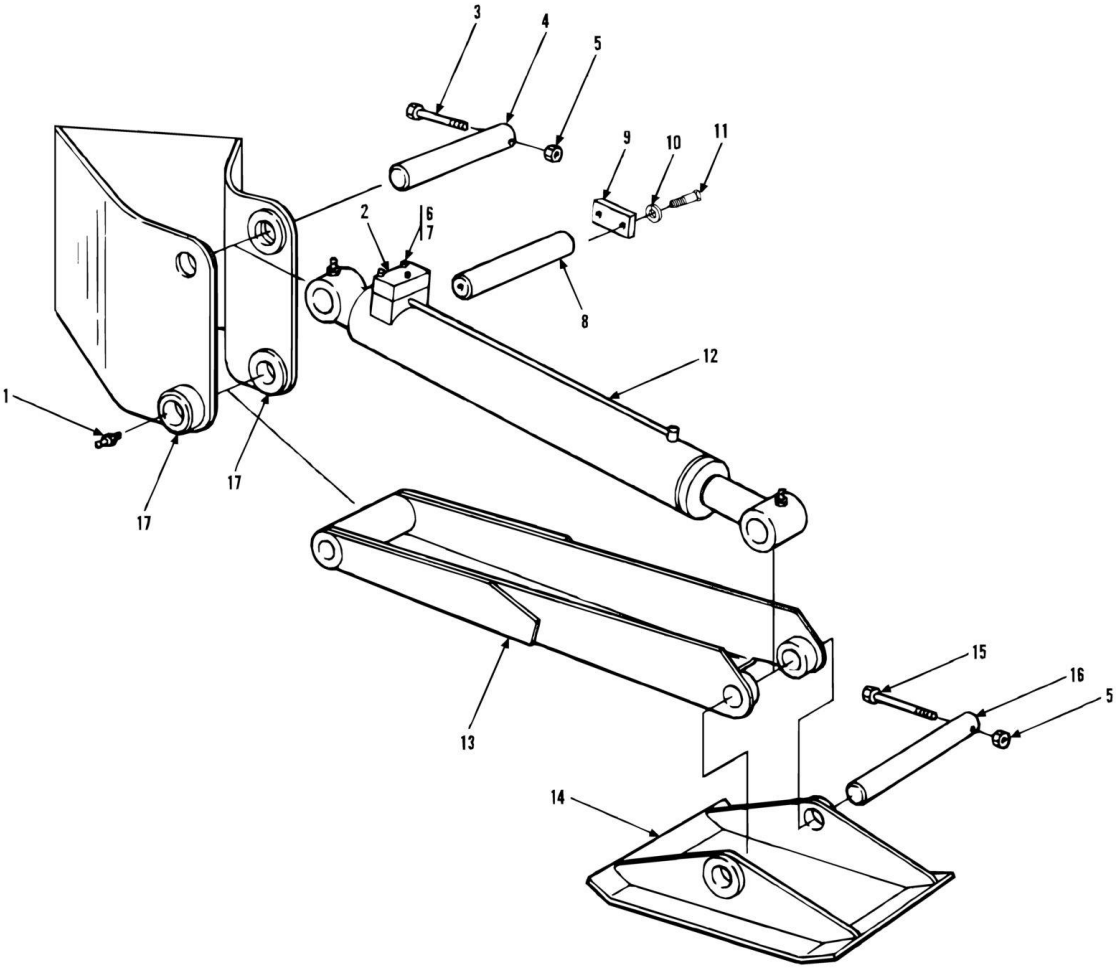
SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-4. CAB GLASS



SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-5. OUTRIGGER MOUNTING



SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-5. OUTRIGGER MOUNTING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88671001	4	LUBE FITTING, STRAIGHT, 1/8	
2		Ref	DUAL P.O. CHECK VALVE (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
3	88211083	2	SOCKET HD CAPSCREW, 3/8-16X4-1/2	
4	91161016	2	OUTRIGGER CYLINDER PIN	
5	88521206	4	HEX LOCKNUT, 3/8-16	
6	88201047	6	HEX HD CAPSCREW, 3/8-16X4, GR5	
7	88551011	6	LOCKWASHER, 1/2	
8	91161069	2	ARM PIN	
9	91081313	2	KEEPER	
10	88551013	4	LOCKWASHER, 3/8	
11	88201065	4	HEX HD CAPSCREW, 1/2-13X1	
12		Ref	OUTRIGGER CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
13	91166008	2	ARM WELDMENT	
14	91166011	2	OUTRIGGER SHOE	
15	83793054	2	HEX HD CAPSCREW, 3/8-16X4-1/2	
16	91161080	2	SHOE PIN	
17	91163014	4	BUSHING	

SECTION 2 - BOOM

SECTION 2 - BOOM

FIGURE 2-1. FIRST BOOM SECTION

SERVICE NOTES:

- 1). Add bearing pad shims & spacers as required to shim boom to within 1/16" of a tight fit. Amounts of shims can vary at each shim point. Whenever a shim is used with a pad, a spacer must be inserted between pad & shim. No pads shall sit directly on slotted surface of shims.
- 2). Add 1440-4595 Union 76 Mega Plex to all bearing pads and bearing slide areas.
- 3). The length of pad bolts depend on the amount of shims used. Bolt cannot extend past chamfer on bearing.
- 4). Bearing pad bolt torques; 3/8" bolts = 32-37 ft.lbs., 1/2" bolts = 76-86 ft.lbs.

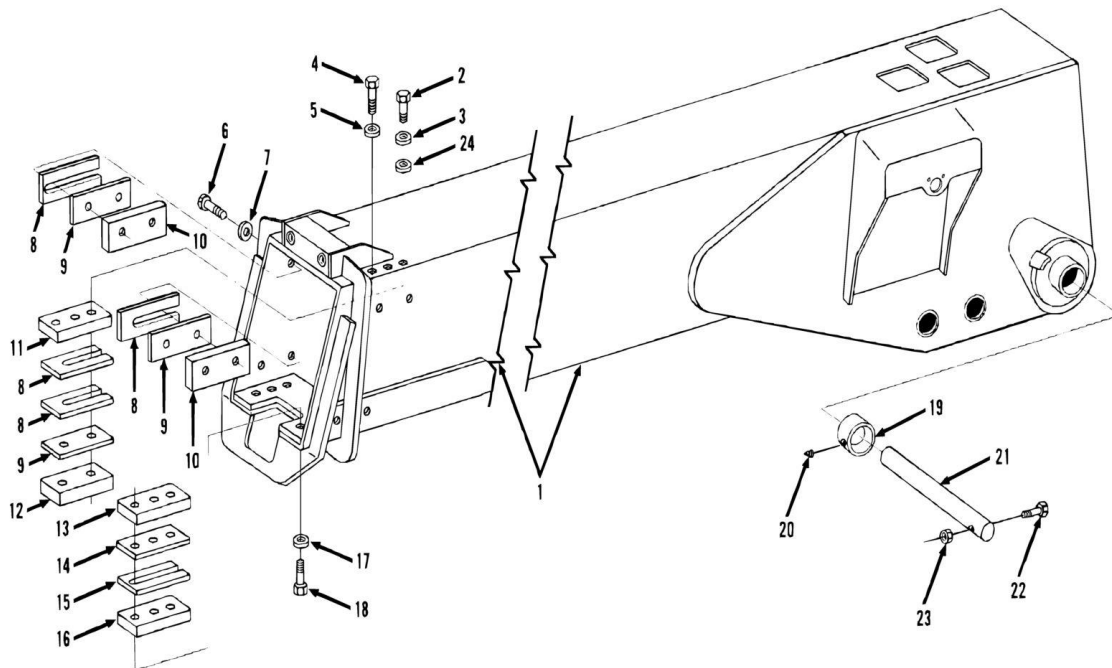


FIGURE 2-1. FIRST BOOM SECTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91166014	1	BOOM, FIRST SECTION	
2	88201066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
3	88551013	2	LOCKWASHER, 1/2	
4	88201536	4	HEX HD CAPSCREW, 3/8-24X1-1/2, GR5	
5	90027470	4	HARDENED WASHER, 3/8	
6	88201532	8	HEX HD CAPSCREW, 3/8-24X3/4, GR5	
7	88561109	8	FLAT WASHER, 3/8	
8	90205870	8	SHIM	
9	91031236	6	SHIM SPACER	
10	91033186	4	BEARING PAD	
11	91161171	2	BEARING PAD SUPPORT	
12	91033189	2	BEARING PAD	
13	91163187	2	BEARING PAD	
14	91161183	2	SHIM SPACER	
15	91161184	2	SHIM	
16	91161167	2	BEARING PAD SUPPORT	
17	90027471	6	HARDENED WASHER, 1/2	
18	88201570	6	HEX HD CAPSCREW, 1/2-20X2-1/2, GR5	
19	91141301	2	BUSHING	
20	88671022	2	LUBE FITTING, 90, 1/8	
21	91141122	1	BOOM BASE PIN	
22	83481645	1	HEX HD CAPSCREW, 5/8-11X6, GR8	
23	88521010	1	HEX NUT, 5/8-11	
24	88561111	2	FLAT WASHER, 1/2	

SECTION 2 - BOOM

FIGURE 2-2. SECOND BOOM SECTION

SERVICE NOTES:

- 1). Add bearing pad shims & spacers as required to shim boom to within 1/16" of a tight fit. Amounts of shims can vary at each shim point. Whenever a shim is used with a pad, a spacer must be inserted between pad & shim. No pads shall sit directly on slotted surface of shims.
- 2). Add 1440-4595 Union 76 Mega Plex to all bearing pads and bearing slide areas.
- 3). The length of pad bolts depend on the amount of shims used. Bolt cannot extend past chamfer on bearing.
- 4). Bearing pad bolt torques; 3/8" bolts = 32-37 ft.lbs., 1/2" bolts = 76-86 ft.lbs., Hollow 3/8" bolts = 20-25 ft.lbs.

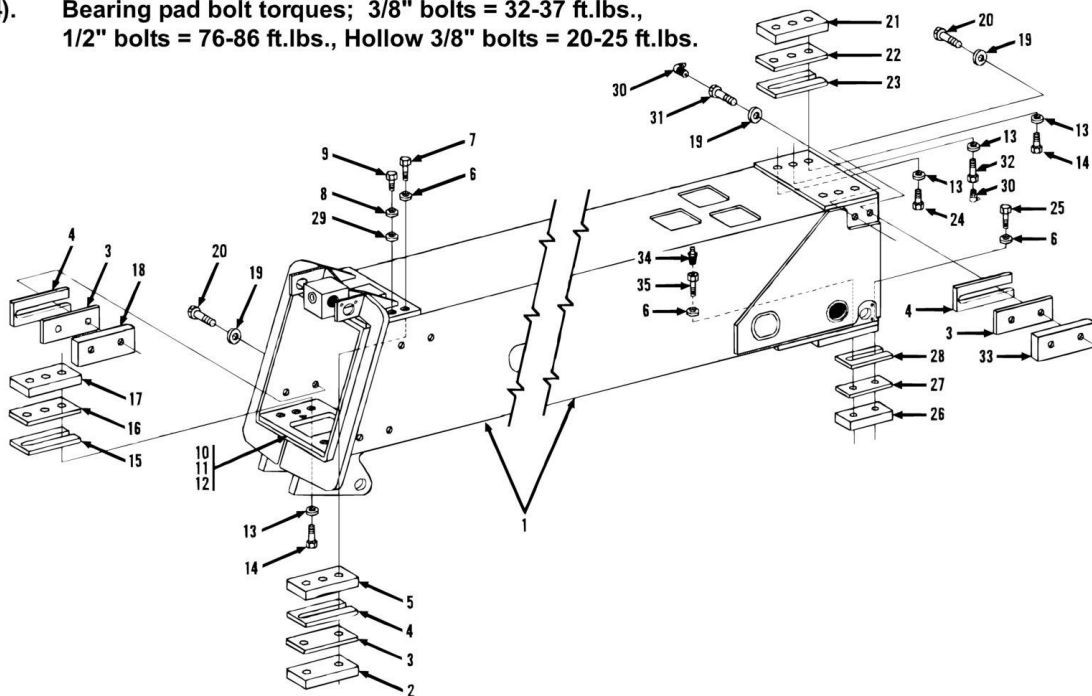


FIGURE 2-2. SECOND BOOM SECTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91166015	1	BOOM, SECOND SECTION	
2	91033189	2	BEARING PAD	
3	91031236	8	SHIM SPACER	
4	90205870	10	SHIM	
5	91161170	2	BEARING PAD SUPPORT	
6	90027470	8	HARDENED WASHER, 3/8	
7	88201539	4	HEX HD CAPSCREW, 3/8-24X2-1/4, GR5	
8	88551013	4	LOCKWASHER, 1/2	
9	88201066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
10	91161168	1	BEARING PAD SUPPORT	
11	90027473	2	HARDENED WASHER, 3/4	
12	88201108	2	HEX HD CAPSCREW, 3/4-10X1-1/4, GR5	
13	90027471	12	HARDENED WASHER, 1/2	
14	88201566	8	HEX HD CAPSCREW, 1/2-20X1-1/2, GR5	
15	91141302	2	SHIM	
16	91141303	2	SHIM SPACER	
17	91163186	2	BEARING PAD	
18	91033186	4	BEARING PAD	
19	88561109	12	FLAT WASHER, 3/8	
20	88201532	10	HEX HD CAPSCREW, 3/8-24X3/4, GR5	
21	91163187	2	BEARING PAD	
22	91161183	2	SHIM SPACER	
23	91161184	2	SHIM	
24	88201564	2	HEX HD CAPSCREW, 1/2-20X1, GR5	
25	88201538	2	HEX HD CAPSCREW, 3/8-24X2, GR5	
26	91163214	2	BEARING PAD	
27	91121083	2	SHIM SPACER	
28	91121082	4	SHIM	
29	88561111	2	FLAT WASHER, 1/2	
30	88671027	4	GREASE FITTING, 90	
31	91161248	2	HOLLOW HEX HD CAPSCREW, 3/8-24X3/4 (torque to 20-25 ft lbs)	
32	91161222	2	HOLLOW HEX HD CAPSCREW, 1/2-20X1-1/2 (torque to 20-25 ft lbs)	
33	91163188	2	BEARING PAD	
34	88671008	2	GREASE FITTING, STRAIGHT	
35	91161278	2	HOLLOW HEX HD CAPSCREW, 3/8-24X3/4 (torque 20-25 ft lbs)	

SECTION 2 - BOOM

FIGURE 2-3. THIRD BOOM SECTION

SERVICE NOTES:

- 1). Add bearing pad shims & spacers as required to shim boom to within 1/16" of a tight fit. Amounts of shims can vary at each shim point. Whenever a shim is used with a pad, a spacer must be inserted between pad & shim. No pads shall sit directly on slotted surface of shims.
- 2). Add 1440-4595 Union 76 Mega Plex to all bearing pads and bearing slide areas.
- 3). The length of pad bolts depend on the amount of shims used. Bolt cannot extend past chamfer on bearing.
- 4). Bearing pad bolt torques; 3/8" bolts = 32-37 ft.lbs.,
1/2" bolts = 76-86 ft.lbs., Hollow 3/8" bolts = 20-25 ft.lbs.

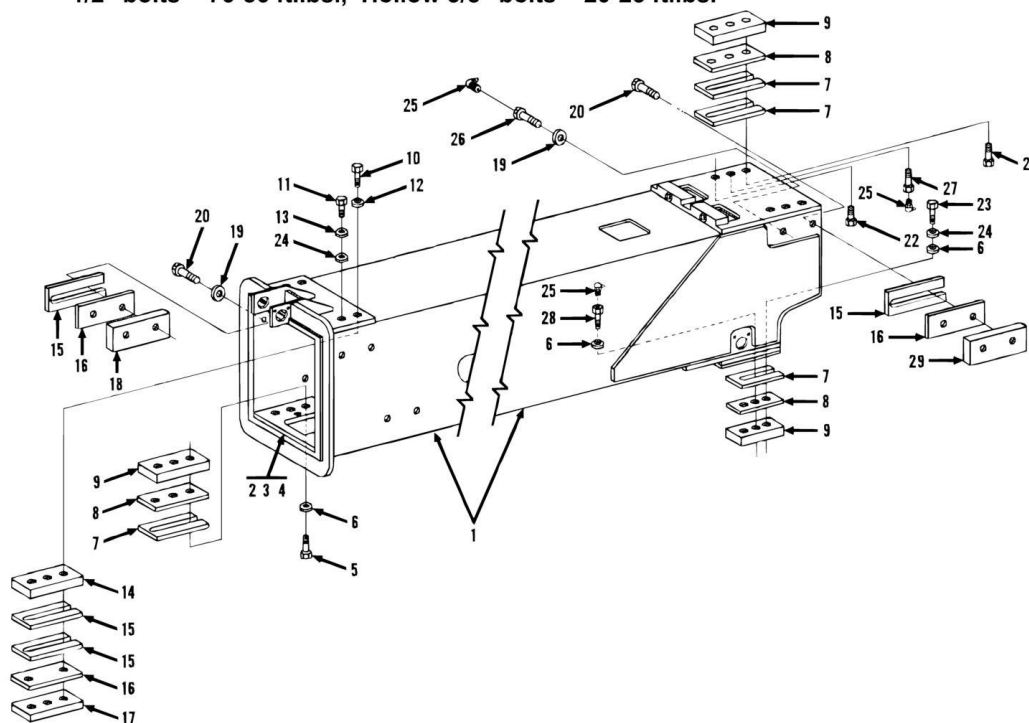


FIGURE 2-3. THIRD BOOM SECTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91166016	1	BOOM, THIRD SECTION	
2	91161169	1	BEARING PAD SUPPORT	
3	88201093	2	HEX HD CAPSCREW, 5/8-11X1, GR5	
4	77141077	2	HARDENED WASHER, 5/8	
5	88201564	6	HEX HD CAPSCREW, 1/2-20X1, GR5	
6	90027471	12	HARDENED WASHER	
7	91141302	8	SHIM	
8	91141303	6	SHIM SPACER	
9	91163186	6	BEARING PAD	
10	88201539	4	HEX HD CAPSCREW, 3/8-24X2-1/4, GR5	
11	88201066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
12	90027470	4	HARDENED WASHER, 3/8	
13	88551013	2	LOCKWASHER, 1/2	
14	91161170	2	BEARING PAD SUPPORT	
15	90205870	10	SHIM	
16	91031236	8	SHIM SPACER	
17	91033189	2	BEARING PAD	
18	91033186	4	BEARING PAD	
19	88561109	8	FLAT WASHER, 3/8	
20	88201532	10	HEX HD CAPSCREW, 3/8-24X3/4, GR5	
21	88201567	2	HEX HD CAPSCREW, 1/2-20X1-3/4, GR5	
22	88201565	2	HEX HD CAPSCREW, 1/2-20X1-1/4, GR5	
23	88201568	4	HEX HD CAPSCREW, 1/2-20X2, GR5	
24	88561111	6	FLAT WASHER, 1/2	
25	88671027	6	GREASE FITTING, 90	
26	91161248	2	HOLLOW HEX HD CAPSCREW, 3/8-24X3/4 (torque to 20-25 ft lbs)	
27	91161221	2	HOLLOW HEX HD CAPSCREW, 1/2-20X1-3/4 (torque to 20-25 ft lbs)	
28	91161277	2	HOLLOW HEX HD CAPSCREW, 1/2-20X2 (torque to 20-25 ft lbs)	
29	91163188	2	BEARING PAD	

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FIGURE 2-4. FOURTH BOOM SECTION

SERVICE NOTES:

- 1). Add bearing pad shims & spacers as required to shim boom to within 1/16" of a tight fit. Amounts of shims can vary at each shim point. Whenever a shim is used with a pad, a spacer must be inserted between pad & shim. No pads shall sit directly on slotted surface of shims.
- 2). Add 1440-4595 Union 76 Mega Plex to all bearing pads and bearing slide areas.
- 3). The length of pad bolts depend on the amount of shims used. Bolt cannot extend past chamfer on bearing.
- 4). Bearing pad bolt torques; 3/8" bolts = 32-37 ft.lbs.,
1/2" bolts = 76-86 ft.lbs., Hollow 3/8" bolts = 20-25 ft.lbs.

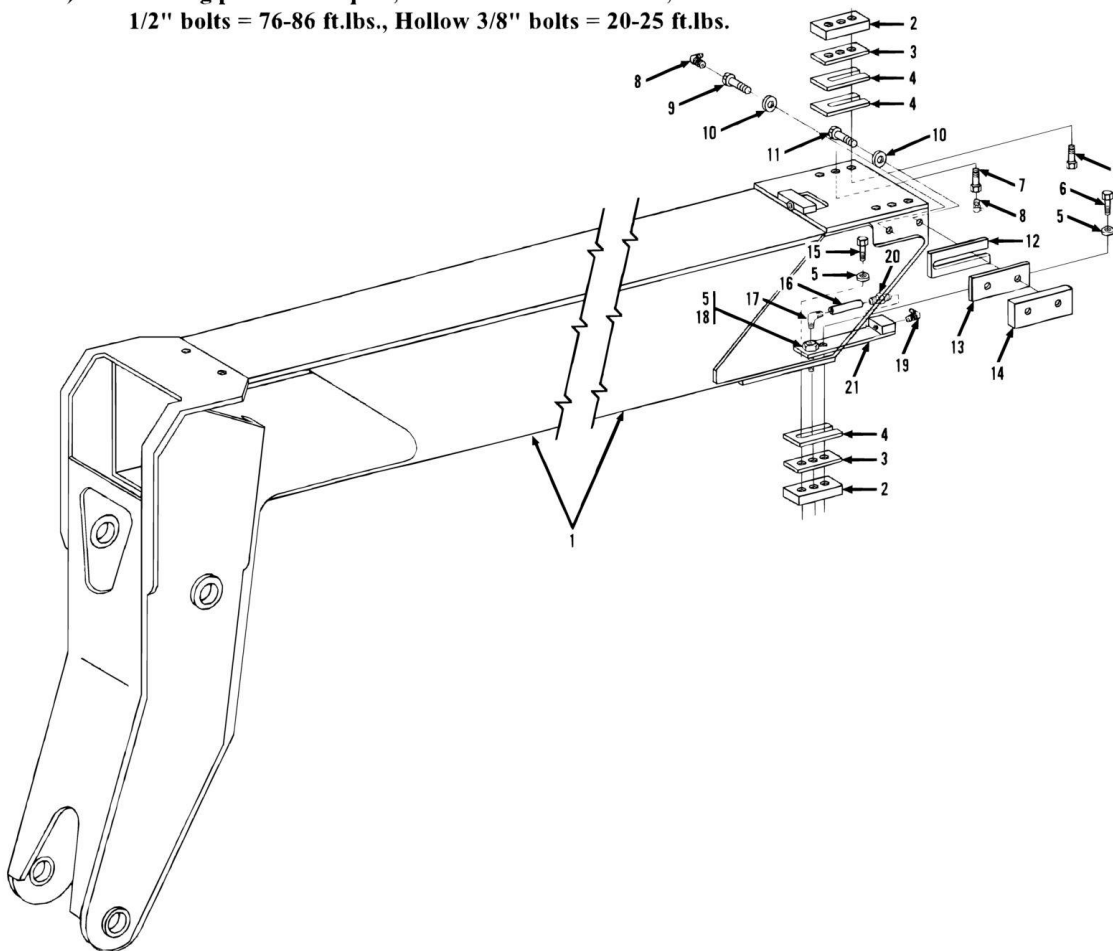
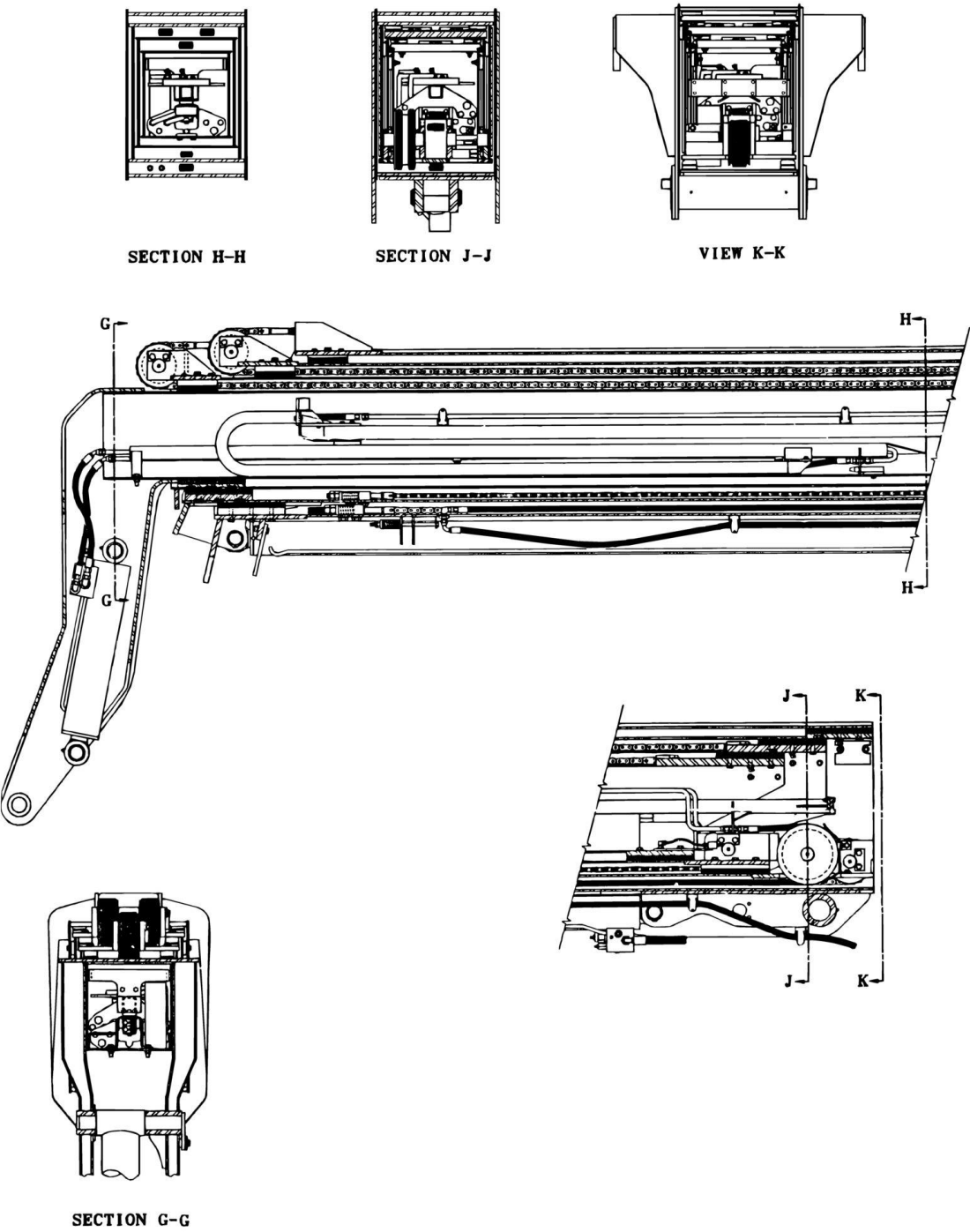


FIGURE 2-4. FOURTH BOOM SECTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91166017	1	BOOM, FOURTH SECTION	
2	91163186	4	BEARING PAD	
3	91141303	4	SHIM SPACER	
4	91141302	4	SHIM	
5	90027471	6	HARDENED WASHER, 1/2	
6	88201567	6	HEX HD CAPSCREW, 1/2-20X1-3/4, GR5 (torque to 76-86 ft lbs)	
7	91161221	2	HOLLOW HEX HD CAPSCREW, 1/2-20X1-3/4 (torque to 20-25 ft lbs)	
8	88671027	4	GREASE FITTING, 90	
9	91161248	2	HOLLOW HEX HD CAPSCREW, 3/8-24X3/4 (torque to 20-25 ft lbs)	
10	88561109	4	FLAT WASHER, 3/8	
11	88201532	2	HEX HD CAPSCREW, 3/8-24X3/4, GR5 (torque 32-37 ft lbs)	
12	90205870	2	SHIM	
13	91031236	2	SHIM	
14	91163188	2	BEARING PAD	
15	88201566	2	HEX HD CAPSCREW, 1/2-20X1-1/2, GR5 (torque to 76-87 ft lbs)	
16	Bulk	15 in	NYLON TUBE, 1/4IN O.D.	
17	86881276	2	ELBOW, 90	
18	91161274	2	HOLLOW HEX HD CAPSCREW, 1/2-20X1-3/4 (torque to 20-25 ft lbs)	
19	88671022	2	GREASE FITTING, 90	
20	86881273	2	STRAIGHT THREAD CONNECTOR	
21	91166065	2	BRACKET	

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FIGURE 2-5. BOOM CROSS SECTION



SECTION 2 - BOOM

FIGURE 2-6. EXTENSION CHAINS

SERVICE NOTES:

1). A chain wear gage, part number 9116-4084, is now available to check if your boom chain has been stretched beyond spec.

NOTE: BOOM SECTIONS SHOWN SEPARATELY FOR CLARIFICATION.

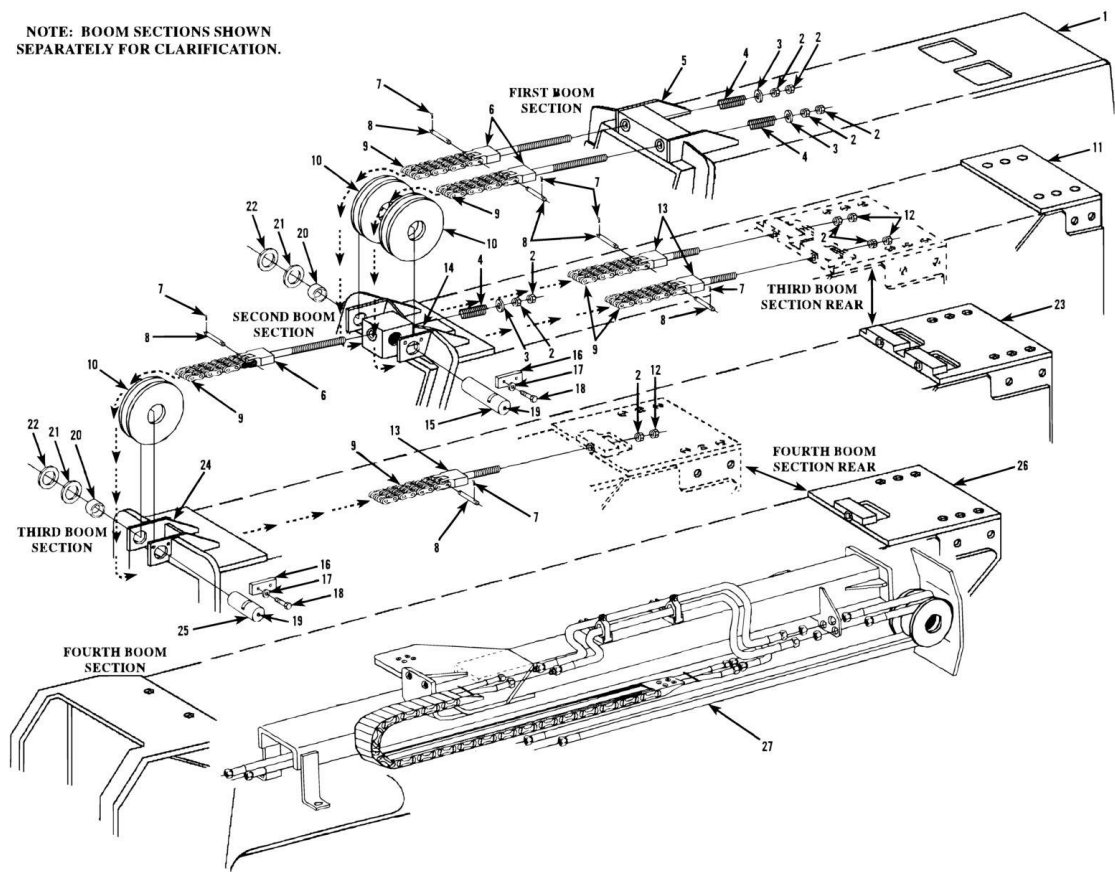


FIGURE 2-6. EXTENSION CHAINS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	FIRST BOOM SECTION (See FIRST BOOM SECTION for Breakdown)	
2	88501314	9	HEX NUT, 7/8-14 (torque to 100 ft lbs)	
3	91161218	3	SPECIAL WASHER	
4	91163163	3	SPRING	
5	91166044	1	CHAIN ANCHOR	
6	91163170	3	CHAIN CLEVIS	
7	88631302	12	COTTER PIN	
8	91163123	6	CHAIN PIN	
9	91163036	3	CHAIN, 1IN	
10	91165022	3	CHAIN ROLLER (includes items 20 & 21)	
11		Ref	SECOND BOOM SECTION (See SECOND BOOM SECTION for Breakdown)	
12	88501414	3	JAM NUT (torque to 100 ft lbs)	
13	91163171	3	CHAIN CLEVIS	
14	91166045	1	ROLLER BRACKET	
15	91161266	1	CHAIN SHEAVE PIN	
16	91081313	2	PIN KEEPER	
17	88551013	4	LOCKWASHER, 1/2	
18	88201065	4	HEX HD CAPSCREW, 1/2-13X1, GR5	
19	88671001	2	GREASE FITTING	
20	91163204	3	BUSHING	
21	86921268	6	SEAL	
22	91041451	6	THRUSTWASHER (.106IN thick)	
22	91041450	AR	THRUSTWASHER (.0478IN thick)	
22	91041449	AR	THRUSTWASHER (.060IN thick)	
22	91041596	AR	THRUSTWASHER (.0359IN thick)	
23		Ref	THIRD BOOM SECTION (See THIRD BOOM SECTION for Breakdown)	
24	91146025	1	ROLLER BRACKET	
25	91161267	1	CHAIN SHEAVE PIN	
26		Ref	FOURTH BOOM SECTION (See FOURTH BOOM SECTION for Breakdown)	
27		Ref	BOOM HYD SUB ASSY (See HYDRAULIC CIRCUITS SECTION for Breakdown)	

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FIGURE 2-7. RETRACTION CHAINS

SERVICE NOTES:

1).A chain wear gage, part number 9116-4084, is now available to check if your boom chain has been stretched beyond spec.

NOTE: BOOM SECTIONS SHOWN SEPARATELY FOR CLARIFICATION.

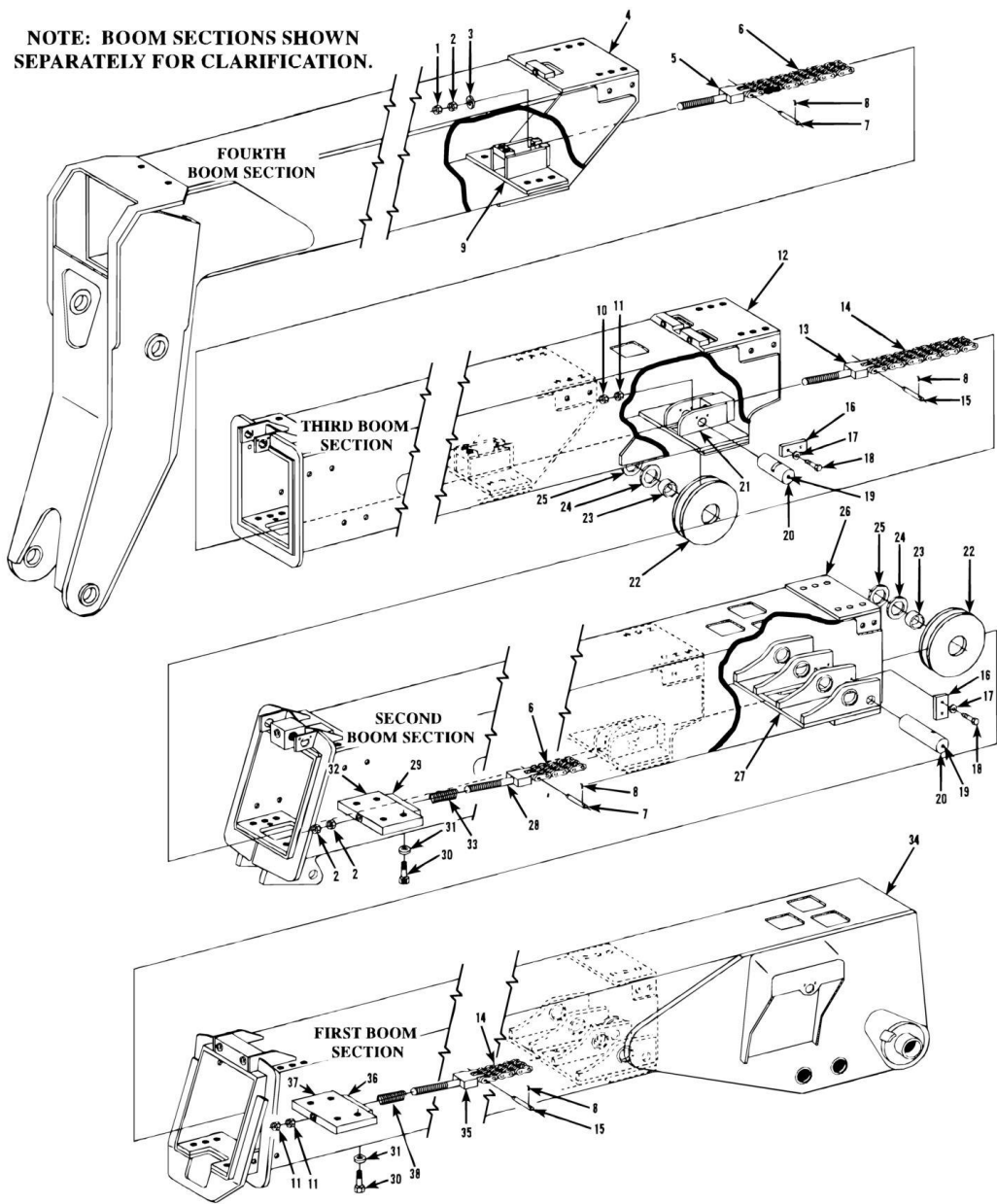


FIGURE 2-7. RETRACTION CHAINS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88501412	1	HEX JAM NUT, 3/4-16 (torque to 100 ft lbs)	
2	88501312	3	HEX NUT, 3/4-16 (torque to 100 ft lbs)	
3	90027473	2	HARDENED WASHER, 3/4	
4		Ref	FOURTH BOOM SECTION (See FOURTH BOOM SECTION for Breakdown)	
5	91163173	1	CHAIN CLEVIS	
6	91163037	1	CHAIN, 3/4IN	
7	91163124	2	CHAIN PIN	
8	88631302	8	COTTER PIN	
9	91166027	1	ANCHOR BRACKET	
10	88501414	1	HEX JAM NUT, 7/8-14 (torque to 100 ft lbs)	
11	88501314	3	HEX NUT, 7/8-14 (torque to 100 ft lbs)	
12		Ref	THIRD BOOM SECTION (See THIRD BOOM SECTION for Breakdown)	
13	91163171	1	CHAIN CLEVIS	
14	91163036	1	CHAIN, 1IN	
15	91163123	2	CHAIN PIN	
16	91081313	2	PIN KEEPER	
17	88551013	4	LOCKWASHER, 1/2	
18	88201065	4	HEX HD CAPSCREW, 1/2-13X1, GR5	
19	88671001	2	GREASE FITTING	
20	91161267	2	CHAIN SHEAVE PIN	
21	91166026	1	ROLLER BRACKET	
22	91165022	2	CHAIN ROLLER (includes items 23 & 24)	
23	91163204	2	BUSHING	
24	86921268	4	SEAL	
25	91041451	4	THRUSTWASHER	
25	91041450	AR	THRUSTWASHER	
25	91041449	AR	THRUSTWASHER	
25	91041596	AR	THRUSTWASHER	
26		Ref	SECOND BOOM SECTION (See SECOND BOOM SECTION for Breakdown)	
27	91166022	1	ROLLER BRACKET	
28	91163172	1	CHAIN CLEVIS	
29	91161214	1	STOP BAR	
30	83201061	8	HEX HD CAPSCREW, 3/4-10X1-3/4, GR5 (torque to 340-365 ft lbs)	
31	90027473	8	HARDENED WASHER, 3/4	
32	91161212	1	CABLE ADJUSTMENT BLOCK	
33	91163162	1	SPRING	
34		Ref	FIRST BOOM SECTION (See FIRST BOOM SECTION for Breakdown)	
35	91163170	1	CHAIN CLEVIS	
36	91161213	1	STOP BAR	
37	91161211	1	CABLE ADJUSTMENT BLOCK	
38	91163161	1	SPRING	

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FIGURE 2-8. QUICK SWITCH ASSEMBLY

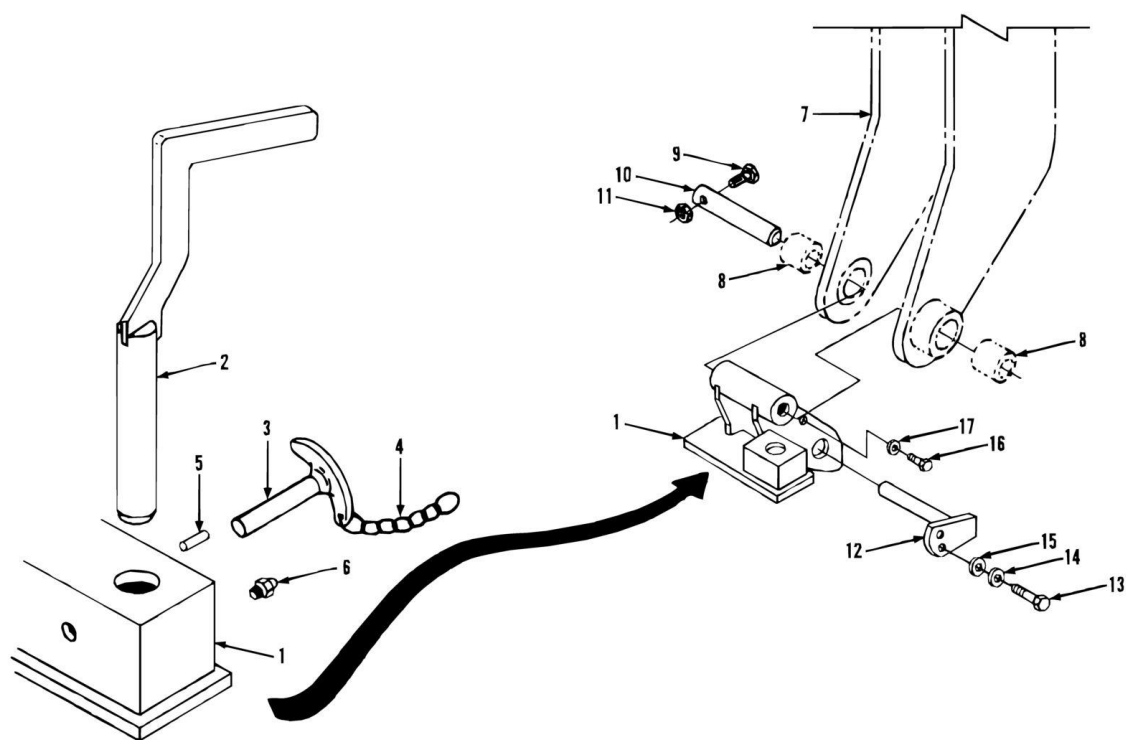


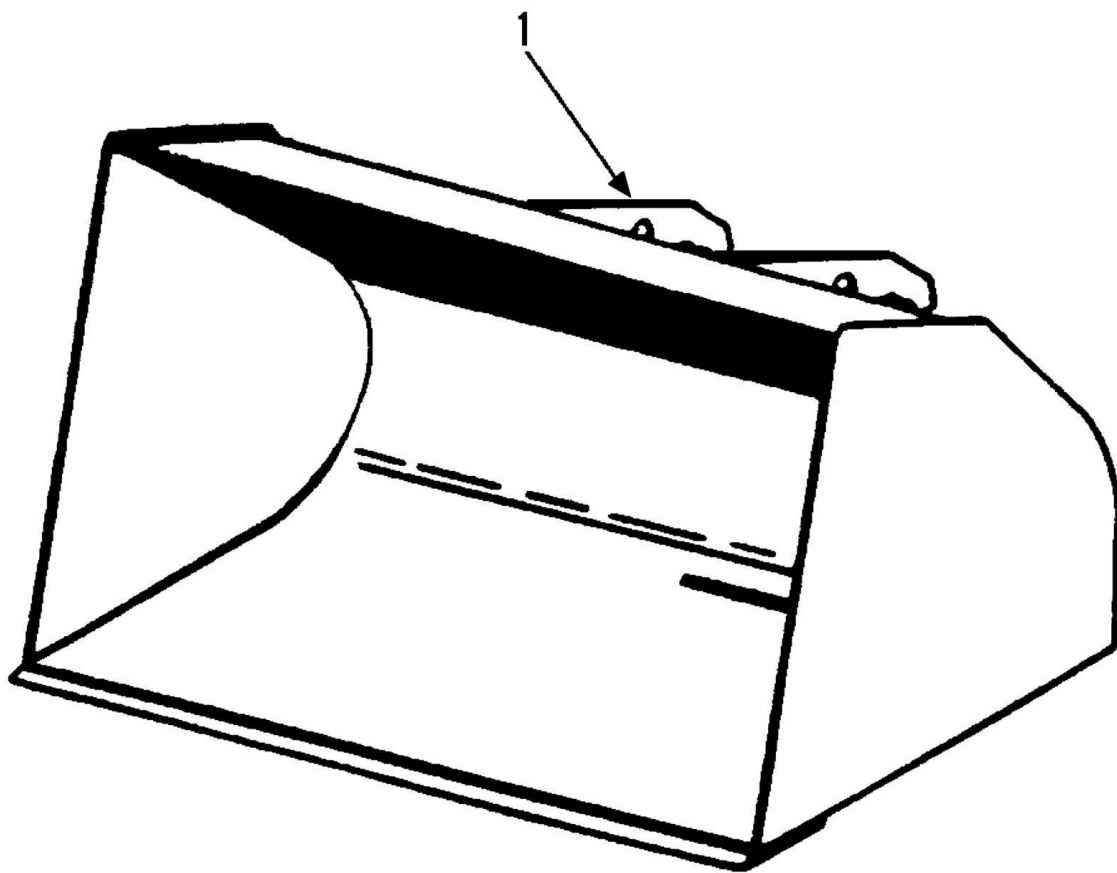
FIGURE 2-8. QUICK SWITCH ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085091	1	QUICK SWITCH ASSY (includes items 1 thru 6, 16 & 17)	
1	91086152	1	QUICK SWITCH WELDMENT	
2	91086151	1	PLUNGER WELDMENT	
3	90207902	1	QUICK RELEASE PIN	
4	91033038	1	JACK CHAIN, 7IN LONG, SIZE 12	
5	88631509	1	ROLL PIN, 1/4X2	
6	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
7		Ref	FOURTH BOOM SECTION (See FOURTH BOOM SECTION for Breakdown)	
8	91031136	Ref	BUSHING	
9	88201107	1	HEX HD CAPSCREW, 5/8-11X5, GR5	
10	91041365	1	PIN	
11	88521010	1	HEX LOCKNUT, 5/8-11	
12	91166062	1	TILT CYLINDER PIN	
13	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
14	88551013	2	LOCKWASHER, 1/2	
15	88561111	2	FLAT WASHER, 1/2	
16	88301193	1	ROUND HD MACHINE SCREW, #10-32X1/2	
17	88561105	1	FLAT WASHER, #10	

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FIGURE 3-1. BUCKETS



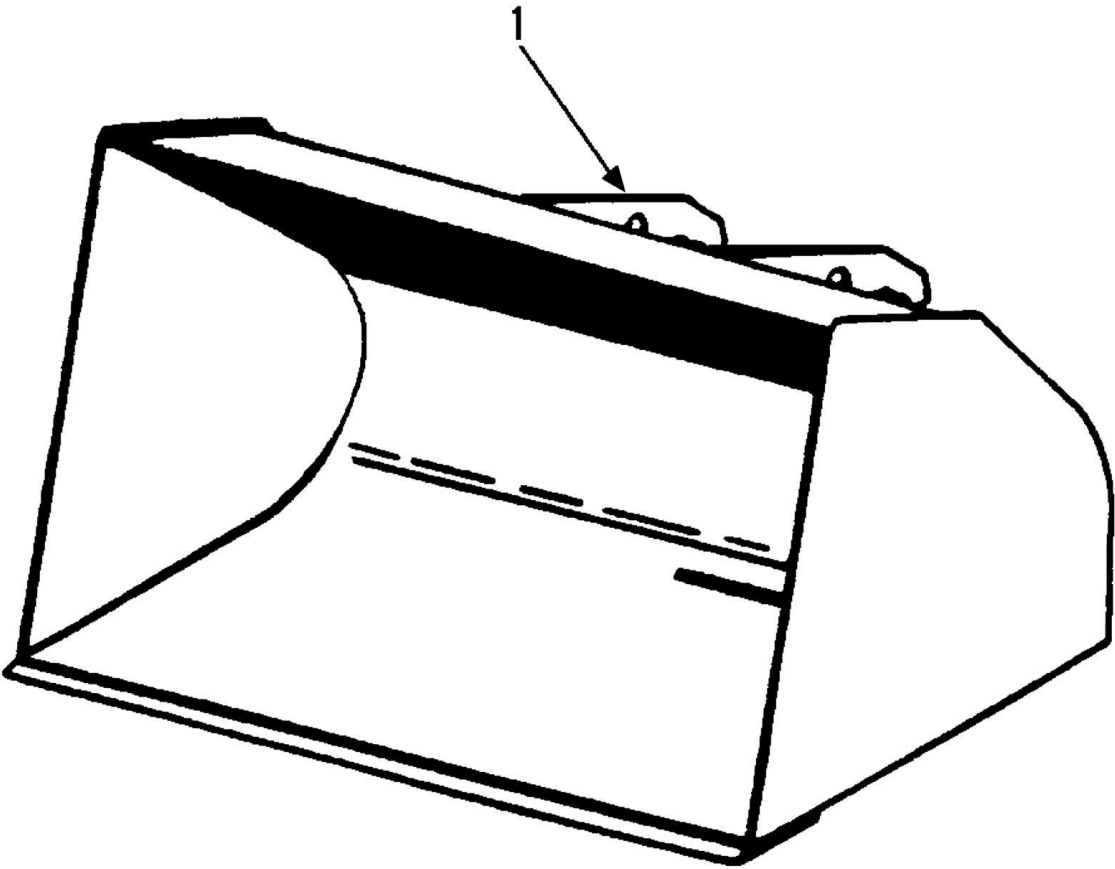
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FIGURE 3-1. BUCKETS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455049	1	60IN BUCKET (3/4 yard capacity)	

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FIGURE 3-2. BUCKETS



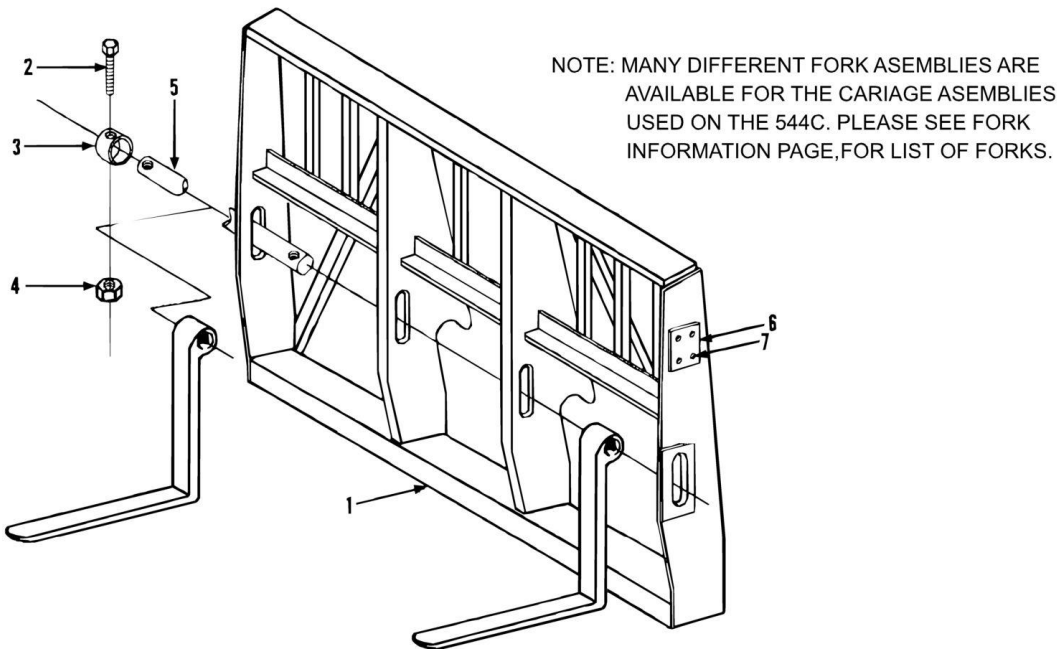
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FIGURE 3-2. BUCKETS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90555020	1	74IN BUCKET (1-1/4 yard capacity)	

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FIGURE 3-3. (90455051) & (90455052) CARRIAGE ASSEMBLIES



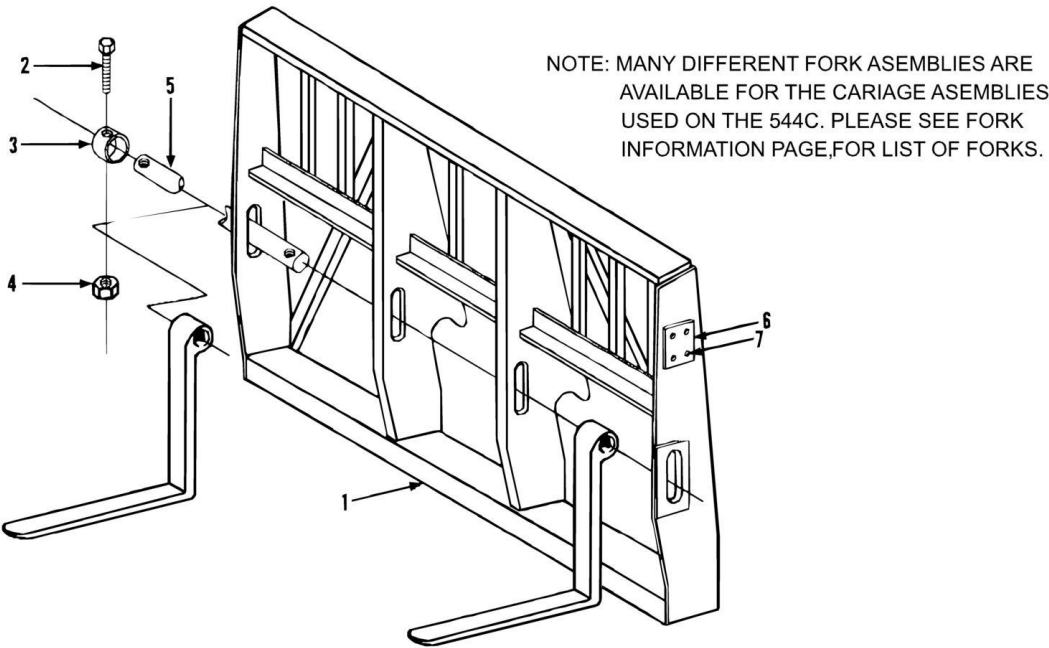
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FIGURE 3-3. (90455051) & (90455052) CARRIAGE ASSEMBLIES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455051	1	48IN CARRIAGE ASSY, (includes all items)	
1	90456009	1	48IN CARRIAGE WELDMENT	
2	88201105	1	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	90200003	1	COLLAR	
4	88521310	1	HEX LOCKNUT, 5/8-11	
5	90451058	1	FORK PIN	
6	90153001	1	SERIAL NUMBER PLATE	
7	88341022	1	DRIVE SCREW, #10X3/8	

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FIGURE 3-4. (90455051) & (90455052) CARRIAGE ASSEMBLIES



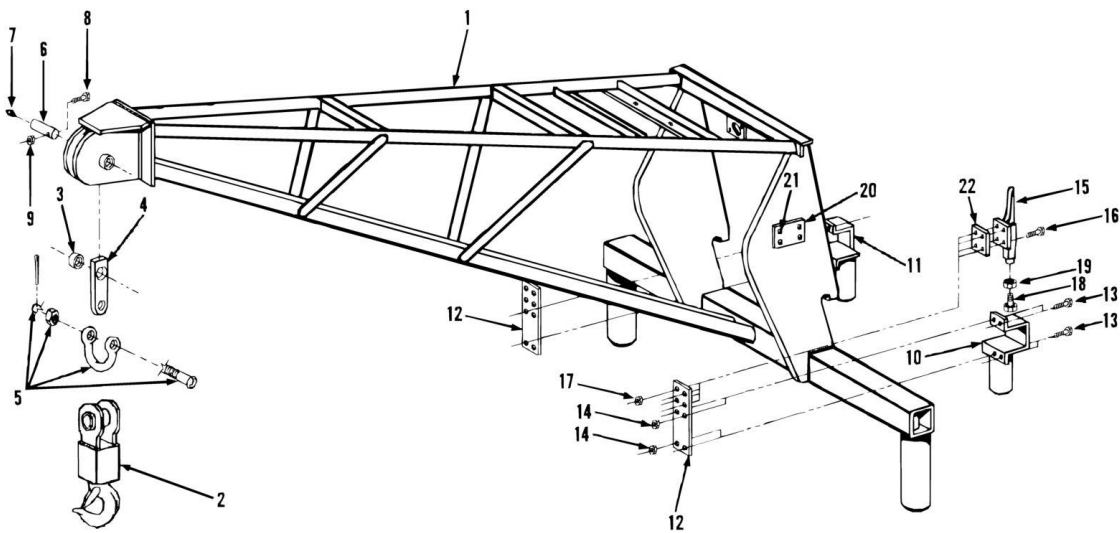
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FIGURE 3-4. (90455051) & (90455052) CARRIAGE ASSEMBLIES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455052	1	66IN CARRIAGE ASSY, (includes all items)	
1	90456010	1	66IN CARRIAGE WELDMENT	
2	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	90200003	2	COLLAR	
4	88521310	2	HEX LOCKNUT, 5/8-11	
5	90402478	1	FORK PIN	
6	90153001	1	SERIAL NUMBER PLATE	
7	88341022	4	DRIVE SCREW, #10X3/8	

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FIGURE 3-5. (90455011) TRUSS BOOM



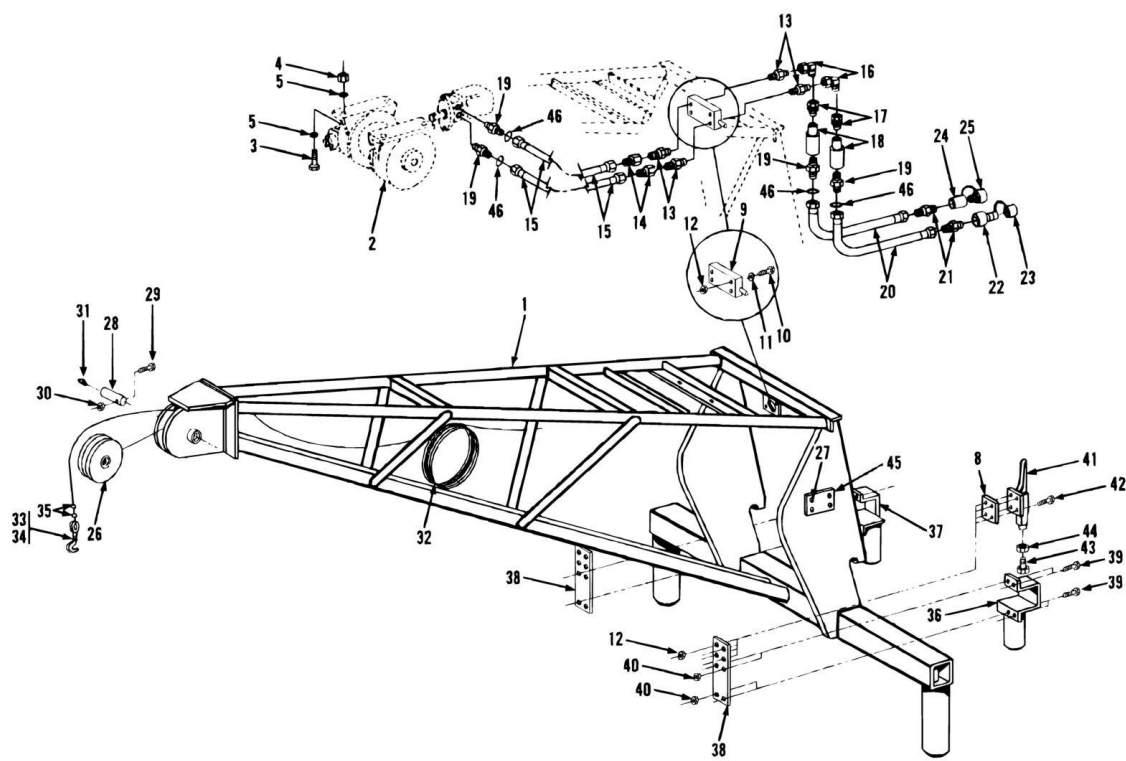
SECTION 3 - ATTACHMENTS

FIGURE 3-5. (90455011) TRUSS BOOM

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	90453041	1	BOLT	
5	90453041	1	NUT	
5	90453041	1	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	HEX NUT, 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 NUMBER PLATE	
21	88341022	4	DRIVE SCREW, #10X3/8	
22	90451047	2	SPACER	

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FIGURE 3-6. (90455012) TRUSS BOOM W/WINCH



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FIGURE 3-6. (90455012) TRUSS BOOM W/WINCH

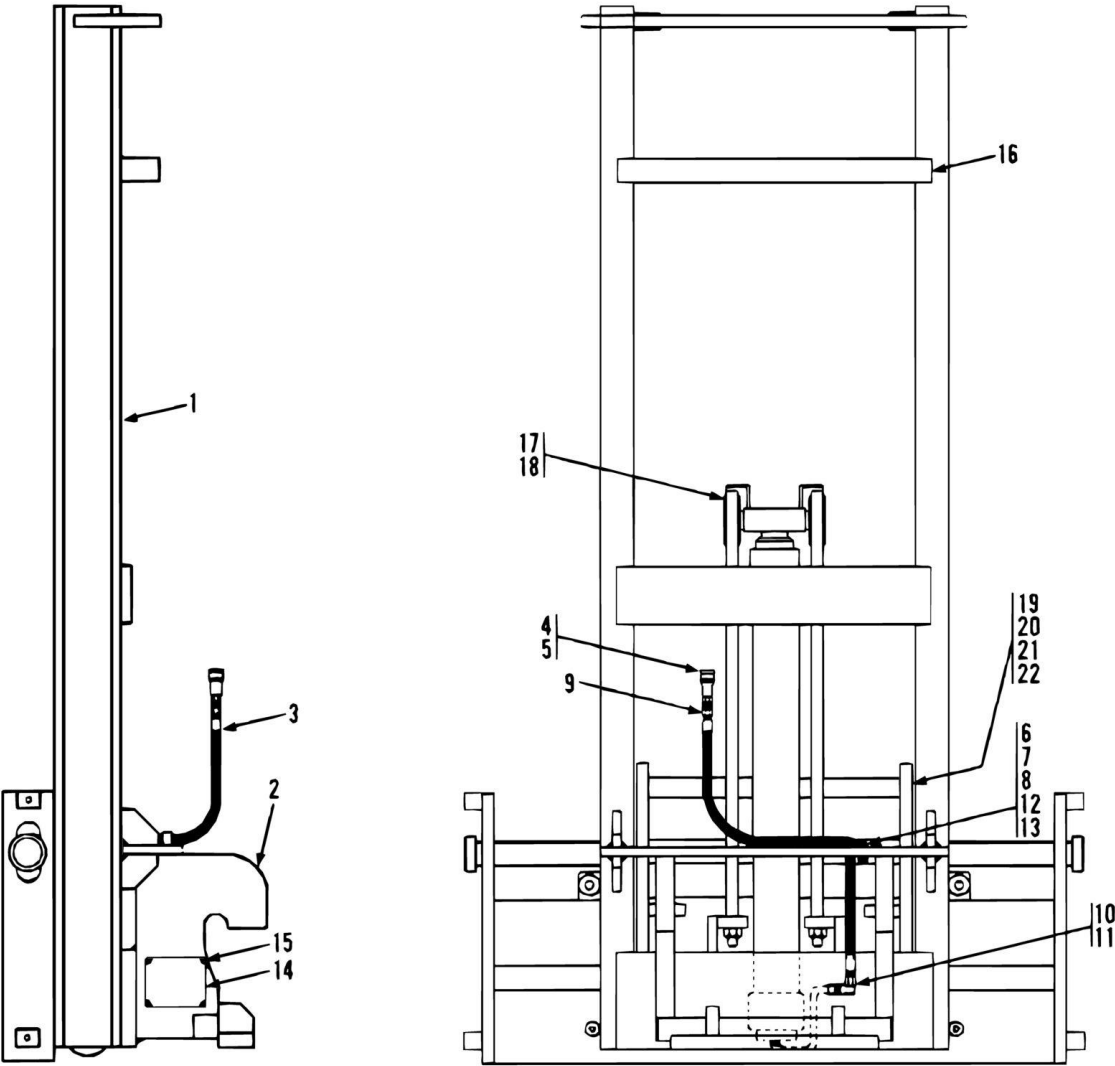
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455012	1	TRUSS BOOM ASSY W/WINCH, (includes all items)	
1	90801353	1	TRUSS BOOM WELDMENT	
2		Ref	WINCH W/MOTOR, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
3	88201096	4	HEX HD CAPSCREW, 5/8-11X1-3/4, GR5	
4	88501010	4	HEX NUT, 5/8-11	
5	88561113	8	FLAT WASHER, 5/8	
8	90451047	2	SPACER	
9		Ref	CROSSOVER VALVE, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
10	88201027	2	HEX HD CAPSCREW, 5/16-18X2-3/4, GR5	
11	88561108	2	FLAT WASHER, 5/16	
12	88501005	10	HEX NUT, 5/16-18	
13	83451104	4	ADAPTER	
14	90029935	2	TUBE REDUCER, 7/8X3/4	
15	90205121	2	HOSE ASSY	
16	88662107	2	ELBOW, 90, (swivel nut)	
17	90453016	2	ADAPTER	
18	90207880	2	FLOW LIMITER	
19	88662019	4	CONNECTOR, (includes item 46)	
20	84717644	2	HOSE ASSY	
21	88661013	2	MALE CONNECTOR, 1/2X1/2 (Prior to SN 2005283-01 to Present)	
21	88662006	2	CONNECTOR, (includes 8859-1205 o-ring), (SN 2005283-01 to Present)	
22	91163138	1	MALE TIP COUPLER (Prior to SN 2005283-01 to Present)	
22	91403414	1	MALE TIP COUPLER, (SN 2005283-01 to Present)	
23	91043126	1	DUST CAP	
24	91163139	1	FEMALE COUPLER (Prior to SN 2005283-01 to Present)	
24	91403413	1	FEMALE COUPLER, (SN 2005283-01 to Present)	
25	91043125	1	DUST PLUG	
26	90403056	1	SHEAVE	
27	88341022	4	DRIVE SCREW, #10X3/8	
28	90402948	1	PIN	
29	88201073	1	HEX HD CAPSCREW, 1/2-13X3, GR5	
30	88501008	1	HEX NUT, 1/2-13	
31	88671001	1	LUBE FITTING, STRAIGHT, 1/8	
32	90207882	1	WIRE ROPE, 3/8IN DIAMETER	
33	91403448	1	SWIVEL HOOK	
34	90026965	1	THIMBLE	
35	90028990	2	WIRE ROPE CLIP	
36	90602905	1	SLIDER BRACKET	
37	90602904	1	SLIDER BRACKET	
38	90403437	2	SLIDER BAR	
39	88201036	8	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
40	88501006	8	HEX NUT, 3/8-16	
41	90207884	2	LOCKING CLAMP	
42	88201021	8	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
43	88201035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
44	88501106	2	HEAVY HEX JAM NUT, 3/8-16	
45	90153001	1	SERIAL NUMBER PLATE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	88591206	4	O-RING	

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FIGURE 3-7. 6 FT VERTICAL MAST



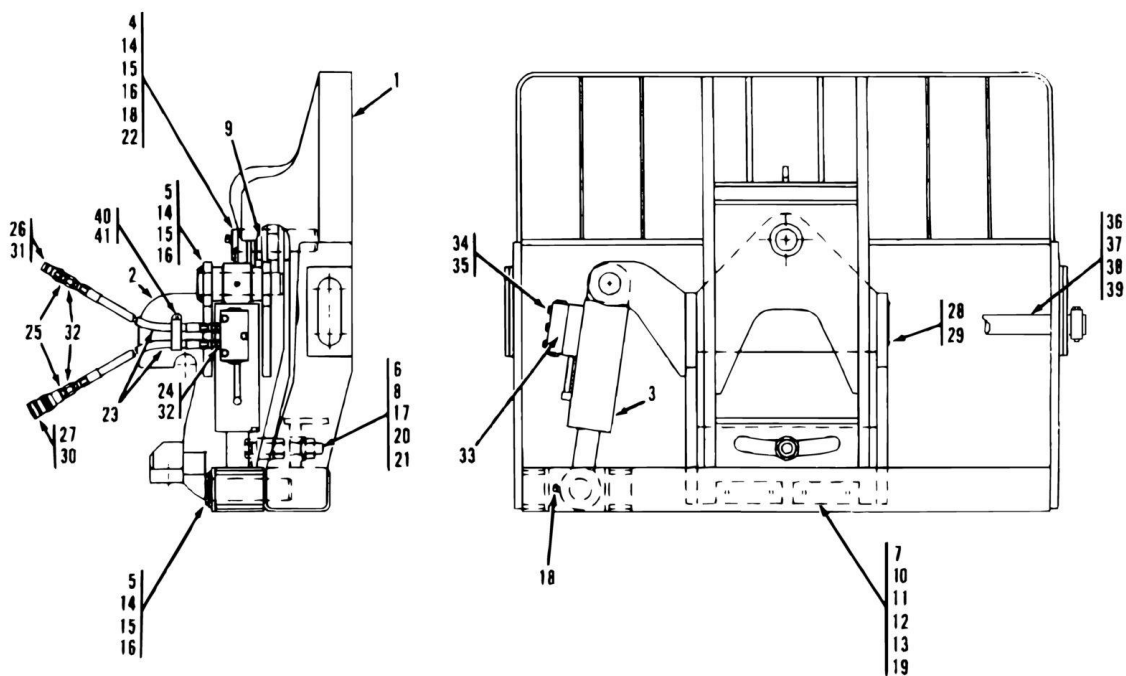
SECTION 3 - ATTACHMENTS

FIGURE 3-7. 6 FT VERTICAL MAST

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455035	1	6FT MAST ASSY, (48in carriage), (includes all items)	
	90455037	1	6FT MAST ASSY, (66in carriage), (includes all items)	
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 8859-1205 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 NUMBER 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 3-8. (91085058) 48IN; SLOPE PILER CARRIAGE



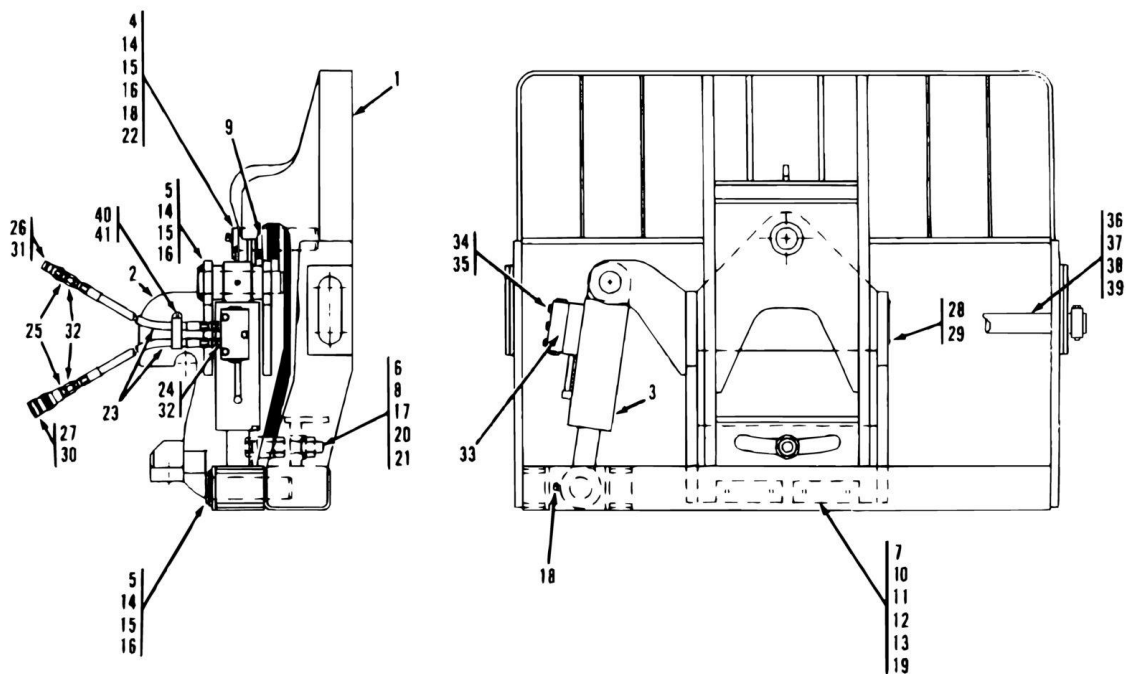
SECTION 3 - ATTACHMENTS

FIGURE 3-8. (91085058) 48IN; SLOPE PILER CARRIAGE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085058	Ref	48IN SLOPE PILER CARRIAGE, (includes all items)	
		Ref	CAPACITY DECAL, 544C-10, (not shown)	
1	91086121	1	CARRIAGE WELDMENT	
2	91086122	1	ADAPTER WELDMENT	
3		Ref	SWAY CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
4	91083248	1	BUSHING	
5	3423263	2	PIN	
6	90204007	1	TUBE	
7	91033186	2	BEARING PAD	
8	91081577	1	TAP BOLT	
9	91081594	1	THRUST WASHER	
10	90205870	AR	SHIM	
11	91031236	2	SPACER	
12	88201535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	
13	88201534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	
14	91081313	3	KEEPER PLATE	
15	88201065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	
16	88551013	6	LOCKWASHER, 1/2	
17	88521016	1	HEX LOCKNUT, 1-8	
18	88671022	2	LUBE FITTING, 90, 1/8	
19	88561109	4	FLAT WASHER, 3/8	
20	88501016	1	HEX NUT, 1-8	
21	05101441	1	WASHER, 1-1/16	
22	91081622	1	PIN	
23	84716434	2	HOSE ASSY	
24	83661316	2	CONNECTOR	
25	88661010	2	CONNECTOR (Prior to SN 2005283-01)	
25	88662018	2	CONNECTOR, (SN 2005283-01 to Present)	
26	91163138	1	MALE QUICK DISCONNECT (Prior to SN 2005283-01)	
26	91403414	1	MALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
27	91163139	1	FEMALE QUICK DISCONNECT (Prior to SN 2005283-01)	
27	91403413	1	FEMALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
28	88341022	4	DRIVE SCREW, #10X3/8	
29	90153001	1	SERIAL NUMBER PLATE	
30	91043125	1	DUST PLUG	
31	91043126	1	DUST CAP	
32	88662105	2	ELBOW, 90, (swivel nut)	
33		Ref	DUAL P.O. CHECK VALVE, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
34	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
35	88551011	3	LOCKWASHER, 3/8	
36	90451058	1	FORK PIN	
37	90200003	2	COLLAR	
38	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
39	88521310	2	LOCKNUT, 5/8-11	
40	84521062	1	SUPPORT CLAMP	
41	77143015	1	WHIZ-LOK NUT, 3/8-16	

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FIGURE 3-9. (91305016) 66IN; SLOPE PILER CARRIAGE



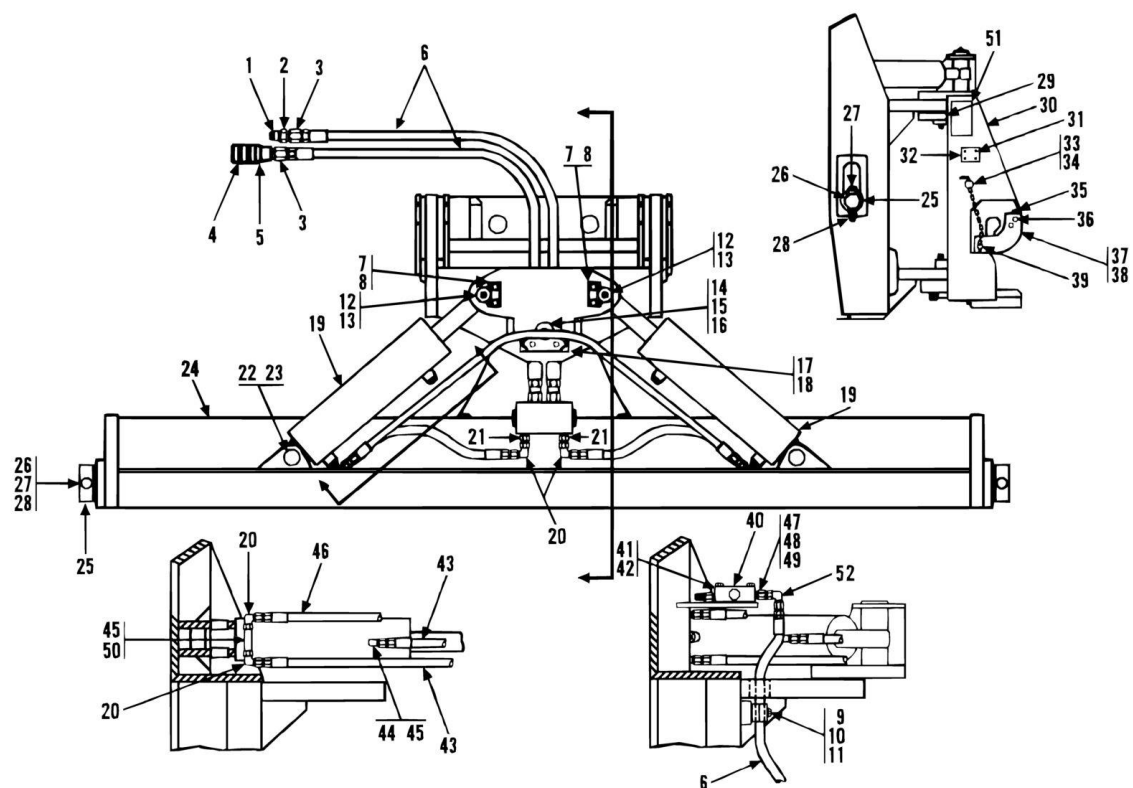
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FIGURE 3-9. (91305016) 66IN; SLOPE PILER CARRIAGE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91305016	Ref	66IN SLOPE PILER CARRIAGE, (includes all items)	
		Ref	CAPACITY DECAL, 544C-10, (not shown)	
1	91306030	1	CARRIAGE WELDMENT	
2	91086122	1	ADAPTER WELDMENT	
3		Ref	SWAY CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
4	91083248	1	BUSHING	
5	3423263	2	PIN	
6	90204007	1	TUBE	
7	91033186	2	BEARING PAD	
8	91081577	1	TAP BOLT	
9	91081594	1	THRUST WASHER	
10	90205870	AR	SHIM	
11	91031236	2	SPACER	
12	88201535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	
13	88201534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	
14	91081313	3	KEEPER PLATE	
15	88201065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	
16	88551013	6	LOCKWASHER, 1/2	
17	88521016	1	HEX LOCKNUT, 1-8	
18	88671022	2	LUBE FITTING, 90, 1/8	
19	88561109	4	FLAT WASHER, 3/8	
20	88501016	1	HEX NUT, 1-8	
21	05101441	1	WASHER, 1-1/16	
22	91081622	1	PIN	
23	84716434	2	HOSE ASSY	
24	83661316	2	CONNECTOR	
25	88661010	2	CONNECTOR (Prior to SN 2005283-01)	
25	88662018	2	CONNECTOR, (SN 2005283-01 to Present)	
26	91163138	1	MALE QUICK DISCONNECT (Prior to SN 2005283-01)	
26	91403414	1	MALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
27	91163139	1	FEMALE QUICK DISCONNECT (Prior to SN 2005283-01)	
27	91403413	1	FEMALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
28	88341022	4	DRIVE SCREW, #10X3/8	
29	90153001	1	SERIAL NUMBER PLATE	
30	91043125	1	DUST PLUG	
31	91043126	1	DUST CAP	
32	88662105	2	ELBOW, 90, (swivel nut)	
33		Ref	DUAL P.O. CHECK VALVE, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
34	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
35	88551011	3	LOCKWASHER, 3/8	
36	91301083	1	FORK PIN	
37	90200003	2	COLLAR	
38	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
39	88521310	2	LOCKNUT, 5/8-11	
40	84521062	1	SUPPORT CLAMP	
41	77143015	1	WHIZ-LOK NUT, 3/8-16	

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FIGURE 3-10. (90455044) 100, SWING FORK



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FIGURE 3-10. (90455044) 100, SWING FORK

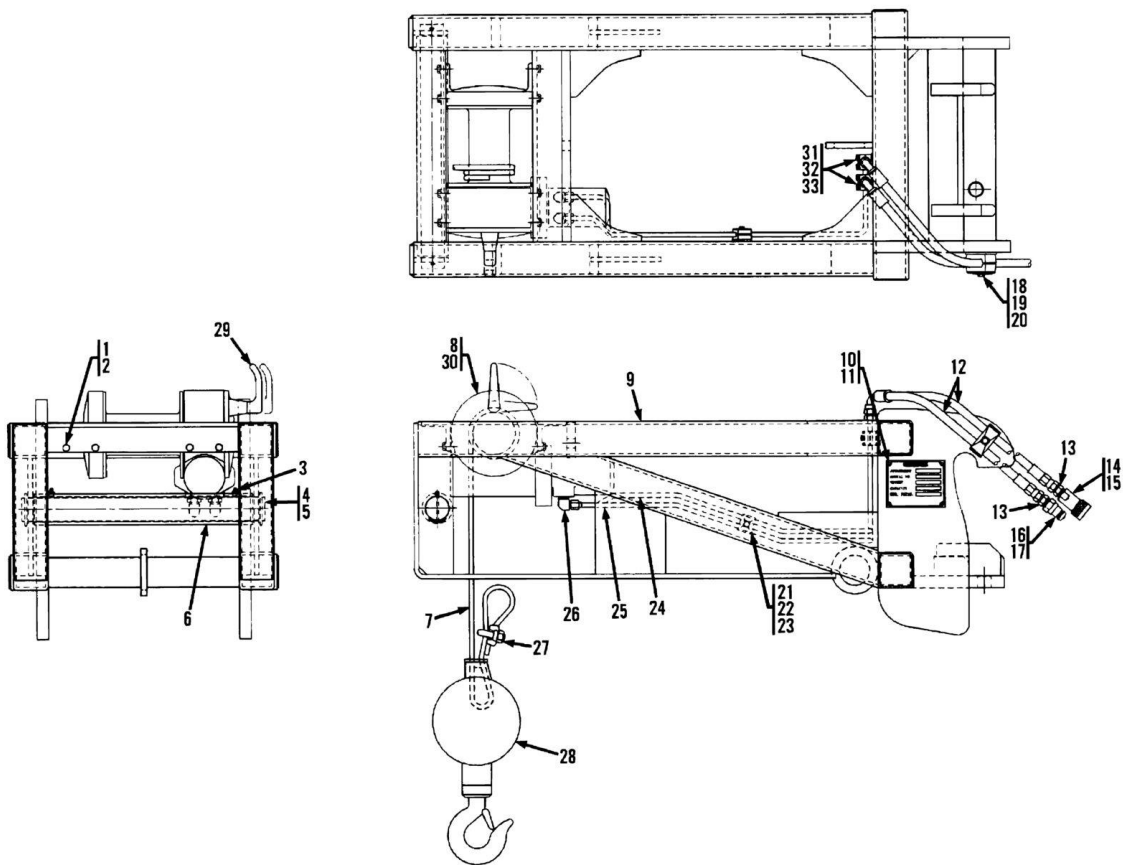
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455044	Ref	100, SWING FORK ASSY, (includes all items)	
		Ref	544C-10 CAPACITY DECAL, (located in cab)	
1	91043126	1	DUST CAP	
2	91163138	1	MALE QUICK DISCONNECT (Prior to SN 2005283-01)	
2	91403414	1	MALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
3	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE (Prior to SN 2005283-01)	
3	88662006	2	CONNECTOR, (includes 8859-1205 o-ring), (SN 2005283-01 to Present)	
4	91043125	1	DUST CAP	
5	91163139	1	FEMALE QUICK DISCONNECT (Prior to SN 2005283-01)	
5	91403413	1	FEMALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
6	84718067	2	HOSE ASSY	
7	91411073	2	LOCKING PLATE	
8	83201024	4	HEX HD CAPSCREW, 3/8-16X1, SELF-LOCKING (nylok), GR8	
9	91083249	1	CLAMP SET	
10	77133140	1	COVER PLATE	
11	77133177	1	HEX HD CAPSCREW, 5/16X1-3/8	
12	91041324	2	PIVOT PIN	
13	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
14	91041325	2	PIVOT PIN	
15	88671022	2	LUBE FITTING, 90	
16	91041327	2	BUSHING	
17	91041322	2	LOCKING PLATE	
18	83201026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	
19		Ref	SWING CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
20	88662105	6	ELBOW, 90, (swivel nut)	
21	88662018	2	CONNECTOR, (includes item 45)	
22	91041326	2	PIVOT PIN	
23	88581136	4	RETAINING RING	
24	91046061	1	CARRIAGE WELDMENT	
25	90200003	2	COLLAR	
26	90551013	1	FORK PIN	
27	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
28	88521310	2	LOCKNUT	
29	91041356	6	SPACER	
30	91046062	1	PIVOT WELDMENT	
31	88341022	4	DRIVE SCREW	
32	90153001	1	SERIAL NUMBER PLATE	
33	91033039	2	CHAIN CONNECTOR	
34	91033038	24 in	CHAIN	
35	88661449	2	ROLL PIN, 1/8X1-1/2	
36	91141350	2	PIN	
37	91146053	1	L.H. SUPPORT BRACKET	
38	91146054	1	R.H. SUPPORT BRACKET	
39	91043221	2	DETENT PIN	
40	91043186	1	DOUBLE PILOT CHECK VALVE	
41	88561002	2	FLAT WASHER	
42	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
43	90204097	2	HOSE ASSY	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	88662084	2	ELBOW, 45, (includes item 45)	
45	88591204	4	O-RING	
46	77133201	2	HOSE ASSY	
47	91041361	2	FITTING	
48	88591205	2	O-RING	
49	91041362	2	ORIFICE FITTING	
50	88662152	2	BRANCH TEE, (includes item 45)	
51	91143282	2	PINCH POINT DECAL	
52	88662106	2	ELBOW, 90, (swivel nut)	

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FIGURE 3-11. (91085056) QUICK HOOK ASSEMBLY



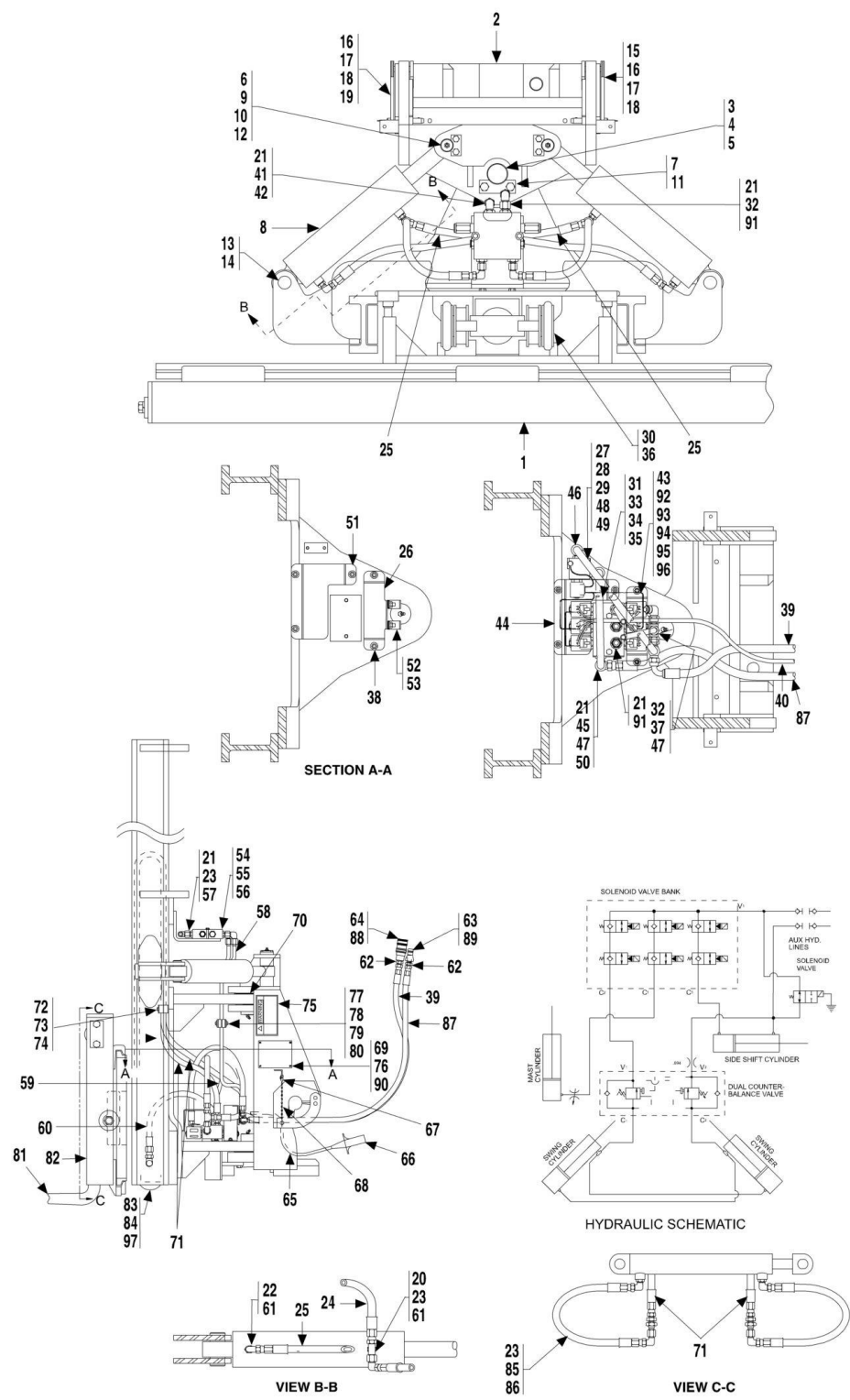
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FIGURE 3-11. (91085056) QUICK HOOK ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085056	Ref	QUICK HOOK ASSY, (includes all items)	
1	88551011	8	LOCKWASHER, 3/8	
2	88201034	8	HEX HD CAPSCREW, 3/8-16X7/8, GR5	
3	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
4	91081574	1	PIN	
5	88631343	2	COTTER PIN	
6	91081573	1	ROLLER	
7	91083368	1	WIRE ROPE, (7/16IN Dia)	
8	91083367	1	WINCH	
9	91086119	1	QUICK HOOK WELDMENT	
10	90153001	1	SERIAL NUMBER PLATE	
11	88341022	4	ROUND HD DRIVE SCREW, #10X3/8	
12	90205126	2	HOSE ASSY	
13	77363079	2	STRAIGHT THREAD CONNECTOR (Prior to SN 2005283-01)	
13	88662006	2	CONNECTOR, (includes 8859-1205 o-ring), (SN 2005283-01 to Present)	
14	91043125	1	DUST CAP	
15	91163139	1	FEMALE HYDRAULIC COUPLING (Prior to SN 2005283-01)	
15	91403413	1	FEMALE HYDRAULIC COUPLING, (SN 2005283-01 to Present)	
16	91043126	1	DUST CAP	
17	91163138	1	MALE HYDRAULIC COUPLING (Prior to SN 2005283-01)	
17	91403414	1	MALE HYDRAULIC COUPLING, (SN 2005283-01 to Present)	
18	77133136	1	STAUFF CLAMP SET	
19	77133137	1	STAUFF COVER PLATE	
20	88201023	1	HEX BOLT	
21	77133270	1	STAUFF CLAMP SET	
22	88561002	1	STAUFF COVER PLATE	
23	88201005	1	HEX BOLT	
24	91143276	1	TUBE ASSY	
25	91143275	1	TUBE ASSY	
26	88661110	2	MALE ELBOW, 90, 3/8X1/2 TUBE	
27	90029999	1	WIRE ROPE CLAMP, 7/16	
28	90201443	1	HOOK AND BALL	
29	91143277	1	L-HANDLE	
30	91081737	1	WEDGE	
31	91063040	2	CLAMP SET	
32	91063039	2	COVER PLATE	
33	88201006	4	HEX BOLT	

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FIGURE 3-12. (90455047) 6FT; SWING MAST W/SIDE SHIFT



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FIGURE 3-12. (90455047) 6FT; SWING MAST W/SIDE SHIFT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455047	Ref	6FT SWING MAST W/SIDE SHIFT, (includes all items)	
1	90456007	1	MAST WELDMENT	
2	91046062	1	SWING FORK PIVOT WELDMENT	
3	91041325	2	PIVOT PIN	
4	88671018	2	LUBE FITTING, 45, 1/8	
5	91041327	2	BUSHING	
6	91411073	2	LOCKING PLATE	
7	83201026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	
8		Ref	HYDRAULIC CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
9	91041324	2	PIVOT PIN	
10	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
11	91041322	2	LOCKING PLATE	
12	83201024	4	HEX HD CAPSCREW, 3/8-16X1, GR8	
13	91041326	2	PIVOT PIN	
14	88581136	4	SNAP RING	
15	91146053	1	LH SUPPORT BRACKET	
16	91141350	2	PIN	
17	88631449	2	ROLL PIN, 1/8X1-1/2	
18	91043221	2	DETENT PIN	
19	91146054	1	RH SUPPORT BRACKET	
20	88662152	2	BRANCH TEE, (includes item 61)	
21	88591205	7	O-RING	
22	88662064	2	ELBOW, 90, (includes item 61)	
23	88662105	6	ELBOW, 90, (swivel nut)	
24	77133201	2	HOSE ASSY	
25	90204097	2	HOSE ASSY	
26	90451060	1	FRONT COVER, (solenoid valve)	
27	90453043	1	SOLENOID VALVE	
28	88201007	2	HEX HD CAPSCREW, 1/4-20X1-1/2, GR5	
29	88551009	2	LOCKWASHER, 1/4	
30	91034399	2	HOSE SHEAVE	
31	88551010	2	LOCKWASHER, 5/16	
32	88662106	2	ELBOW, 90, (swivel nut)	
33	90453019	1	SOLENOID VALVE BANK	
33	91144449	6	CARTRIDGE AND COIL	
33	91204190	6	SEAL KIT, (used on cartridge and coil)	
34	88201025	2	HEX HD CAPSCREW, 5/16-18X2-1/4, GR5	
35	88561108	2	FLAT WASHER, 5/16	
36	91034400	2	SHOULDER BOLT	
37	88661306	1	UNION TEE, 1/2 TUBE	
38	77143013	5	WHIZ-LOCKNUT, 1/4-20	
39	77133269	1	HOSE ASSY	
40	90453023	1	WIRING HARNESS	
41	90203384	2	ADAPTER	
42	91041362	1	ORIFICE FITTING	
43	91345026	1	DIODE ASSY, (includes items 92 thru 96)	
44	90453044	1	WIRING HARNESS	
45	84718047	1	HOSE ASSY	
46	77133458	1	HOSE ASSY	

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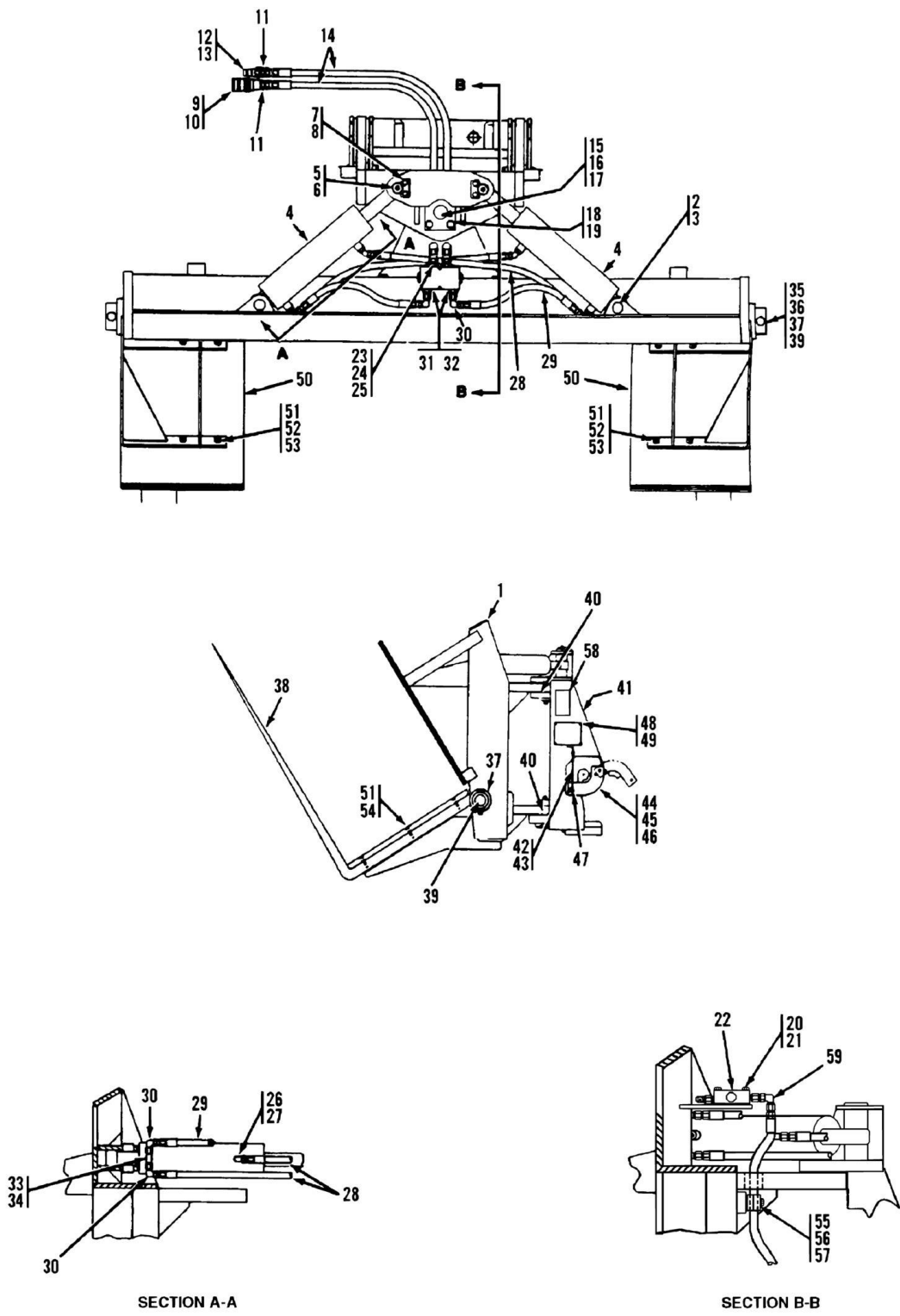
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	88662240	2	SWIVEL NUT RUN TEE, 1/2 TUBE	
48	77131088	2	ELBOW, 90	
49	90207719	1	JUMPER WIRE	
50	88662065	1	ELBOW, 90, (includes item 21)	
51	90451061	1	BACK COVER, (solenoid valve)	
52	80673023	2	SUPPORT CLAMP	
53	77143006	2	WHIZ-LOCKNUT, 5/16-18	
54	90453018	1	DUAL COUNTERBALANCE VALVE	
55	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
56	88561002	2	FLAT WASHER, 1/4	
57	88662018	2	CONNECTOR, (includes item 21)	
58	90453021	1	TUBE ASSY	
59	90453020	1	TUBE ASSY	
60	84711778	1	HOSE ASSY	
61	88591204	4	O-RING	
62	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE (Prior to SN 2005283-01)	
62	88662006	2	CONNECTOR, (includes 88591205 o-ring), (SN 2005283-01 to Present)	
63	91163138	1	HYD COUPLING, MALE TIP (Prior to SN 2005283-01)	
63	91403414	1	HYD COUPLING, MALE TIP, (SN 2005283-01 to Present)	
64	91033125	1	DUST CAP	
65	90453046	1	WIRING HARNESS	
66	90207662	1	6 CONTACT PLUG	
67	91033039	2	CHAIN CONNECTION	
68	91033038	24 in	CHAIN	
69	88341022	4	DRIVE SCREW, #10X3/8	
70	91041356	6	SPACER	
71	84717871	2	HOSE ASSY	
72	77133497	2	CLAMP	
73	77133498	2	COVER PLATE	
74	77133499	4	HEX HD CAPSCREW, 1/4-20X1-5/16	
75	91143282	2	PINCH POINT DECAL	
76	91343053	1	ATTENTION DECAL	
77	77133168	1	CLAMP SET	
78	77133140	2	COVER PLATE	
79	88201024	1	HEX HD CAPSCREW, 5/16-18X2, GR5	
80	88501005	1	HEX NUT, 5/16-18	
81		Ref	FORKS, (See FORK INFORMATION for Breakdown)	
82	90453033	1	66IN S.S. CARRIAGE	
82	90454003	2	BRONZE GUIDE	
82	90454001	1	CYLINDER	
82	90454002	1	PACKING KIT	
83	91034374	6	LOAD ROLLER	
84	91034375	12	SHIM	
85	84717537	2	HOSE ASSY	
86	88661084	2	BULKHEAD UNION, 9/16-18X3/8 TUBE	
87	77133146	1	HOSE ASSY	
88	91163139	1	HYD COUPLING, FEMALE (Prior to SN 2005283-01)	
88	91403413	1	HYD COUPLING, FEMALE, (SN 2005283-01 to Present)	
89	91043126	1	DUST CAP	
90	90153001	1	SERIAL NUMBER PLATE	
91	88662006	4	CONNECTOR, (includes item 21)	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
92	77385131	1	DIODE ASSY	
93	91043440	2	PIGGYBACK CONNECTOR	
94	86661147	3 in	BLACK WIRE, 16GA	
95	86683480	1	BUTT CONNECTOR	
96	83683549	AR	HEAT SHRINK TUBING	
97	91034377	2	SCREW	

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FIGURE 3-13. (90555013) 100, DRYWALL SWING FORK ASSEMBLY



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FIGURE 3-13. (90555013) 100, DRYWALL SWING FORK ASSEMBLY

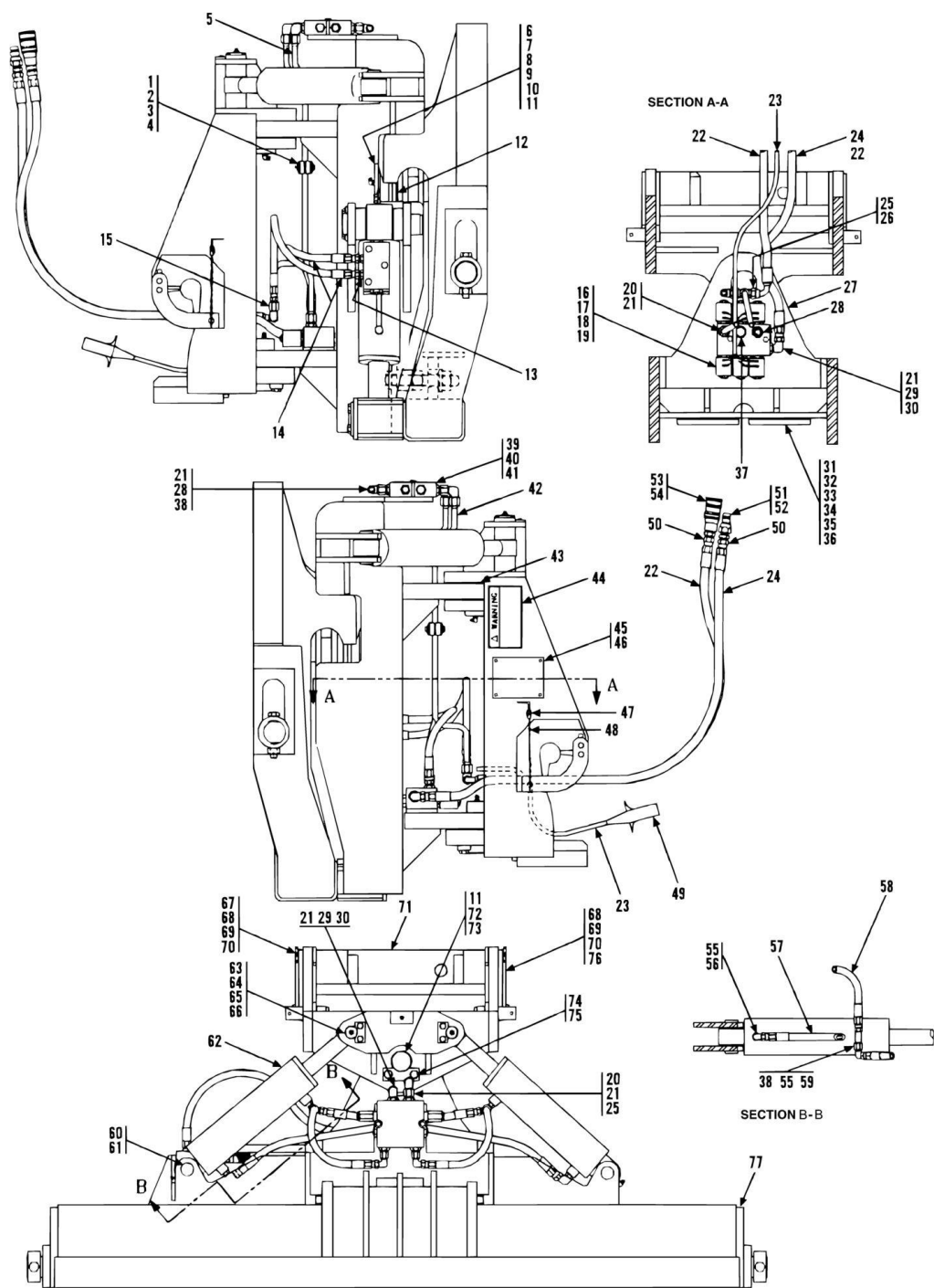
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90555013	1	100, DRYWALL SWING FORK ASSY (includes all items)	
1	90556004	1	DRYWALL CARRIAGE WELDMENT	
2	91041326	2	PIVOT PIN	
3	88581136	4	EXTERNAL RETAINING RING	
4	90453034	2	HYDRAULIC CYLINDER ASSY	
5	91041324	2	PIVOT PIN	
6	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
7	91411073	2	LOCKING PLATE	
8	83201024	4	HEX HD CAPSCREW, 3/8-16X1, GR8	
9	91043125	1	DUST CAP	
10	91163139	1	HYDRAULIC COUPLER, FEMALE (Prior to SN 2005283-01)	
10	91403413	1	HYDRAULIC COUPLER, FEMALE, (SN 2005283-01 to Present)	
11	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE (Prior to SN 2005283-01)	
11	88662006	2	CONNECTOR, (includes 8859-1205 o-ring), (SN 2005283-01 to Present)	
12	91043126	1	DUST CAP	
13	91163138	1	HYDRAULIC COUPLER, MALE (Prior to SN 2005283-01)	
13	91403414	1	HYDRAULIC COUPLER, MALE, (SN 2005283-01 to Present)	
14	84718067	2	HOSE ASSY	
15	91041325	2	PIVOT PIN	
16	91041327	2	BUSHING	
17	88671022	2	LUBE FITTING, 90, 1/8	
18	91041322	2	LOCKING PLATE	
19	83201026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	
20	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
21	88561002	2	FLAT WASHER, 1/4	
22	91043186	1	DOUBLE PILOT CHECK VALVE	
23	91041361	2	FITTING	
24	91041362	2	ORIFICE FITTING	
25	88591205	2	O-RING	
26	88662084	2	ELBOW, 45, (includes item 27)	
27	88591204	2	O-RING	
28	90204097	2	HOSE ASSY	
29	77133201	2	HOSE ASSY	
30	88662105	6	ELBOW, 90, (swivel nut)	
31	88662018	2	CONNECTOR (includes item 32)	
32	88591205	2	O-RING	
33	88662152	2	BRANCH TEE (includes item 34)	
34	88591204	2	O-RING	
35	88201105	4	HEX HD CAPSCREW, 5/8-11X4, GR5	
36	88521310	4	HEX LOCKNUT, 5/8-11	
37	90200003	4	COLLAR	
38	90453013	2	DRYWALL FORK	
39	90451020	2	FORK PIN	
40	91041356	6	SPACER	
41	91046062	1	PIVOT WELDMENT	
42	91033038	1	CHAIN, 24IN	
43	91033039	2	CHAIN CONNECTION	
44	88631449	2	ROLL PIN, 1/8X1-1/2	
45	91141350	2	PIN	

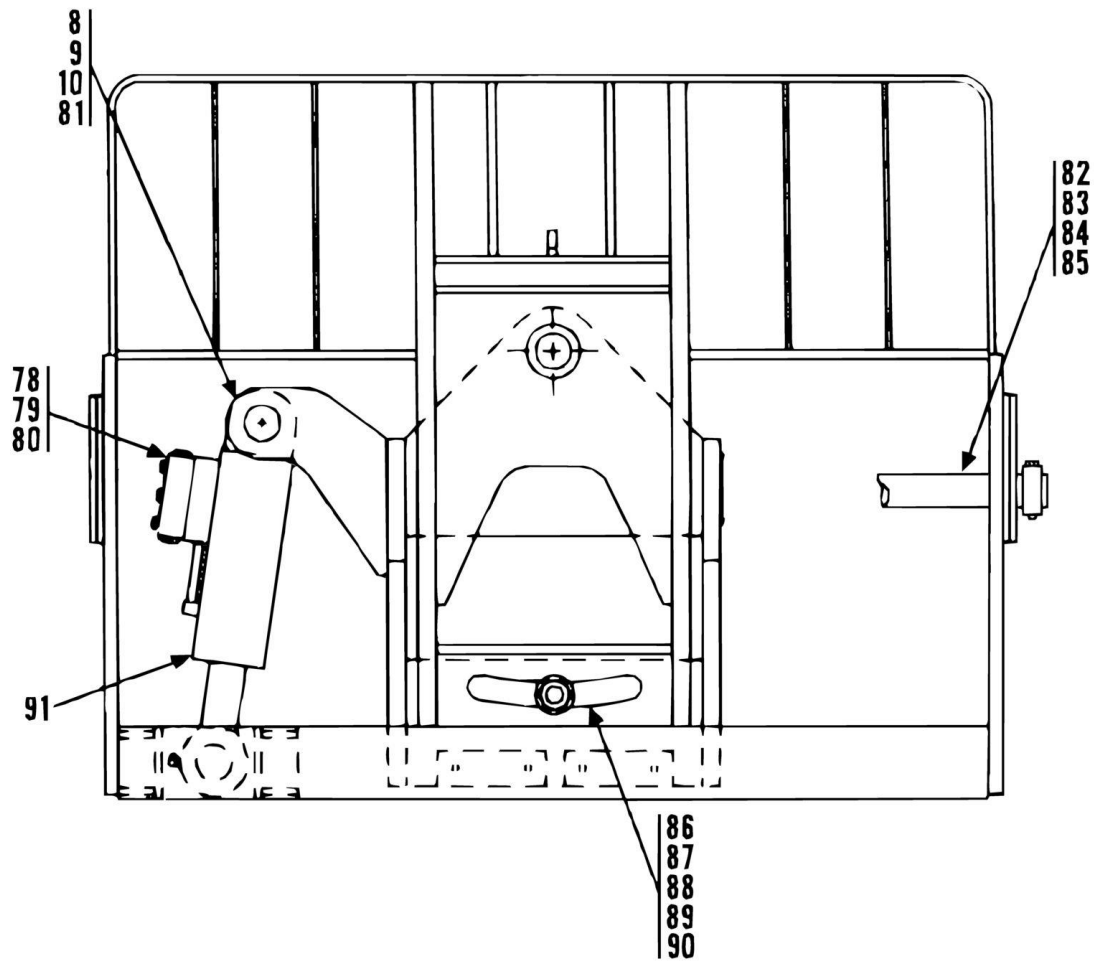
SECTION 3 - ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	91146053	1	SUPPORT BRACKET, L.H.	
46	91146054	1	SUPPORT BRACKET, R.H	
47	91043221	2	DETENT PIN	
48	90153001	1	SERIAL NUMBER PLATE	
49	88341022	4	DRIVE SCREW, #10X3/8	
50	90553012	2	SIDE DRYWALL GUARD	
51	88241053	14	SOCKET FLAT HD CAPSCREW, 3/8-16X1-1/2	
52	88551011	8	LOCKWASHER, 3/8	
53	88501006	8	HEX NUT, 3/8-16	
54	90553013	2	BOTTOM DRYWALL GUARD	
55	91083249	1	CLAMP SET	
56	77133140	1	COVER PLATE	
57	77133177	1	HEX HD CAPSCREW, 5/16-18X1-3/8	
58	91143282	2	PINCH POINT DECAL	
59	88662106	2	ELBOW, 90, (swivel nut)	

SECTION 3 - ATTACHMENTS

FIGURE 3-14. (91305021) SWINGING SLOPE PILER





SECTION 3 - ATTACHMENTS

FIGURE 3-14. (91305021) SWINGING SLOPE PILER

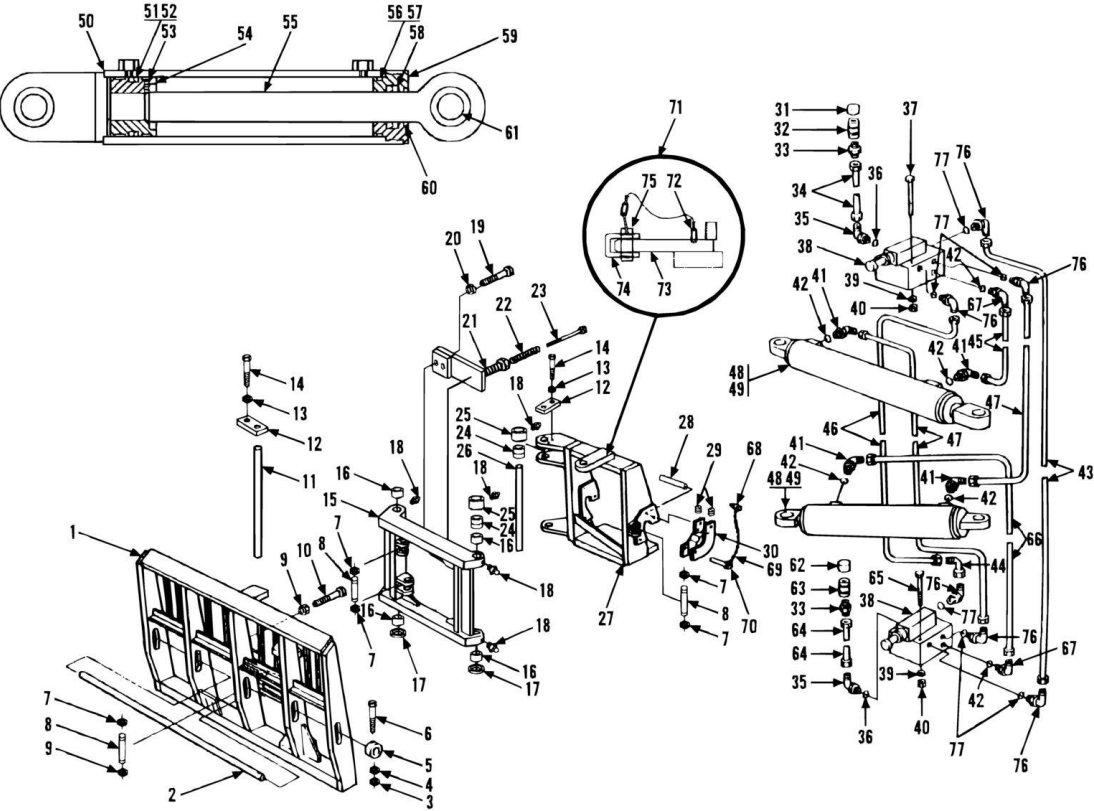
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91305021	1	SWINGING SLOPE PILER ASSY (includes all items)	
1	77133168	1	CLAMP SET	
2	77133140	2	COVER PLATE	
3	88201024	1	HEX HD CAPSCREW, 5/16-18X2, GR5	
4	88501005	1	HEX NUT, 5/16-18	
5	90453020	1	TUBE ASSY	
6	91083248	1	BUSHING	
7	91081622	1	PIN	
8	88201065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	
9	88551013	6	LOCKWASHER, 1/2	
10	91081313	3	KEEPER PLATE	
11	88671022	4	LUBE FITTING, 90, 1/8	
12	91081594	1	THRUST WASHER	
13	83661316	2	STRAIGHT THREAD CONNECTOR, 3/8 TUBE	
14	84717955	2	HOSE ASSY	
15	86883469	1	TUBE END REDUCER, 1/2-3/8 TUBE	
16	90453019	1	SOLENOID VALVE BANK	
17	88201025	2	HEX HD CAPSCREW, 5/16-18X2-1/4, GR5	
18	88561108	2	WASHER, 5/16	
19	88551010	2	LOCKWASHER, 5/16	
20	88662006	2	CONNECTOR (includes item 21)	
21	88591205	5	O-RING	
22	77133269	1	HOSE ASSY	
23	91303064	1	WIRING HARNESS	
24	77133146	1	HOSE ASSY	
25	88662106	2	ELBOW, 90, (swivel nut)	
26	88661306	1	UNION TEE, 1/2 TUBE	
27	91306032	1	INTERMEDIATE MEMBER	
28	88662018	3	CONNECTOR (includes item 21)	
29	90203384	2	ADAPTER	
30	91041362	2	ORIFICE FITTING	
31	90205870	4	SHIM (16 Ga)	
32	91031236	2	SPACER (.06 thick)	
33	88201537	4	HEX HD CAPSCREW, 3/8-24X1-3/4, GR5	
34	88201536	4	HEX HD CAPSCREW, 3/8-24X1-1/2, GR5	
35	88561109	4	FLAT WASHER, 3/8	
36	91033186	2	BEARING PAD	
37	88662175	1	HEX HD PLUG (includes item 21)	
38	88662105	4	ELBOW, 90, (swivel nut)	
39	90453018	1	DUAL COUNTERBALANCE VALVE	
40	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
41	88561002	2	WASHER, 1/4	
42	90453021	1	TUBE ASSY	
43	91041356	6	SPACER	
44	91043209	2	PINCH POINT DECAL	
45	90153001	1	SERIAL NUMBER PLATE	
46	88341022	4	DRIVE SCREW, #10X3/8	
47	91033039	1	CHAIN CONNECTOR	
48	91033038	1	CHAIN, 24IN	
49	90207662	1	6 CONTACT PLUG	

SECTION 3 - ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE	
51	90204244	1	MALE TIP HYDRAULIC COUPLING	
52	91043126	1	DUST CAP	
53	90204245	1	FEMALE HYDRAULIC COUPLING	
54	91043125	1	DUST CAP	
55	88591204	4	O-RING	
56	88662064	2	ELBOW, 90, (includes item 55)	
57	90204097	2	HOSE ASSY	
58	77133201	2	HOSE ASSY	
59	88662152	2	BRANCH TEE (includes item 55)	
60	91041326	2	PIVOT PIN	
61	88581136	4	SNAP RING	
62		Ref	SWING CYLINDER (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
63	91041324	2	PIVOT PIN	
64	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
65	91041322	2	LOCKING PLATE	
66	83201024	4	HEX HD CAPSCREW, 3/8-16X1, GR8	
67	91146054	1	R.H. SUPPORT BRACKET	
68	91141350	2	PIN	
69	88631449	2	ROLL PIN, 1/8X1-1/2	
70	91043221	2	DETENT PIN	
71	91046062	1	PIVOT WELDMENT	
72	91041325	2	PIVOT PIN	
73	91041327	2	BUSHING	
74	91041323	2	LOCKING PLATE	
75	83201026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	
76	91146053	1	L.H. SUPPORT BRACKET	
77	91306030	1	66IN CARRIAGE WELDMENT	
78		Ref	DUAL P.O. CHECK VALVE (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
79	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
80	88551011	3	LOCKWASHER, 3/8	
81	91081554	2	PIN	
82	91301083	1	FORK PIN	
83	90200003	2	COLLAR	
84	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
85	88521310	2	LOCKNUT, 5/8-11	
86	90204007	1	TUBE	
87	91081577	1	TAP BOLT	
88	88521016	1	STOVER LOCKNUT, 1IN	
89	88501016	1	HEX NUT, 1IN-8	
90	05101441	1	WASHER, 1-1/16 IN	
91		Ref	SWAY CYLINDER (See OPTIONAL EQUIPMENT SECTION for Breakdown)	

SECTION 3 - ATTACHMENTS

FIGURE 3-15. (90553011) 180, SWING FRAME



SECTION 3 - ATTACHMENTS

FIGURE 3-15. (90553011) 180, SWING FRAME

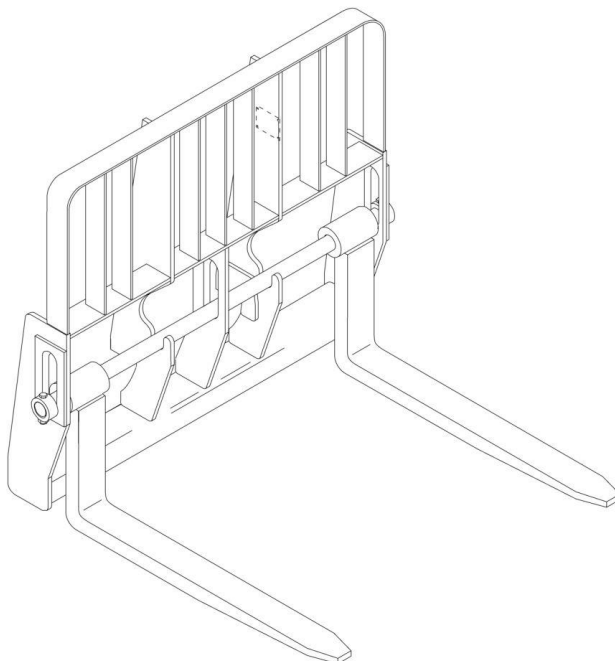
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90553011	1	SWING FRAME ASSY, 180, (includes all items)	
	91144203	Ref	HOSE KIT, (includes items 34, 43, 45, 46, 47, 64 & 66)	
1	91144204	1	FORK BASE WELDMENT	
2	91144205	1	FORK PIN	
3	91144206	2	HEX NUT, 1/2	
4	91204400	2	LOCKWASHER, 1/2	
5	91144207	2	COLLAR	
6	91144208	2	HEX HD CAPSCREW, 1/2X3-1/4, GR5	
7	91144209	8	SNAP RING	
8	91144210	4	PIN	
9	91144211	1	HEAVY HEX JAM NUT, 3/4	
10	91144212	1	HEX HD CAPSCREW, 3/4X2, GR5	
11	91044251	1	SHAFT	
12	91044242	2	PIN RETAINER	
13	91204368	4	LOCKWASHER, 5/8	
14	91144213	4	HEX HD CAPSCREW, 5/8X1-1/4, GR5	
15	91044243	1	INTERMEDIATE FRAME	
16	91044244	4	BRONZE BUSHING	
17	91044245	AR	SHIM	
18	91144214	10	LUBE FITTING, STRAIGHT, 1/4	
19	91144215	2	HEX HD CAPSCREW, 1/4X3/4, GR5	
20	91144216	2	LOCKWASHER, 1/4	
21		Ref	DRILLED SHIM, 20 GAGE	
22	91144217	2	STEEL SPRING	
23	91144219	1	FLAT HD CAPSCREW, 2X1/4	
24	91044249	2	THRUST BEARING	
25	91044250	2	LUBRICATION COLLAR	
26	91044241	1	SHAFT	
27	91144220	1	FIXED FRAME	
28	91141350	2	PIN	
29	91144221	4	SOCKET SET SCREW, (cup point), 1/4X3/8	
30	91146053	1	PIN SUPPORT, L.H.	
30	91146054	1	PIN SUPPORT, R.H.	
31	91043126	1	DUST CAP, FEMALE	
32	90204245	1	QUICK DISCONNECT HYDRAULIC FITTING, FEMALE	
33	88661013	2	STRAIGHT FITTING	
34	91144222	1	HOSE ASSY	
35	91204563	2	ELBOW, 90, (includes item 36)	
36		Ref	O-RING	
37	91144223	2	HEX HD CAPSCREW, 5/16X3, GR5	
38		Ref	SWING VALVE ASSY, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
39	91144224	4	LOCKWASHER, 5/16	
40	91144225	2	HEX NUT, 5/16	
41	88662064	4	ELBOW, 90, (includes item 42)	
42	88591204	6	O-RING	
43	91144226	1	HOSE ASSY	
44	91144227	1	ELBOW, (swivel nut)	
45	91144228	1	HOSE ASSY	
46	91144229	1	HOSE ASSY	

SECTION 3 - ATTACHMENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	91144230	2	HOSE ASSY	
48	91044262	2	CYLINDER ASSY, (includes items 50 thru 60)	
49	91144231	AR	CYLINDER SEAL KIT, (includes items 51, 52, 56, 57, 58 & 60)	
50	91144232	1	TUBE ASSY	
51	Kit	1	PIP RING	
52	Kit	1	PISTON SEAL	
53	91144233	1	LOCKING SET SCREW	
54	91144234	1	PISTON	
55	91144235	1	ROD ASSY	
56	Kit	1	O-RING	
57	Kit	1	BACK-UP RING	
58	Kit	1	ROD SEAL	
59	91144236	1	GLAND	
60	Kit	1	ROD WIPER	
61	91144237	4	SPERICAL BEARING	
62	91043125	1	DUST CAP, MALE	
63	90204244	1	QUICK DISCONNECT HYDRAULIC FITTING, MALE	
64	91144238	1	HOSE ASSY	
65	91144239	2	HEX HD CAPSCREW, 5/16X3-1/4, GR5	
66	91144240	1	HOSE ASSY	
67	86971355	2	ELBOW, 90, LONG, (includes item 42)	
68		Ref	CHAIN CONNECTION	
69	91144241	1	CHAIN, 18IN	
70	91144242	2	DETENT PIN	
71	91144243	1	LOCK-LINK ASSY, (includes items 72 thru 75)	
72	91144244	1	CHAIN, 7IN	
73	91144245	1	LOCK-LINK WELDMENT	
74	91144246	1	CLEVIS	
75	91144247	1	DETENT PIN	
76	88662062	6	ELBOW, 90, (includes item 77)	
77	88591203	6	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 3 - ATTACHMENTS

FIGURE 3-16. 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.

SECTION 3 - ATTACHMENTS

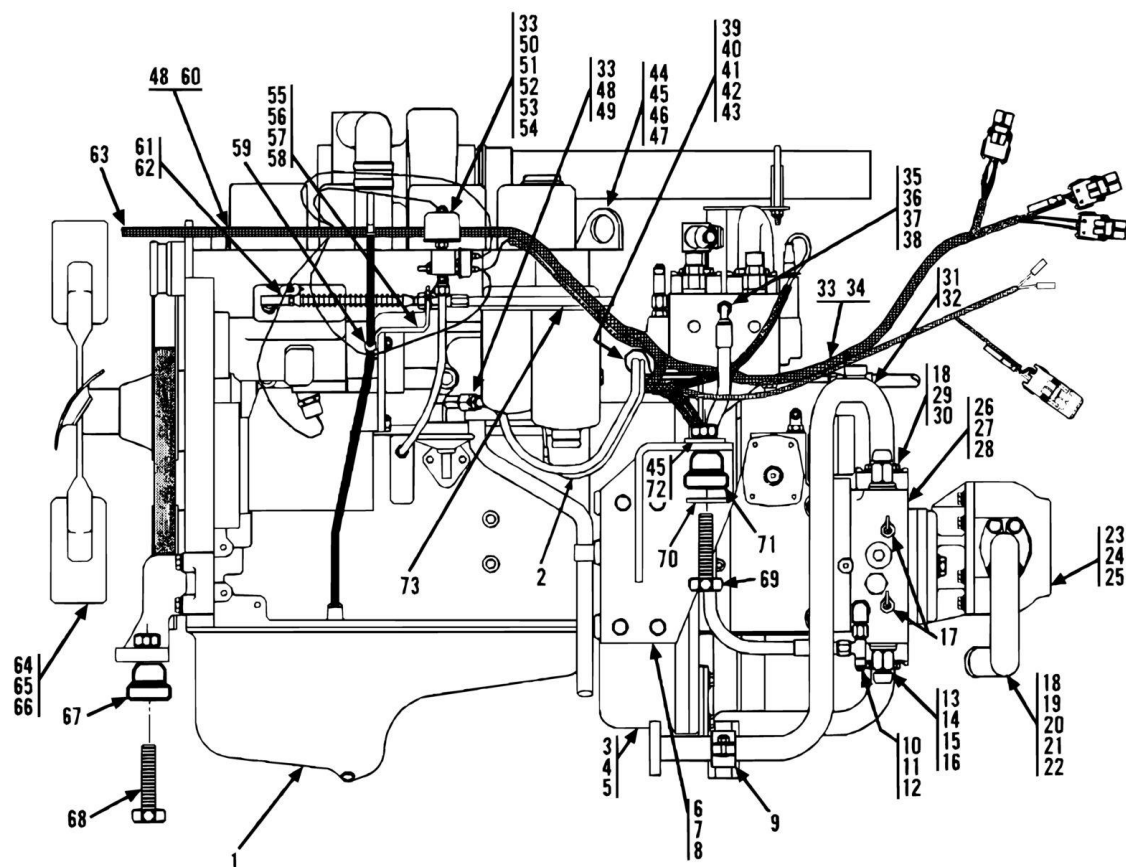
FIGURE 3-16. FORK INFORMATION

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, 8000 lbs, (B, C and D series)	
	90553005	2	48IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	
	90553008	2	48IN PALLET FORK, 1-3/4X4, 5000 lbs, (used on 6ft swing mast only, P/N90455047)	
	90601015	2	60IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	
	91163269	2	60IN PALLET FORK, 2X6, 11,300 lbs, (B, C and D series)	
	90453045	2	60IN PALLET FORK, 2X6, 11 300 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 PALLET FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)	
	90601873	2	48IN PALLET 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 PALLET FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)	
	90601874	2	60IN PALLET FORK, 2-1/4X7, 15,000 lbs, (used on the 542, 552, & 554)	
	H0453002	2	96IN PALLET FORK, 2X6, 7500 lbs loaded center (B, C and D series)	
	90553018	2	72IN PALLET FORK, 2X6, 10,000 lbs (B, C and D series)	

SECTION 4 - ENGINE AND ATTACHING PARTS

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. (91165003) ENGINE LEFT SIDE VIEW



SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. (91165003) ENGINE LEFT SIDE VIEW

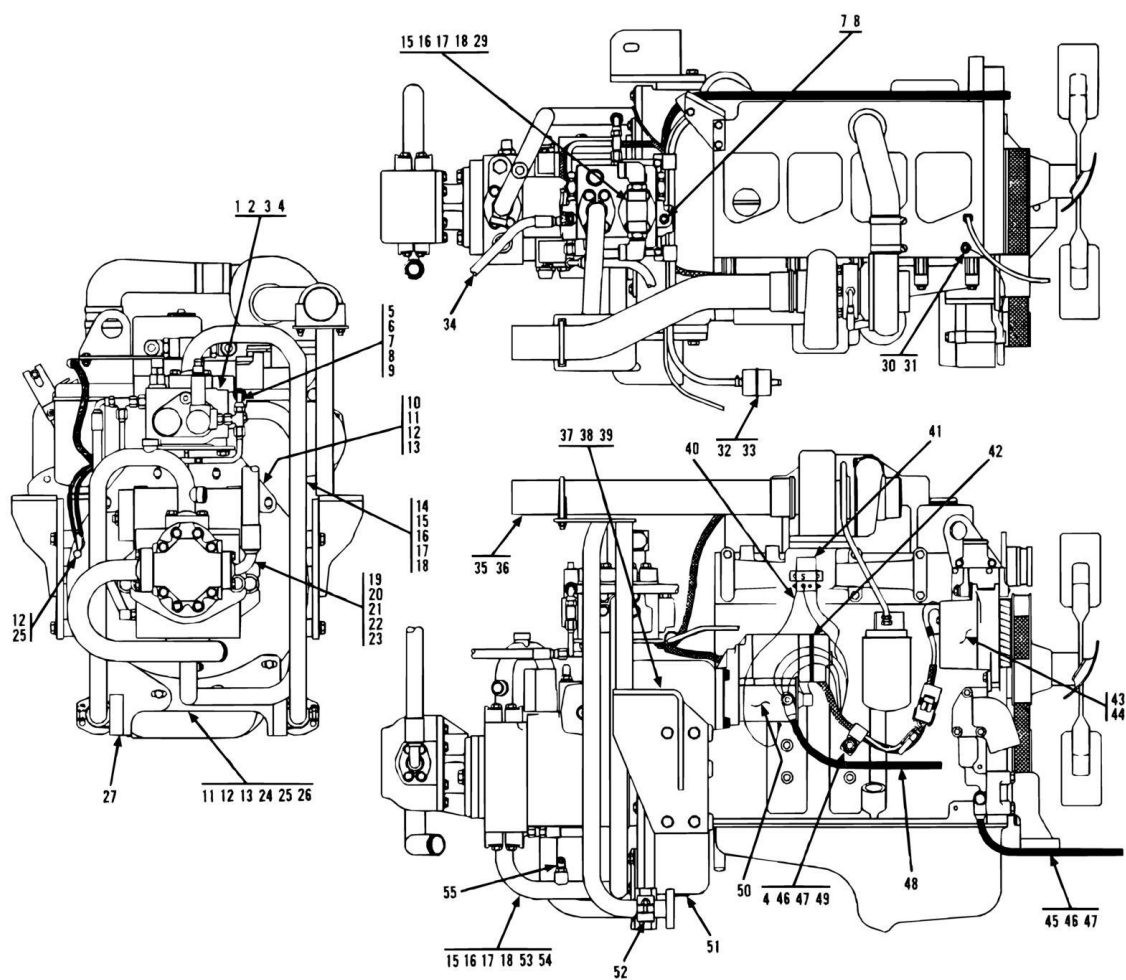
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165020		ENGINE FILTER KIT, (includes the following items)	
	91154001		AIR FILTER	
	91084001		OIL FILTER	
	77383202		FUEL FILTER, (primary)	
	77383203		FUEL FILTER, (secondary)	
	91083218		FUEL FILTER, (I/L)	
	91165003	1	ENGINE ASSY, (includes all items See (91165003) ENGINE LEFT SIDE VIEW except two of item 45, and items 67 thru 72, plus all items See (91165003) ENGINE RIGHT SIDE VIEW)	
1	91163001	1	CUMMINS 4BTA3.9 ENGINE	
2	Bulk	56 in	FUEL LINE HOSE, 7/32IN	
3	91163011	1	PUMP MOUNT AND FLYWHEEL COUPLING	
4	88211068	8	SOCKET HD CAPSCREW, 3/8-16X5/8, (torque to 40-45ft lbs)	
5	88551011	8	LOCKWASHER, 3/8	
6	91146021	1	L.H. ENGINE MOUNT	
7	83191032	4	HEX HD CAPSCREW, M12X1.75X35, (torque to 58-68ft lbs)	
8	83191010	4	LOCKWASHER, M12	
9	90205792	1	CUSHION CLAMP	
10	91083222	1	STRAIGHT THREAD REDUCING CONNECTOR	
11	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
12	77133447	1	HOSE ASSY	
13	88662011	1	CONNECTOR, (includes o-ring)	
13	88591210	1	O-RING	
14	91143087	1	INTAKE TUBE	
15	91143143	1	HOSE	
16	90028695	2	BAND CLAMP	
17	91053020	2	TEST COUPLING	
18	88551012	8	LOCKWASHER, 7/16	
19	88591027	1	O-RING	
20	91143121	1	SUCTION TUBE	
21	84711334	2	FLANGE CLAMP	
22	88201051	4	HEX HD CAPSCREW, 7/16-14X1-1/4, GR5	
23		Ref	MAIN PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
24	88201095	2	HEX HD CAPSCREW, 7/16-14X1-1/2, GR5	
25	90027472	2	HARDENED WASHER, 5/8	
26		Ref	HYDROSTATIC TRANSMISSION, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
27	88201112	2	HEX HD CAPSCREW, 3/4-10X2-1/4, GR5	
28	90027473	2	HARDENED WASHER, 3/4	
29	84712738	2	SPLIT FLANGE CLAMP	
30	83201135	4	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
31	91163122	1	TUBE ASSY	
32	91083106	1	O-RING	
33	90027187	7	TIEWRAP	
34	91163049	1	STABILIZER HARNESS	
35	77133447	1	HOSE ASSY	
36	88591206	1	O-RING	
37	91083306	1	STRAIGHT THREAD CONNECTOR, (includes item 36)	
38	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	

SECTION 4 - ENGINE AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
39	85941017	2	SUPPORT CLAMP	
40	88201020	2	HEX HD CAPSCREW, 5/16-18X1, GR5	
41	88501005	2	HEX NUT, 5/16-18	
42	88551010	2	LOCKWASHER, 5/16	
43	24861170	2	SUPPORT CLAMP	
44	88201065	1	HEX HD CAPSCREW, 1/2-13X1, GR5	
45	88561111	3	WASHER, 1/2	
46	88501008	1	HEX NUT, 1/2-13	
47	91143122	1	SUPPORT CLAMP	
48	Bulk	59 in	FUEL LINE HOSE, 5/16IN	
49	90030271	1	HOSE NIPPLE	
50	24741047	1	PRESSURE SWITCH	
51	91033246	1	OIL PRESSURE SENDER	
52	91081388	1	TAPPED BAR	
53	86883075	2	TUBE FITTING	
54	Bulk	18 in	NYLON TUBE, 3/8	
55	91141317	1	THROTTLE CABLE BRACKET	
56	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
57	88551009	2	LOCKWASHER, 1/4	
58	88501616	2	HEX NUT, 1/4-20	
59	85841094	1	SUPPORT CLAMP	
60	86883106	2	HOSE CLAMP	
61	88501613	1	HEX NUT, #10-32	
62	90027908	1	BALL JOINT	
63	91143192	1	WIRING HARNESS	
64	91143043	1	FAN ASSY	
65	83191039	4	HEX HD CAPSCREW, M8X1.25X80	
66	88561108	4	WASHER, 5/16	
67	91143030	1	SHOCK MOUNT	
68	91143131	1	HEX HD CAPSCREW, M12X1.75X90	
69	88201075	2	HEX HD CAPSCREW, 1/2-13X3-1/2, GR5	
70	91143032	2	REBOUND WASHER	
71	91143031	2	SHOCK MOUNT	
72	88521008	2	HEX LOCKNUT, 1/2-13unc	
73	91083404	1	THROTTLE CABLE	
74	91124125	1	DIPSTICK, (not shown)	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. (91165003) ENGINE RIGHT SIDE VIEW



SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. (91165003) ENGINE RIGHT SIDE VIEW

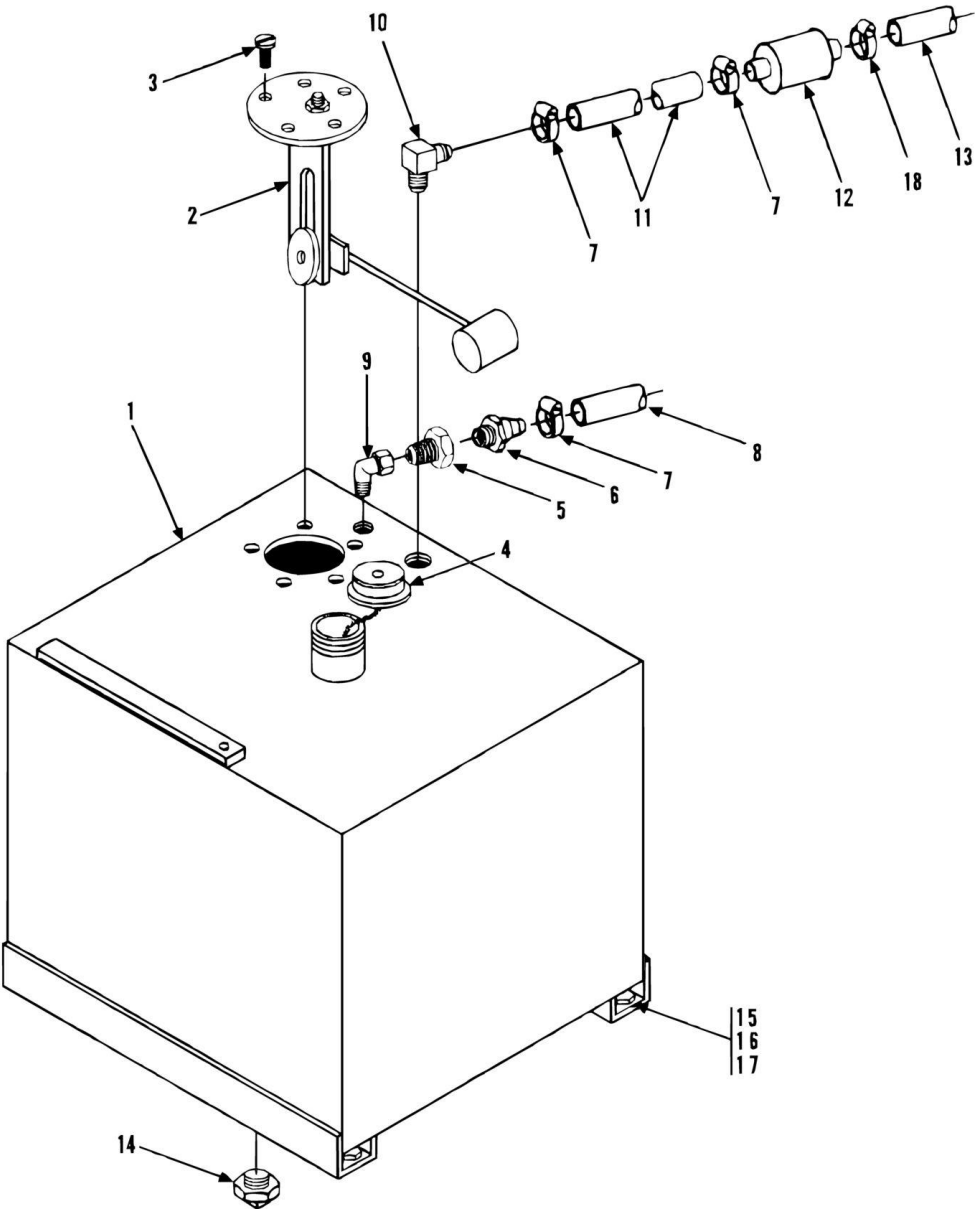
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165003	1	ENGINE ASSY, (includes all items See (91165003) ENGINE LEFT SIDE VIEW except two of item 45, and items 67 thru 72, plus all items See (91165003) ENGINE RIGHT SIDE VIEW)	
1		Ref	TRACTION LOCK VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88201006	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
3	88551013	2	LOCKWASHER	
4	88561111	3	FLAT WASHER, 1/2	
5	91163098	1	TUBE ASSY	
6	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
7	88662005	2	CONNECTOR, (includes item 8)	
8	88591204	2	O-RING	
9	84718700	1	HOSE ASSY	
10	91146058	1	FLOW DIVIDER BRACKET	
11	83191006	5	HEX HD CAPSCREW, M10X1.5X40	
12	83191013	12	LOCKWASHER, M10	
13	88561109	7	WASHER, 3/8	
14	91083418	1	TUBE ASSY	
15	91083106	4	O-RING	
16	84712738	8	SPLIT FLANGE CLAMP	
17	83201155	12	HEX HD CAPSCREW, 7/16-14X1-3/4	
18	88551012	16	LOCKWASHER, 7/16	
19	84718639	1	HOSE ASSY	
20	84711333	2	SPLIT FLANGE CLAMP	
21	88591024	1	O-RING	
22	88201036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
23	88551011	4	LOCKWASHER	
24	91086130	1	TUBE SUPPORT	
25	83191021	5	HEX HD CAPSCREW, M10X1.5X30	
26	83191005	2	HEX HD CAPSCREW, M10X1.5X45	
27	91086131	1	TUBE SUPPORT	
28	91083266	1	TUBE ASSY	
29	88662332	2	CONNECTOR, 90, (includes o-ring)	
29	88591207	2	O-RING	
30	90206124	1	WATER TEMP SENDER	
31	88711384	1	REDUCER BUSHING	
32	83483497	1	HOSE CLAMP	
33	91083218	1	STRAINER	
34	84718425	1	HOSE ASSY	
35	91146037	1	EXHAUST TUBE	
36	83683175	1	MUFFLER CLAMP	
37	91146056	1	R.H. ENGINE MOUNT	
38	83191032	4	HEX HD CAPSCREW, M12X1.75X35	
39	83191010	4	LOCKWASHER, M12	
40	90205205	1	JUMPER WIRE	
41	90402427	1	STARTER SOLENOID	
42	90027187	1	TY-RAP	
43	91083503	1	ALTERNATOR, (includes item 44)	
44	91083504	1	REGULATOR, (included with item 43)	
45	91143124	1	NEGATIVE BATTERY CABLE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	83191004	2	HEX HD CAPSCREW, M12X1.75X30	
47	83191010	2	LOCKWASHER, M12	
48	91143099	1	POSITIVE BATTERY CABLE	
49	91143122	1	SUPPORT CLAMP	
50	91083456	1	STARTER	
51	88711284	1	PIPE PLUG, 3/4	
52	90205792	1	CUSHION CLAMP	
53	83201135	4	HEX HD CAPSCREW, 7/16-14X1-1/2	
54	91163201	1	TUBE ASSY	
55	90027906	1	ELBOW, 90, (includes o-ring)	
55	88591204	1	O-RING	

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FIGURE 4-3. FUEL TANK AND LINES



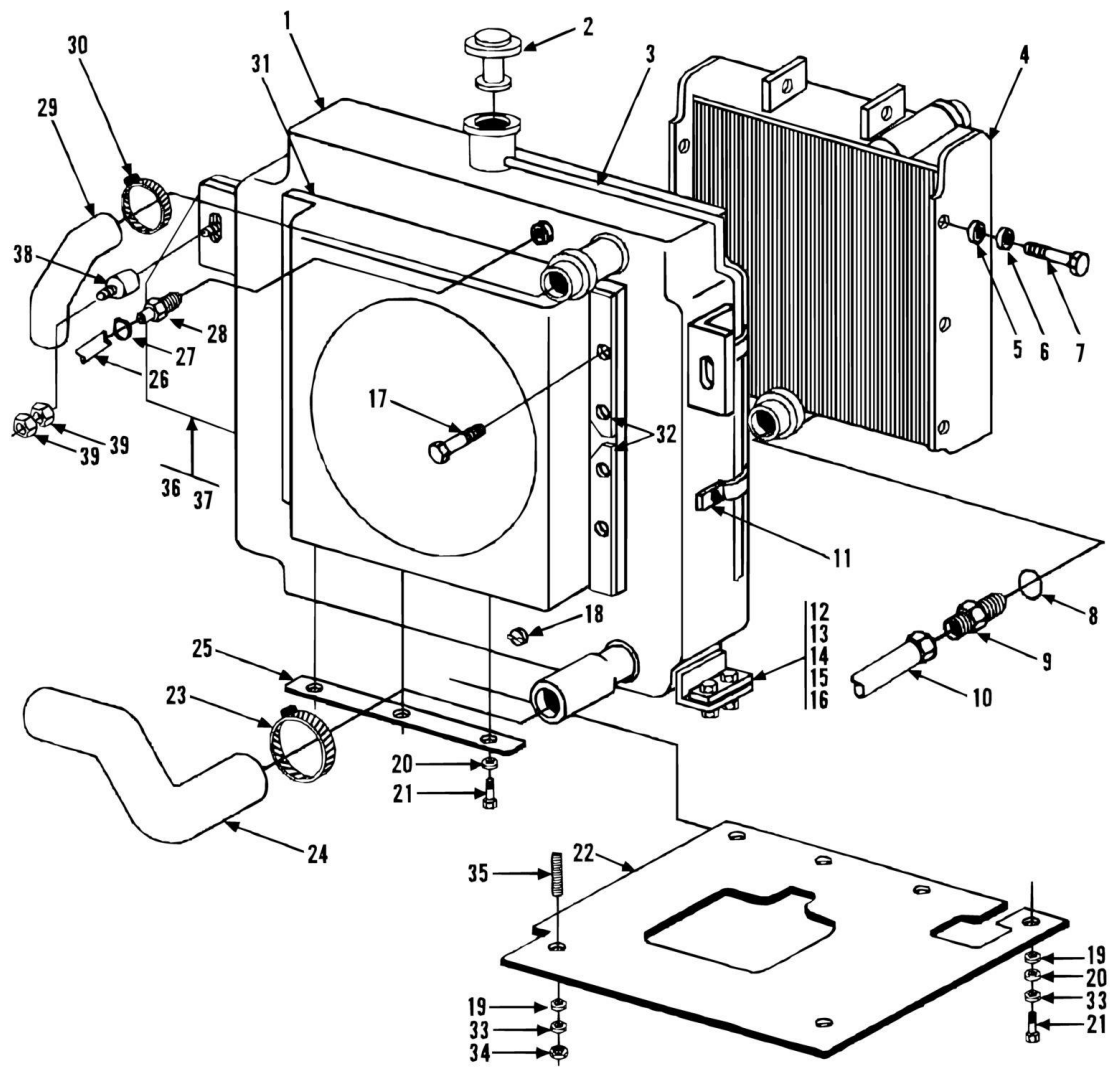
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. FUEL TANK AND LINES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085016	1	FUEL TANK ASSY, (includes items 1 thru 6, 9, 10 & 14)	
1	91083501	1	FUEL TANK, (includes items 4 & 14)	
2	90400654	1	FUEL LEVEL SENDER,(includes item 3)	
3		Ref	SCREW	
4	86541381	1	FUEL TANK CAP, (w/chain)	
5	88711385	1	REDUCING BUSHING, 1/2X1/8	
6	88741805	1	HOSE NIPPLE	
7	86883106	3	HOSE CLAMP	
8	Bulk	52 in	FUEL LINE HOSE, 7/32 I.D.	
9	88712011	1	STREET ELBOW, 90, 1/8	
10	84712746	1	HOSE NIPPLE, 90, 1/2X3/8	
11	Bulk	8 in	FUEL LINE HOSE, 3/8 I.D.	
12	91083218	1	FUEL FILTER, (I/L)	
13	Bulk	41 in	FUEL LINE HOSE, 5/16 I.D.	
14	88711283	1	HEX SOCKET PIPE PLUG,1/2	
15	88201095	4	HEX HD CAPSCREW, 5/8-11X1-1/2, GR5	
16	88561008	4	WASHER, 5/8	
17	88551015	4	LOCKWASHER, 5/8	
18	83483497	1	HOSE CLAMP	

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FIGURE 4-4. (91165019) RADIATOR ASSEMBLY



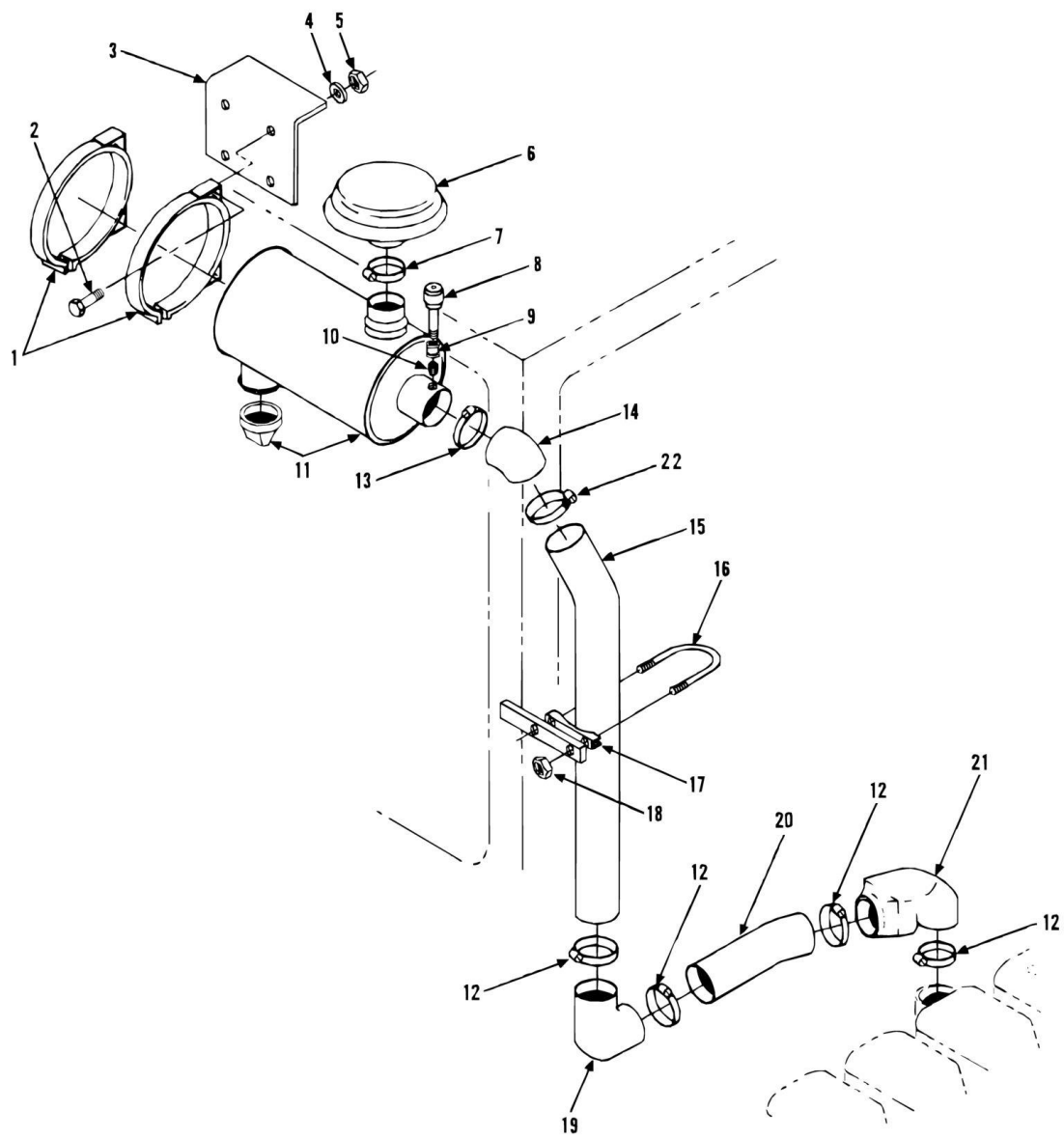
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-4. (91165019) RADIATOR ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165019	1	RADIATOR ASSY (includes items 1 thru 9, 11, 17, 18 & 31)	
1	91143028	1	RADIATOR (includes item 2)	
2	91144008	1	RADIATOR CAP	
3	Bulk	38 in	HOSE, 5/16 I.D.	
4	91143029	1	OIL COOLER	
5	88551011	6	LOCKWASHER, 3/8	
6	88561109	4	FLAT WASHER, 3/8	
7	88201034	6	HEX HD CAPSCREW, 3/8-16X7/8, GR5	
8	88591210	1	O-RING	
9	88662028	1	CONNECTOR (includes item 8)	
10	84718945	1	HOSE ASSY	
11	85941016	2	SUPPORT CLAMP	
12	83683308	4	MOUNTING PAD	
13	90205918	4	WASHER	
14	88201037	4	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
15	88561109	4	FLAT WASHER, 3/8	
16	88521206	4	LOCKNUT	
17	77143003	8	WHIZ-LOK SCREW, 5/16-18X5/8	
18	84521056	1	DRAIN COCK	
19	88561003	3	FLAT WASHER, 5/16	
20	88551010	4	LOCKWASHER, 5/16	
21	88201020	4	HEX HD CAPSCREW, 5/16-18X1, GR5	
22	91143139	1	DUST SHIELD	
23	86883327	2	HOSE CLAMP	
24	91143045	1	LOWER RADIATOR HOSE	
25	91141231	1	FLAT BAR	
26	Bulk	14 in	HOSE, 5/16 I.D.	
27	86883106	1	HOSE CLAMP	
28	90030271	1	FITTING	
29	91153012	1	UPPER RADIATOR HOSE	
30	85071128	2	HOSE CLAMP	
31	91141104	1	RADIATOR SHROUD	
32	91141322	4	CLAMP BAR	
33	88561111	3	FLAT WASHER, 1/2	
34	88501005	2	HEX NUT	
35	77143004	2	WHIZ LOCK SCREW, 5/16-18X1-3/4	
36	91141103	1	L.H. RADIATOR MOUNT	
36	91141102	1	R.H. RADIATOR MOUNT	
37	85611278	2	WELD STUD	
38	91033137	2	SHOCK MOUNT	
39	77143006	4	WHIZ LOCK NUT, 5/16-18	

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FIGURE 4-5. AIR CLEANER PIPING



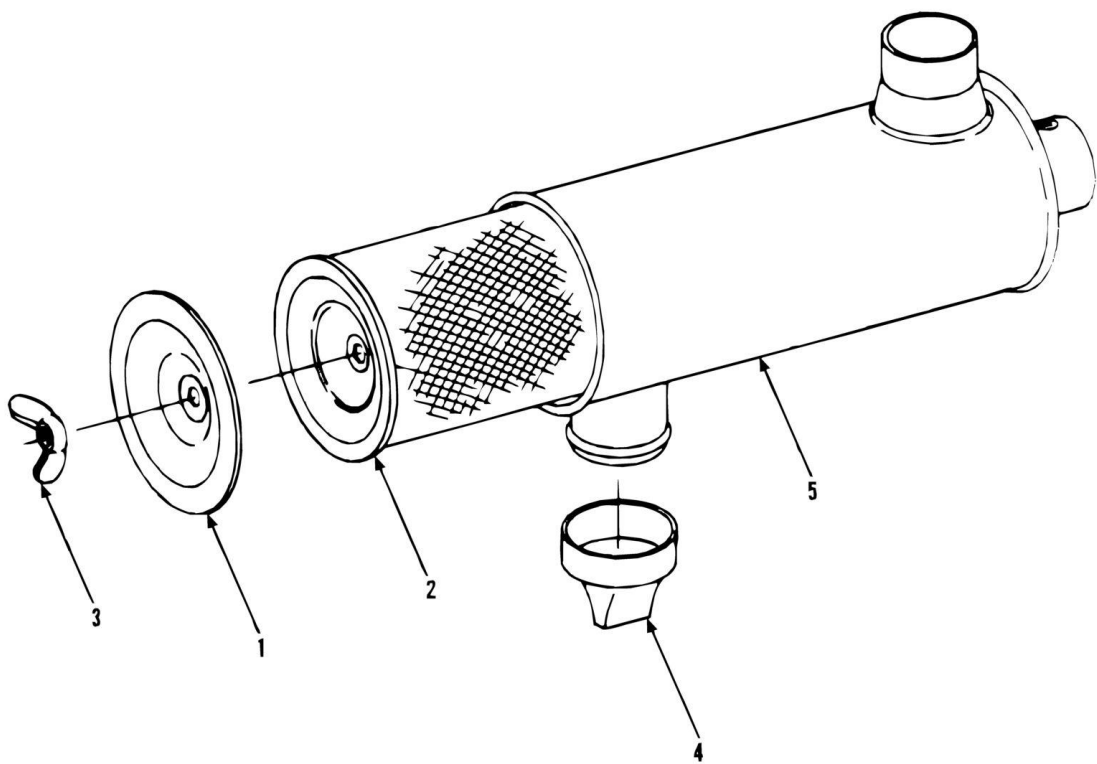
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FIGURE 4-5. AIR CLEANER PIPING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	86981533	2	MOUNTING BAND	
2	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
3	91151002	1	BRACKET	
4	88561109	4	FLAT WASHER, 3/8	
5	88521306	4	HEX LOCKNUT, 3/8-16	
6	91153005	1	INLET CAP (includes item 7)	
7		Ref	CLAMP	
8	77383154	1	SERVICE INDICATOR	
9	88711210	1	PIPE COUPLING, 1/8	
10	88701023	1	CLOSE NIPPLE, 1/8X3	
11		Ref	AIR CLEANER (See (91153006) AIR CLEANER for Breakdown)	
12	91163129	4	HOSE CLAMP	
13	90028631	1	HOSE CLAMP	
14	91153007	1	REDUCING ELBOW	
15	91143126	1	AIR INTAKE TUBE	
16	24921332	1	MUFFLER CLAMP (includes items 17 & 18)	
17		Ref	BRIDGE	
18		Ref	NUT	
19	91083128	1	AIR INTAKE ELBOW	
20	91153011	1	AIR INTAKE TUBE	
21	91151003	1	AIR INTAKE ELBOW	
22	77383790	1	HOSE CLAMP	

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FIGURE 4-6. (91153006) AIR CLEANER



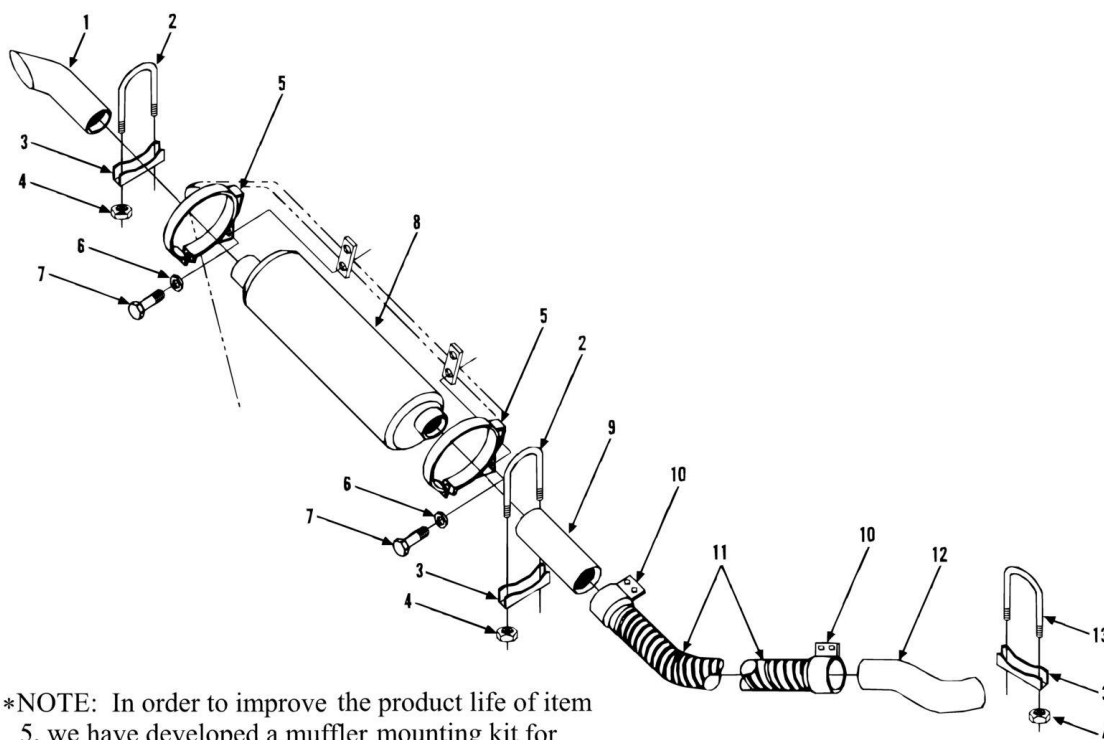
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FIGURE 4-6. (91153006) AIR CLEANER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91153006	1	AIR CLEANER (includes items 1 thru 5)	
1	91154005	1	COVER	
2	91154001	1	ELEMENT	
3	90201414	1	WING NUT	
4	90200807	1	VACUATOR	
5		Ref	BODY (not sold separately, order P/N 91153006)	

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FIGURE 4-7. EXHAUST SYSTEM



*NOTE: In order to improve the product life of item 5, we have developed a muffler mounting kit for service replacement. Order part number 9116-5045 which includes two 9116-1290 muffler mounts and two 2492-1332 muffler clamps.

SECTION 4 - ENGINE AND ATTACHING PARTS

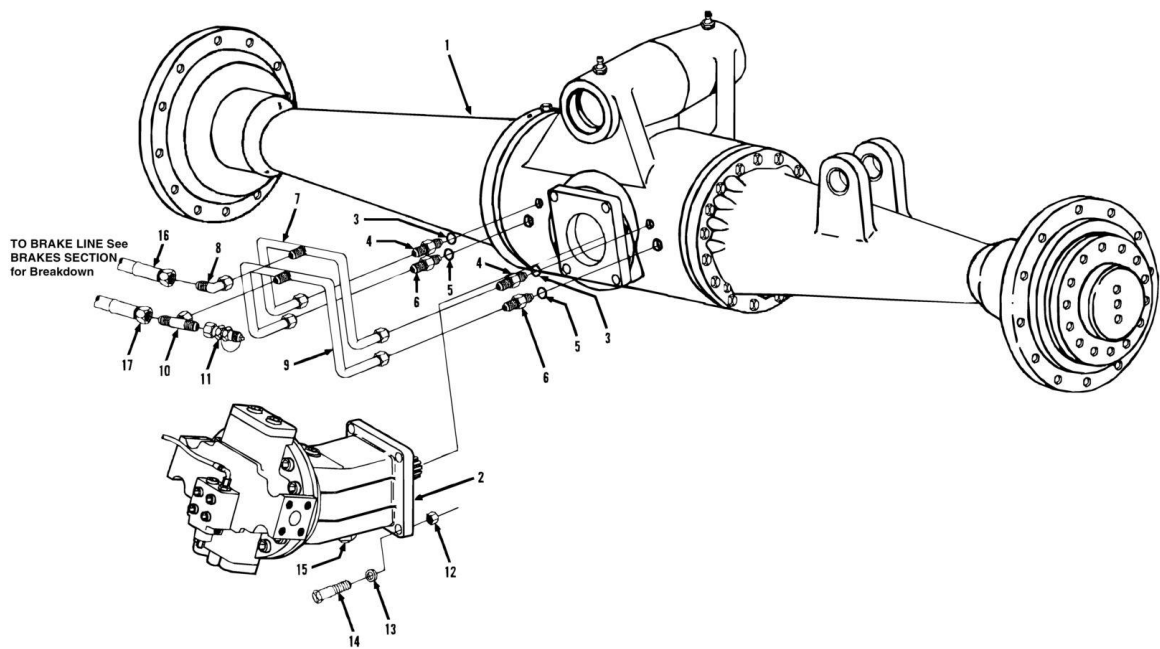
FIGURE 4-7. EXHAUST SYSTEM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91163189	1	TAIL PIPE	
2	24921332	2	MUFFLER CLAMP (includes items 3 & 4)	
3		Ref	BRIDGE	
4		Ref	NUT	
5	80273011	2	MUFFLER BRACKET (see note)	
5	91163196	2	WHIZ-LOCK SCREW, 3/8-16	
5	77143015	2	WHIZ-LOCK NUT, 3/8-16	
6	88551010	4	LOCKWASHER, 5/16	
7	88201016	4	HEX HD CAPSCREW, 5/16-18x1/2, GR5	
8	91163035	1	MUFFLER	
9	91163234	1	EXHAUST TUBE	
10	77213031	2	CLAMP (includes hardware)	
11	91043150	1	FLEXIBLE TUBING	
12	91146037	1	EXHAUST TUBE	
13	83683175	1	MUFFLER CLAMP (includes items 3 & 4)	

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FIGURE 5-1. (91165004) FRONT AXLE ASSEMBLY



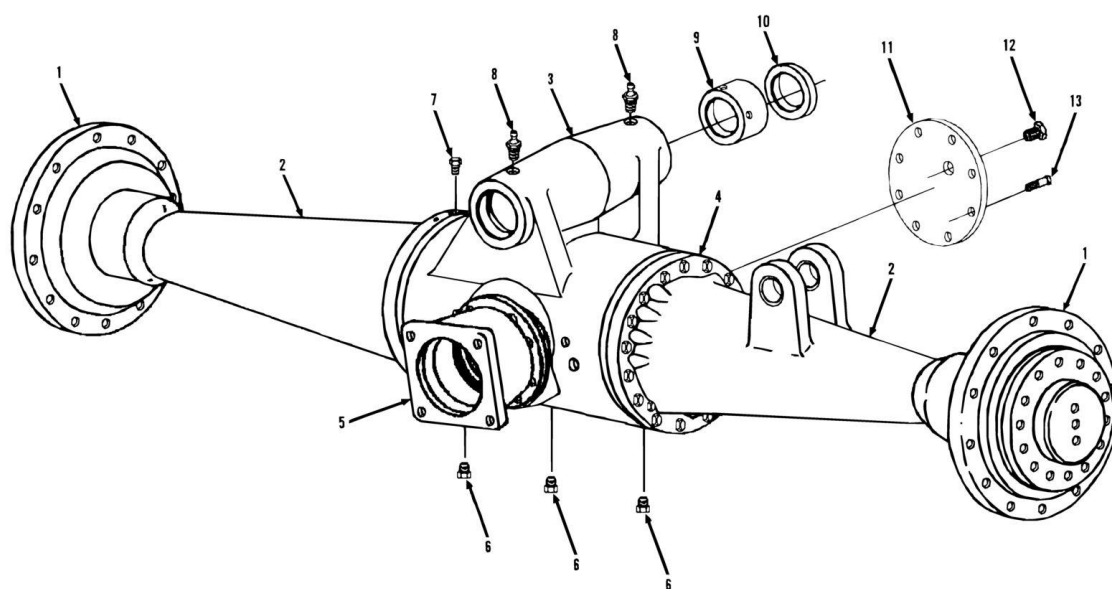
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FIGURE 5-1. (91165004) FRONT AXLE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165004	1	FRONT AXLE ASSY (includes items 1 thru 15)	
1		Ref	FRONT AXLE (See (91163015) FRONT AXLE for Breakdown)	
2		Ref	FRONT DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
3	88591205	2	O-RING	
4	88662006	2	CONNECTOR (includes item 3)	
5	88591204	2	O-RING	
6	88662005	2	CONNECTOR (includes item 5)	
7	91123130	1	PARK BRAKE TUBE LINE	
8	88662106	1	ELBOW, 90, (swivel nut)	
9	91123127	1	SERVICE BRAKE TUBE LINE	
10	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
11	91143172	1	MINI CHECK VALVE	
12	88501012	4	HEX NUT, 3/4-10	
13	90027473	4	HARD WASHER, 3/4	
14	83201058	4	HEX HD CAPSCREW, 3/4-10X3-3/4, GR8	
15	88662194	1	HEX SOCKET HD PLUG, (includes o-ring)	
15	88591206	1	O-RING	
16	84718759	1	HOSE ASSY	
17	84718753	1	HOSE ASSY	

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FIGURE 5-2. (91163015) FRONT AXLE



SERVICE NOTE: When servicing this axle, it is recommended that on machines with starting serial numbers prior to 0255070, that you:

- 1). Replace the old style cover plate with the new cover plate kit, p/n 9114-5130.
- 2). Then refill the axle with 40 pints of mobil 424 fluid instead of 33 pints.

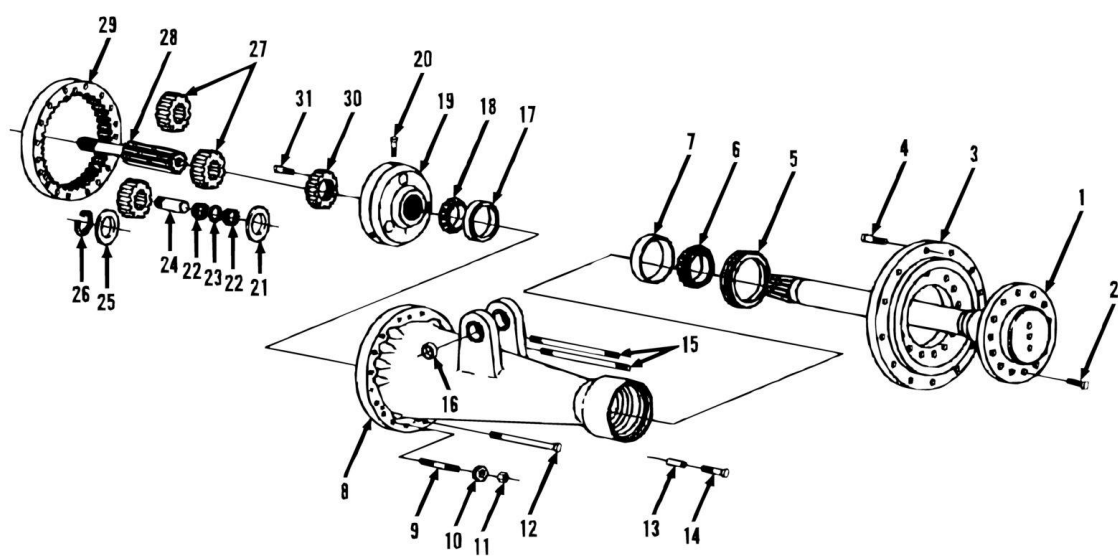
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FIGURE 5-2. (91163015) FRONT AXLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91363015	1	FRONT AXLE,(includes all items See (91163015) FRONT AXLE thru CARRIER ASSEMBLY)	
	91145130	1	COVER PLATE KIT, (includes new style items 11 & 12)	
1		Ref	WHEEL FLANGE ASSY, (See CARRIER ASSEMBLY for Breakdown)	
2		Ref	LEFT AND RIGHT HOUSING ASSY, (See CARRIER ASSEMBLY for Breakdown)	
3	91144326	1	CENTER HOUSING ASSY, (includes item 9)	
4		Ref	BRAKE ASSY, (See BRAKE ASSEMBLY for Breakdown)	
5		Ref	CARRIER ASSY, (See (91144339) (91144337) LEFT/RIGHT HOUSING ASSEMBLY AND (91144333) (91144335) AXLE SHAFT AND WHEEL FLANGE ASSEMBLY for Breakdown)	
6	91144327	3	DRAIN PLUG	
7	91144328	1	VENT PLUG	
8	91144329	2	LUBE FITTING	
9	91084046	2	BUSHING	
10	91084047	2	TRUNNION OIL SEAL	
11		Ref	COVER-OLD STYLE, NO LONGER AVAILABLE	
11	91141511	1	COVER-NEW STYLE (Including 0255070)	
12	91144331	1	LEVEL PLUG-OLD STYLE (Including 055001)	
12	88711284	1	LEVEL PLUG-NEWSTYLE (Including 0255070)	
13	91144332	8	CAPSCREW, M8X1.25X16.0	

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FIGURE 5-3. (91144339) (91144337) LEFT/RIGHT HOUSING ASSEMBLY; (91144333) 91144335) AXLE
SHAFT AND WHEEL FLANGE ASSEMBLY



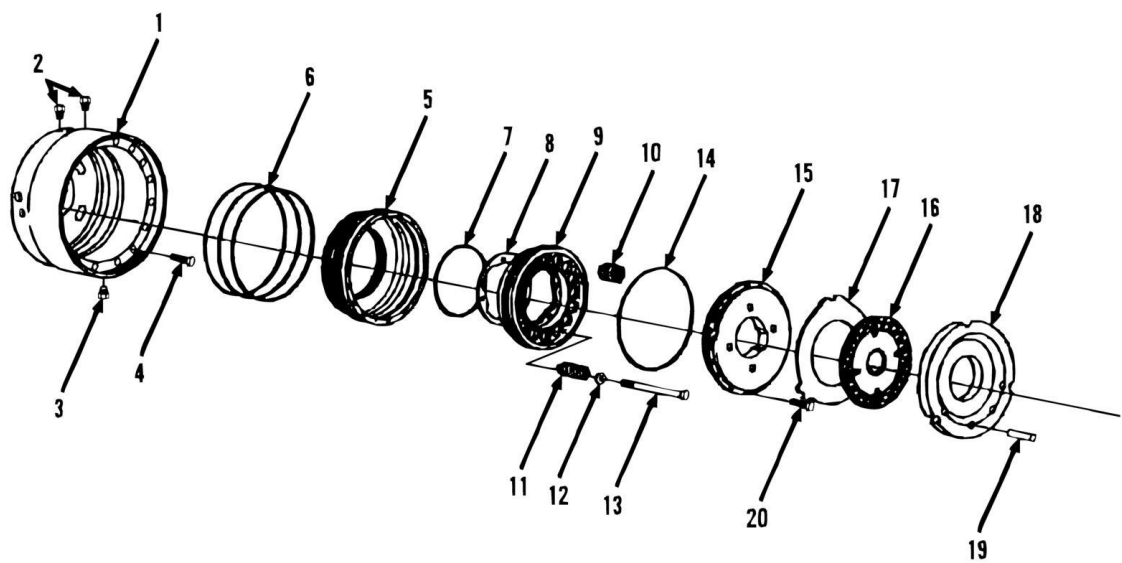
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FIGURE 5-3. (91144339) (91144337) LEFT/RIGHT HOUSING ASSEMBLY; (91144333) 91144335) AXLE SHAFT AND WHEEL FLANGE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91144333	2	AXLE SHAFT ASSY (includes items 2, 3, 4 & 5)	
2	91144334	28	CAPSCREW, M20X1.5X50.0	
3	91144335	2	WHEEL FLANGE ASSY (includes item 4)	
4	90203543	24	WHEEL BOLT	
5	91144336	2	SHAFT OIL SEAL	
6	86984451	2	BEARING CONE	
7	86984452	2	BEARING CUP	
8	91144337	1	HOUSING ASSY - RIGHT SIDE (shown)(includes items 7, 16 & 17)	
8	91164006	Ref	RING GEAR AND HOUSING ASSY - RIGHT SIDE (shown) (includes items 7, 16, 17 & 29)	
8	91144339	1	HOUSING ASSY - LEFT SIDE (not shown) (includes items 7 & 17)	
8	91164007	Ref	RING GEAR AND HOUSING ASSY - LEFT SIDE (not shown) (includes items 7, 17 & 29)	
9	91144341	4	SET SCREW	
10	91144342	32	WASHER	
11	91144343	8	NUT, M14X1.5-6H	
12	91144344	14	CAPSCREW - RIGHT SIDE, M14X1.5X212.0	
12	91144345	14	CAPSCREW - LEFT SIDE, M14X1.5X120.0	
13	91144346	2	SPACER - 19MM	
13	91144347	4	SPACER - 26MM	
14	91144348	4	CAPSCREW - USE W/26MM SPACER, M14x1.5x85 (position at 7 & 5 o'clock)	
14	91144349	2	CAPSCREW - USE W/19MM SPACER, M14x1.5x78 (position at 12 o'clock)	
15	91144350	2	STUD - RIGHT SIDE, M14X1.5X232.0	
15	91144351	2	STUD - LEFT SIDE, M14X1.5X112.0	
16	91144352	2	BUSHING	
17	91144353	2	BEARING CUP	
18	91144354	2	BEARING CONE	
19	91164008	2	SPIDER ASSY (includes items 20 & 24)	
20	91144356	6	CAPSCREW, M10X23.0	
21	91144357	6	THRUSTWASHER	
22	91144358	6	KIT ROLLER	
23	91144359	6	SPACER	
24	91144360	6	PLANETARY PINION SHAFT	
25	91144361	6	WASHER	
26	91144362	6	SNAP RING	
27	91144363	8	PLANETARY PINION	
28	91144364	1	SUN GEAR (287.0MM) - RIGHT SIDE (shown)	
28	91144365	1	SUN GEAR (247.0MM) - LEFT SIDE (not shown)	
29	91164009	2	RING GEAR	
30	91144367	2	ADJUSTING NUT	
31	91144368	2	CAPSCREW (adjusting nut lock)	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR BOTH SIDES	

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FIGURE 5-4. BRAKE ASSEMBLY



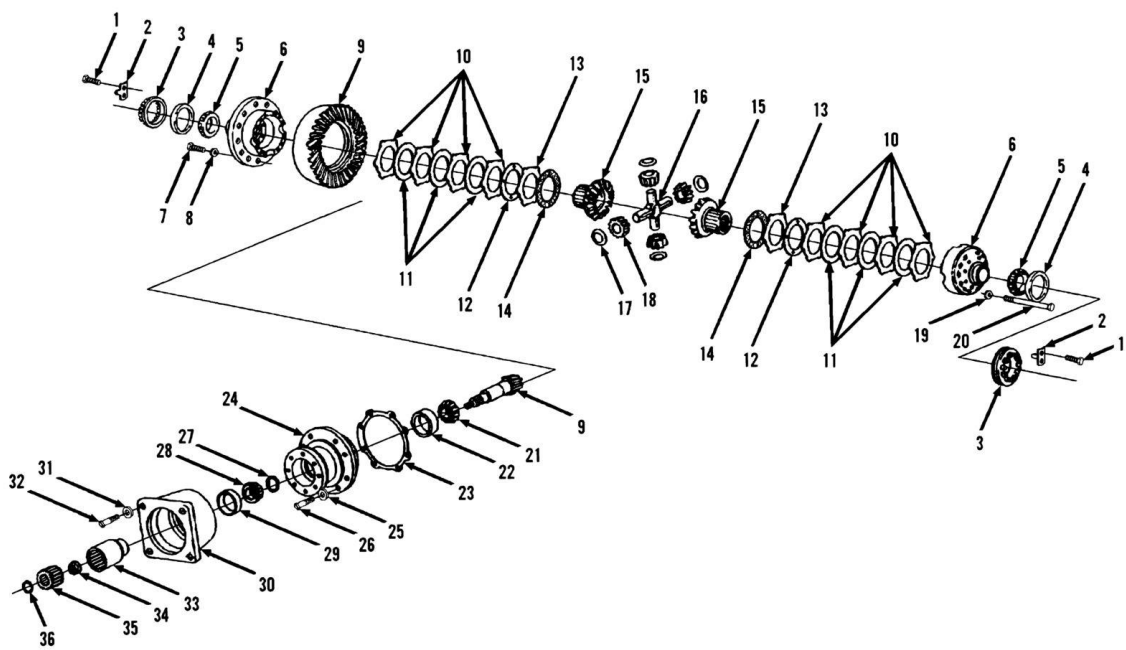
SECTION 5 - DRIVE TRAIN

FIGURE 5-4. BRAKE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91144442	Ref	BRAKE SEAL KIT (includes items 6, 7, & 14), (services both sides)	
	91164081	Ref	BRAKE PISTON PLATE KIT (includes items 15, 16, 17 & 18), (services one side)	
	91164082	Ref	BRAKE PLATE AND SEAL KIT (includes items 6, 7, 14, 15, 16 & 17), (services one side)	
	91144371	Ref	PISTON BRAKE SHIM KIT (includes item 8), (services one side)	
1	91144372	1	BRAKE HOUSING (right side only - leftside included in center housing)	
2	91144373	4	HYDRAULIC LINE BLEEDER	
3		Ref	DRAIN PLUG (See (91163015) FRONT AXLE for Breakdown)	
4	91144374	3	CAPSCREW - RIGHT SIDE ONLY, M8X1.25X40.0	
5	91144375	2	BRAKE PISTON AND PLATE ASSY (includes items 6, 7, 9, 10, 14, 15, & 20)	
6	91124110	6	O-RING	
7	91124111	2	O-RING	
8	Kit	8	SHIM (0.075) (included in shim kit)	
8	Kit	8	SHIM (0.125) (included in shim kit)	
8	Kit	8	SHIM (0.255) (included in shim kit)	
8	Kit	8	SHIM (0.555) (included in shim kit)	
9	91144376	2	BRAKE PISTON	
10	91144377	32	SPRING	
11	91144378	16	SPRING	
12	86881421	16	WASHER	
13	91144379	16	RETURN SPRING BOLT	
14	91124112	2	O-RING	
15	Kit	2	BRAKE ACTUATING PLATE	
16	Kit	10	FRICTION DISC	
17	Kit	10	STATIONARY DISC	
18	Kit	2	BRAKE REACTION PLATE	
19	91144380	6	BRAKE DISC LOCKPIN	
20	91144381	42	CAPSCREW, M6X1.0X12.0 (allen)	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR BOTH SIDES.	

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FIGURE 5-5. CARRIER ASSEMBLY



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FIGURE 5-5. CARRIER ASSEMBLY

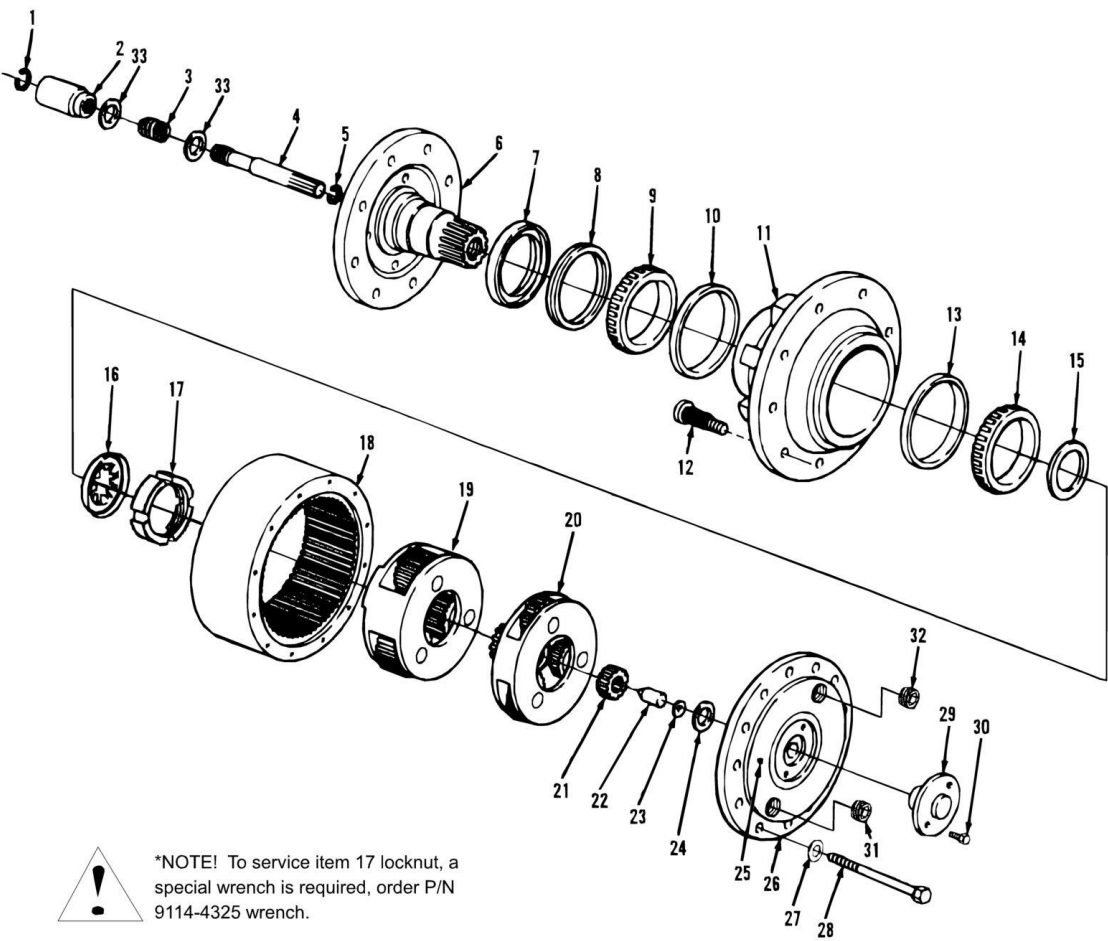
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91144382	Ref	LIMITED SLIP PLATE STACK KIT (includes items 10, 11, 12, 13 & 14)	
	91144383	Ref	PINION CAGE SHIM KIT (includes item 23)	
	91144384	Ref	DRIVE PINION SHIM KIT (includes item 27)	
	91144385	Ref	LIMITED SLIP SHIM KIT (includes item 12)	
1	91144386	4	CAPSCREW	
2	91144387	2	ADJUSTER RING LOCK	
3	91144388	2	ADJUSTER RING	
4	83073828	2	BEARING CUP	
5	91144389	2	BEARING CONE	
6	91144390	1	DIFFERENTIAL CASE	
7	91144391	12	CAPSCREW, M10X1.0X30.0	
8	83483584	12	WASHER	
9	91144392	1	SPIRAL GEAR AND PINION	
10	Kit	8	DRIVE FRICTION DISC (included in 91144382 kit)	
11	Kit	6	DRIVEN FRICTION DISC (included 91144382 kit)	
12	Kit	2	SHIM (0.33) (included in shim kit)	
12	Kit	2	SHIM (0.38) (included in shim kit)	
12	Kit	2	SHIM (0.25) (included in shim kit)	
12	Kit	2	SHIM (0.13) (included in shim kit)	
13	Kit	2	COMPRESSION DISC (included in 91144382 kit)	
14	Kit	2	THRUSTWASHER (included in 91144382 kit)	
15	91144393	2	SIDE GEAR	
16	91144394	1	SPIDER	
17	91144395	4	THRUSTWASHER	
18	91144396	4	PINION GEAR	
19	83483584	12	WASHER	
20	91144397	12	CAPSCREW, M10X1.5X80.0	
21	90207204	1	BEARING CONE	
22	90200440	1	BEARING CUP	
23	Kit	4	SHIM (0.05) (included in shim kit)	
23	Kit	2	SHIM (0.125) (included in shim kit)	
23	Kit	3	SHIM (0.20) (included in shim kit)	
23	Kit	1	SHIM (0.50) (included in shim kit)	
24	91144398	1	PINION CAGE ASSY (includes items 22 & 29)	
25	91144399	8	WASHER	
26	91144400	8	CAPSCREW, M12X1.75X40.0	
27	Kit	1	SHIM (1.20) (included in shim kit)	
27	Kit	1	SHIM (1.25) (included in shim kit)	
27	Kit	1	SHIM (1.30) (included in shim kit)	
27	Kit	1	SHIM (1.35) (included in shim kit)	
27	Kit	1	SHIM (1.40) (included in shim kit)	
27	Kit	1	SHIM (1.45) (included in shim kit)	
27	Kit	1	SHIM (1.50) (included in shim kit)	
28	91144401	1	BEARING CONE	
29	91144402	1	BEARING CUP	
30	91144403	1	MOTOR ADAPTER FLANGE	
31	83483584	8	WASHER	
32	91144404	8	CAPSCREW, .3750-16UNC-2AX1.25	
33	91144405	1	DRIVEN SLEEVE	

SECTION 5 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
34	91144406	1	PINION NUT, M24X1.5	
35	91144407	1	DRIVE SLEEVE	
36	91144408	1	SNAP RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 5 - DRIVE TRAIN

FIGURE 5-6. (91043472) REAR STEERING AXLE DRIVE HUB



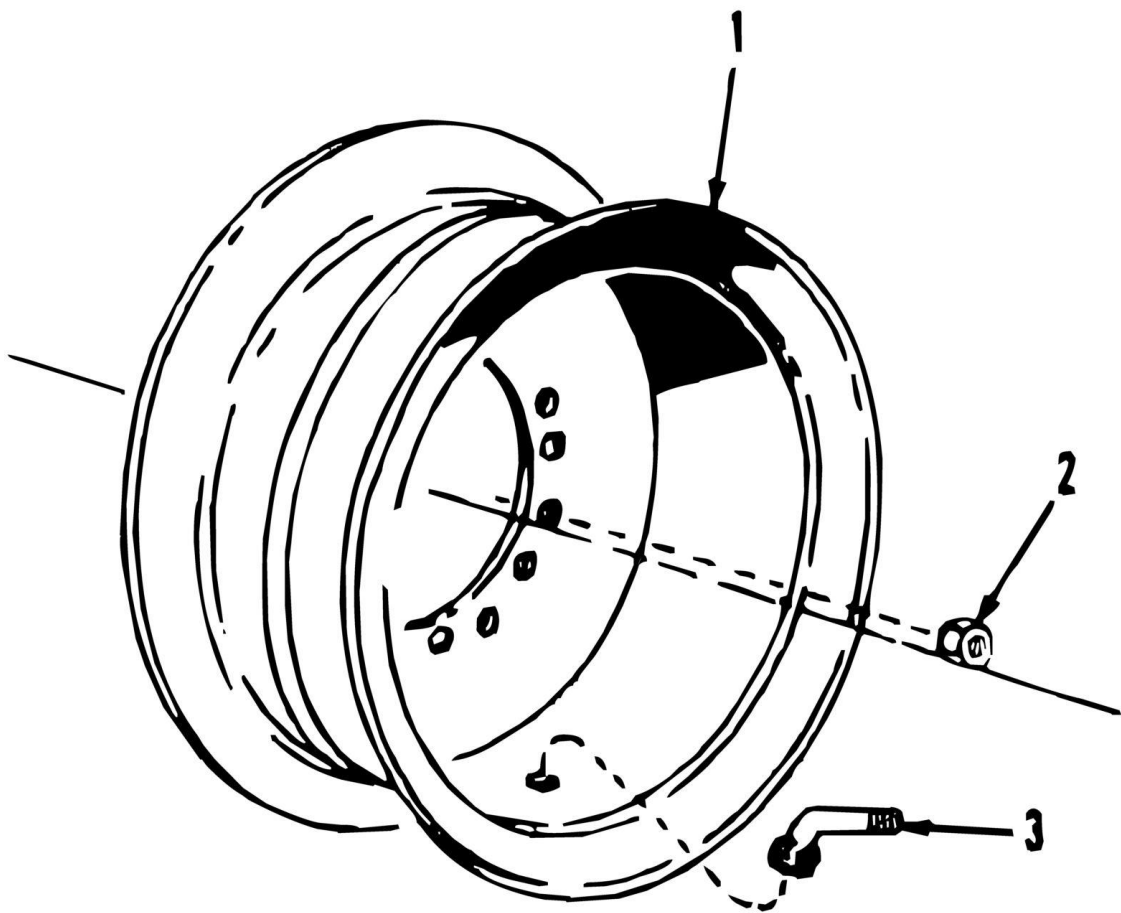
SECTION 5 - DRIVE TRAIN

FIGURE 5-6. (91043472) REAR STEERING AXLE DRIVE HUB

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043472	2	REAR STEERING AXLE DRIVE HUB	
	91044462	Ref	REPAIR KIT (includes items 7, 8 & 30)	
1	91044276	1	RETAINING RING	
2	91044277	1	COUPLING	
3	91144175	1	SPRING	
4	91144176	1	INPUT SHAFT	
5	91044099	2	RETAINING RING	
6	91144177	1	SPINDLE	
7	Kit	1	SEAL	
8	Kit	1	OIL SEAL	
9	90202501	1	OUTER BEARING CONE	
10	90202500	1	OUTER BEARING CUP	
11	91144178	1	HUB	
12	91044311	12	WHEEL BOLT	
13	91144179	1	INNER BEARING CUP	
14	91144180	1	INNER BEARING CONE	
15	91144181	1	THRUST WASHER	
16	91144182	1	LOCKWASHER	
17	91144183	1	LOCK NUT	
18	91144184	1	RING GEAR	
19	91144185	1	SECONDARY CARRIER ASSY	
20	91144186	1	PRIMARY CARRIER ASSY	
21	91144187	1	PRIMARY SUN GEAR	
22	91044106	1	PLUNGER	
23	91044107	1	O-RING	
24	91044105	1	THRUST WASHER	
25	91044361	1	PIPE PLUG	
26	91144188	1	COVER	
27	91044110	12	FLATWASHER	
28	91144189	12	HEX HD BOLT	
29	91044112	1	DISENGAGE COVER	
30	Kit	1	LOCK SCREW	
31	91044101	1	MAGNETIC PLUG	
32	91034389	1	PIPE PLUG	
33	91034390	2	THRUSTWASHER	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE HUB ASSY ONLY.	

SECTION 5 - DRIVE TRAIN

FIGURE 5-7. WHEELS AND TIRES



SECTION 5 - DRIVE TRAIN

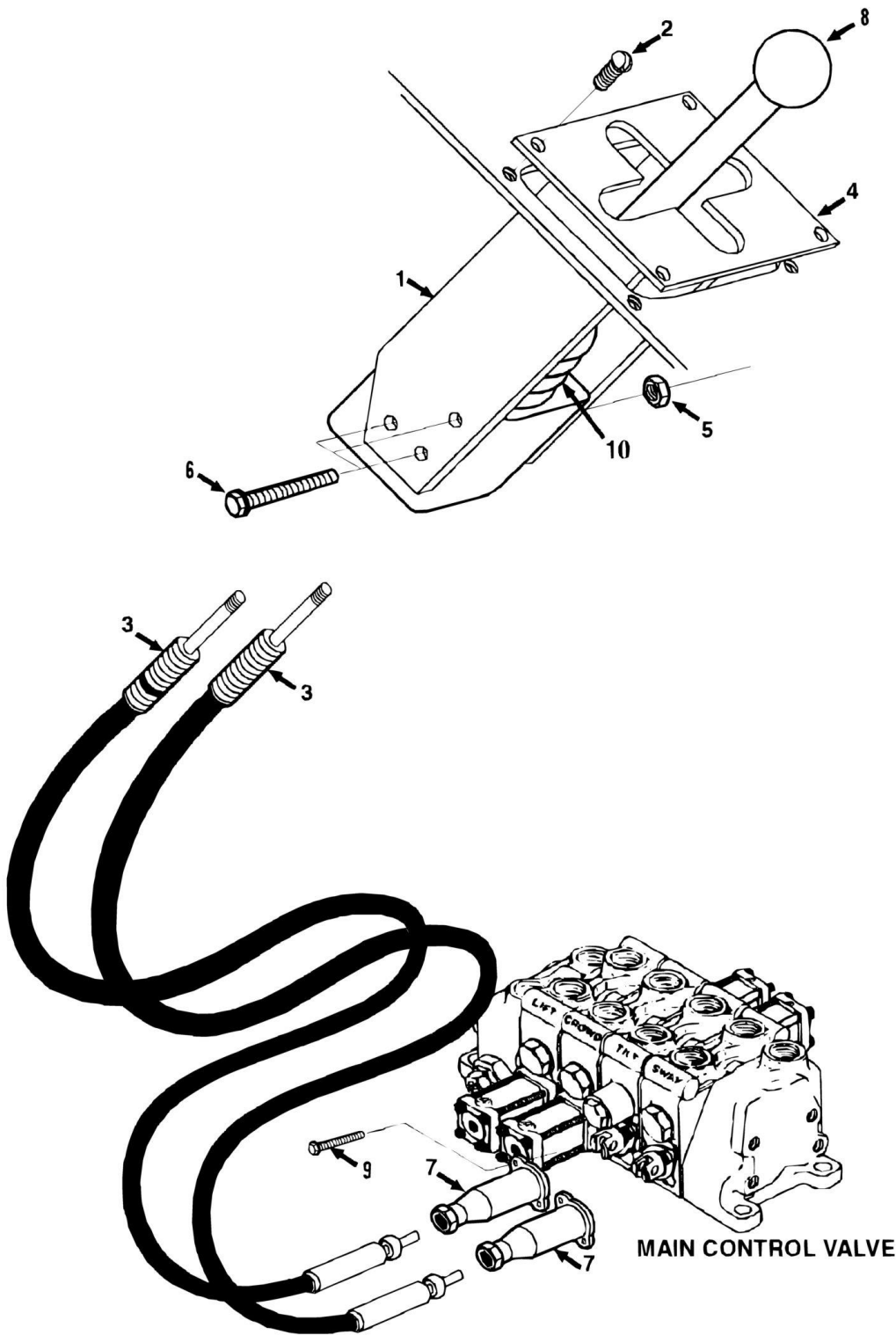
FIGURE 5-7. WHEELS AND TIRES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91165024	1	R.H. TIRE ASSY (includes items 1, 3 & 4)	
	91165025	1	L.H. TIRE ASSY (includes items 1, 3 & 4)	
2	91043298	2	RIM	
3	91043146	48	LUG NUT (lubricate and torque to 350-400 ft lbs)	
4	91083385	2	VALVE	
	91043084	2	TIRE (not shown) 14.00 x 24, 12 ply, G-2 grader, tubeless	

SECTION 6 - CONTROLS

SECTION 6 - CONTROLS

FIGURE 6-1. TILT AND SWAY



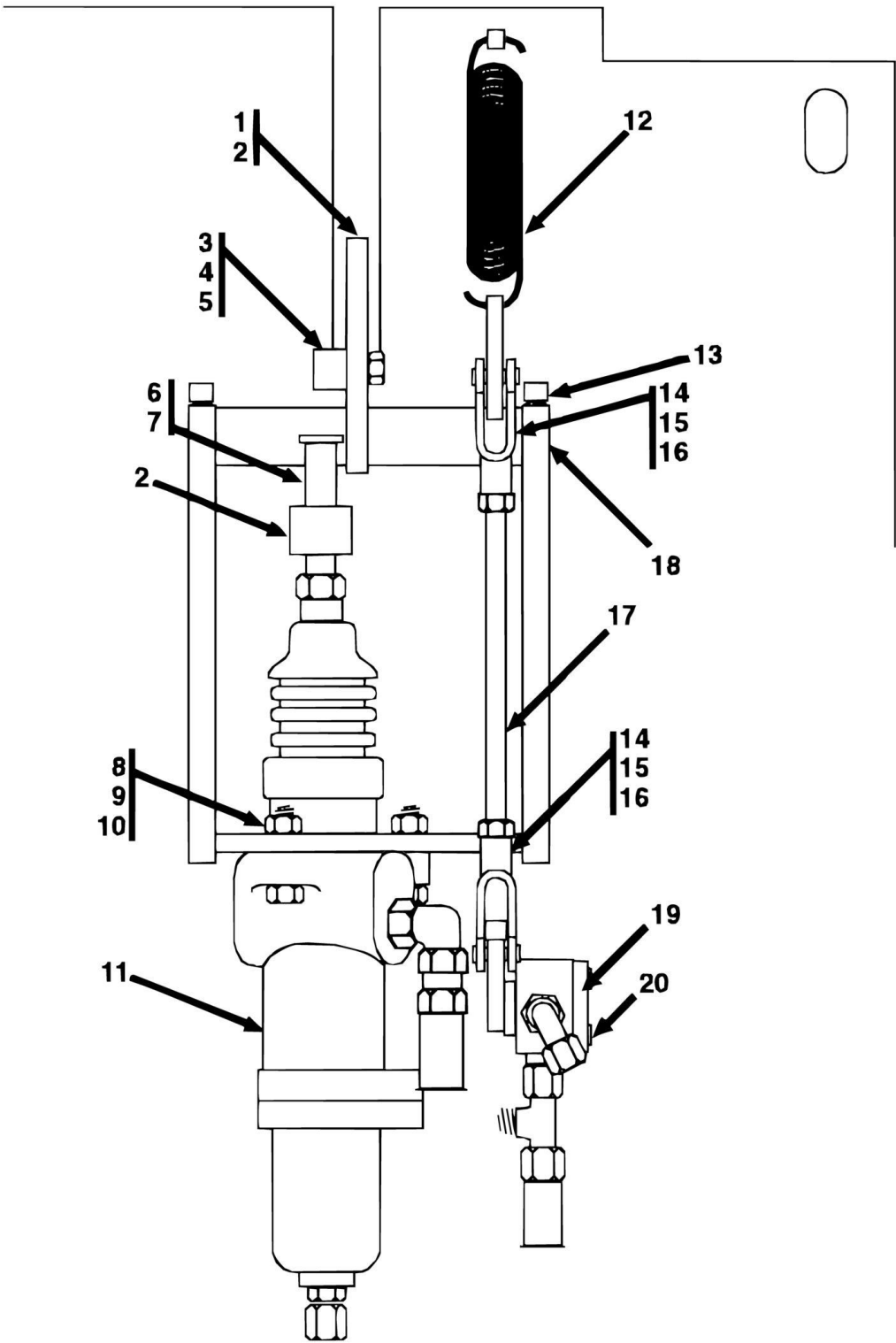
SECTION 6 - CONTROLS

FIGURE 6-1. TILT AND SWAY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083107	1	REMOTE CONTROL VALVE, (includes item 10)	
2	88261022	4	HEX SOC BUT HD CAPSCREW, 5/16-18X3/4	
3	91163132	2	CONTROL CABLE	
4	91086089	1	BRACKET	
5	88521304	3	HEX LOCKNUT, 1/4-20	
6	91143191	3	HEX HD CAPSCREW, 1/4-20X4-1/2	
7	91123062	2	CABLE ADAPTER	
8	91084282	1	KNOB	
9	88211044	4	SOCKET HD CAPSCREW, 1/4-20X1-1/2	
10	91084359	1	BOOT	

SECTION 6 - CONTROLS

FIGURE 6-2. BRAKE AND INCHING LINKAGE



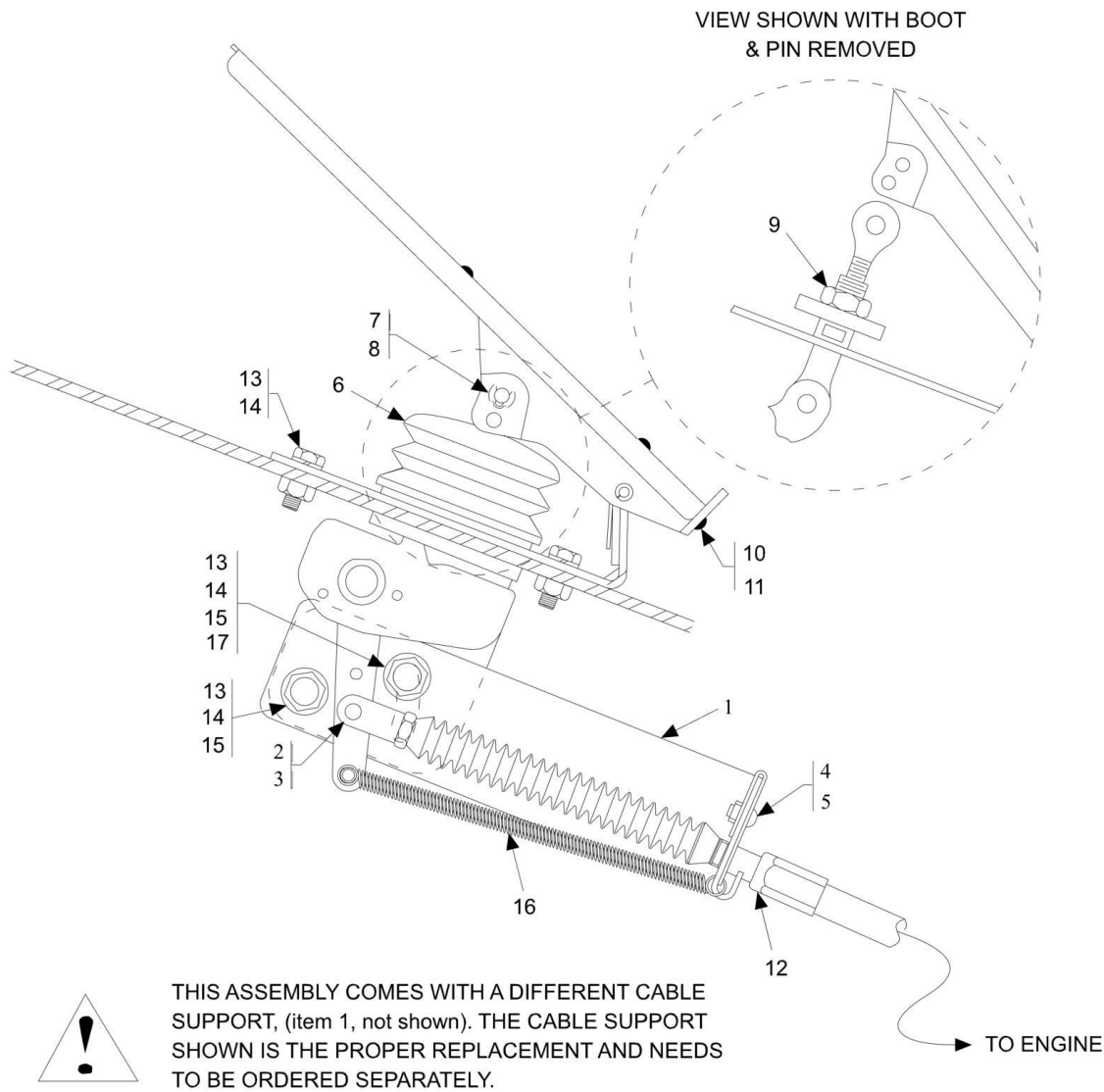
SECTION 6 - CONTROLS

FIGURE 6-2. BRAKE AND INCHING LINKAGE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91146059	1	BRAKE PEDAL	
2	91083136	4	BUSHING	
3	91083312	1	CAM ROLLER	
4	88551010	1	LOCKWASHER, 5/16	
5	88501405	1	JAM NUT, 5/16-24	
6	91081445	1	PUSH ROD	
7	88501408	1	JAM NUT, 1/2-20	
8	88201022	3	HEX HD CAPSCREW, 5/16-18 x 1 1/2, GR5	
9	88551010	3	LOCKWASHER, 5/16	
10	88501005	3	HEX NUT, 5/16-18	
11		Ref	BRAKE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
12	91043214	1	SPRING	
13	88441001	2	SQUARE HD SETSCREW, 1/4-20X1/2IN	
14	88501406	2	JAM NUT, 3/8-24	
15	88821004	2	YOKE END	
16	90027987	2	CLEVIS PIN	
17	91081332	1	LINKAGE ROD	
18	90200284	2	SHAFT	
19		Ref	INCHING VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
20	88212228	2	SOCKET HD CAPSCREW	

SECTION 6 - CONTROLS

FIGURE 6-3. (91143118) ACCELERATOR PEDAL ASSEMBLY



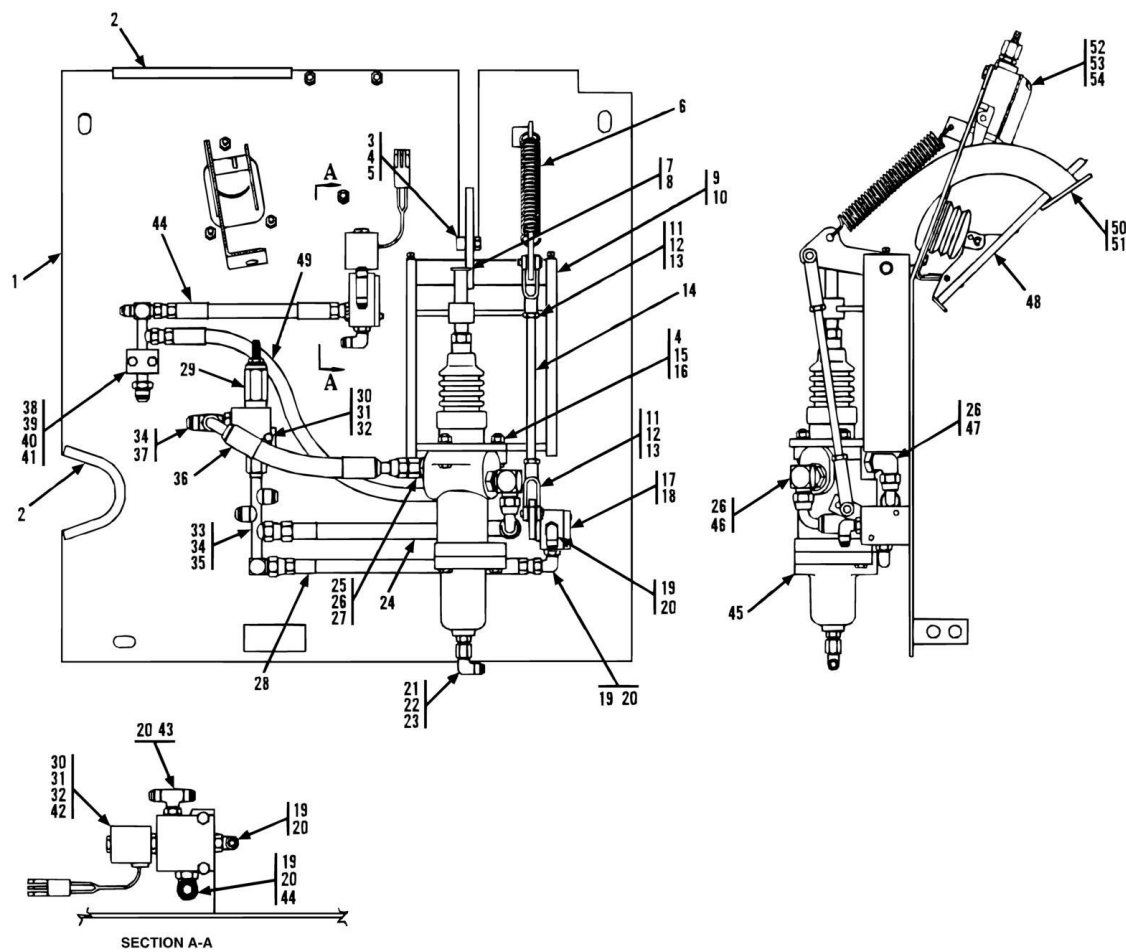
SECTION 6 - CONTROLS

FIGURE 6-3. (91143118) ACCELERATOR PEDAL ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143118	1	ACCELERATOR PEDAL ASSY, (includes items 2 thru 11)	
	91144196	1	CABLE ATTACH KIT, (includes items 2 thru 5)	
	91144197	1	BOOT KIT, (includes items 6 thru 9)	
	91144198	1	HEEL REST KIT,(includes items 10 & 11)	
1	91121210	1	CABLE SUPPORT, (order separately)	
2	Kit	1	CLEVIS	
3	Kit	1	PIN	
3	Kit	1	HAIRPIN COTTER, (not shown)	
4	Kit	1	LOCK PLATE	
5	Kit	1	CAPSCREW	
6	Kit	1	BOOT	
7	Kit	1	PIN	
8	Kit	1	HAIRPIN COTTER	
9	Kit	1	JAM NUT	
10	Kit	1	HEEL REST	
11	Kit	2	SCREW, (self tapping)	
12		Ref	THROTTLE CABLE, (See ENGINE AND ATTACHING PARTS for Breakdown)	
13	88201003	5	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
14	88551009	5	LOCKWASHER, 1/4	
15	88501004	2	HEX NUT, 1/4-20	
16	90207801	1	SPRING	
17	88561107	1	FLATWASHER, 1/4	

SECTION 6 - CONTROLS

FIGURE 6-4. (91165103) FLOORPLATE ASSY



SECTION 6 - CONTROLS

FIGURE 6-4. (91165103) FLOORPLATE ASSY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165103	1	FLOOR PLATE ASSY, (includes all items except 52 thru 54)	
1	91166041	1	FLOOR PLATE WELDMENT	
2	90206198	16 in	TRIM-LOK	
3	91083312	1	CAM ROLLER	
4	88551010	4	LOCKWASHER, 5/16	
5	88501405	1	HEX JAM NUT, 5/16-24	
6	91043214	1	SPRING	
7	91081445	1	PUSH ROD	
8	88501408	1	HEX JAM NUT, 1/2-20	
9	90200284	1	SHAFT	
10	88441001	2	SQUARE HD SETSCREW, CUP POINT, 1/4-20X1/2IN	
11	88501406	2	HEX JAM NUT, 3/8-24	
12	88821004	2	YOKE END	
13	90027987	2	CLEVIS PIN	
14	91081332	1	LINKAGE ROD	
15	88201022	3	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
16	88501005	3	HEX NUT, 5/16-18	
17		Ref	INCHING VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	88662064	4	ELBOW, 90, (includes item 20)	
20	88591204	5	O-RING	
21	88662105	1	ELBOW, 90, (swivel nut)	
22	83633002	1	STRAIGHT THREAD CONNECTOR	
23	90207856	1	COPPER GASKET	
24	84718690	1	HOSE ASSY	
25	88662019	1	CONNECTOR, (includes item 26)	
26	88591206	3	O-RING	
27	88662120	1	ELBOW, 45, (swivel nut)	
28	84718691	1	HOSE ASSY	
29	91143200	1	RELIEF VALVE	
30	88201008	4	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
31	88561107	4	FLATWASHER, 1/4	
32	88551009	4	LOCKWASHER, 1/4	
33	88662006	1	CONNECTOR, (includes item 34)	
34	88591205	2	O-RING	
35	91163110	1	HYDRAULIC TUBE	
36	84718687	1	HOSE ASSY	
37	88662140	1	RUN TEE, (includes item 34)	
38	91163109	1	HYDRAULIC TUBE	
39	91033138	1	TUBE CLAMP	
40	77133498	1	CLAMP COVER	
41	77133499	2	HEX HD CAPSCREW	
42		Ref	SOLENOID VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
43	88662152	1	BRANCH TEE, (includes item 20)	
44	84718689	1	HOSE ASSY	
45		Ref	BRAKE VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
46	88662059	1	ELBOW, 90, (includes item 26)	
47	91083310	1	ELBOW, 90, (includes item 26)	

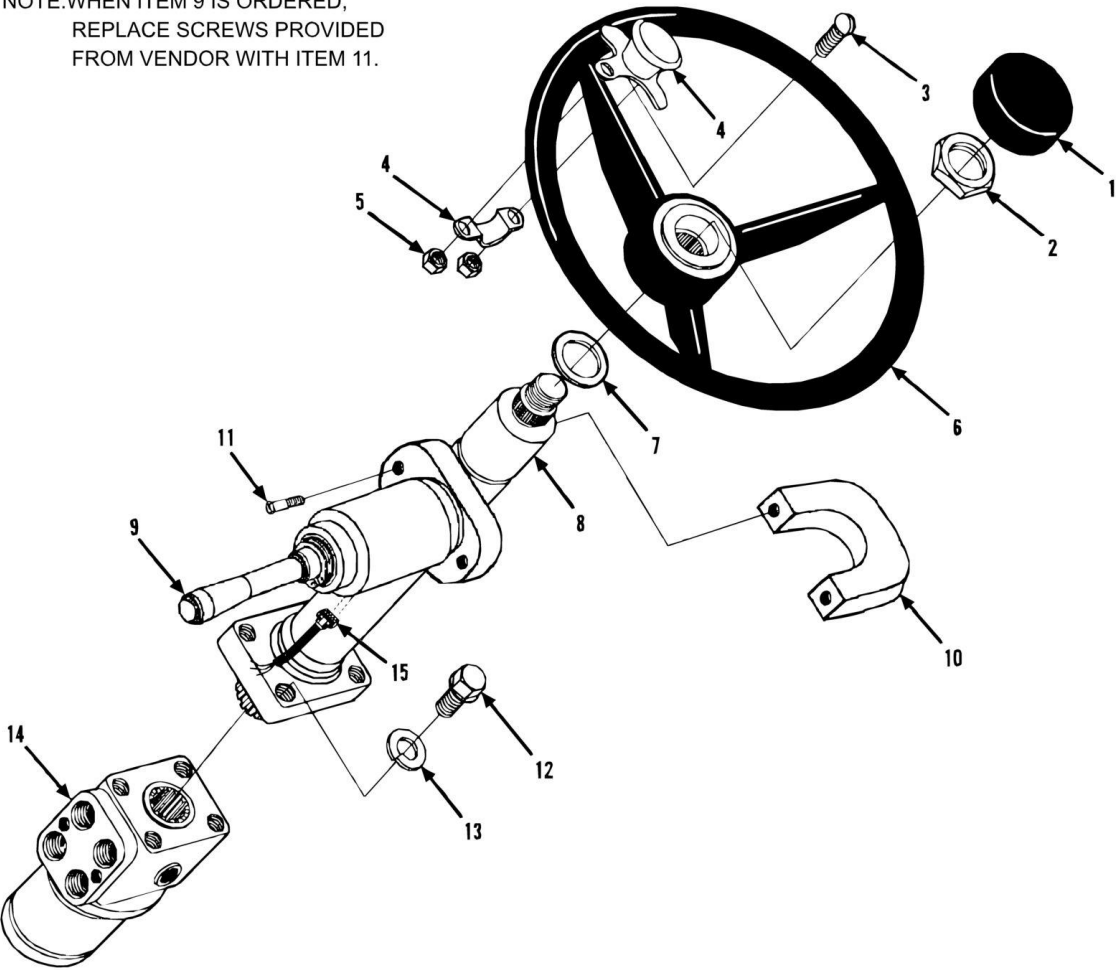
SECTION 6 - CONTROLS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48		Ref	ACCELERATOR PEDAL ASSY, (See (91143118) ACCELERATOR PEDAL ASSEMBLY for Breakdown)	
49	84718688	1	HOSE ASSY	
50	91146059	1	BRAKE PEDAL	
51	91083136	4	BUSHING	
52	91163093	1	FOOT SWITCH	
53	88201005	3	HEX HD CAPSCREW, 1/4-20X1, GR5	
54	88561107	3	FLATWASHER, 1/4	

SECTION 6 - CONTROLS

FIGURE 6-5. STEERING COLUMN AND ATTACHING PARTS

NOTE: WHEN ITEM 9 IS ORDERED,
REPLACE SCREWS PROVIDED
FROM VENDOR WITH ITEM 11.



SECTION 6 - CONTROLS

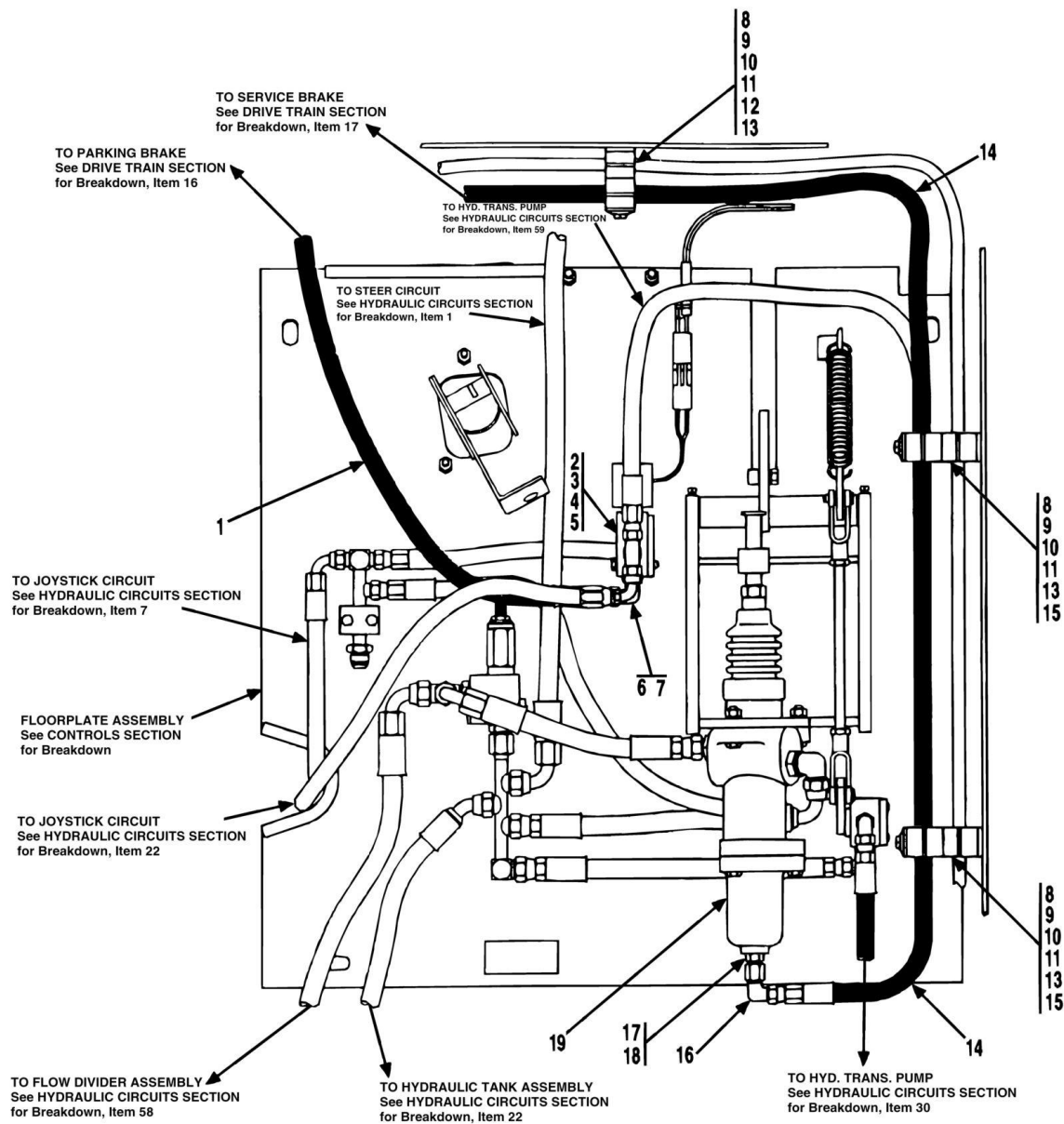
FIGURE 6-5. STEERING COLUMN AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91144190	Ref	STEERING CONTROL UNIT SEAL KIT	
1	90600274	1	STEERING CAP	
2	91144191	1	STEERING WHEEL NUT	
3	88301311	2	FLAT HD MACHINE SCREW, 1/4-20 x 1	
4	90202230	1	SPINNER KNOB	
5	88501616	2	HEX NUT, 1/4-20	
6	90600273	1	STEERING WHEEL	
7	91144192	1	WASHER	
8	91163012	1	STEERING COLUMN (includes items 2 & 7)	
9	91163013	1	F/N/R SHIFTER (includes item 10)	
10	91144458	1	CLAMP SET	
11	83191059	2	HEX HD CAPSCREW, M5X0.8, (torque to 30-35 in lbs)	
12	88201035	2	HEX HD CAPSCREW, 3/8-16 x 1	
13	88551011	2	LOCKWASHER, 3/8	
14	91143020	1	STEERING CONTROL UNIT	
15	91163020	1	DASH WIRING HARNESS	

SECTION 7 - BRAKES

SECTION 7 - BRAKES

FIGURE 7-1. SERVICE/PARKING BRAKE LINES STARTING (SN 0255001 to Present)



SECTION 7 - BRAKES

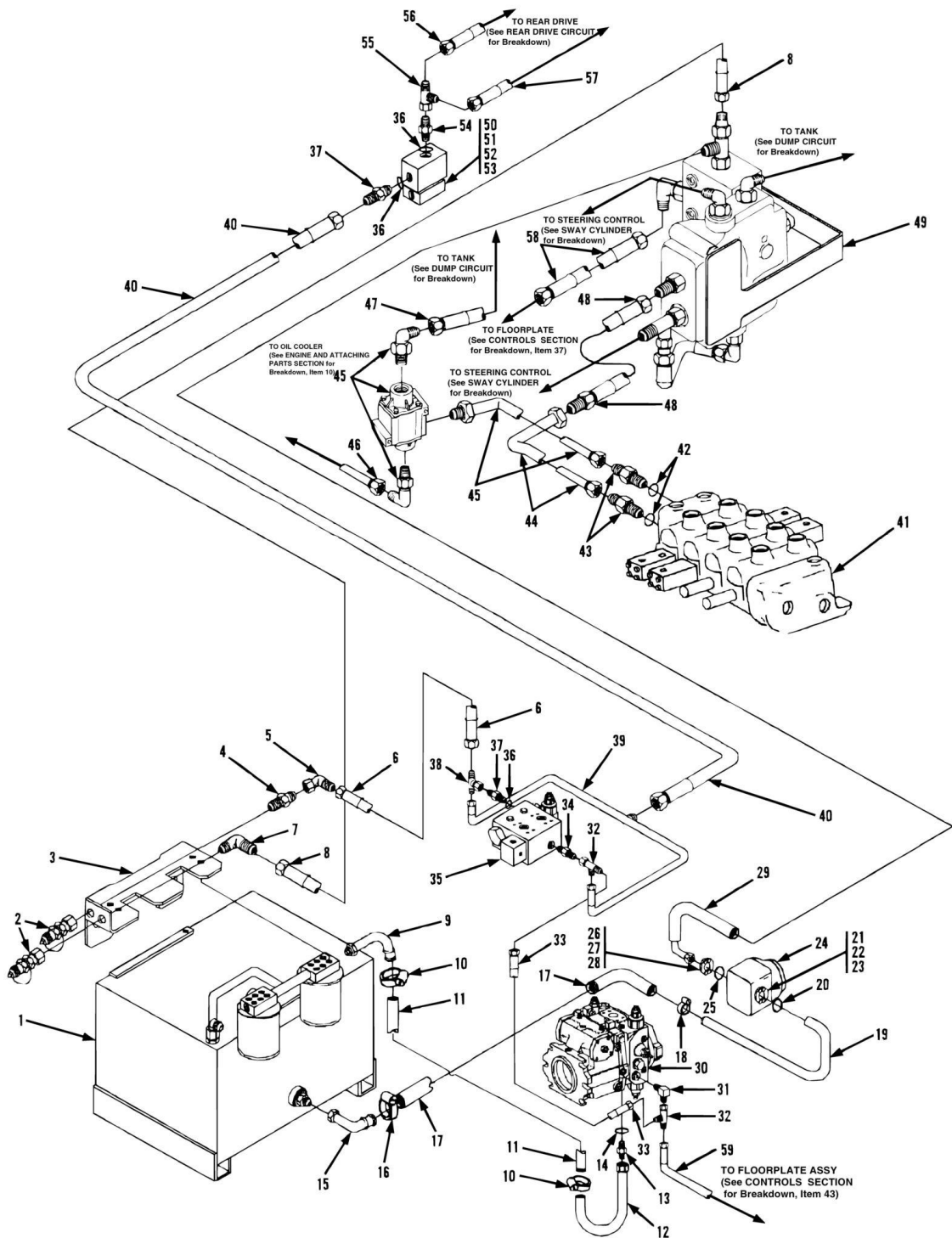
FIGURE 7-1. SERVICE/PARKING BRAKE LINES STARTING (SN 0255001 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84718759	1	HOSE ASSY	
2		Ref	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
3	88201008	2	HEX HD CAPSCREW, 1/4-20X1 3/4, GR5	
4	88551009	2	LOCKWASHER, 1/4	
5	88561107	2	FLAT WASHER, 1/4	
6	88662064	1	ELBOW, 90, (includes item 7)	
7	88591204	1	O-RING	
8	77133136	3	CLAMP SET, 3/4-3/4	
9	77133137	3	COVER PLATE	
10	88201023	1	HEX HD CAPSCREW, 5/16-18x1 3/4, GR5	
11	77133168	3	CLAMP SET, 1/2-1/2	
12	77133389	1	STACK BOLT	
13	77133390	1	SAFETY CLIP	
14	84718753	1	HOSE ASSY	
15	77133306	2	STACK BOLT	
16	88662105	1	ELBOW, 90, (swivel nut)	
17	83633002	1	STRAIGHT THREAD CONNECTOR	
18	90207856	1	COPPER GASKET	
19		Ref	BRAKE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

SECTION 8 - HYDRAULIC CIRCUITS

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-1. OIL SUPPLY AND PRESSURE LINES



SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-1. OIL SUPPLY AND PRESSURE LINES

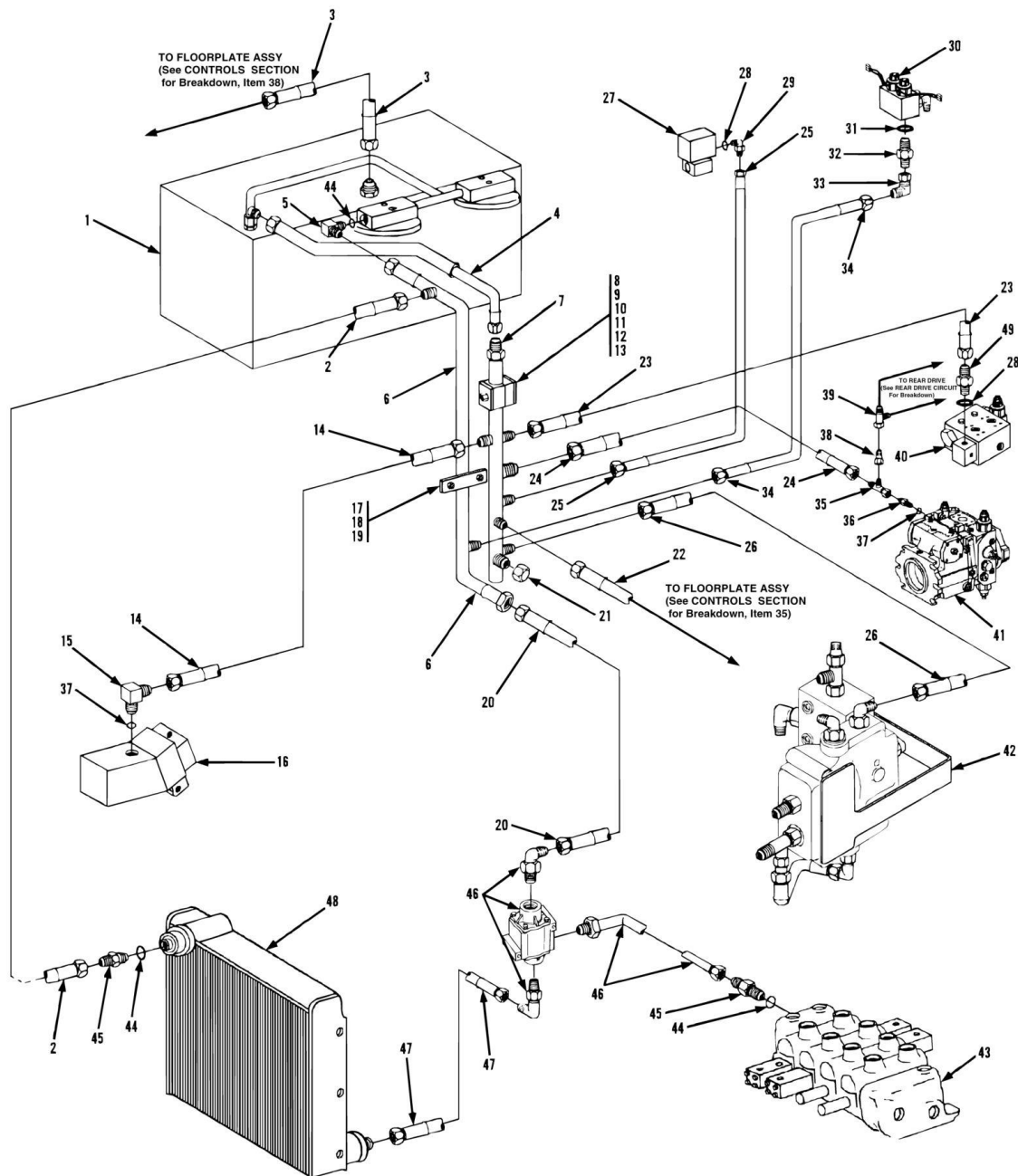
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	HYDRAULIC RESERVOIR ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91143172	2	MINI CHECK COUPLING	
3		Ref	FILTER SUPPORT (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
4	88661084	1	BULKHEAD UNION	
5	88662105	1	ELBOW, 90, (swivel nut)	
6	84718700	1	HOSE ASSY	
7	90027179	1	BULKHEAD UNION - 90	
8	84718701	1	HOSE ASSY	
9	80673009	1	90, BEADED INSERT	
10	90028695	2	BAND CLAMP	
11	91143143	1	HOSE ASSY	
12	91143087	1	INTAKE TUBE	
13	88662011	1	CONNECTOR (includes item 14)	
14	88591210	1	O-RING	
15	91143059	1	TUBE ASSY	
16	90028482	1	HOSE CLAMP	
17	77363128	1	HOSE ASSY	
18	80933070	1	BAND CLAMP	
19	91143121	1	SUCTION TUBE	
20	88591027	1	O-RING	
21	84711334	2	FLANGE CLAMP	
22	88201051	4	HEX HD CAPSCREW, 7/16-14X1 1/4, GR5	
23	88551012	4	LOCKWASHER, 7/16	
24		Ref	MAIN HYDRAULIC PUMP (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
25	88591024	1	O-RING	
26	84711333	4	FLANGE CLAMP	
27	88201036	4	HEX HD CAPSCREW, 3/8-16X1 1/4, GR5	
28	88551011	4	LOCKWASHER, 3/8	
29	84718639	1	HOSE ASSY	
30		Ref	HYDROSTATIC TRANSMISSION (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
31	91083222	1	REDUCING CONNECTOR, 90	
32	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
33	77133447	1	HOSE ASSY	
34	91083306	1	CONNECTOR (includes o-ring)	
34	88591206	1	O-RING	
35		Ref	TRACTION LOCK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
36	88591204	3	O-RING	
37	88662005	2	CONNECTOR (includes item 36)	
38	88662224	1	SWIVEL NUT BRANCH TEE	
39	91163098	1	TUBE ASSY	
40	84718425	1	HOSE ASSY	
41		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
42	88591210	2	O-RING	
43	88662028	2	CONNECTOR (includes item 42)	
44	91143058	1	TUBE ASSY	

SECTION 8 - HYDRAULIC CIRCUITS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45		Ref	THERMAL BYPASS VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
46	84718945	1	HOSE ASSY	
47	84718947	1	HOSE ASSY	
48	84718625	1	HOSE ASSY	
49		Ref	FLOW DIVIDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
50		Ref	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
51	88201008	2	HEX HD CAPSCREW, 1/4-20X1 3/4, GR5	
52	88561001	2	FLAT WASHER, 1/4	
53	88551009	2	LOCKWASHER, 1/4	
54	88662017	1	CONNECTOR (includes item 36)	
55	88662237	1	SWIVEL NUT RUN TEE, 1/4 TUBE	
56	84718752	1	HOSE ASSY	
57	84718751	1	HOSE ASSY	
58	84718201	1	HOSE ASSY	
59	84718699	1	HOSE ASSY	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-2. DUMP CIRCUIT



SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-2. DUMP CIRCUIT

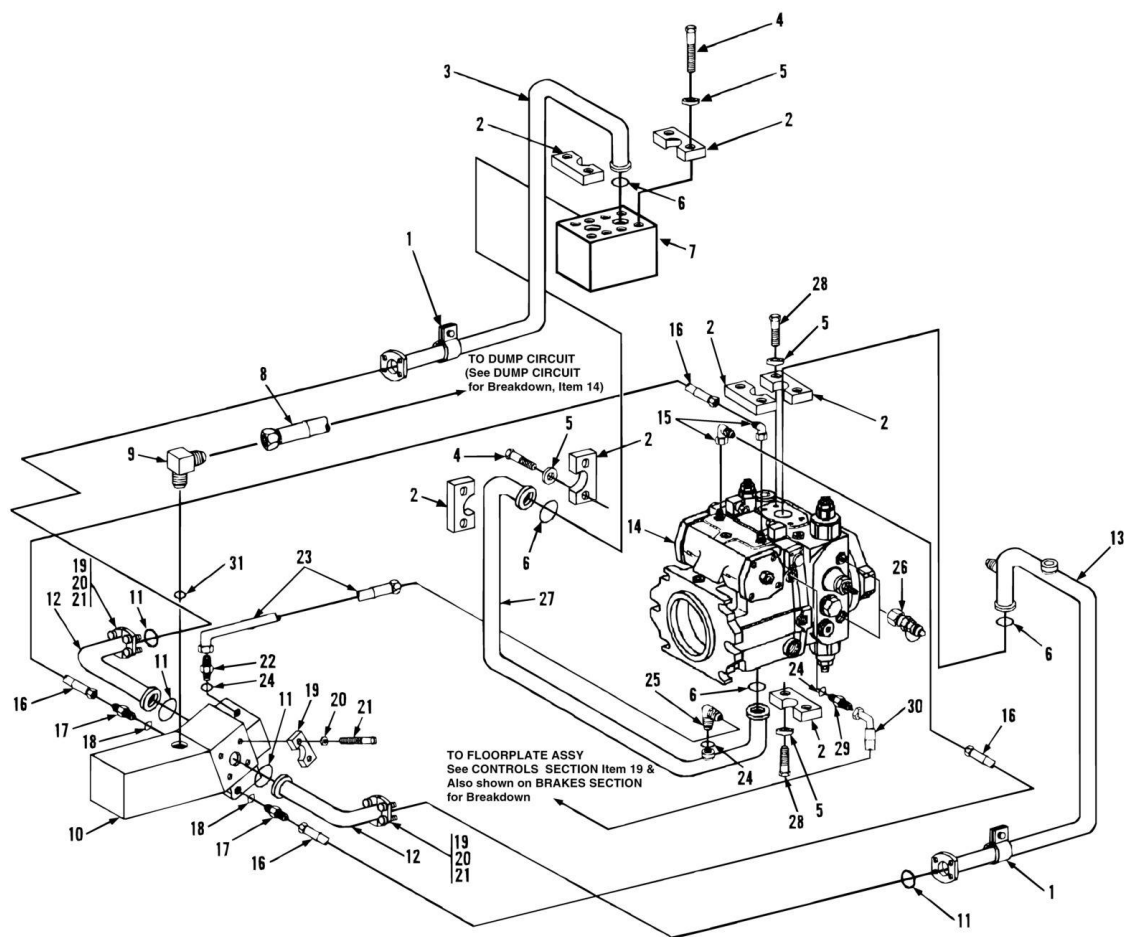
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	HYDRAULIC RESERVOIR ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	84718979	1	HOSE ASSY	
3	84718748	1	HOSE ASSY	
4	84718968	1	HOSE ASSY	
5	88662070	1	ELBOW, 90, (includes item 44)	
6	91143273	1	DUMP TUBE	
7	91163140	1	TUBE ASSY	
8	77133053	1	CLAMP SET	
9	77133052	1	COVER PLATE	
10	88201010	2	HEX HD CAPSCREW, 1/4-20X2 1/4, GR5	
11	88501004	2	HEX NUT, 1/4-20	
12	88551009	2	LOCKWASHER, 1/4	
13	88561107	2	FLAT WASHER, 1/4	
14	84718999	1	HOSE ASSY	
15	91053450	1	REDUCER ELBOW (includes item 37)	
16		Ref	FRONT DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	77133076	1	CLAMP	
18	77133075	1	COVER PLATE	
19	88201011	2	HEX HD CAPSCREW, 1/4-20X2 1/2, GR5	
20	84718947	1	HOSE ASSY	
21	88661364	1	CAP	
22	84718635	1	HOSE ASSY	
23	84718745	1	HOSE ASSY	
24	84718956	1	HOSE ASSY	
25	84718746	1	HOSE ASSY	
26	84718743	1	HOSE ASSY	
27		Ref	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
28	88591204	2	O-RING	
29	88662064	1	ELBOW, 90, (includes item 28)	
30		Ref	STABILIZER VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
31	88591206	1	O-RING	
32	88662019	1	CONNECTOR (includes item 31)	
33	88662120	1	ELBOW, 45, (swivel nut)	
34	84718287	1	HOSE ASSY	
35	88662242	1	SWIVEL NUT RUN TEE, 3/4 TUBE	
36	88662008	1	CONNECTOR (includes item 37)	
37	88591207	2	O-RING	
38	83651133	1	REDUCER W/ADAPTER	
39	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
40		Ref	TRACTION LOCK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
41		Ref	HYDROSTATIC TRANSMISSION (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
42		Ref	FLOW DIVIDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
43		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

SECTION 8 - HYDRAULIC CIRCUITS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	88591210	3	O-RING	
45	88662028	2	CONNECTOR (includes item 44)	
46		Ref	THERMAL BYPASS VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
47	84718945	1	HOSE ASSY	
48		Ref	OIL COOLER ASSY (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
49	88662005	1	CONNECTOR (includes item 28)	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-3. FRONT DRIVE CIRCUIT



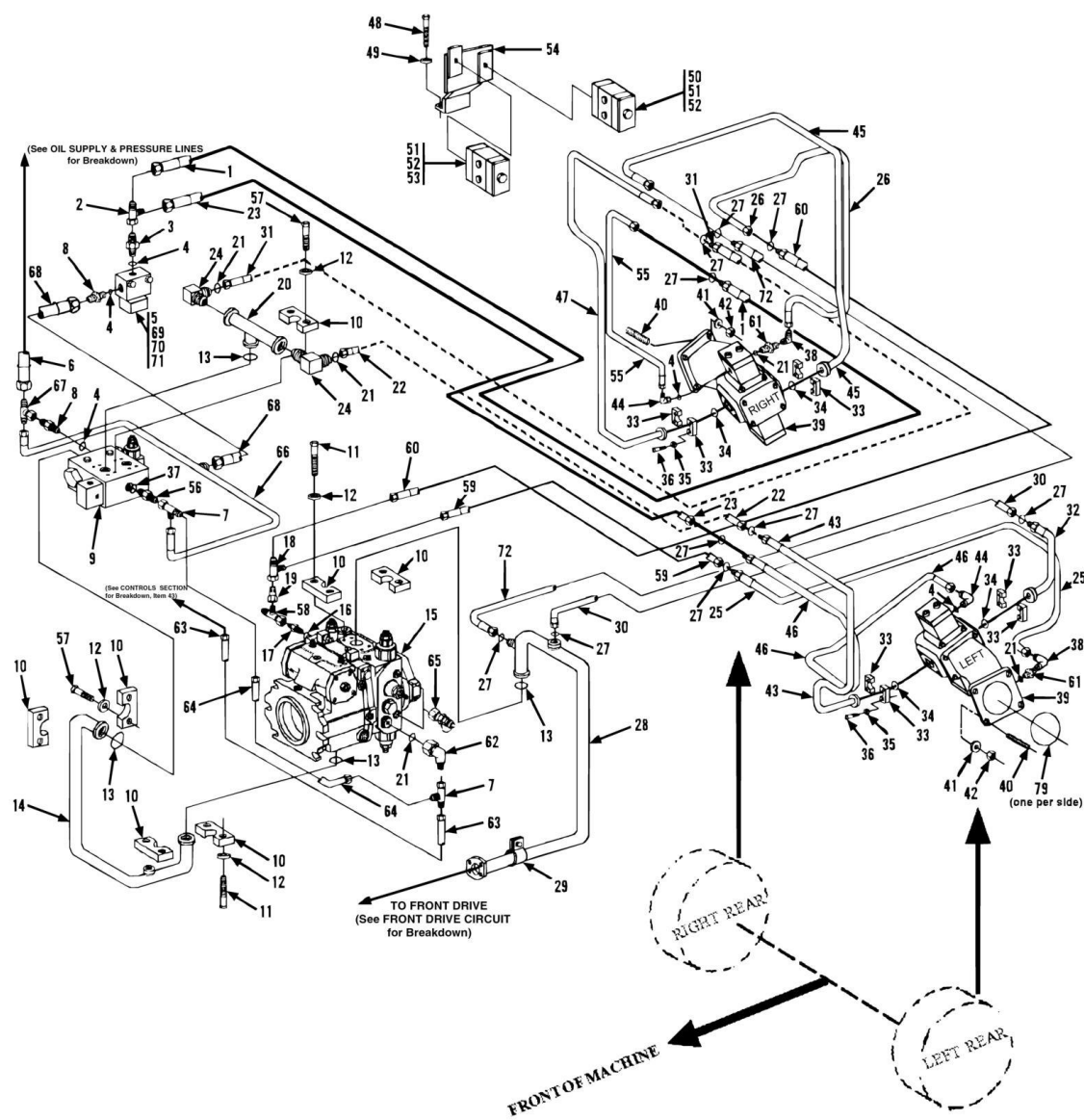
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-3. FRONT DRIVE CIRCUIT

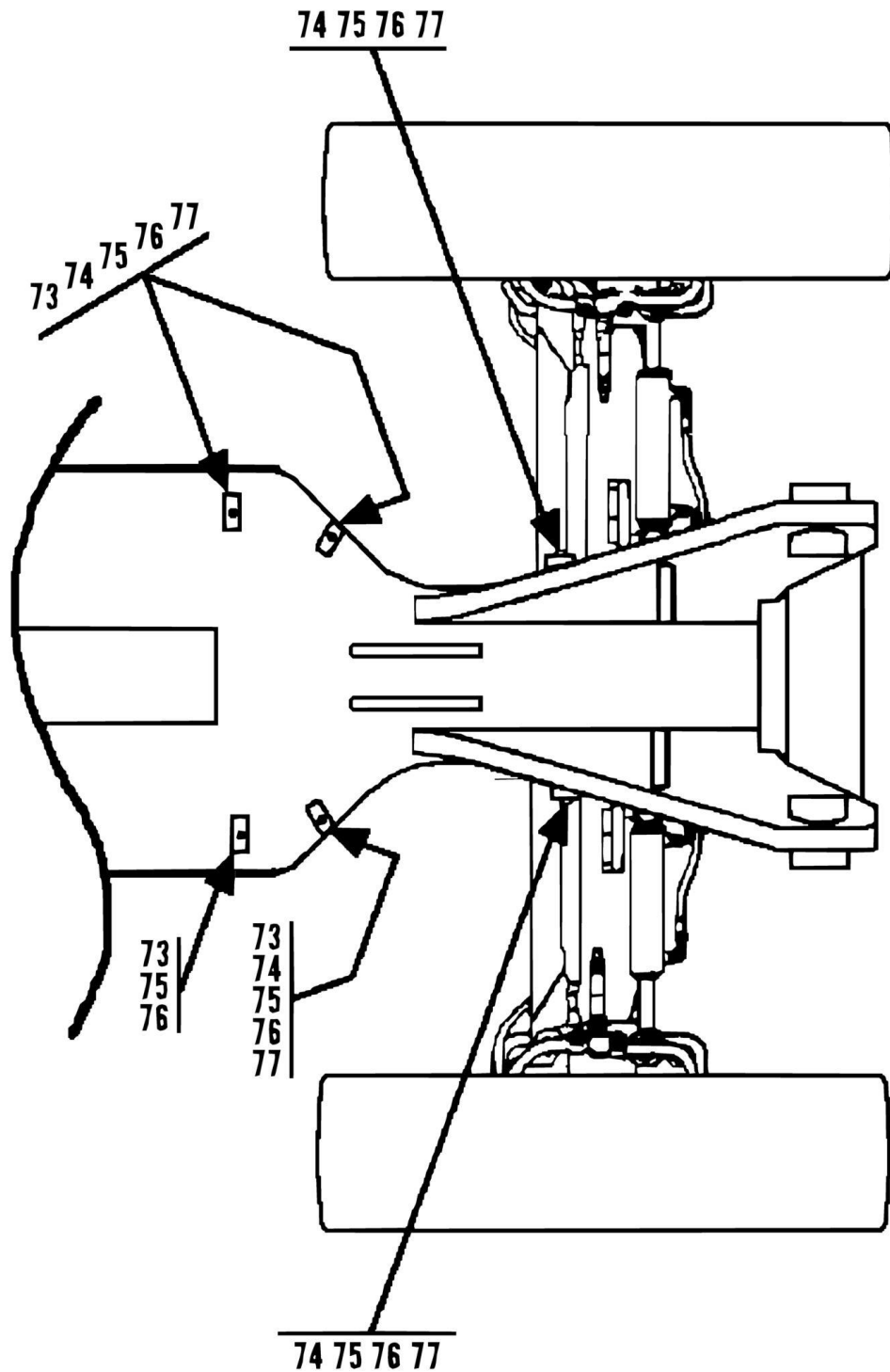
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205792	2	CUSHION CLAMP	
2	84712738	8	SPLIT FLANGE CLAMP	
3	91083418	1	TUBE ASSY	
4	83201155	8	HEX HD CAPSCREW, 7/16-14X1-3/4, GR8	
5	88551012	16	LOCKWASHER, 7/16	
6	91083106	4	O-RING	
7		Ref	TRACTION LOCK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	84718999	1	HOSE ASSY	
9	91053450	1	ELBOW, 90, (includes item 31)	
10		Ref	FRONT DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
11	91083339	4	O-RING	
12	84718845	2	HOSE ASSY	
13	91163122	1	TUBE ASSY	
14		Ref	HYDROSTATIC TRANSMISSION (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
15	90027906	2	ELBOW, 90, (includes o-ring)	
15	88591204	2	O-RING	
16	84718406	2	HOSE ASSY	
17	88662003	2	CONNECTOR (includes item 18)	
18	88591202	2	O-RING	
19	84712739	8	SPLIT FLANGE CLAMP	
20	88551013	16	LOCKWASHER, 1/2	
21	83201120	16	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
22	88662017	1	CONNECTOR (includes item 24)	
23	84718929	1	HOSE ASSY	
24	88591204	3	O-RING	
25	90027906	1	ELBOW, 90, (includes item 24)	
26	91053020	2	TEST COUPLING	
27	91163201	1	TUBE ASSY	
28	83201135	8	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
29	88662005	1	CONNECTOR (includes item 24)	
30	84718478	1	HOSE ASSY	
31	88591207	1	O-RING	

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FIGURE 8-4. REAR DRIVE CIRCUIT



REAR DRIVE HOSE CLAMP LOCATIONS



SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-4. REAR DRIVE CIRCUIT

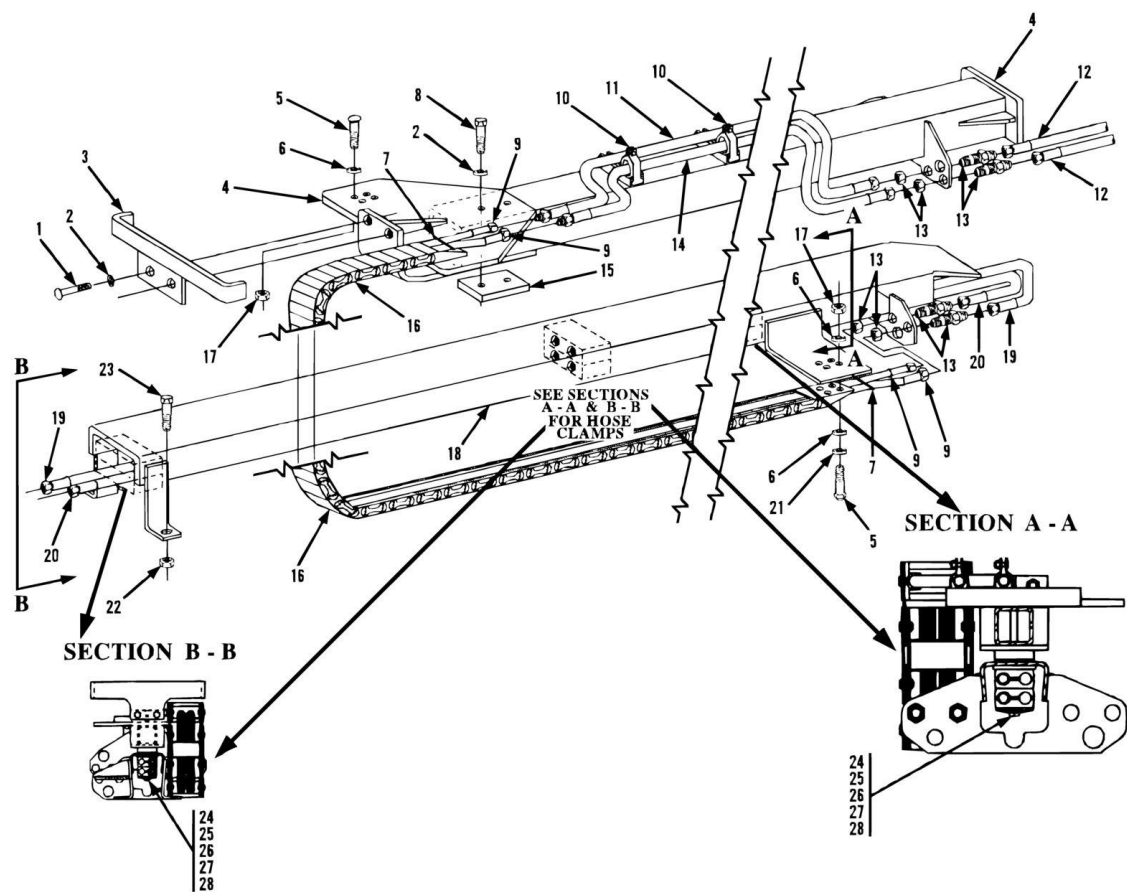
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84718752	1	HOSE ASSEMBLY	
2	88662237	1	SWIVEL NUT RUN TEE, 1/4 TUBE	
3	83662017	1	CONNECTOR (includes item 4)	
4	88591204	5	O-RING	
5		Ref	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
6	84718700	1	HOSE ASSY	
7	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	88662005	2	CONNECTOR (includes item 4)	
9		Ref	TRACTION LOCK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
10	84712738	8	SPLIT FLANGE CLAMP	
11	83201135	8	HEX HD CAPSCREW, 7/16-14X1-1/2	
12	88551012	16	LOCKWASHER, 7/16	
13	91083106	4	O-RING	
14	91163201	1	TUBE ASSY	
15		Ref	HYDROSTATIC TRANSMISSION (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
16	88591207	1	O-RING	
17	88662008	1	CONNECTOR (includes item 16)	
18	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
19	83651133	1	REDUCER W/ADAPTER	
20	91083266	1	TUBE ASSY	
21	88591207	5	O-RING	
22	84718739	1	HOSE ASSY	
23	84718751	1	HOSE ASSY	
24	88662332	2	ELBOW, 90, (includes item 21)	
25	91163053	1	TUBE ASSY	
26	91163052	1	TUBE ASSY	
27	88591508	6	O-RING	
28	91163122	1	TUBE ASSY	
29	90205792	1	CUSHION CLAMP	
30	84718740	1	HOSE ASSY	
31	84718741	1	HOSE ASSY	
32	91163133	1	TUBE ASSY	
33	84712737	8	SPLIT FLANGE CLAMP	
34	80933066	4	O-RING	
35	88551011	16	LOCKWASHER	
36	83201115	16	HEX HD CAPSCREW, 3/8-16X1-1/4	
37	88591206	1	O-RING	
38	88662106	2	ELBOW, 90, (swivel nut)	
39		Ref	REAR DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
40	91123092	8	STUD	
41	85401340	8	HARDENED WASHER	
42	91083449	8	HEX NUT	
43	91163042	1	TUBE ASSY	
44	88662064	2	ELBOW, 90, (includes item 4)	
45	91163134	1	TUBE ASSY	
46	91163055	1	TUBE ASSY	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	91163041	1	TUBE ASSY	
48	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
49	88551011	4	LOCKWASHER, 3/8	
50	91213002	2	CLAMP SET	
51	88201023	4	HEX HD CAPSCREW, 3/8-16X1-3/4	
52	77133137	4	COVER PLATE	
53	91163069	2	CLAMP HALF	
54	91166055	1	R.H. TUBE SUPPORT (shown)	
54	91166056	1	L.H. TUBE SUPPORT	
55	91163054	1	TUBE ASSY	
56	91083306	1	CONNECTOR (includes item 37)	
57	83201155	8	HEX HD CAPSCREW, 7/16-14X3/4	
58	88662242	1	SWIVEL NUT RUN TEE, 3/4 TUBE	
59	84718615	1	HOSE ASSY	
60	84718614	1	HOSE ASSY	
61	88662020	2	CONNECTOR (includes item 21)	
62	91083222	1	REDUCING CONNECTOR (includes item 21)	
63	84718699	1	HOSE ASSY	
64	77133447	1	HOSE ASSY	
65	91053020	2	TEST COUPLING	
66	91163098	1	TUBE ASSY	
67	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
68	84718425	1	HOSE ASSY	
69	88561001	2	FLAT WASHER, 1/4	
70	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4	
71	88551009	2	LOCKWASHER, 1 /4	
72	84718355	1	HOSE ASSY	
73	77133279	7	CLAMP SET	
74	77133306	3	STACK BOLT	
75	88201023	4	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
76	77133137	4	COVER PLATE	
77	77133390	4	SAFETY CLIP	
78	90027187	12	NYLON TIE (not shown)(six needed per side for rear drive hoses)	
79	90023159	2	O-RING (one each side)	

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FIGURE 8-5. (91165007) BOOM HYDRAULICS SUB-ASSY



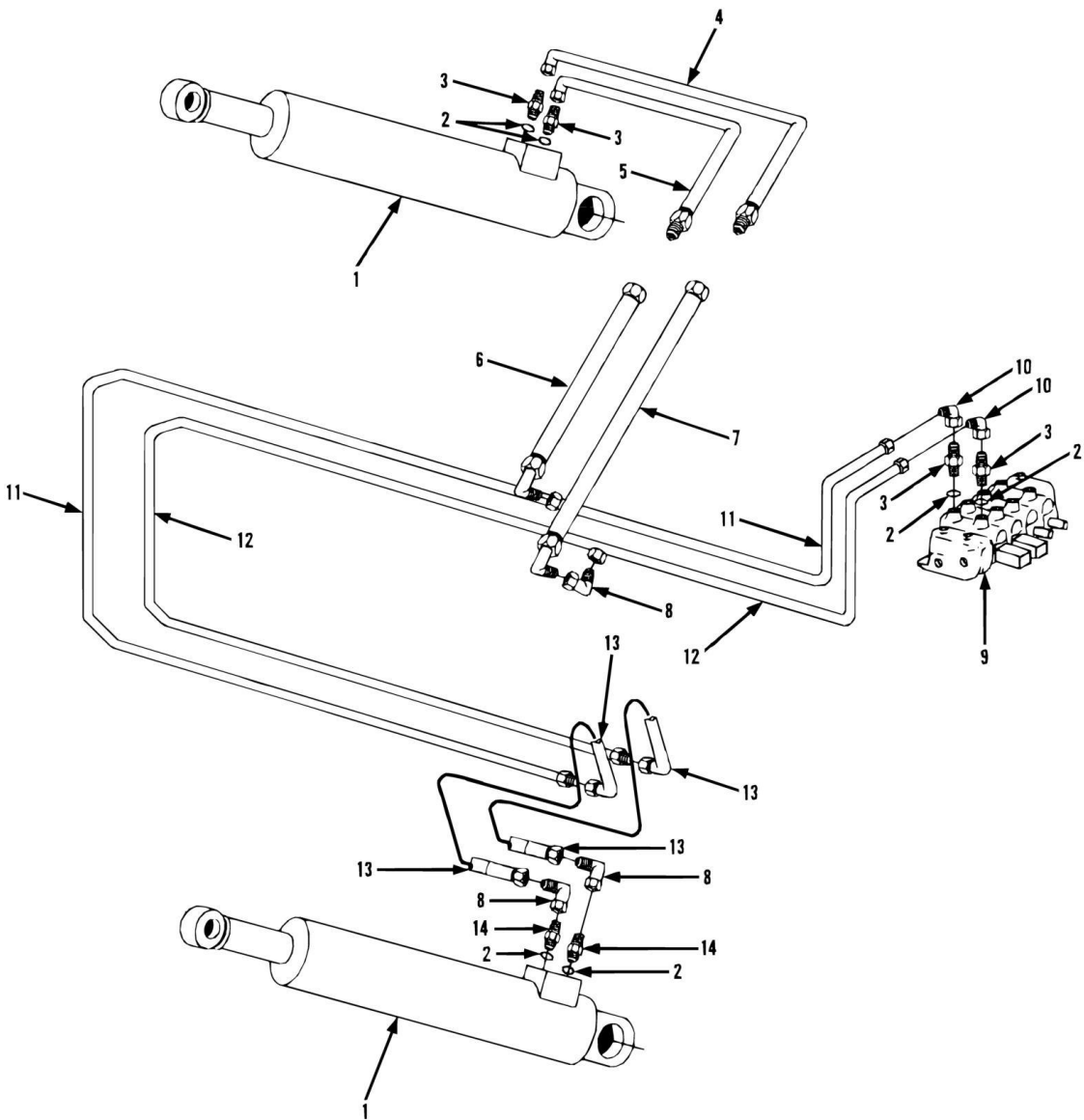
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-5. (91165007) BOOM HYDRAULICS SUB-ASSY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165007	1	BOOM HYDRAULICS SUB- ASSY (includes all items except 12, 22 & 23)	
1	88201035	2	HEX SOCKET CAPSCREW, 3/8-16X1	
2	88551011	4	LOCKWASHER, 3/8	
3	91161172	1	GUIDE BRACKET	
4	91166032	1	HYDRAULICS CARRIER	
5	88261030	8	RND HD CAPSCREW, 3/8-16X1-1/4	
6	88561004	12	FLATWASHER, 3/8	
7	90027187	4	TY-RAP	
8	88201543	2	HEX HD CAPSCREW, 3/8-24X3-1/4, GR5	
9	84718959	2	HOSE ASSY	
10	91083217	6	TUBE CLAMP	
11	91163058	1	TUBE ASSY	
12	84719455	2	HOSE ASSY	
13	88661085	4	BULK HEAD FITTING	
14	91163057	2	TUBE ASSY	
15	91033187	1	BEARING PAD	
16	91163174	1	HOSE CARRIER	
17	88521306	8	LOCKNUT, 3/8-16	
18	91166067	1	HYDRAULICS CARRIER	
19	91163059	1	TUBE ASSY	
20	91163060	1	TUBE ASSY	
21	88561109	4	FLAT WASHER, 3/8	
22	88521408	2	LOCKNUT, 1/2-20	
23	83201104	2	HEX HD CAPSCREW, 1/2-20X1-1/2, GR5	
24	77133139	6	CLAMP SET	
25	77133140	3	COVER PLATE	
26	77133389	3	STACK BOLT	
27	77133390	3	SAFETY CLIP	
28	77133177	3	HEX HD CAPSCREW, 5/16-18X1-3/8	

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FIGURE 8-6. LIFT CYLINDER



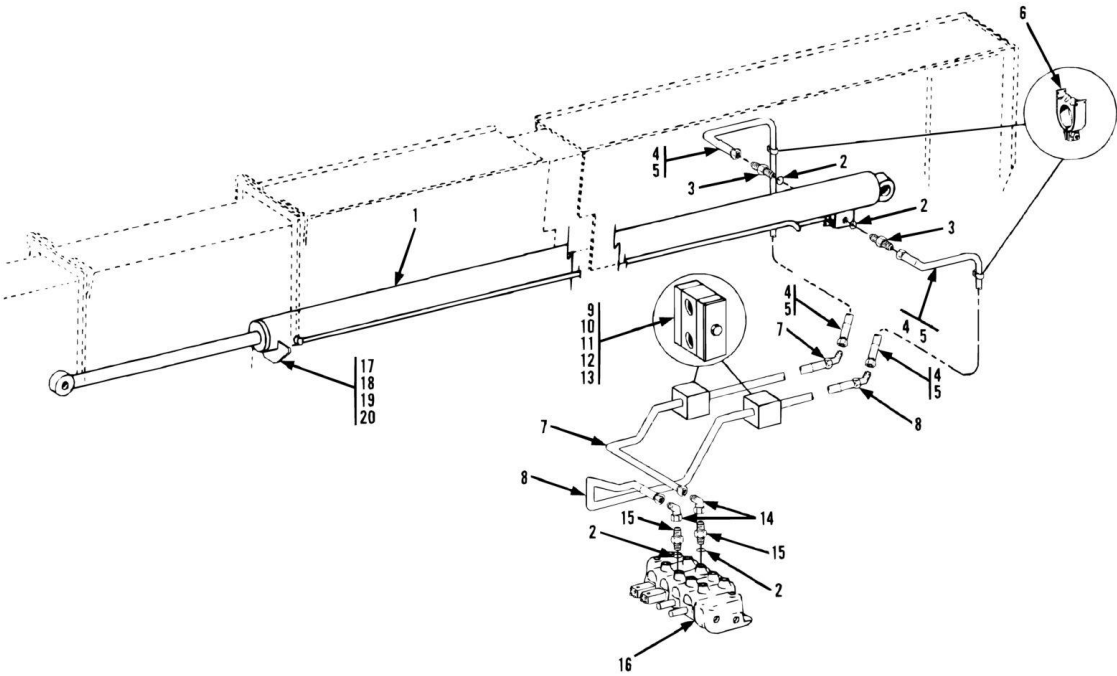
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-6. LIFT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	LIFT CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591207	6	O-RING	
3	88662008	4	CONNECTOR (includes item 2)	
4	91163220	1	TUBE ASSY	
5	91163219	1	TUBE ASSY	
6	84718893	1	HOSE ASSY	
7	84718894	1	HOSE ASSY	
8	88662107	3	ELBOW, 90, (swivel nut)	
9		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
10	88662108	2	ELBOW, 90, (swivel nut)	
11	91163218	1	TUBE ASSY	
12	91163217	1	TUBE ASSY	
13	84718948	2	HOSE ASSY	
14	88662022	2	CONNECTOR (includes item 2)	

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FIGURE 8-7. CROWD CYLINDER



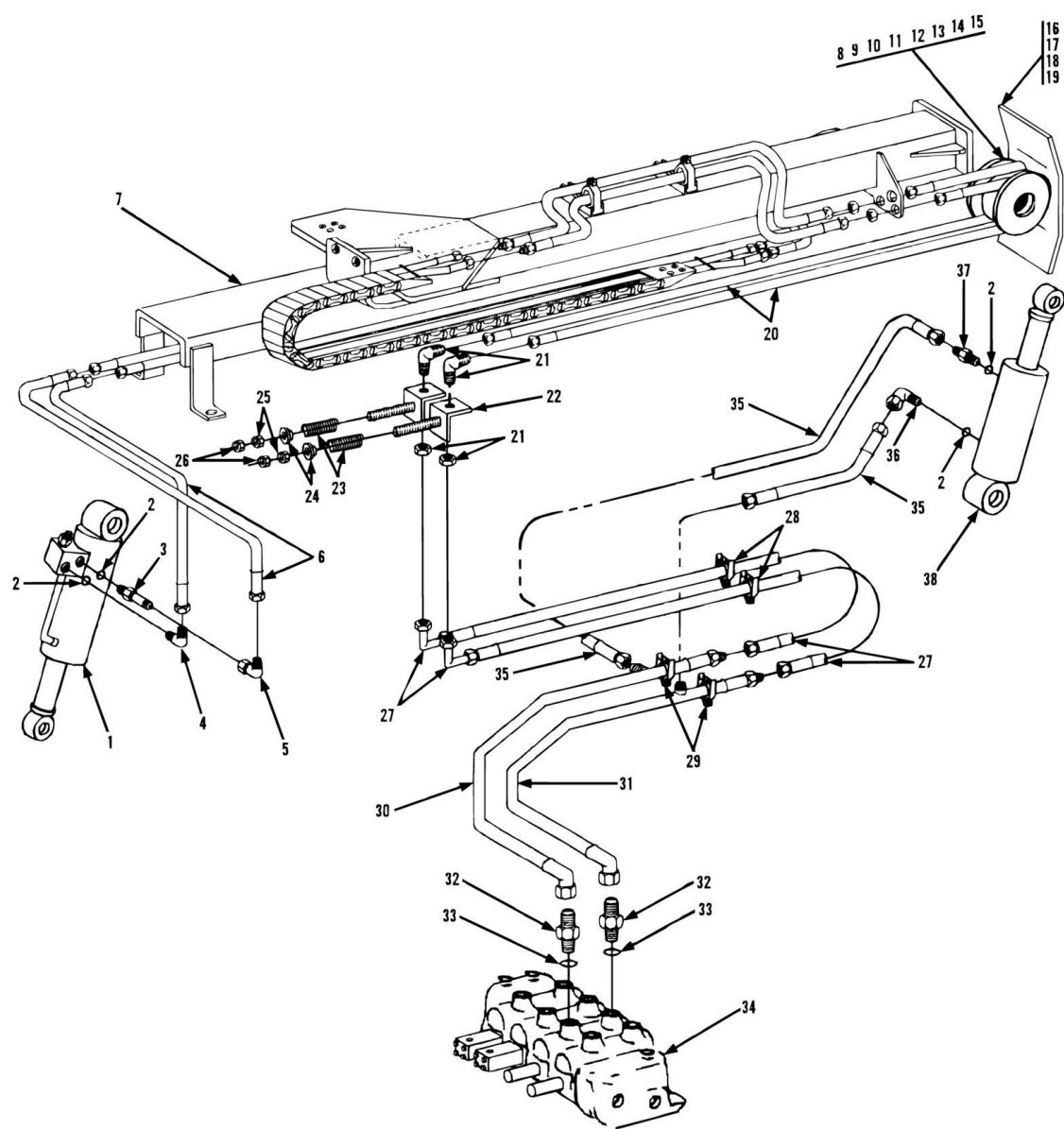
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-7. CROWD CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	CROWD CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591207	4	O-RING	
3	88662022	2	CONNECTOR (includes item 2)	
4	84718684	2	HOSE ASSY	
5	90207464	2	HOSE SUPPORT	
6	90207463	2	CUSHION CLAMP	
7	91163095	1	TUBE ASSY	
8	91163094	1	TUBE ASSY	
9	88201023	2	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
10	77133136	4	CLAMP SET	
11	77133390	2	SAFETY CLIP	
12	77133137	2	COVER PLATE	
13	77133306	2	STACK BOLT	
14	88662108	2	ELBOW, 90, (swivel nut)	
15	88662038	2	CONNECTOR (includes item 2)	
16		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	91161197	1	CROWD CYLINDER SUPPORT	
18	88201069	2	HEX HD CAPSCREW, 1/2-13X2, GR5	
19	88551013	2	LOCKWASHER, 1/2	
20	88501008	2	HEX NUT, 1/2-13	

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FIGURE 8-8. TILT CYLINDER AND TILT COMPENSATING CYLINDER



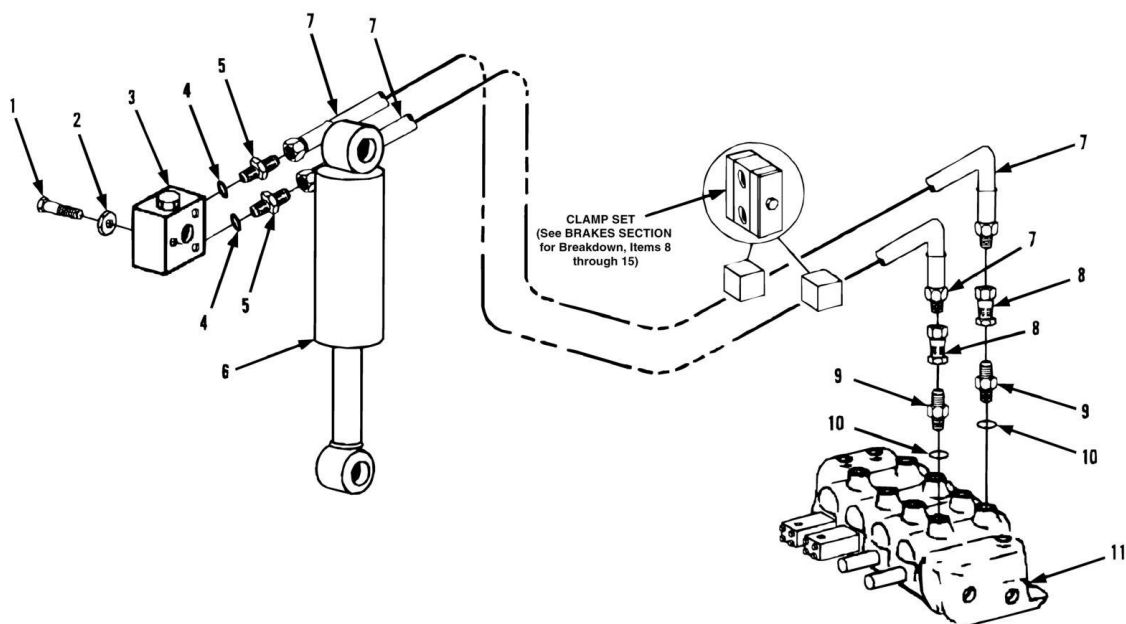
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FIGURE 8-8. TILT CYLINDER AND TILT COMPENSATING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TILT CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591206	4	O-RING	
3	88662037	1	CONNECTOR (includes item 2)	
4	88662066	1	ELBOW, 90, (includes item 2)	
5	88662107	1	ELBOW, 90, (swivel nut)	
6	84718632	2	HOSE ASSY	
7		Ref	BOOM HYDRAULICS SUB-ASSY (See (91165007) BOOM HYDRAULICS SUB-ASSY for Breakdown)	
8	91143024	1	HOSE SHEAVE	
9	91161138	1	HOSE SHEAVE PIN	
10	88201074	1	HEX HD CAPSCREW, 1/2-13X3-1/4, GR5	
11	88551013	1	LOCKWASHER, 1/2	
12	91041449	AR	THRUSTWASHER	
13	91041450	AR	THRUSTWASHER	
14	91041451	2	THRUSTWASHER	
15	91041596	AR	THRUSTWASHER	
16	91166037	1	HOSE GUIDE BRACKET	
17	88201032	3	HEX HD CAPSCREW, 3/8-16X5/8, GR5	
18	88561004	3	FLATWASHER, 3/8	
19	88551011	3	LOCKWASHER, 3/8	
20	84719455	2	HOSE ASSY	
21	90027180	2	BULKHEAD FITTING, 90	
22	91166068	2	HOSE TAKE-UP WELDMENT	
23	91123054	2	COMPRESSION SPRING	
24	91121134	2	SPRING RETAINER	
25	88501008	2	HEX NUT, 1/2-13	
26	88501108	2	JAM NUT, 1/2-13	
27	84719018	2	HOSE ASSY	
28	90207464	8	CUSHION CLAMP	
29	90207463	2	CUSHION CLAMP	
30	91163166	1	TUBE ASSY	
31	91163167	1	TUBE ASSY	
32	88662008	2	CONNECTOR (includes item 33)	
33	88591207	2	O-RING	
34		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
35	84718728	2	HOSE ASSY	
36	88662086	1	CONNECTOR, 45, (includes item 2)	
37	88662007	1	CONNECTOR (includes item 2)	
38		Ref	COMPENSATING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-9. SWAY CYLINDER



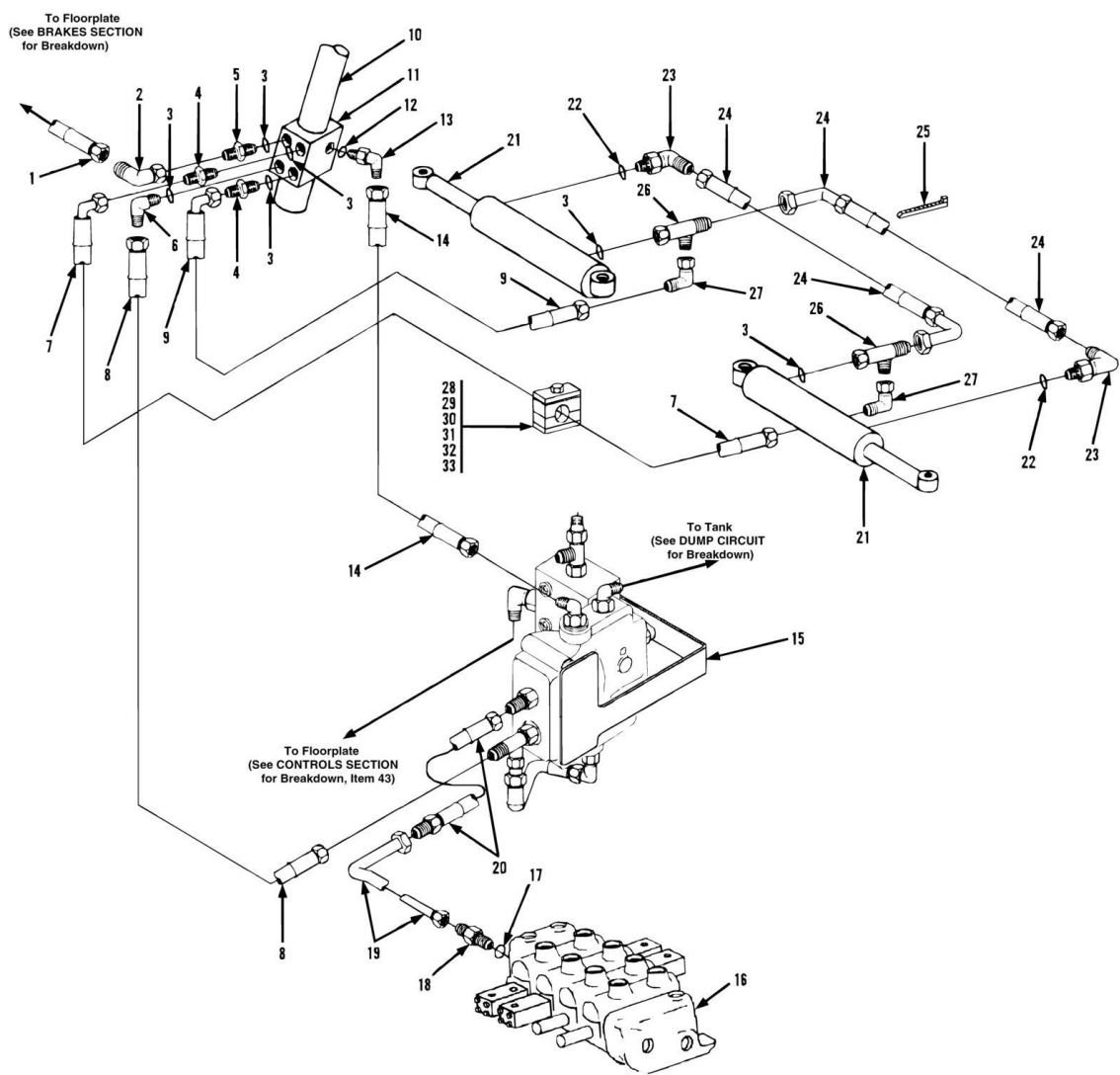
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FIGURE 8-9. SWAY CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
2	88551011	3	LOCKWASHER, 3/8	
3		Ref	SWAY CYLINDER VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
4	88591012	2	O-RING	
5	88662082	2	CONNECTOR (includes item 4)	
6		Ref	SWAY CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
7	84718675	2	HOSE ASSY	
8	88661341	2	TUBE END REDUCER (1/2X1/4)	
8	88661406	2	NUT	
9	88662020	2	CONNECTOR (includes item 10)	
10	88591207	2	O-RING	
11		Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-10. STEERING CIRCUIT



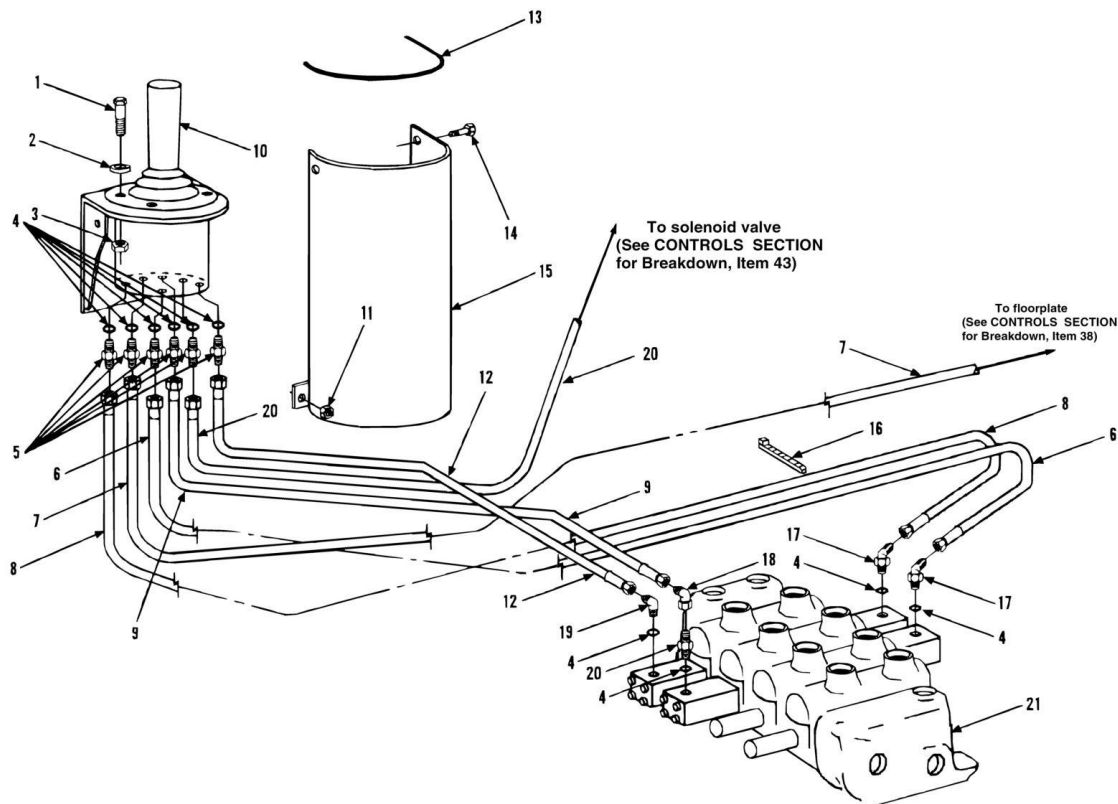
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FIGURE 8-10. STEERING CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84718672	1	HOSE ASSY	
2	88662105	1	ELBOW, 90, (swivel nut)	
3	88591205	5	O-RING	
4	88662006	2	CONNECTOR (includes item 3)	
5	88662018	1	CONNECTOR (includes item 3)	
6	88662065	1	ELBOW, 90, (includes item 3)	
7	84718432	1	HOSE ASSY	
8	84718671	1	HOSE ASSY	
9	84718676	1	HOSE ASSY	
10		Ref	STEERING COLUMN (See CONTROLS SECTION for Breakdown)	
11		Ref	STEERING CONTROL UNIT (See CONTROLS SECTION for Breakdown)	
12	88591202	1	O-RING	
13	88662062	1	ELBOW, 90, (includes item 12)	
14	84718673	1	HOSE ASSY	
15		Ref	FLOW DIVIDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
16		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	88591210	1	O-RING	
18	88662028	1	CONNECTOR (includes item 17)	
19	91143058	1	TUBE ASSY	
20	84718625	1	HOSE ASSY	
21		Ref	STEERING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88591204	2	O-RING	
23	88662064	2	ELBOW, 90, (includes item 22)	
24	84718202	2	HOSE ASSY	
25	90027187	12	TIE WRAP	
26	88662140	2	RUN TEE (includes item 3)	
27	88662106	2	ELBOW, 90, (swivel nut)	
28	77133390	1	SAFETY CLIP	
29	88201023	1	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
30	77323029	1	CLAMP SET	
31	83663119	1	CLAMP SET	
32	77133306	1	STACK BOLT	
33	77133137	1	COVER PLATE	

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FIGURE 8-11. JOYSTICK CIRCUIT



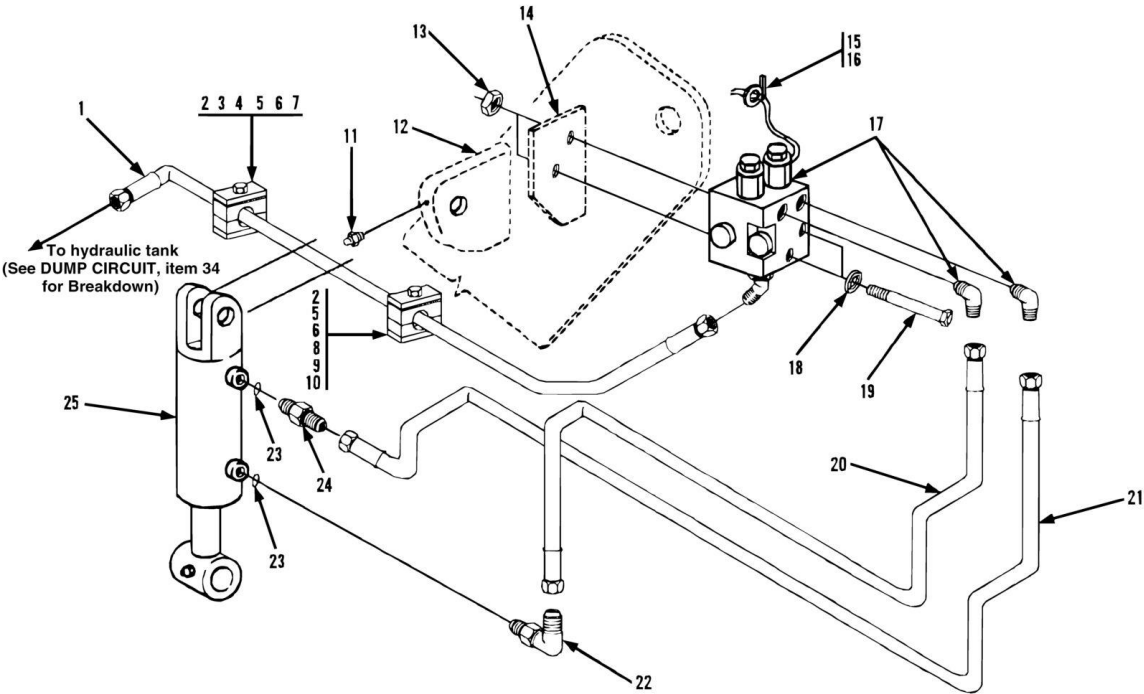
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FIGURE 8-11. JOYSTICK CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88261017	4	SOCKET BUTTON HD CAPSCREW, 1/4-20X7/8, GR5	
2	88551009	4	LOCKWASHER, 1/4	
3	88501004	4	HEX NUT, 1/4-20	
4	88591204	10	O-RING	
5	88662005	7	CONNECTOR (includes item 4)	
6	84717519	1	HOSE ASSY (crowd in)	
7	84718735	1	HOSE ASSY (return)	
8	77133197	1	HOSE ASSY (lift down)	
9	84718377	1	HOSE ASSY (crowd out)	
10		Ref	JOYSTICK (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
11	77143006	2	WHIZ LOCKNUT, 5/16-18	
12	77363126	1	HOSE ASSY (lift up)	
13	90206199	AR	TRIM LOK	
14	77143003	2	WHIZ SCREW, 5/16-18X5/8	
15	91146047	1	COVER	
16	90027187	AR	TIE WRAP	
17	88662084	2	ELBOW, 45, (includes item 4)	
18	88662105	1	ELBOW, 90, (swivel nut)	
19	88662064	1	ELBOW, 90, (includes item 4)	
20	84718736	1	HOSE ASSY (pressure)	
21		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-12. STABILIZER CYLINDER



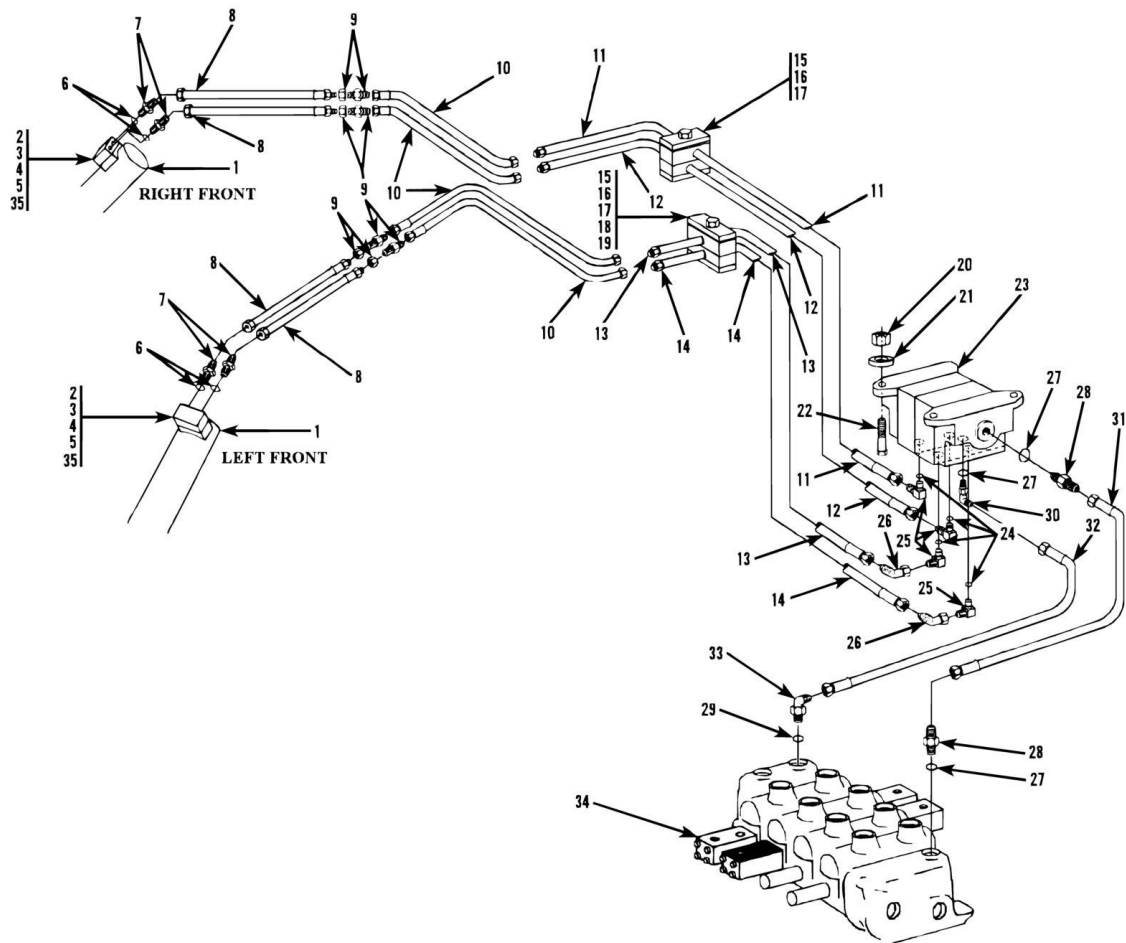
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FIGURE 8-12. STABILIZER CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84719000	1	HOSE ASSY	
2	91213002	2	CLAMP SET, 3/4-1/2	
3	91083240	1	CLAMP SET 5/8-1/2	
4	77133140	1	COVER PLATE	
5	77133306	2	STACK BOLT	
6	77133390	2	SAFETY CLIP	
7	77133177	1	HEX HD CAPSCREW, 5/16-18X1-3/8, GR5	
8	77133136	1	CLAMP SET, 3/4-3/4	
9	77133137	1	COVER PLATE	
10	88201023	2	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
11	88671008	1	LUBE FITTING, STRAIGHT 1/4-28	
12	91161083	1	STABILIZER LUG	
13	88501006	2	HEX NUT, 3/8-16	
14	91161379	1	VALVE MOUNT PLATE	
15	86621230	2	SUPPORT CLAMP	
16	77143006	2	WHIZ LOCK NUT, 5/16	
17		Ref	STABILIZER VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
18	88551011	2	LOCKWASHER, 3/8	
19	88201047	2	HEX HD CAPSCREW, 3/8-16X4, GR5	
20	77133145	1	HOSE ASSY	
21	84717560	1	HOSE ASSY	
22	88662065	1	ELBOW, 90, (includes item 23)	
23	88591205	2	O-RING	
24	88662006	1	CONNECTOR (includes item 23)	
25		Ref	STABILIZER CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

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FIGURE 8-13. OUTRIGGER CYLINDER



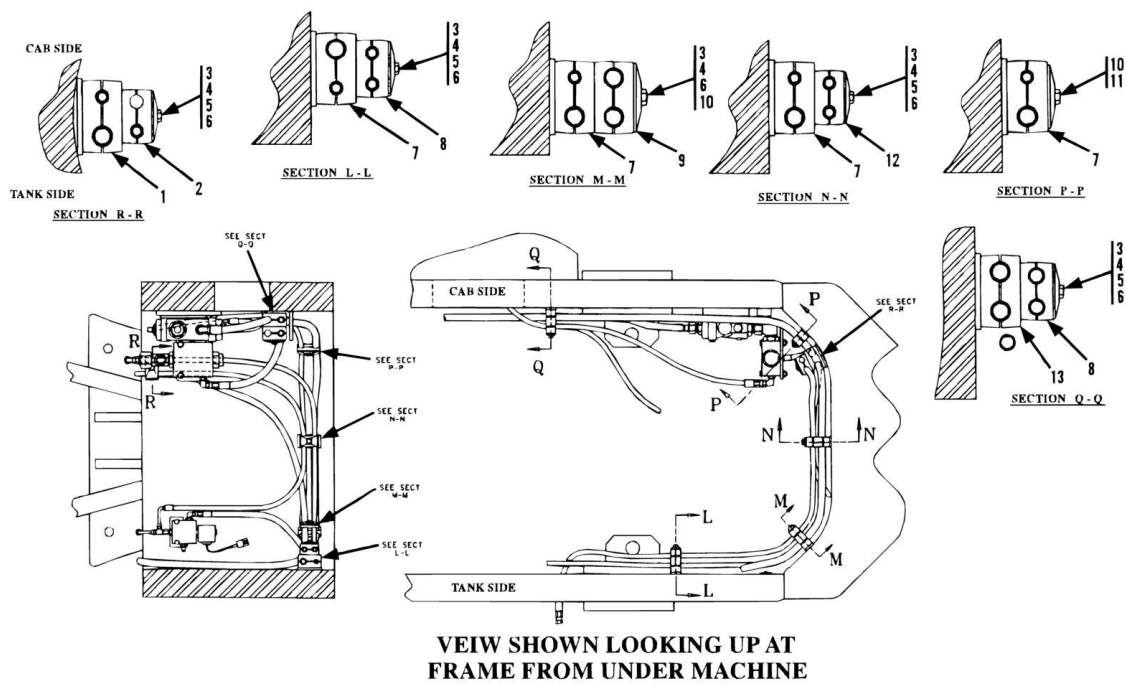
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FIGURE 8-13. OUTRIGGER CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	OUTRIGGER CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2		Ref	OUTRIGGER CYLINDER VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
3	88201040	6	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
4	88551011	6	LOCKWASHER, 3/8	
5	88591012	4	O-RING	
6	88591204	4	O-RING	
7	88662005	4	CONNECTOR (includes item 6)	
8	84718737	4	HOSE ASSY	
9	88661084	4	BULKHEAD UNION, 9/16-18X3/8, TUBE	
10	84718738	4	HOSE ASSY	
11	91163128	1	TUBE ASSY	
12	91163127	1	TUBE ASSY	
13	91163126	1	TUBE ASSY	
14	91163125	1	TUBE ASSY	
15	77133168	7	CLAMP SET (4 not illustrated)	
16	77133140	4	COVER PLATE (2 not illustrated)	
17	77133177	4	HEX HD CAPSCREW, 5/16-18X1-3/8, (2 not illustrated)	
18	77133390	3	SAFETY CLIP (2 not illustrated)	
19	77133389	3	STACK BOLT (2 not illustrated)	
20	88501008	3	HEX NUT, 1/2-13	
21	88551013	3	LOCKWASHER, 1/2	
22	88201070	3	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5	
23		Ref	OUTRIGGER CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
24	88592020	4	O-RING	
25	91053450	4	ELBOW, 90, (includes item 24)	
26	88662105	2	ELBOW, 90, (swivel nut)	
27	88591209	3	O-RING	
28	88662025	2	CONNECTOR (includes item 27)	
29	88591207	1	O-RING	
30	88662061	1	ELBOW, 90, (includes item 27)	
31	84718668	1	HOSE ASSY	
32	84718680	1	HOSE ASSY	
33	88662067	1	ELBOW, 90, (includes item 29)	
34		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
35	91163246	2	ORIFICE FITTING (port "c")	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-14. HOSE CLAMP LOCATIONS (REAR)



SECTION 8 - HYDRAULIC CIRCUITS

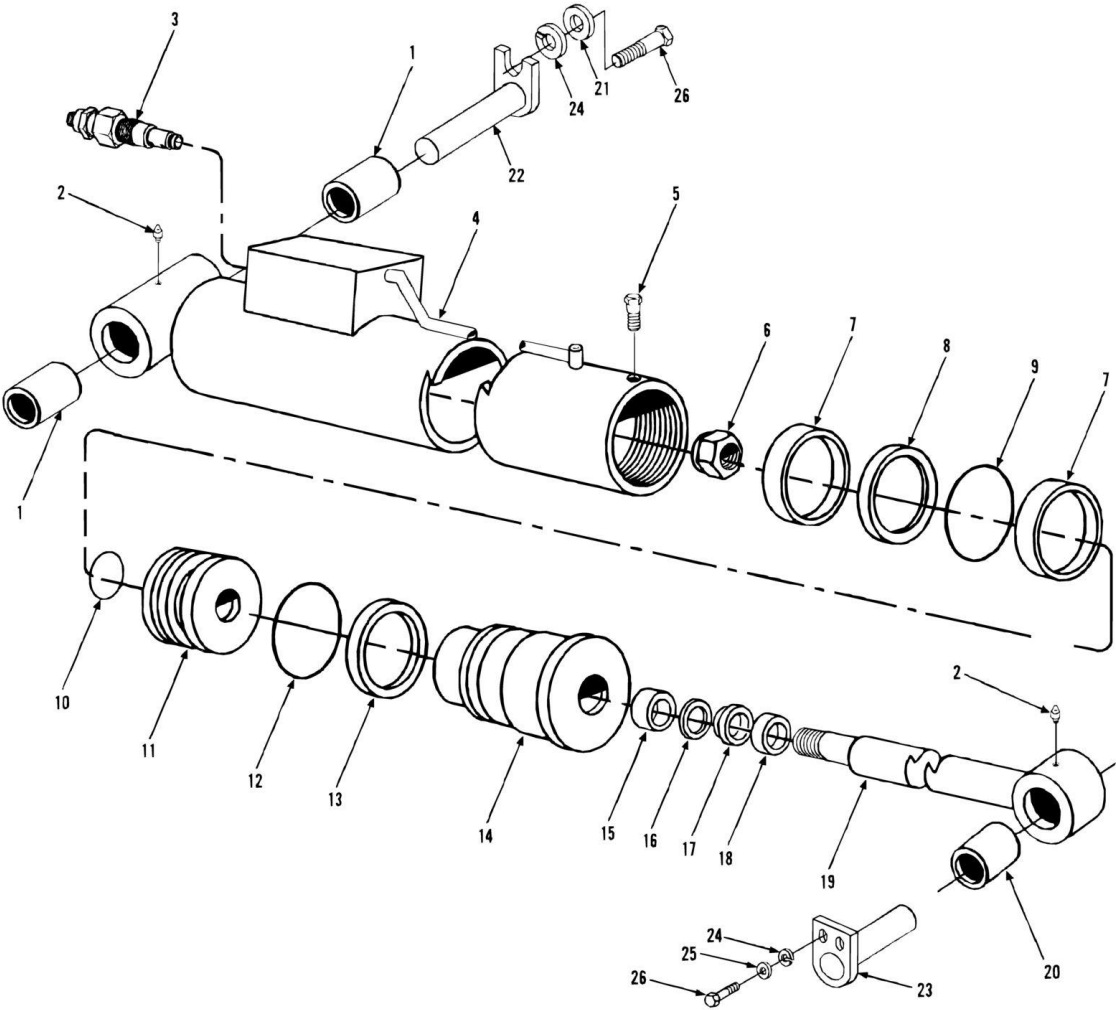
FIGURE 8-14. HOSE CLAMP LOCATIONS (REAR)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	80933140	1	CLAMP SET, 13/16 - 1-1/4	
2	77133168	1	CLAMP SET, 1/2-1/2	
3	77133306	5	STACK BOLT	
4	77133140	4	COVER PLATE	
5	77133177	4	BOLT	
6	77133390	5	SAFETY CLIP	
7	91213002	4	CLAMP SET, 3/4-1/2	
8	77133139	2	CLAMP SET, 5/8-5/8	
9	77133136	1	CLAMP SET, 3/4-3/4	
10	77133137	2	COVER PLATE	
11	88201023	2	BOLT	
13	77133279	1	CLAMP SET, 1-1	

SECTION 9 - HYDRAULIC COMPONENTS

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (91143214) TILT CYLINDER



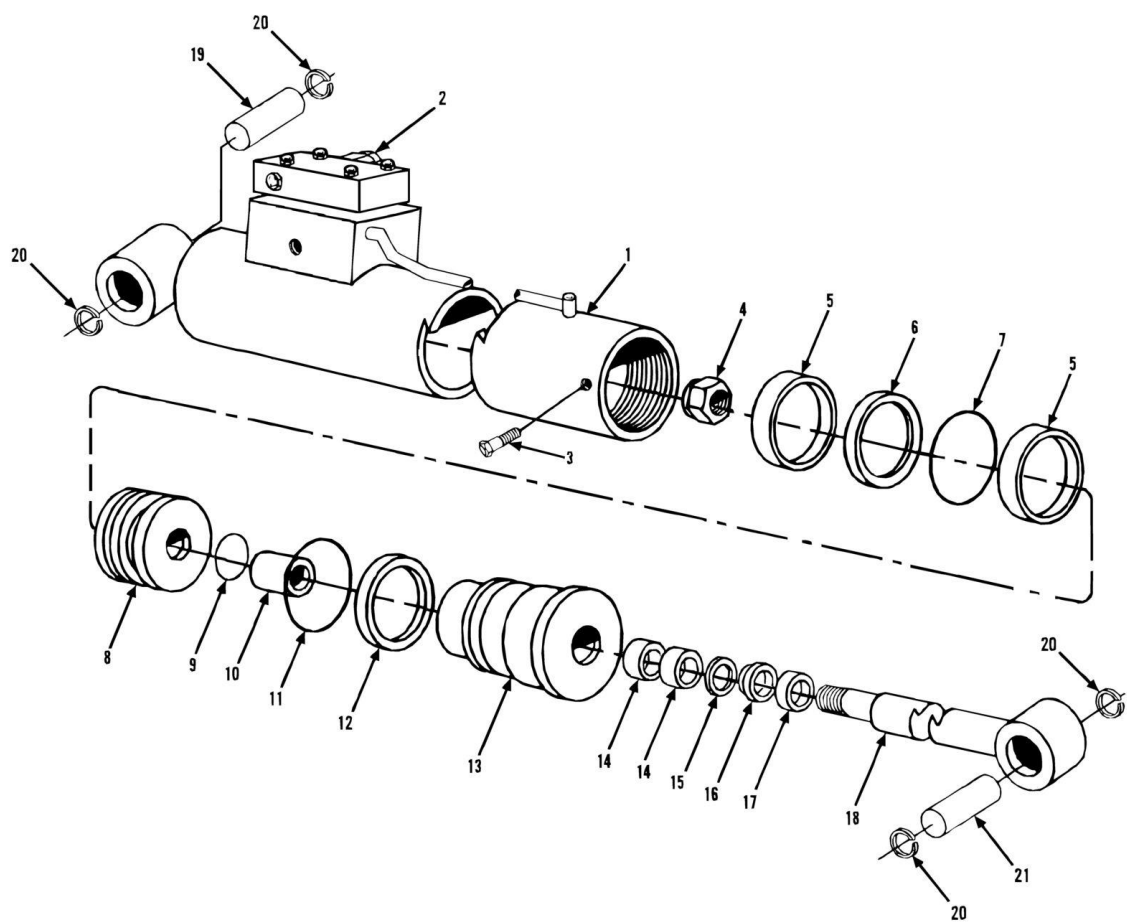
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (91143214) TILT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143214	1	TILT CYLINDER ASSY (includes items 1 thru 20)	
	91144004	1	SEAL KIT (includes items 7, 8, 9,10, 12, 13 & 15 thru 18)	
1	91064016	2	BUSHING	
2	88671001	2	GREASE FITTING	
3	91123089	1	COUNTERBALANCE VALVE	
3	91034276	1	COUNTERBALANCE VALVE SEAL KIT	
4	91144023	1	CASE ASSY	
5	91144017	1	CAPSCREW, #8X32X.375	
6	91034153	1	LOCKNUT (torque 1300-1350 ft lbs)	
7	Kit	2	WEAR RING	
8	Kit	1	PISTON SEAL	
9	Kit	1	O-RING	
10	Kit	1	O-RING	
11	91034139	1	PISTON	
12	Kit	1	O-RING	
13	Kit	1	BACK-UP RING	
14	91144024	1	GLAND	
15	Kit	1	WEAR RING	
16	Kit	1	STEP SEAL	
17	Kit	1	U-CUP	
18	Kit	1	WIPER	
19	91144025	1	ROD ASSY	
20	91144479	1	BUSHING	
21	83621283	1	SPECIAL WASHER	
22	91146052	1	PIN WELDMENT	
23	91166062	1	PIN WELDMENT	
24	88551013	3	LOCKWASHER, 1/2	
25	88561111	2	FLAT WASHER, 1/2	
26	88201065	3	HEX HD CAPSCREW, 1/2-13X1, GR5	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. (91163225) CROWD CYLINDER



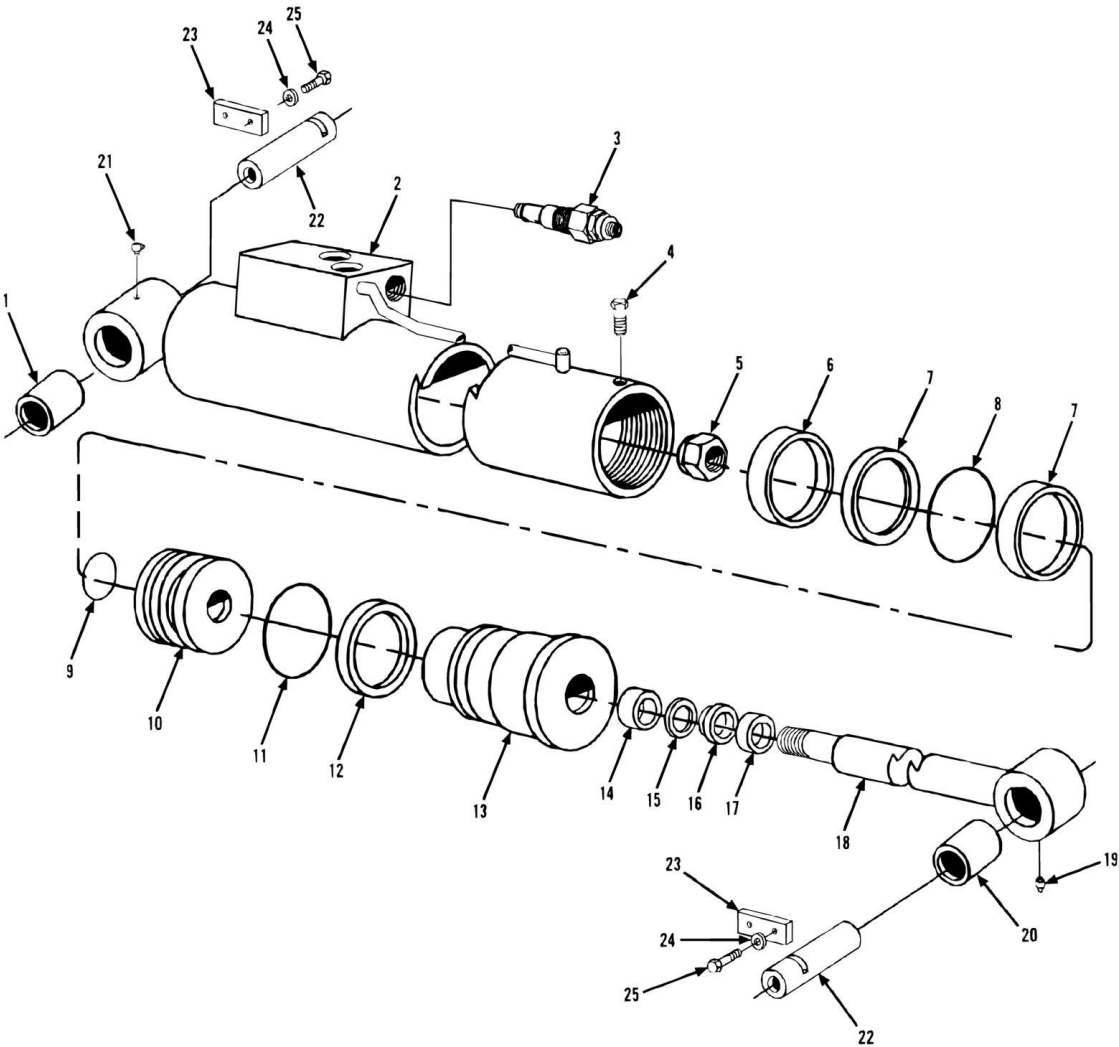
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. (91163225) CROWD CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163225	1	CROWD CYLINDER ASSY (includes items 1 thru 19)	
	91164004	Ref	SEAL KIT (includes items 5, 6, 7, 9, 11 12, 14 thru 17)	
1	91164013	1	CASE ASSY	
2	91164052	1	RELIEF VALVE (4600 PSI) (includes valve block)	
3	91124096	1	CAPSCREW	
4	91034153	1	LOCKNUT	
5	Kit	2	WEAR RING	
6	Kit	1	PISTON SEAL	
7	Kit	1	O-RING	
8	91164046	1	PISTON	
9	Kit	1	O-RING	
10	91164047	1	SPACER	
11	Kit	1	O-RING	
12	Kit	1	BACK-UP RING	
13	91164016	1	CYLINDER HEAD	
14	Kit	2	WEAR RING	
15	Kit	1	STEP SEAL	
16	Kit	1	U-CUP	
17	Kit	1	WIPER	
18	91164048	1	SHAFT ASSY	
19	91161136	1	CYLINDER PIN	
20	88581149	4	RETAINING RING	
21	91161137	1	CYLINDER PIN	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91163008) LIFT CYLINDER



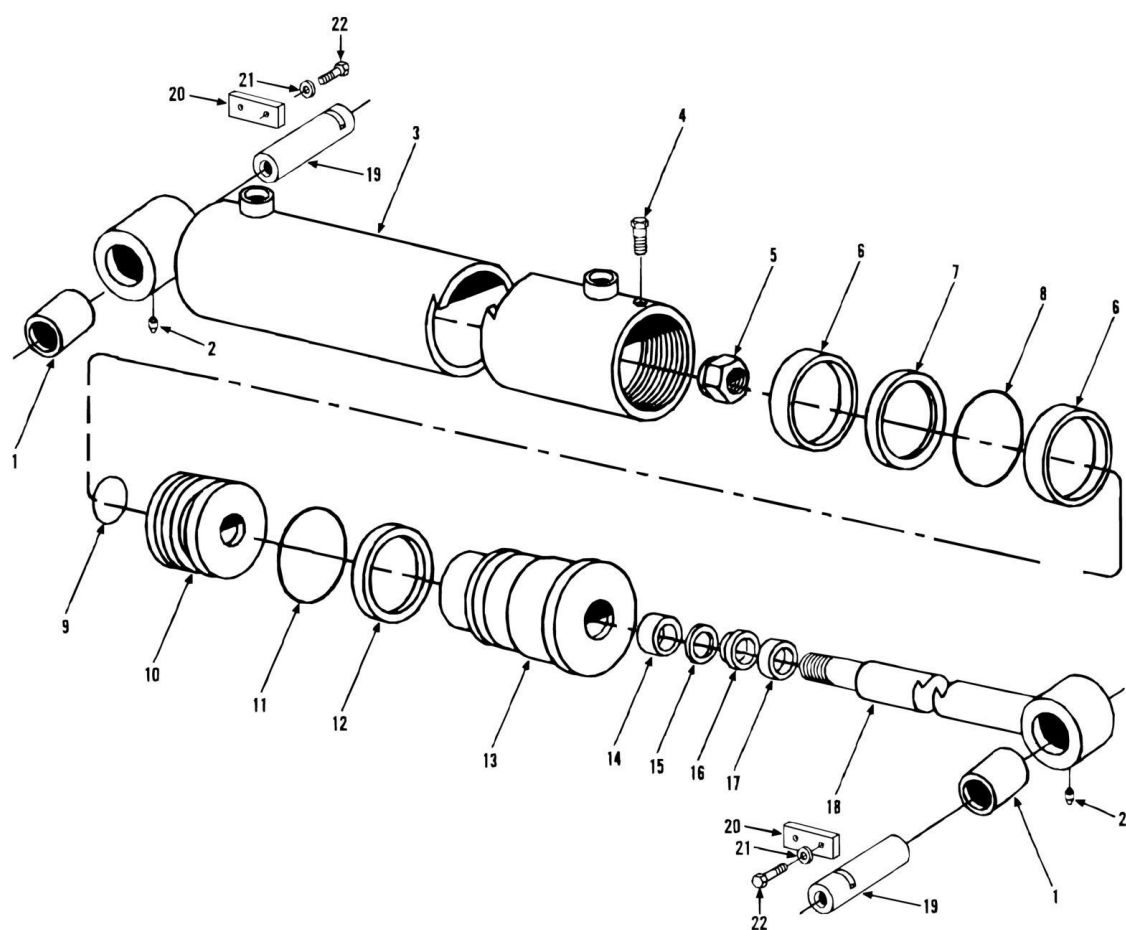
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91163008) LIFT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163008	2	LIFT CYLINDER ASSY (includes items 1 thru 21)	
	91164005	Ref	SEAL KIT (includes items 6, 7, 8, 9, 11, 12, 14, 15, 16 & 17)	
	91164037	Ref	LOAD CONTROL VALVE SEAL KIT	
1	91164038	1	BUSHING	
2	91164039	1	CASE ASSY	
3	91164011	1	LOAD CONTROL VALVE	
4	91144017	1	CAPSCREW	
5	91034153	1	LOCKNUT (torque to 1475-1525 ft lbs)	
6	Kit	2	WEAR RING	
7	Kit	1	PISTON SEAL	
8	Kit	1	O-RING	
9	Kit	1	O-RING	
10	91164040	1	PISTON	
11	Kit	1	O-RING	
12	Kit	1	BACK - UP RING	
13	91164041	1	CYLINDER HEAD (torque to 100-400 ft lbs)	
14	Kit	1	WEAR RING	
15	Kit	1	STEP SEAL	
16	Kit	1	U-CUP	
17	Kit	1	WIPER	
18	91164042	1	SHAFT ASSY	
19	91144128	1	GREASE FITTING	
20	91164043	1	BUSHING	
21	88671022	1	GREASE FITTING, 90	
22	91161140	2	CYLINDER PIN	
23	91081313	2	PIN KEEPER	
24	88551013	4	LOCKWASHER, 1/2	
25	88201065	4	HEX HD CAPSCREW, 1/2-13X1	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE CYLINDER ASSY ONLY.	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-4. (91143003) COMPENSATING CYLINDER



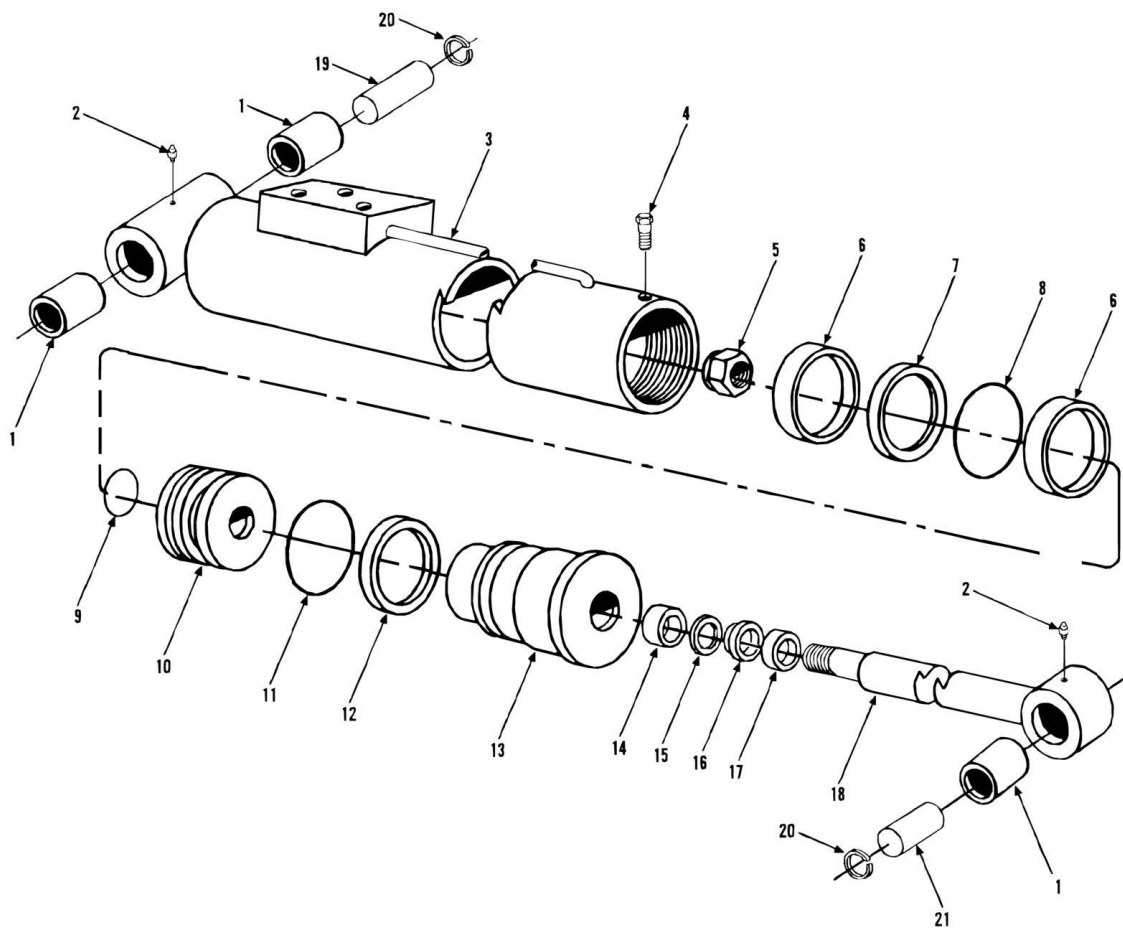
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-4. (91143003) COMPENSATING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143003	1	COMPENSATING CYLINDER ASSY (includes items 1 thru 18)	
	91144004	1	SEAL KIT (includes items 6, 7, 8,9, 11, 12 & 14 thru 17)	
1	91144026	2	BUSHING	
2	88671001	2	GREASE FITTING	
3	91144027	1	CASE ASSY	
4	91144017	1	CAPSCREW, #8X32X.375	
5	91034153	1	LOCKNUT (torque 1300-1350 ft lbs)	
6	Kit	2	WEAR RING	
7	Kit	1	PISTON SEAL	
8	Kit	1	O-RING	
9	Kit	1	O-RING	
10	91034139	1	PISTON	
11	Kit	1	O-RING	
12	Kit	1	BACK-UP RING	
13	91144024	1	CYLINDER HEAD	
14	Kit	1	WEAR RING	
15	Kit	1	STEP SEAL	
16	Kit	1	U-CAP	
17	Kit	1	WIPER	
18	91144028	1	ROD ASSY	
19	91081432	2	PIN	
20	91081313	2	PIN KEEPER	
21	88551013	4	LOCKWASHER, 1/2	
22	88201065	4	HEX HD CAPSCREW, 1/2-13X1, GR5	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91143007) SWAY CYLINDER ASSEMBLY



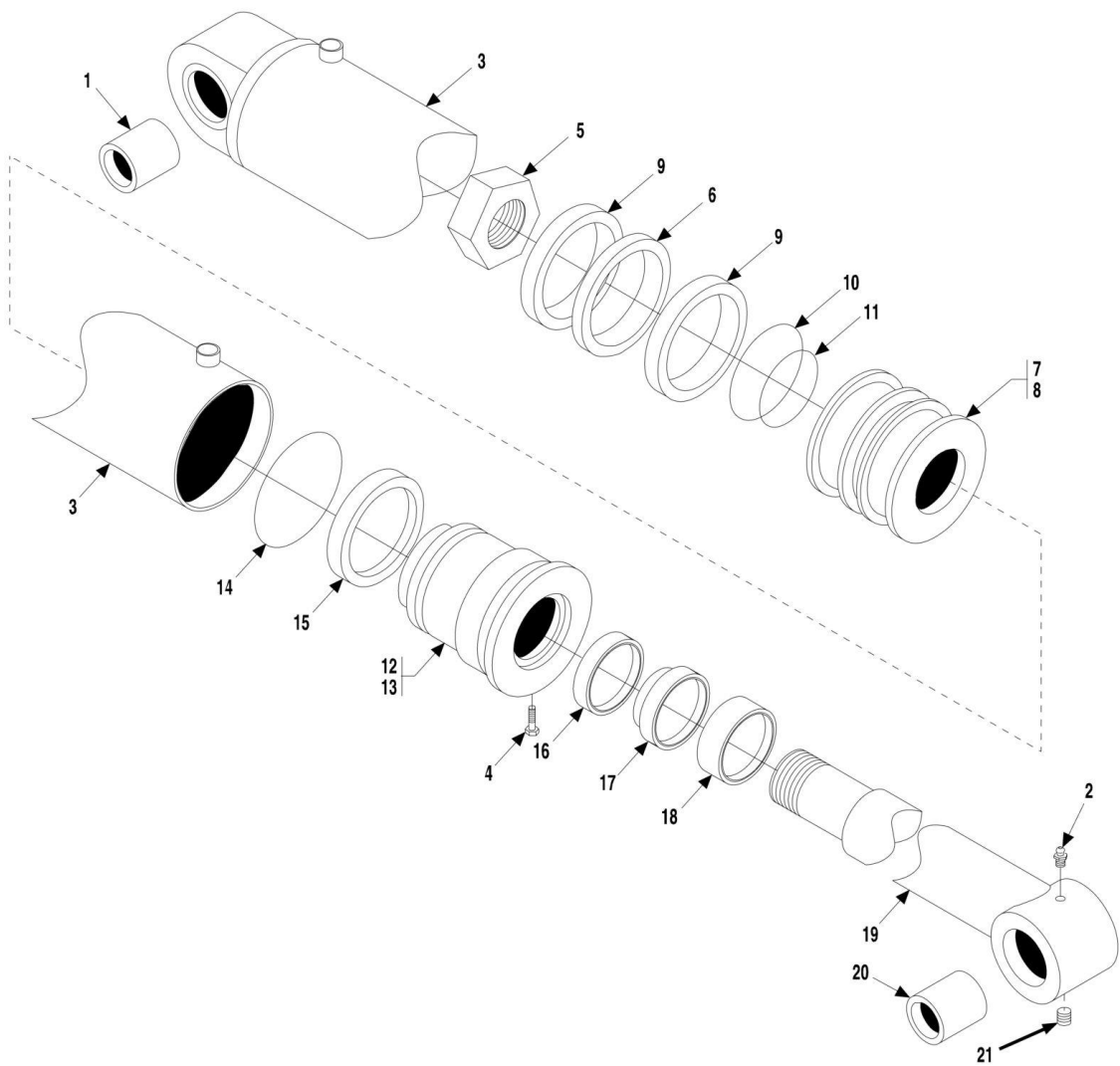
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91143007) SWAY CYLINDER ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143007	1	SWAY CYLINDER (includes items 1 thru 18)	
	91144005	1	SEAL KIT (includes items 6, 7, 8,9, 11, 12 & 14 thru 17)	
1	91064016	3	BUSHING	
2	88671001	2	GREASE FITTING	
3	91144032	1	CASE ASSY	
4	91144017	1	CAPSCREW, #8X32X.375	
5	91064017	1	LOCKNUT (torque 650-700 ft lbs)	
6	Kit	2	WEAR RING	
7	Kit	1	PISTON SEAL	
8	Kit	1	O-RING	
9	Kit	1	O-RING	
10	91144033	1	PISTON	
11	Kit	1	O-RING	
12	Kit	1	BACK-UP RING	
13	91144034	1	CYLINDER HEAD	
14	Kit	1	WEAR RING	
15	Kit	1	STEP SEAL	
16	Kit	1	U-CAP	
17	Kit	1	WIPER	
18	91144035	1	ROD ASSY	
19	91141316	1	PIN	
20	90028935	4	RETAINING RING	
21	90207352	1	PIN	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-6. (91163178) STEERING CYLINDER



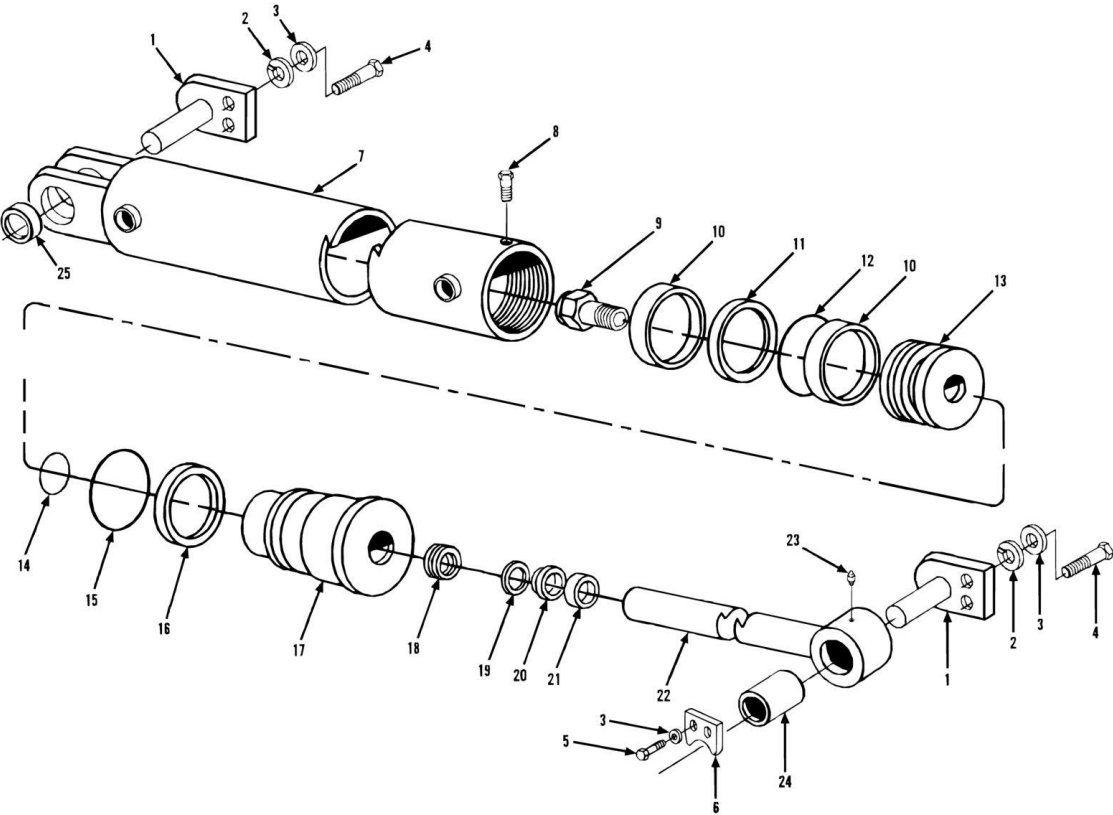
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-6. (91163178) STEERING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163178	2	STEERING CYLINDER (includes all items)	
	91144006	1	SEAL KIT (includes items 6, 9, 10, 11 & 14 thru 18)	
1	91164018	1	BUSHING	
2	91144128	1	GREASE FITTING	
3	91144037	1	CASE ASSY	
4	91124096	1	SELF-TAPPING SCREW	
5	91144038	1	LOCKNUT (torque 400-425 ft lbs)	
6	Kit	1	PISTON SEAL	
7	91554034	1	PISTON ASSY, (includes items 8 thru 11)	
8	91144039	1	PISTON	
9	Kit	2	WEAR RING	
10	Kit	1	O-RING	
11	Kit	1	O-RING	
12	91554035	1	CYLINDER HEAD ASSY, (includes items 13 thru 18)	
13	91144040	1	CYLINDER HEAD, (torque to 100-400 ft lbs)	
14	Kit	1	O-RING	
15	Kit	1	BACK-UP RING	
16	Kit	1	STEP SEAL	
17	Kit	1	U-CUP	
18	Kit	1	WIPER	
19	91164027	1	ROD ASSY	
20	91043246	1	BUSHING	
21		Ref	HEX PLUG, 1/8-27 NPT	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. (91163045) STABILIZER CYLINDER



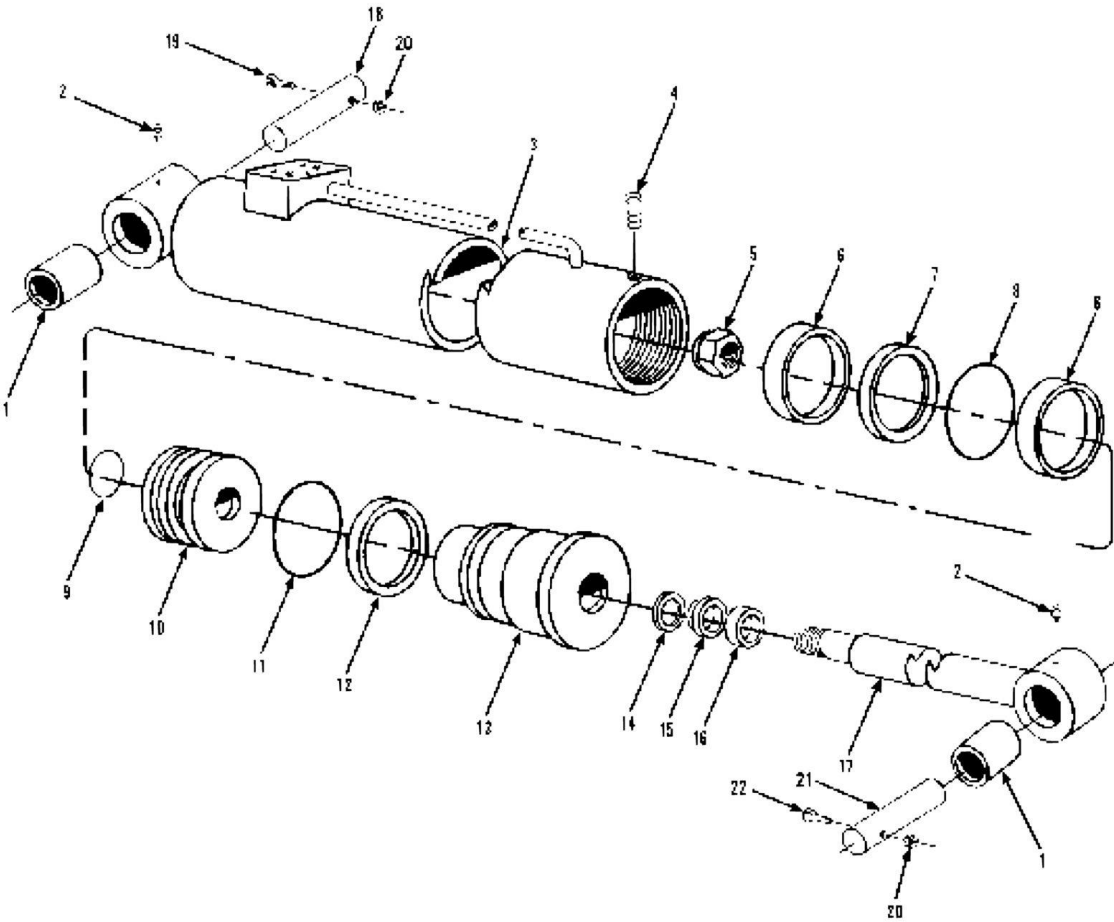
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. (91163045) STABILIZER CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163045	1	STABILIZER CYLINDER (includes all items except 1 thru 5)	
	91144005	Ref	SEAL KIT (includes items 10, 11, 12, 14, 15, 16, 18, 19 & 20)	
1	91166062	2	CYLINDER PIN	
2	88551013	4	LOCKWASHER, 1/2IN	
3	88561111	6	FLAT WASHER, 1/2IN	
4	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
5	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
6	91161269	2	PIN KEEPER	
7	91164028	1	CASE ASSY	
8	91124096	1	CAPSCREW	
9	91064017	1	LOCKNUT	
10	Kit	2	WEAR RING	
11	Kit	1	PISTON SEAL	
12	Kit	1	O-RING	
13	91044033	1	PISTON	
14	Kit	1	O-RING	
15	Kit	1	O-RING	
16	Kit	1	BACK-UP RING	
17	91144034	1	CYLINDER HEAD	
18	Kit	1	WEAR RING	
19	Kit	1	STEP SEAL	
20	Kit	1	U-CUP	
21	91124103	1	WIPER	
22	91164029	1	SHAFT ASSY	
23	91144128	1	GREASE FITTING	
24	91164030	1	BUSHING	
25	91164031	2	BUSHING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-8. (91163016) OUTRIGGER CYLINDER



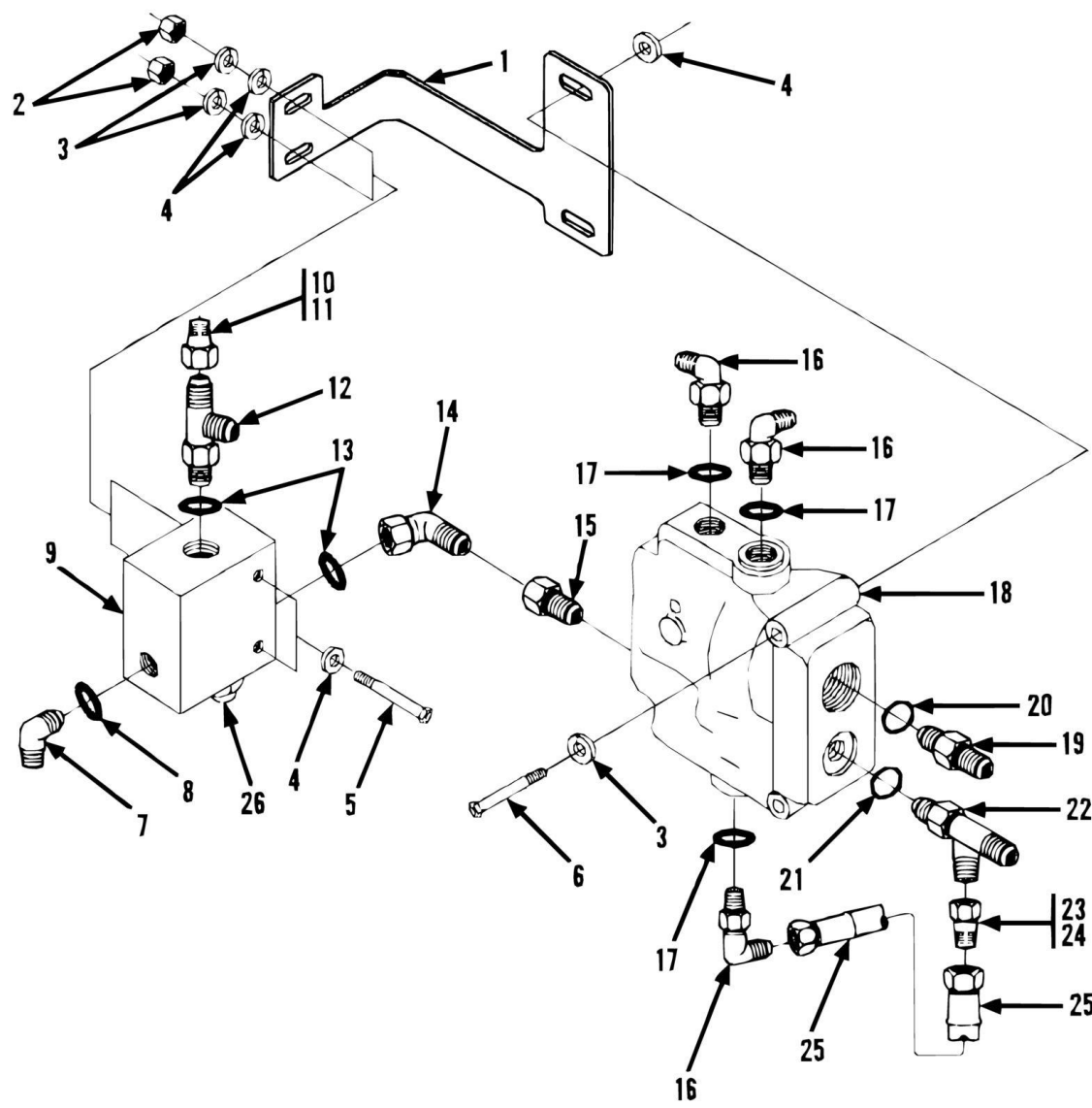
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-8. (91163016) OUTRIGGER CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163016	2	OUTRIGGER CYLINDER (includes items 1 thru 17)	
	91144004	Ref	SEAL KIT (includes items 6, 7, 8, 9, 11, 12, 14, 15 & 16)	
1	91164032	2	BUSHING	
2	91144128	2	GREASE FITTING	
3	91164033	1	CASE ASSY	
4	91144017	1	CAPSCREW	
5	91034153	1	LOCKNUT (lubricate and torque to 1300-1350 ft lbs)	
6	Kit	2	WEAR RING	
7	Kit	1	PISTON SEAL	
8	Kit	1	O-RING	
9	Kit	1	O-RING	
10	91164034	1	PISTON	
11	Kit	1	O-RING	
12	Kit	1	BACK-UP RING	
13	91164035	1	CYLINDER HEAD	
14	Kit	1	STEP SEAL	
15	Kit	1	U-CUP	
16	Kit	1	WIPER	
17	91164036	1	SHAFT ASSY	
18	91161016	1	OUTRIGGER CYLINDER PIN	
19	88211083	1	SOCKET HD CAPSCREW, 3/8-16X4-1/2	
20	88521206	2	HEX LOCKNUT, 3/8-16 (nylok)	
21	91161080	1	SHOE PIN	
22	83793054	1	HEX HD CAPSCREW, 3/8-16X4-1/4	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE CYLINDER ASSY ONLY.	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-9. (91165023) FLOW DIVIDER ASSY



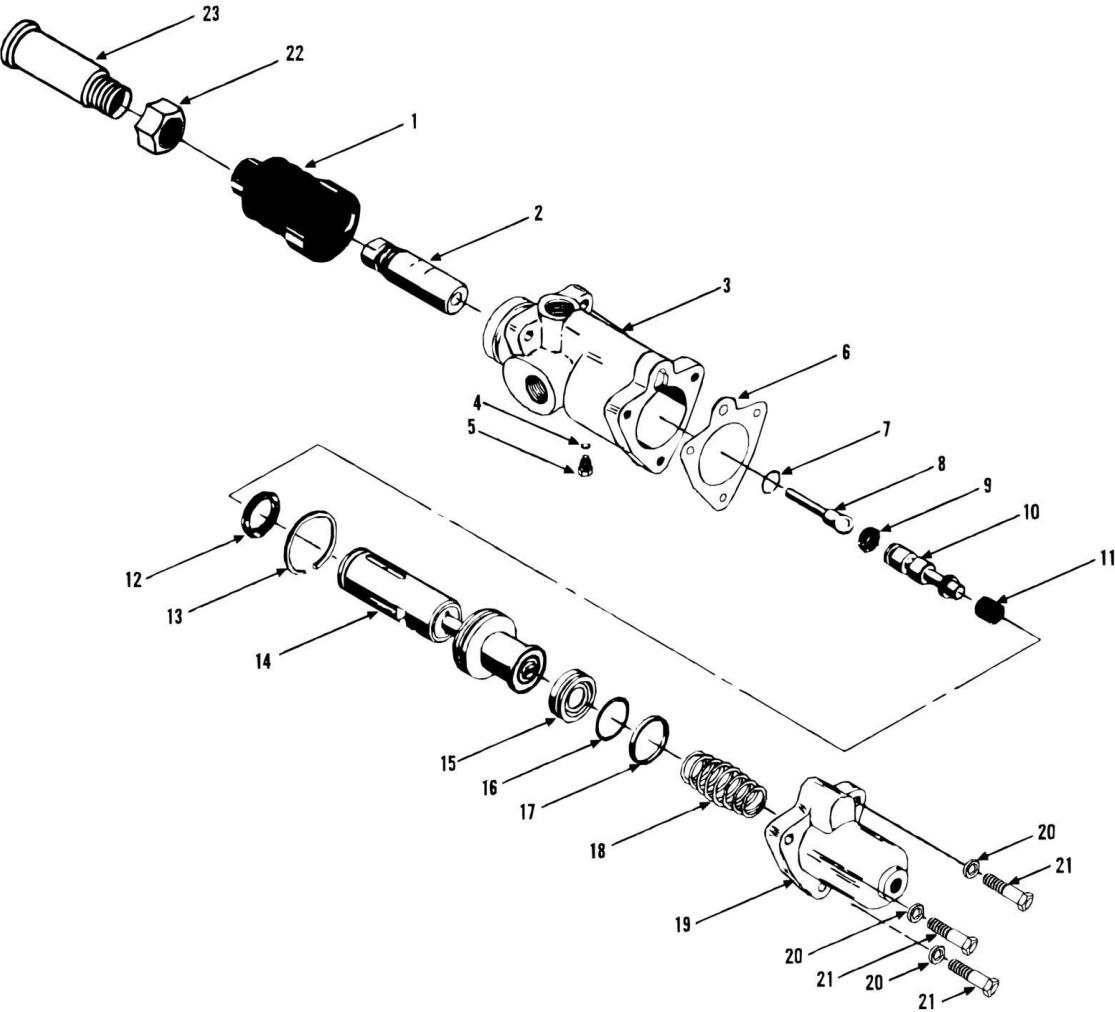
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-9. (91165023) FLOW DIVIDER ASSY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165023	1	FLOW DIVIDER ASSY (includes all items except item 6 and two of items 3 & 4)	
1	91161272	1	FLOW DIVIDER BRACKET	
2	88501005	2	HEX NUT, 5/16-18	
3	88551010	4	LOCKWASHER, 5/16	
4	88561003	6	WASHER, 5/16	
5	88201027	2	HEX HD CAPSCREW, 5/16-18X2-3/4, GR5	
6	88201029	2	HEX HD CAPSCREW, 5/16-18X3-1/4, GR5	
7	88662064	1	ELBOW, 90, (includes item 8)	
8	88591204	1	O-RING	
9	91163211	1	FLOW DIVIDER	
10	91323007	1	REDUCER	
11	88661408	1	NUT	
12	88662144	1	RUN TEE (includes item 13)	
13	88591209	2	O-RING	
14	88662061	1	ELBOW, 90, (includes item 13)	
15	91163121	1	SWIVEL NUT ADAPTER	
16	88662062	3	ELBOW, 90, (includes item 17)	
17	88591202	3	O-RING	
18	91163071	1	FLOW DIVIDER	
18	91144062	AR	FLOW DIVIDER SEAL KIT	
19	88662027	1	CONNECTOR (includes item 20)	
20	88591207	1	O-RING	
21	88591205	1	O-RING	
22	88662140	1	RUN TEE (includes item 21)	
23	88661341	1	REDUCER	
24	88661406	1	NUT	
25	84718692	1	HOSE ASSY	
26	91164103	1	CARTRIDGE	
26	91164106	AR	CARTRIDGE SERVICE KIT	

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FIGURE 9-10. (91143201) BRAKE VALVE



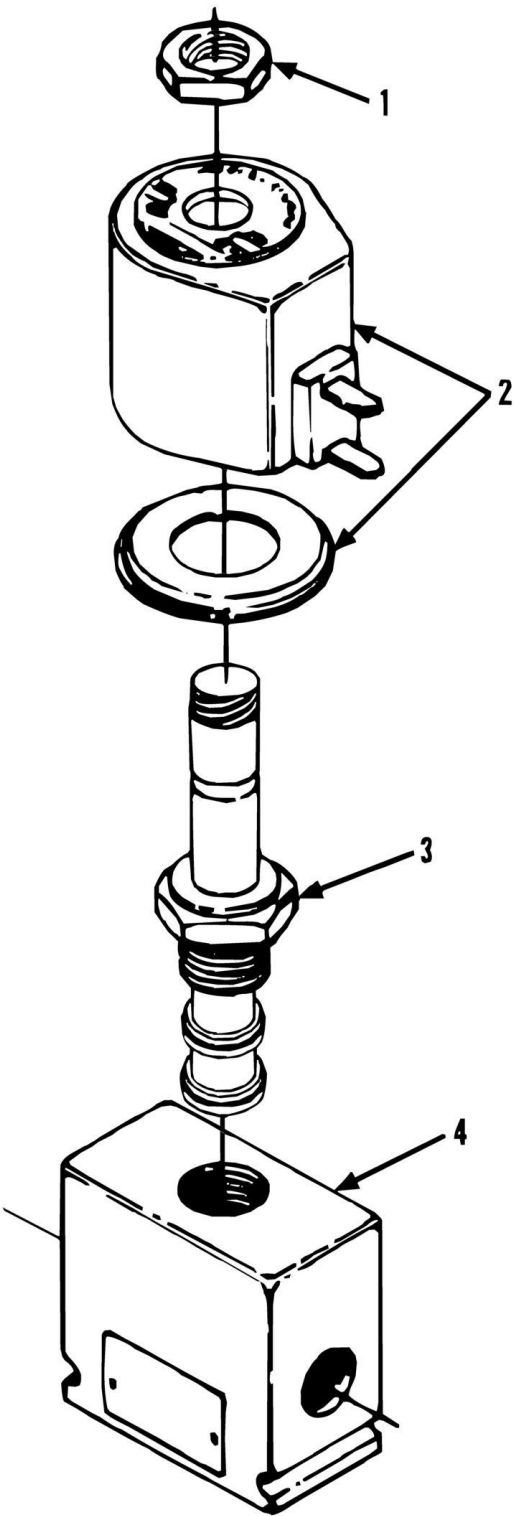
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-10. (91143201) BRAKE VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143201	1	POWER BRAKE VALVE (includes items 1 thru 21)	
	91084043	1	REPAIR KIT (includes items 1, 4, 6, 9, 12, 13, 15, 16 & 17)	
1	91084042	1	BOOT	
2		Ref	PRESSURE REGULATING SPRING ASSY	
3		Ref	HOUSING	
4	Kit	1	O-RING	
5		Ref	CAPSCREW	
6	Kit	1	GASKET	
7		Ref	RETAINING RING	
8		Ref	PUSH ROD	
9	Kit	1	CUP	
10		Ref	SPOOL (not available for service, order 91143201)	
11		Ref	SPRING	
12	Kit	1	CUP	
13	Kit	1	PISTON RING	
14		Ref	SLEEVE AND PISTON ASSY	
15	Kit	1	PISTON AND POPPET ASSY	
16	Kit	1	O-RING	
17	Kit	1	RING SEAL	
18		Ref	SPRING	
19		Ref	END CAP	
20		Ref	LOCKWASHER	
21		Ref	HEX HD CAPSCREW	
22	88501408	1	HEX JAM NUT, 1/2-20	
23	91081445	1	PUSH ROD	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-11. (91043446) SOLENOID VALVE



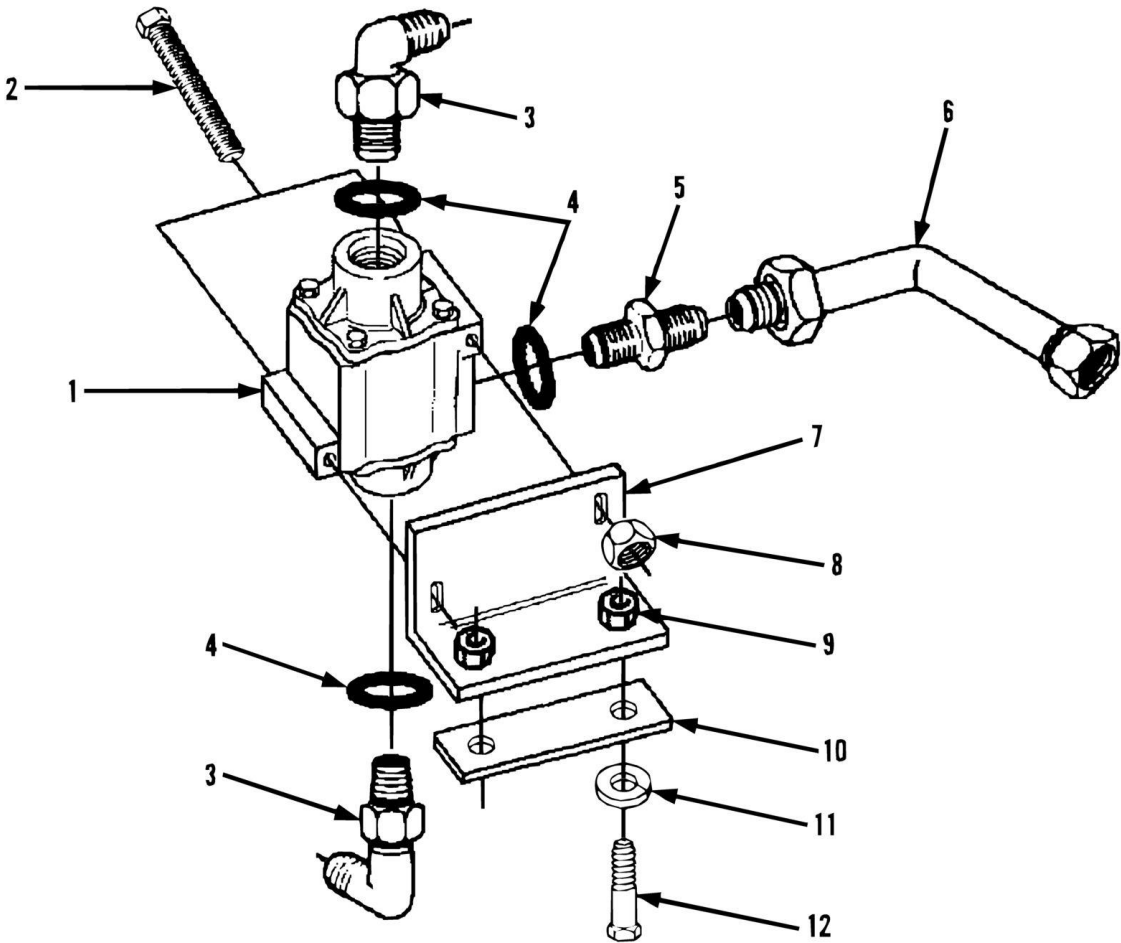
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-11. (91043446) SOLENOID VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043446	1	3-WAY SOLENOID VALVE (includes all items)	
1	90208066	1	NUT	
2	91144158	1	COIL	
3	91144159	1	CORE ASSY (3-way, 2-position)	
4	80934035	1	VALVE BODY	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (91145067) THERMAL BYPASS VALVE ASSY



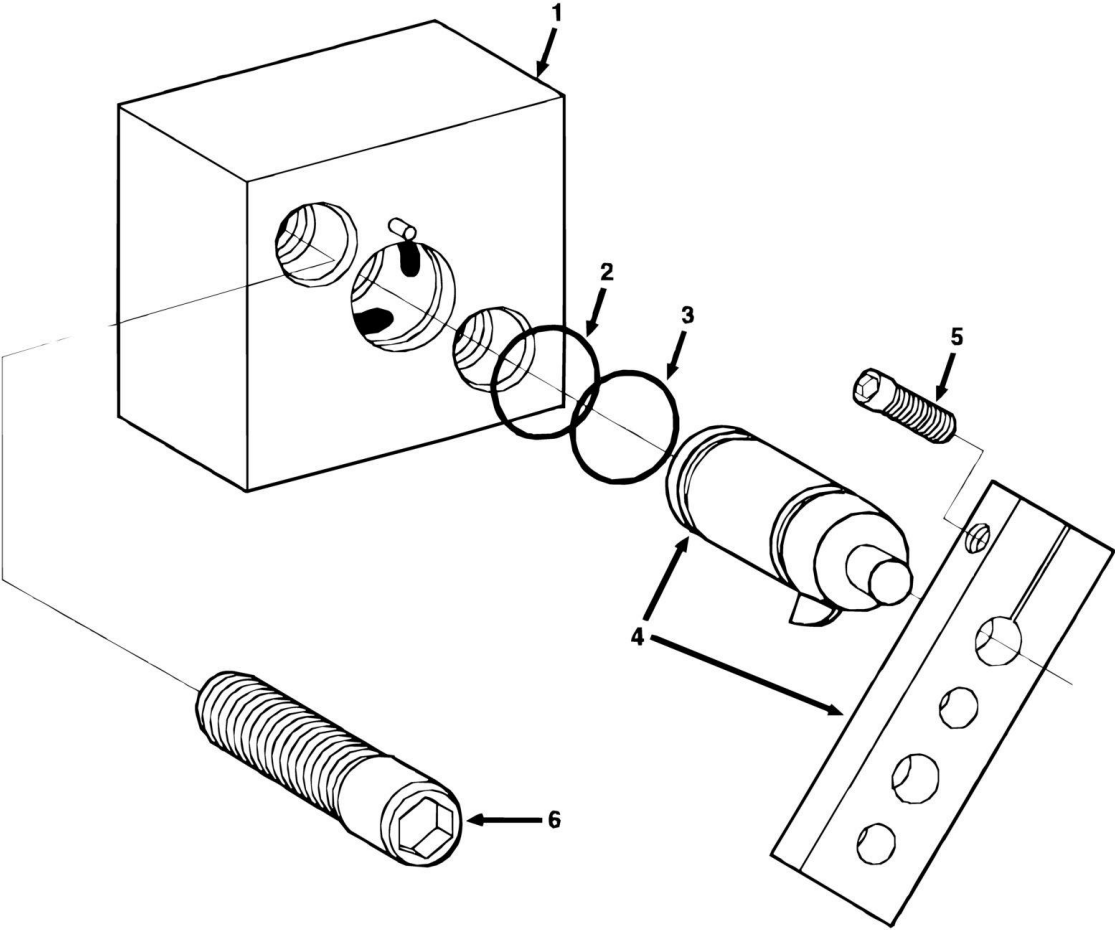
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (91145067) THERMAL BYPASS VALVE ASSY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145067	1	THERMAL BYPASS VALVE ASSY (includes all items except 10, 11 & 12)	
1	80973010	1	BYPASS VALVE	
1	80974021	1	ELEMENT KIT	
2	88201045	2	HEX HD CAPSCREW, 3/8-16X3 1/2, GR5	
3	88662069	2	ELBOW, 90, (includes item 4)	
4	88591209	3	O-RING	
5	88662010	2	CONNECTOR (includes item 4)	
6	91143274	1	TUBE ASSY	
7	91146087	1	BRACKET (includes item 9)	
8	77143015	2	WHIZ LOK NUT	
9	88971004	2	WELD NUT	
10	91141432	1	RECTANGULAR WASHER	
11	88551011	2	LOCKWASHER, 3/4	
12	88201036	2	HEX HD CAPSCREW, 3/8-16X1 1/4, GR5	

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FIGURE 9-13. (91143140) INCHING VALVE



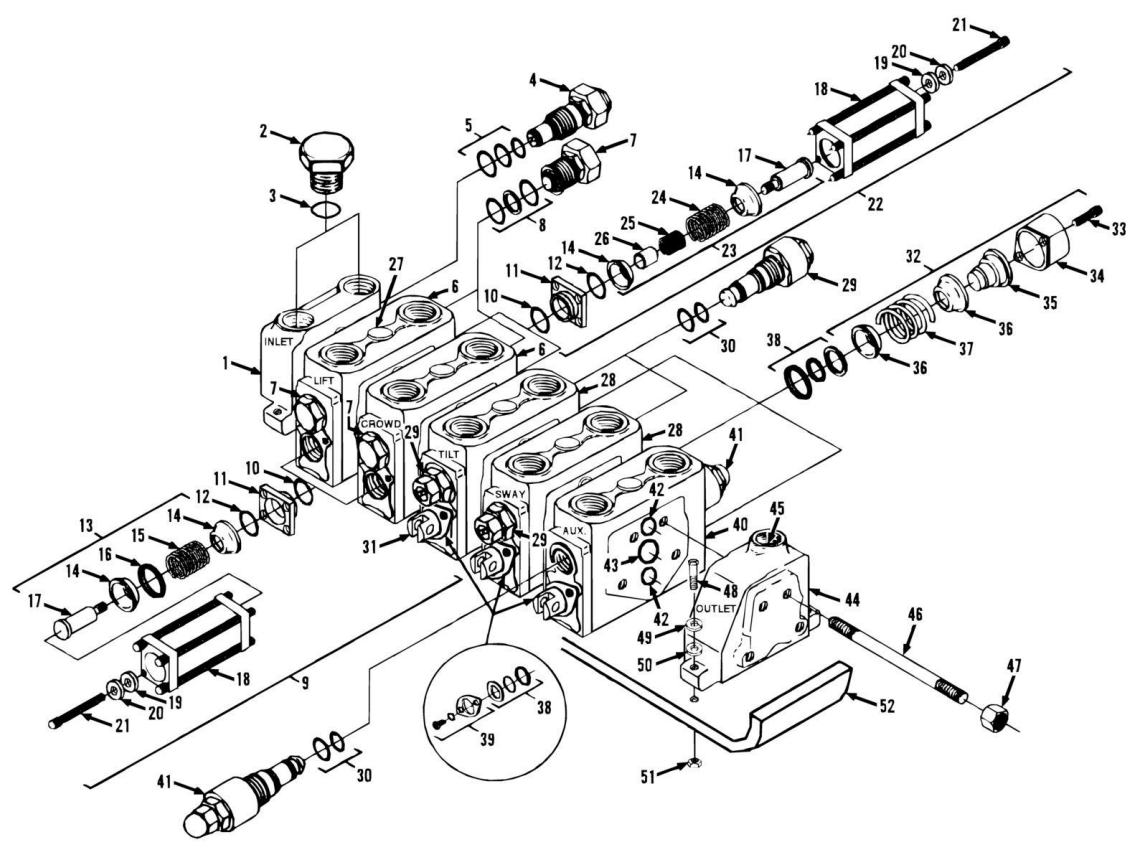
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-13. (91143140) INCHING VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91143140	1	INCHING VALVE (includes all items)	
2	80934423	1	O-RING	
3	80934202	1	O-RING	
4		Ref	ACTIVATING LEVER	
5		Ref	SOCKET HD CAPSCREW	
6	88212228	2	SOC HD CAP SCR,5/16-18 X 1 LG	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. (91163222) MAIN CONTROL VALVE



SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. (91163222) MAIN CONTROL VALVE

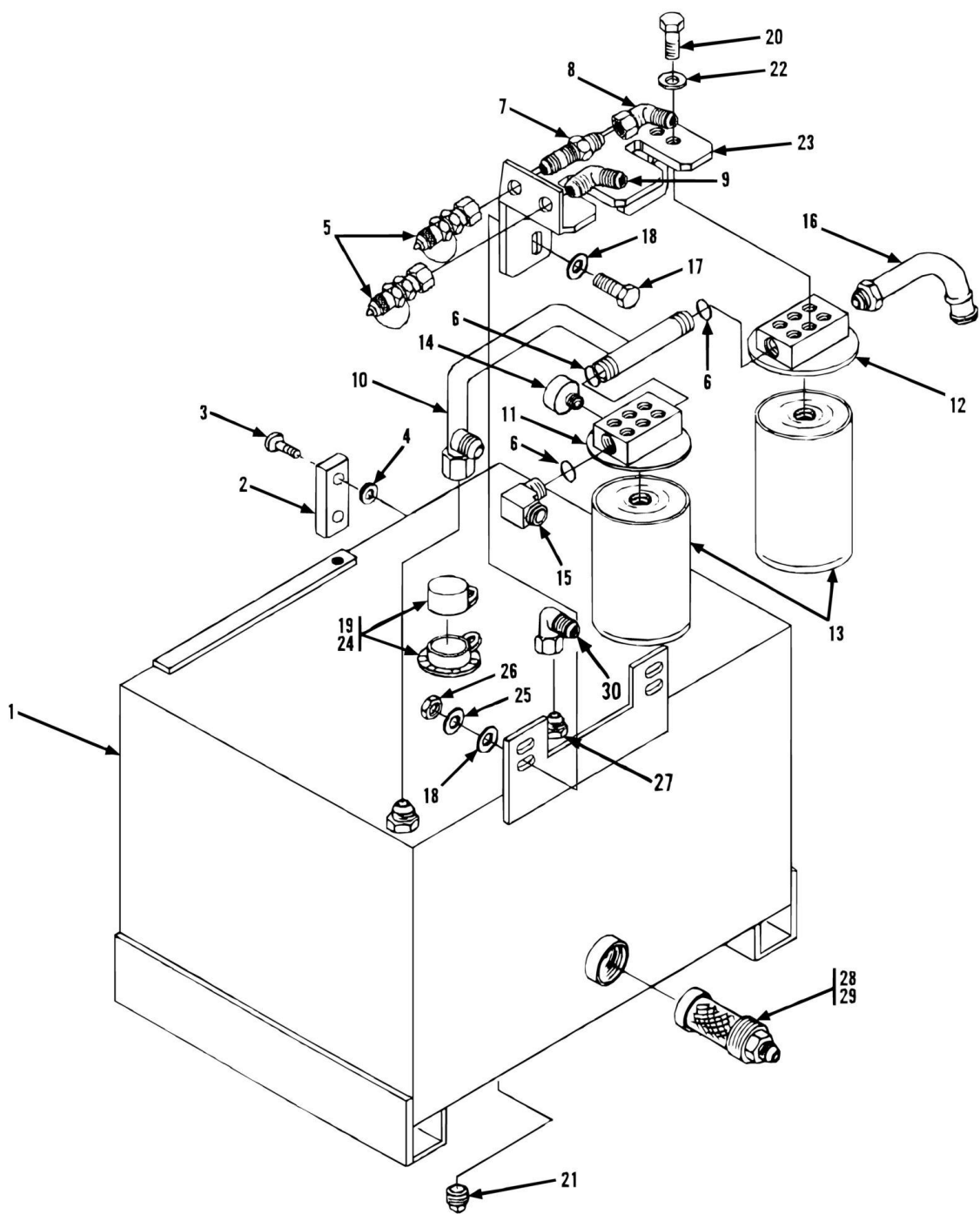
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163222	1	MAIN CONTROL VALVE ASSY (includes all items except items 48 thru 52)	
	91034070	1	STUD KIT (includes four each of items 46 & 47)	
	91164064	AR	SECTION SEAL KIT (one kit needed per valve section) (includes two of item 42 and one of item 43, plus two spool seals per kit)	
	91144254	AR	WORK SECTION SEAL KIT (includes all seals needed to service tilt, sway, and aux sections only) (one kit needed per section)	
1	91144162	1	L.E. INLET COVER ASSY (includes items 2 thru 5)	
2	91084017	2	PLUG (includes item 3)	
3		Ref	O-RING	
4	91144255	1	MAIN RELIEF VALVE - 3500 P.S.I. (includes item 5)	
5	91164065	1	MAIN RELIEF SEAL KIT (note: only external seals can be serviced in the field)	
6	91164066	2	LIFT AND CROWD SECTIONS (includes four of item 7, plus two of items 9, 22 & 31)	
7	91164067	4	NO RELIEF PLUG KIT (includes item 8)	
8	91044527	4	NR PLUG SEAL KIT	
9	91144258	2	HR POSITIONER ASSY 'A' END (includes items 10 thru 21)	
10		Ref	O-RING	
11		Ref	SPACER	
12		Ref	O-RING	
13	91164068	4	SPRING ASSY (includes items 14, 15, 16 & 17)	
14		Ref	STOP COLLAR	
15		Ref	SPRING	
16		Ref	SPACER	
17		Ref	SPUD	
18	91164069	4	BONNET ASSY (includes items 19, 20 & 21)	
19		Ref	BEARING PLATE	
20		Ref	LOCKWASHER	
21		Ref	SCREW	
22	91144259	2	HR POSITIONER ASSY 'B' END (includes items 10, 11, 12, 14, 17 thru 21, 24, 25 & 26)	
23	91164070	2	SPRING ASSY (includes items 14, 17, 24, 25 & 26)	
24		Ref	SPRING	
25		Ref	SPRING	
26		Ref	STOP COLLAR	
27	91164071	5	LOAD CHECK PLUG (one needed per section)	
28	91164072	2	TILT AND SWAY SECTIONS (includes items 29 & 30, two of items 31 & 32)	
29	91164073	4	RELIEF VALVE - 3000 P.S.I. (includes item 30)	
30	91044527	6	RELIEF VALVE SEAL KIT (note: only external seal can be serviced in in the field)	
31		Ref	4-WAY SPOOL (not available for service, order individual work sections as needed)	
32	91144265	3	SPOOL POSITIONER KIT (includes items 33 thru 36)	
33	Kit	6	SCREW	
34	Kit	3	BONNET	
35	Kit	3	SPOOL COLLAR	
36	Kit	6	SPRING COLLAR	
37		Ref	SPRING COLLAR	
38	91144263	6	SPOOL SEAL KIT	
39	91144264	3	SPOOL RETAINER KIT	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
40	91164076	1	AUXILIARY SECTION (includes one each of items 31 & 32, plus two of item 41)	
41	91164074	2	RELIEF VALVE - 2000 P.S.I. (includes item 30)	
42		Ref	O-RING (included in section seal kit, six kits required to service entire valve)	
43		Ref	O-RING (included in section seal kit, six kits required to service entire valve)	
44	91144163	1	R.E. OUTLET COVER (includes item 45)	
45	91164075	1	INTERNAL PLUG, 3/4-18 NPT	
46	Kit	4	STUD (included in 91034070)	
47	Kit	4	NUT (included in 91034070)	
48	88201038	2	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5 (outlet end only)	
48	88201040	1	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5 (inlet end only)	
49	88551011	3	LOCKWASHER, 3/8	
50	88561004	6	FLAT WASHER, 3/8	
51	88501006	3	HEX NUT, 3/8-16	
52	91161209	1	VALVE SUPPORT (partially illustrated)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-15. (91165013) HYDRAULIC RESERVOIR AND FILTERS



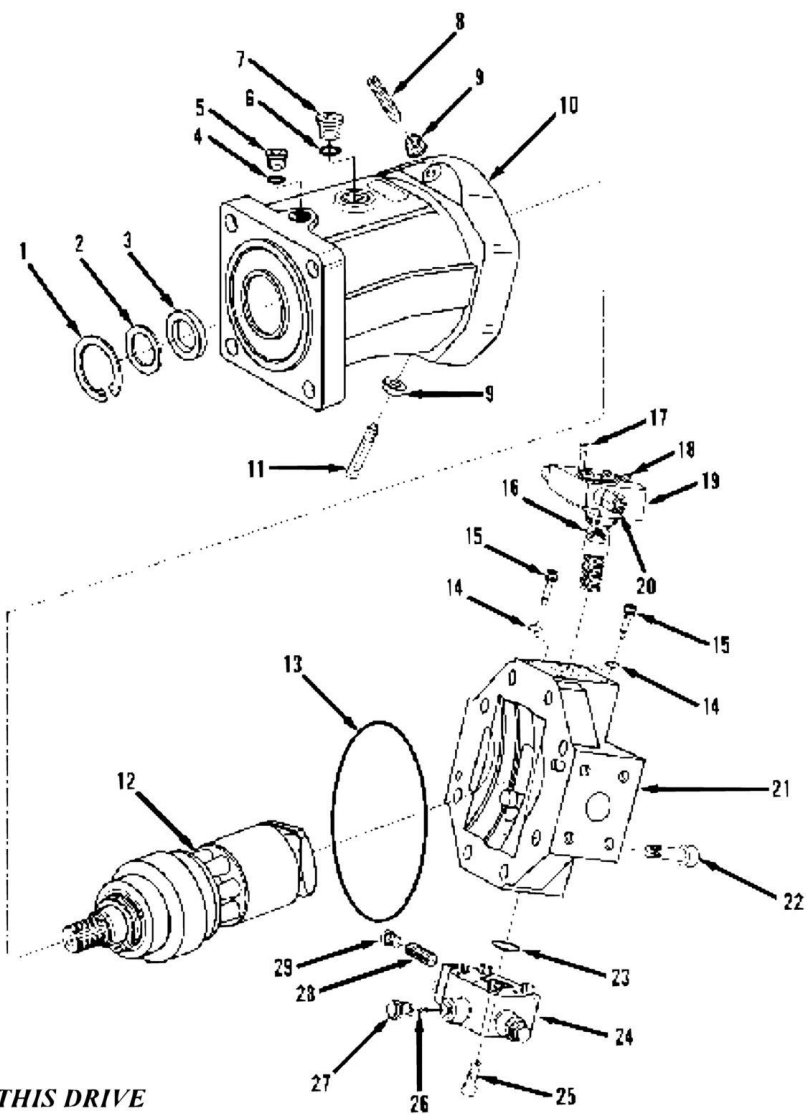
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-15. (91165013) HYDRAULIC RESERVOIR AND FILTERS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165013	1	HYDRAULIC RESERVOIR ASSY (includes all items)	
1	91143133	1	HYDRAULIC OIL TANK (includes item 21)	
2	91083070	1	FLUID LEVEL GAUGE (includes items 3 & 4)	
3		Ref	SCREW	
4		Ref	WASHER	
5	91143172	2	MINI CHECK COUPLING	
6	88591210	3	O-RING	
7	88661084	1	BULKHEAD UNION, 9/16-18X3/8 TUBE	
8	88662105	1	ELBOW, 90, (swivel nut)	
9	90027179	1	BULKHEAD UNION, 90	
10	91163141	1	TUBE ASSY	
11	91143218	1	RETURN FILTER (includes one of item 13 and item 14)	
12	91083518	1	SUCTION FILTER (includes one of item 13)	
13	91143144	2	FILTER ELEMENT	
14	91084022	1	COLOR CODED GAUGE	
15	88662070	1	ELBOW, 90, (includes item 6)	
16	80673009	1	ADAPTER, 90	
17	88201036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
18	88561004	8	WASHER, 3/8	
19	88321039	6	SELF TAPPING SCREW, #10-32X1/2IN	
20	88201020	4	HEX HD CAPSCREW, 5/16-18X1, GR5	
21		Ref	PLUG	
22	88561003	4	WASHER, 5/16	
23	91161210	1	FILTER SUPPORT	
24	91083069	1	FILLER BREATHER	
25	88551011	4	LOCKWASHER, 3/8	
26	88501006	4	HEX NUT, 3/8-16	
27	88661013	1	MALE CONNECTOR	
28	91083301	1	TANK FILTER	
29	91083200	1	STRAIGHT CONNECTOR	
30	88662106	1	ELBOW, 90, (swivel nut)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-16. (91163044) FRONT DRIVE MOTOR



FOR OUR APPLICATION THIS DRIVE MOTOR IS UTILIZED IN A 180 DEGREE INVERSION.

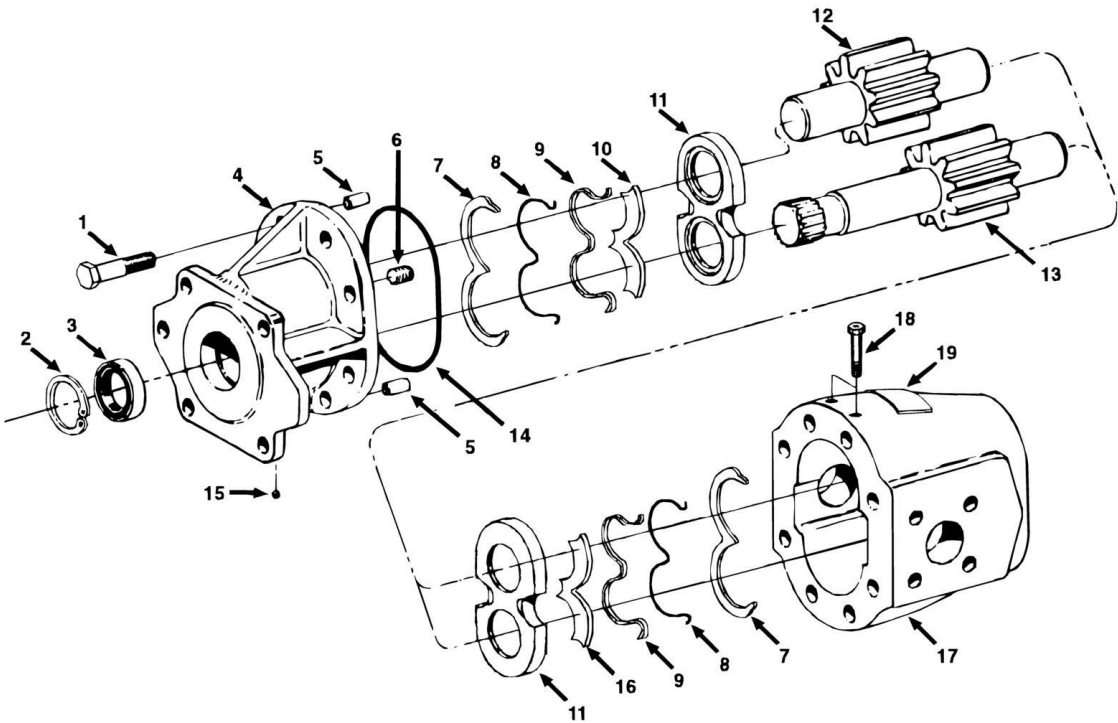
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-16. (91163044) FRONT DRIVE MOTOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163044	1	FRONT DRIVE MOTOR ASSY (includes all items)	
	91094025	AR	SEAL KIT (includes items 3,4, 6, 9, 13, 14, 16, 18, 23)	
1	91094026	1	SNAP RING	
2	91094027	1	SHIM	
3	Kit	1	SHAFT SEAL	
4	Kit	1	O-RING	
5	91094028	1	PLUG (includes item 5)	
6	Kit	1	O-RING	
7	91094029	1	PLUG (includes item 6)	
8	80914241	1	STOP SCREW, M12X90	
9	Kit	2	SEAL NUT	
10	91094030	1	HOUSING	
11	91094031	1	STOP SCREW, M12X80	
12	91094032	1	ROTARY GROUP	
13	Kit	1	O-RING	
14	Kit	6	O-RING	
15	80914235	2	CHECK VALVE KIT (includes o-rings)	
16	Kit	1	O-RING	
17	80934080	4	CAPSCREW	
18	Kit	1	SEAL NUT	
19	91094033	1	DA1 CONTROL KIT (includes items 16, 17, 18 & 20)	
20	91144248	2	FITTING	
21	91094034	1	REAR COVER ASSY (includes item 22)	
22	91094035	8	CAPSCREW, M16X45	
23	Kit	1	O-RING	
24	91164017	1	FLUSHING VALVE ASSY (includes items 23, 25, 26, 27 & 29)	
25	91094037	4	CAPSCREW, M8X50	
26	91094038	1	FLUSHING ORIFICE	
27	91094039	1	PLUG	
28	83924123	1	SWIVEL TIME ORIFICE	
29	91094040	2	PLUG	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-17. (91163068) MAIN HYDRAULIC PUMP



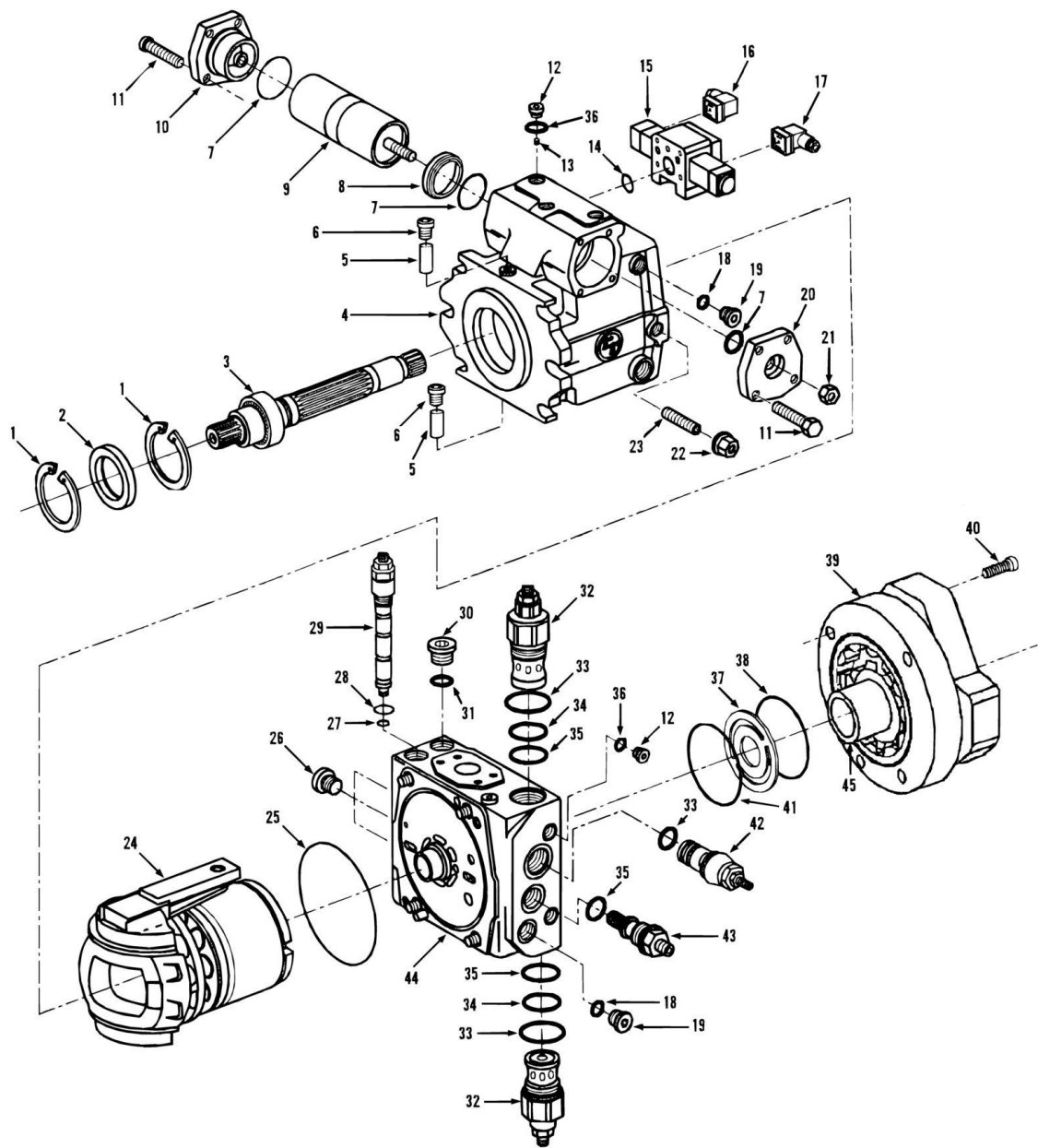
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-17. (91163068) MAIN HYDRAULIC PUMP

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163068	1	MAIN HYDRAULIC PUMP ASSY (includes all items)	
	91014058	AR	SHAFT SEAL KIT (includes items 2, 3 & 14)	
	91144174	AR	SEAL KIT (includes items 2, 3, 7, 8, 9 & 14)	
1	91064021	8	CAPSCREW	
2	90202372	1	SNAP RING	
3	90202371	1	SHAFT SEAL	
4	91144169	1	FLANGE	
5	90202376	2	DOWEL	
6	91144171	1	PIPE PLUG	
7	90202405	2	RING RETAINER	
8	90202403	2	O-RING	
9	90202404	2	BACKUP RING	
10	90202406	1	ISOLATION PLATE, (UPPER)	
11	90202399	2	PRESSURE PLATE	
12	90207061	1	IDLER GEAR	
13	91164049	1	DRIVE GEAR	
14	90202379	1	O-RING	
15	91164050	1	BALL	
16	90202407	1	ISOLATION PLATE (LOWER)	
17	91164051	1	BODY	
18	91144172	2	DRIVE SCREW	
19	91144173	1	LABEL	

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FIGURE 9-18. (91163048) HYDROSTATIC TRANSMISSION



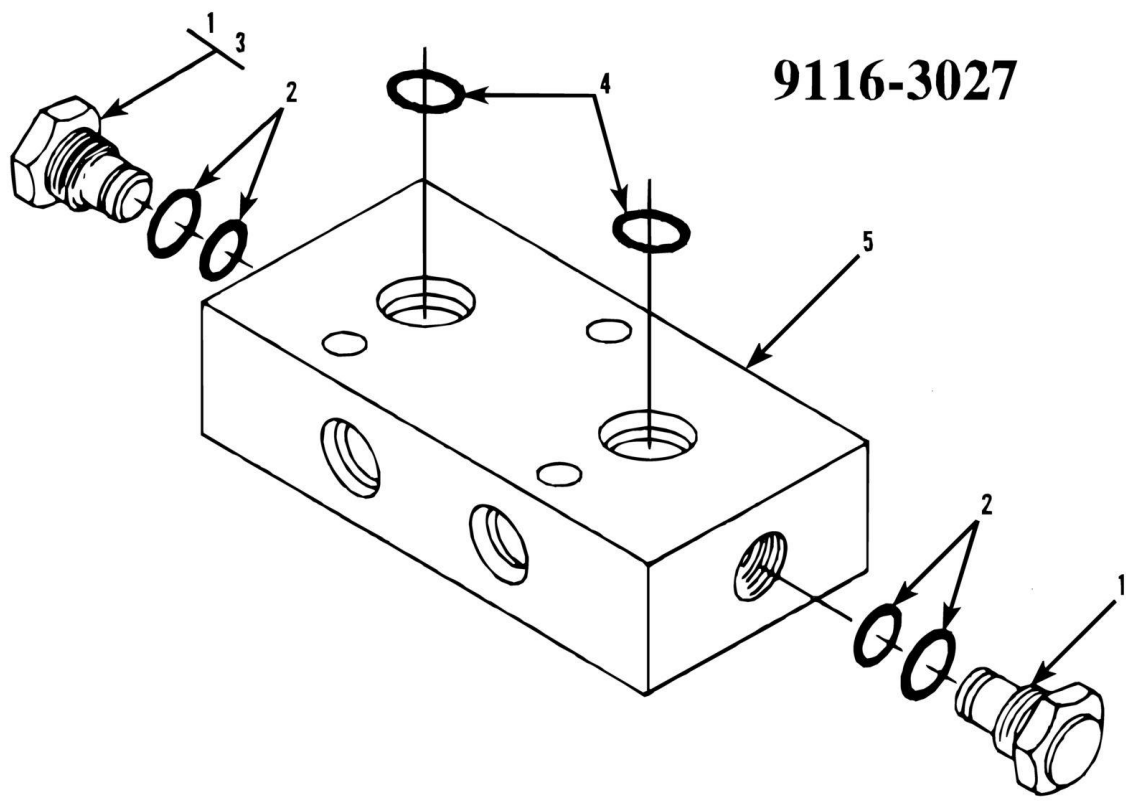
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FIGURE 9-18. (91163048) HYDROSTATIC TRANSMISSION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163048	1	HYDROSTATIC TRANSMISSION PUMP (includes all items)	
	91084317	AR	SEAL KIT (includes items 2, 6, 7, 14, 15, 22, 25, 27, 28, 31, 32, 33, 34, 35 36, 38, 41 plus additional items not illustrated)	
1	80934052	2	SNAP RING	
2	Kit	1	SHAFT SEAL	
3	91144413	1	SHAFT ASSY	
4	91084319	1	HOUSING ASSY	
5	91084320	2	PIN	
6	Kit	4	PLUG	
7	Kit	4	O-RING	
8	91084321	2	BUSHING	
9	91084322	1	STROKING PISTON ASSY	
10	91084323	1	STROKING PISTON COVER KIT (includes items 7 & 11)	
11	80934077	8	CAPSCREW, M8X20	
12	80934084	5	PLUG (includes item 36)	
13	91144093	2	STROKING ORIFICE	
14	Kit	1	O-RING	
15	91084324	1	DA CONTROL ASSY (includes items 16 & 17)	
16	91084038	1	HERSHMAN CONNECTOR (black)	
17	91084039	1	HERSHMAN CONNECTOR (gray)	
18		Ref	O-RING	
19	80934082	2	PLUG (includes item 18)	
20	91084325	1	STROKING PISTON COVER KIT (includes items 7 & 11)	
21	91144094	1	JAM NUT	
22	Kit	1	SEAL NUT	
23	91144095	1	ECCENTRIC SCREW	
24	91084326	1	ROTARY GROUP ASSY	
25	Kit	1	O-RING	
26	91084327	3	PLUG	
27	Kit	1	O-RING	
28	Kit	1	O-RING	
29	91084328	1	POR ASSY (includes items 27 & 28)	
30	80934340	1	PLUG (includes item 31)	
31	Kit	1	O-RING	
32	91084032	2	RELIEF VALVE (includes one each of items 33 thru 35)	
33	Kit	3	O-RING	
34	Kit	2	O-RING	
35	Kit	3	O-RING	
36	Kit	5	O-RING	
37	91084329	1	WEAR PLATE	
38	Kit	1	O-RING	
39	91164098	1	CHARGE PUMP ASSY (includes items 37, 38, 40 & 41)	
40	91084331	4	CAPSCREW, M12X35	
41	Kit	1	O-RING	
42	91144099	1	DA CARTRIDGE ASSY	
43	91144098	1	CHARGE PRESSURE RELIEF VALVE (includes item 35)	
44	91084332	1	PORT BLOCK ASSY (includes items 25, 26, 27, 28 & 29)	
45	91144002	1	SEAL (located between transmission and main pump)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-19. (91163027) SWAY CYLINDER VALVE



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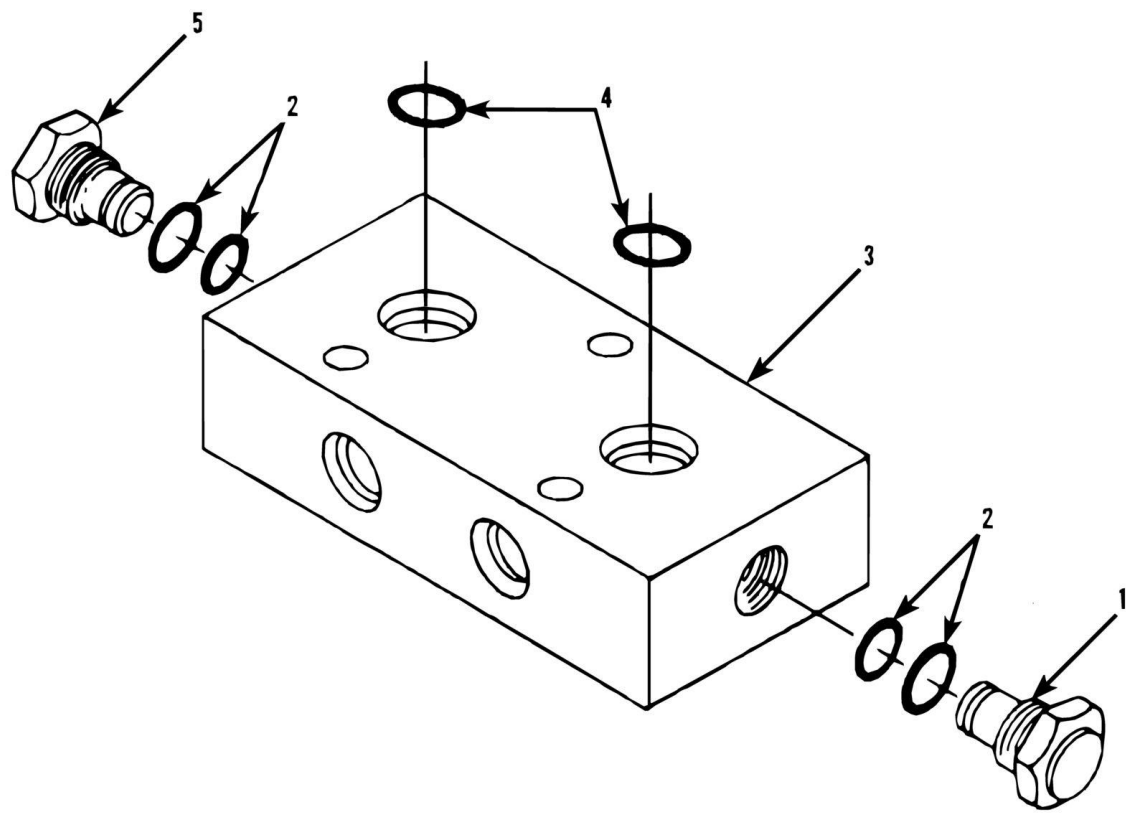
FIGURE 9-19. (91163027) SWAY CYLINDER VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163027	1	SWAY CYLINDER VALVE (includes items 1, 2, 3 & 5)	
1	91164061	2	VALVE CARTRIDGE	
2	91164056	2	VALVE SEAL KIT	
3	91164062	1	PISTON	
4	88591012	2	O-RING	
5		Ref	VALVE BODY (not sold separately, order P/N 91163027)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-20. (91163245) OUTRIGGER CYLINDER VALVE

9116-3245



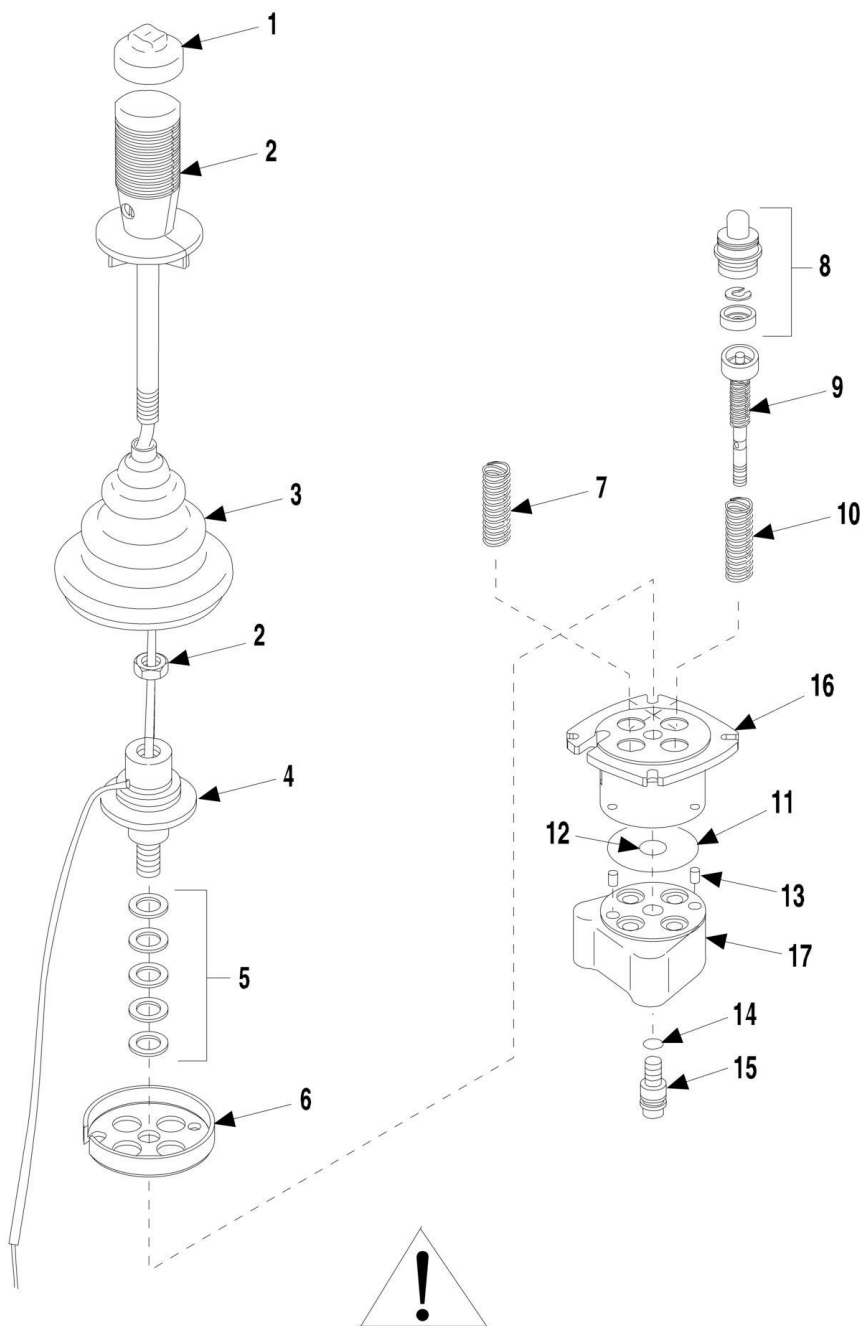
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FIGURE 9-20. (91163245) OUTRIGGER CYLINDER VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163245	2	OUTRIGGER CYLINDER VALVE (includes all items)	
1	91034107	1	THERMAL RELIEF VALVE	
2	91164083	2	VALVE SEAL KIT	
3		Ref	VALVE BODY (not sold separately, order P/N 91163245)	
4	91034118	2	O-RING	
5	91164107	1	CHECK CARTRIDGE	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE VALVE ASSY ONLY.	

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FIGURE 9-21. (91303037) JOYSTICK ASSEMBLY



NOTE: THE BOSCH REXROTH CORPORATION JOYSTICK HANDLE SWITCH IS NOT A FIELD SERVICEABLE COMPONENT. ANY ATTEMPT BY NON-FACTORY AUTHORIZED PERSONNEL TO REPAIR OR REPLACE THE SWITCH WILL VOID THE WARRANTY AND CAN RESULT IN A JOYSTICK MALFUNCTION.

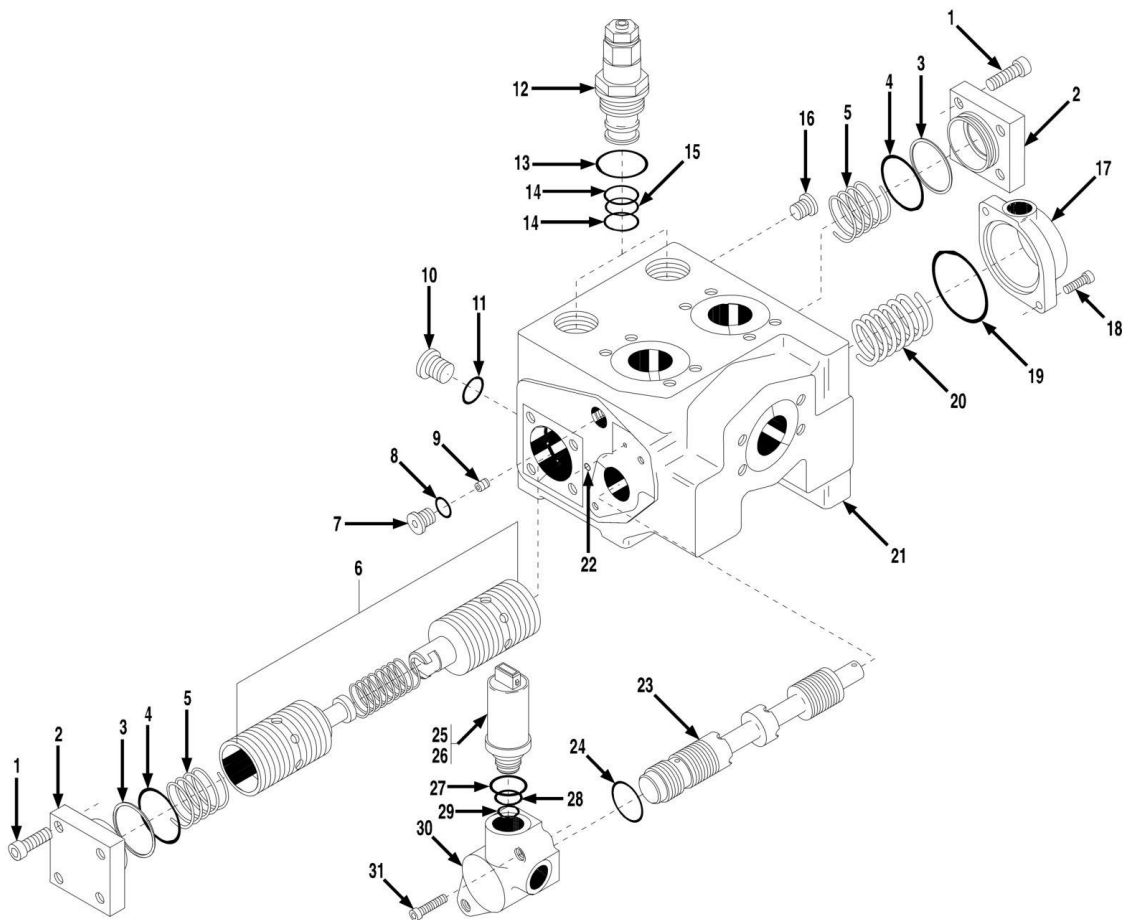
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-21. (91303037) JOYSTICK ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91303037	1	JOYSTICK ASSY, (includes all items)	
	91404326	1	SEAL KIT, (includes items 11 thru 15)	
1	80934658	1	CAP	
2	80934656	1	HANDLE GRIP KIT	
3	80934241	1	BOOT	
4	80264140	1	CARDAN KIT, (includes item 5)	
5		Ref	SHIM	
6	91304026	1	RETAINING PLATE	
7	91504029	1	STANDARD SPRING, (pack of two), (port 2 & 4)	
8	80934498	4	PLUNGER AND GUIDE KIT	
9	91404327	4	REGULATING KIT	
10	91504028	1	HEAVY SPRING, (pack of two), (port 1 & 3)	
11	Kit	1	O-RING	
12	Kit	1	O-RING	
13	Kit	2	PIN	
14	Kit	1	O-RING	
15	Kit	1	SCREW	
16		Ref	UPPER BODY	
17		Ref	LOWER BODY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-22. (91143049) TRACTION LOCK VALVE



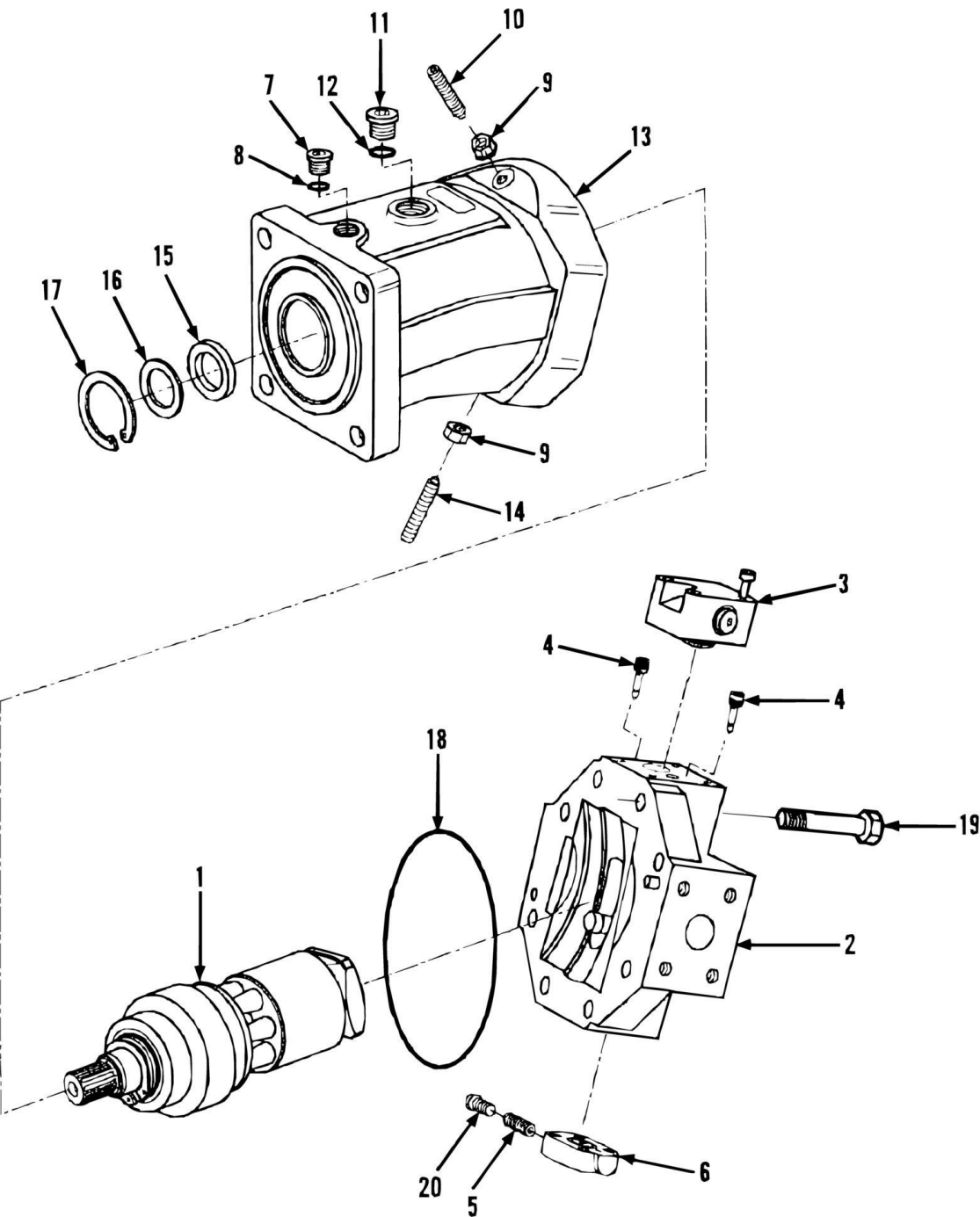
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FIGURE 9-22. (91143049) TRACTION LOCK VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143049	1	TRACTION LOCK VALVE, (includes all items)	
	91084284	Ref	SEAL KIT, (includes items 3, 4, 8, 11, 13, thru 16, 19, 22, 24, 27, 28, 29)	
1	91084285	8	HEX HD CAPSCREW, M10X30	
2	91084286	2	COVER	
3	91084287	2	BACK-UP RING	
4	91084288	2	O-RING	
5	91084289	2	SPRING	
6		Ref	SPOOL, (not sold separately, order P/N 91143049)	
7	91084298	1	PLUG, (includes item 8)	
8	91144011	1	O-RING	
9	91084299	1	ORIFICE	
10	91084290	2	PLUG, (includes item 11)	
11	91144009	2	O-RING	
12	91084362	2	RELIEF VALVE CARTRIDGE, (set at 6800 PSI), (includes items 13, 14 & 15)	
13	83814056	2	O-RING	
14	91144010	4	BACK-UP RING	
15	83814054	2	O-RING	
16	91084363	1	PLUG	
17	91144475	1	COVER	
18	91084291	2	HEX HD CAPSCREW, M6X16	
19	91084293	1	O-RING	
20	91084294	1	SPRING	
21		Ref	VALVE BODY, (not sold separately, order P/N 91143049)	
22	91084303	1	O-RING	
23		Ref	SPOOL, (not sold separately, order P/N 91143049)	
24	91084300	1	O-RING	
25	91084302	1	SOLENOID VALVE, (include items 27, 28 & 29)	
26	91144015	1	CONNECTOR	
27	91144012	1	O-RING	
28	91144013	1	O-RING	
29	91144014	1	O-RING	
30	91144474	1	COVER	
31	80934205	2	HEX HD CAPSCREW, M6X30	

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FIGURE 9-23. (91163023) REAR DRIVE MOTOR



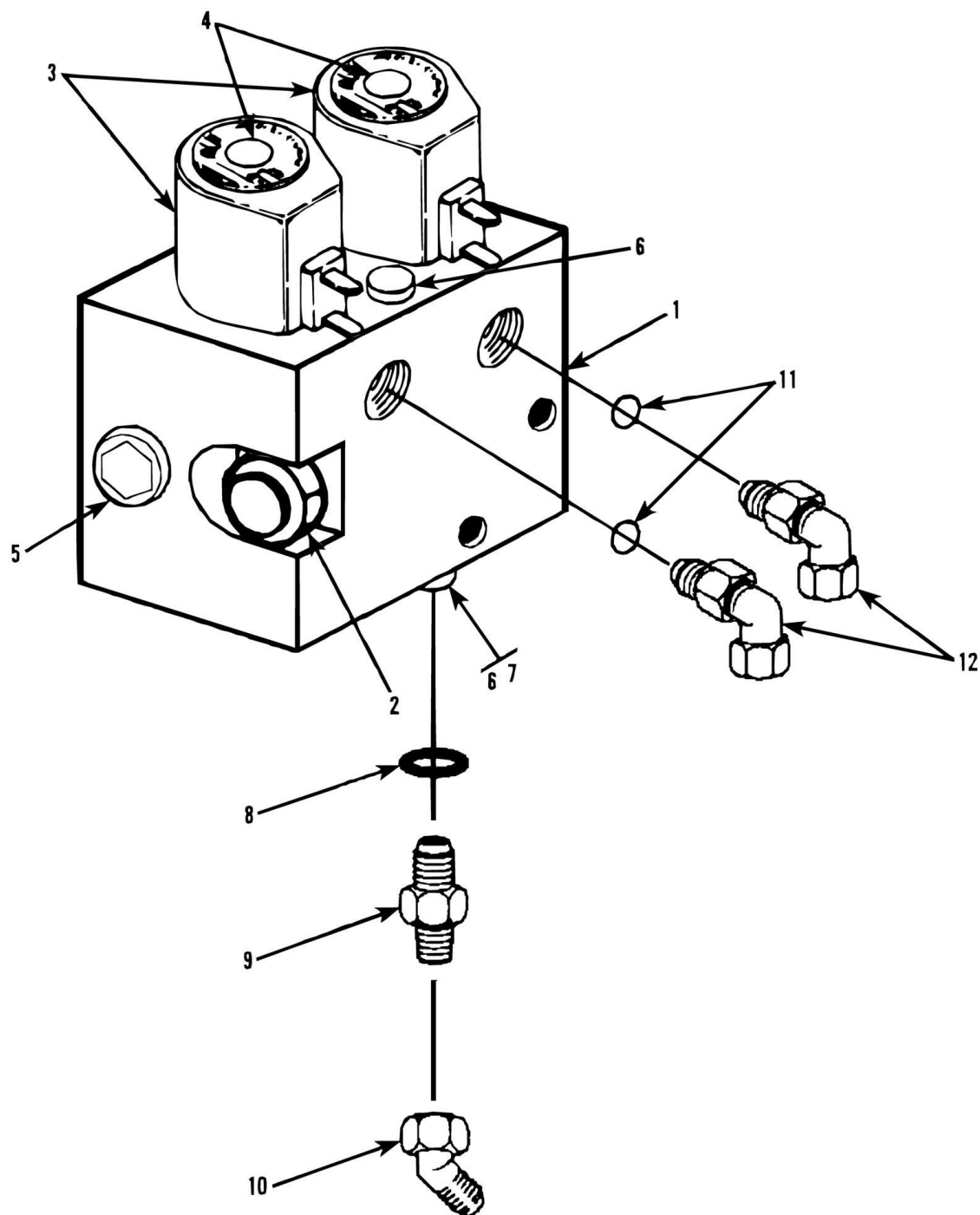
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FIGURE 9-23. (91163023) REAR DRIVE MOTOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163023	Ref	REAR DRIVE MOTOR ASSY (includes all items)	
	91144414	AR	SEAL KIT (includes items 8, 9, 12, 15, 18, plus items not illustrated)	
1	91144415	1	ROTARY GROUP	
2	91144416	1	REAR COVER ASSY (includes item 19)	
3	91144417	1	HZ CONTROL KIT	
4	91144418	2	THREADED PIN	
4	80434095	2	LOCKNUT SEAL	
5	91144419	1	SWIVEL TIME ORIFICE	
6	91144420	1	STROKING PISTON ASSY (includes item 20)	
7	91094028	1	PLUG (includes item 8)	
8	Kit	1	O-RING	
9	Kit	2	SEAL NUT, M10	
10	83924121	1	STOP SCREW (min disp)	
11	91094029	1	PLUG (includes item 12)	
12	Kit	1	O-RING	
13	91144421	1	HOUSING	
14	83924121	1	STOP SCREW (max disp)	
15	Kit	1	SHAFT SEAL	
16	91144422	1	SHIM	
17	91144423	1	SNAP RING	
18	Kit	1	O-RING	
19	91144424	8	CAPSCREW, M10X60	
20	91144425	1	PLUG (includes o-ring)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-24. (91165031) STABILIZER VALVE ASSEMBLY



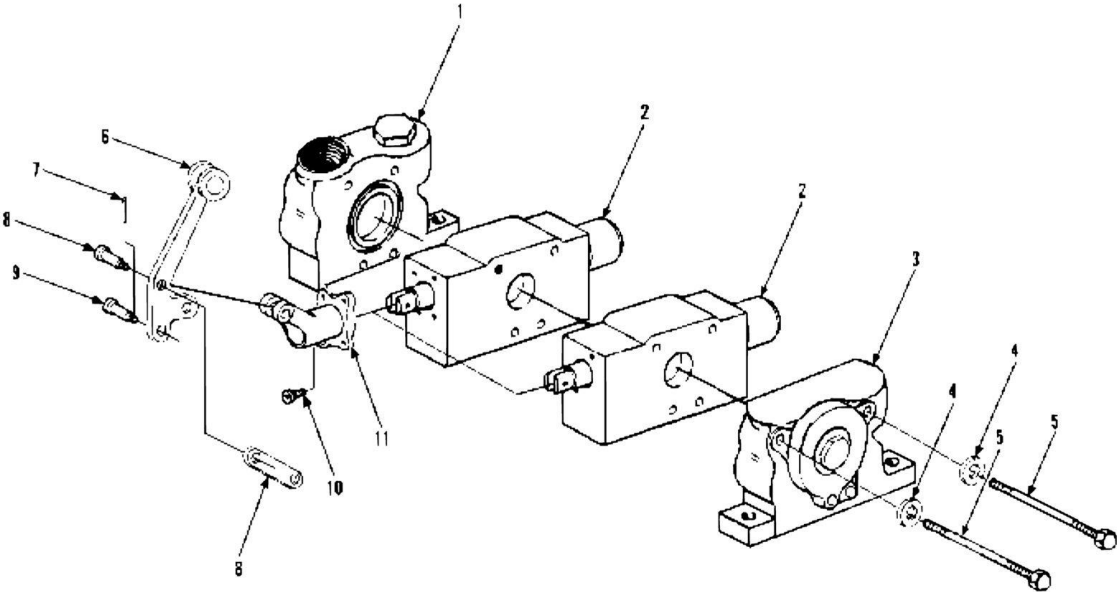
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FIGURE 9-24. (91165031) STABILIZER VALVE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165031	1	STABILIZER VALVE ASSY (includes all items)	
	91163164	1	STABILIZER VALVE (includes items 1 thru 7)	
1		Ref	VALVE BODY (not sold separately, order P/N 91163164)	
2	91164053	1	CHECK VALVE	
2	91164054	1	CHECK VALVE SEAL KIT	
3	91164055	2	SOLENOID VALVE ASSY (includes item 4)	
3	91164056	2	SOLENOID VALVE SEAL KIT	
4	91144158	2	COIL	
5	91164057	1	PORT PLUG	
5	91164058	1	PORT PLUG SEAL	
6	91164059	2	PORT PLUG	
6	91164060	2	PORT PLUG SEAL	
7	91164063	1	ORIFICE PLUG	
8	88591206	1	O-RING	
9	88662019	1	CONNECTOR (includes item 7)	
10	88662120	1	ELBOW, 45, (swivel nut)	
11	88591205	2	O-RING	
12	88662065	2	ELBOW, 90, (includes item 11)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-25. (91143161) OUTRIGGER VALVE



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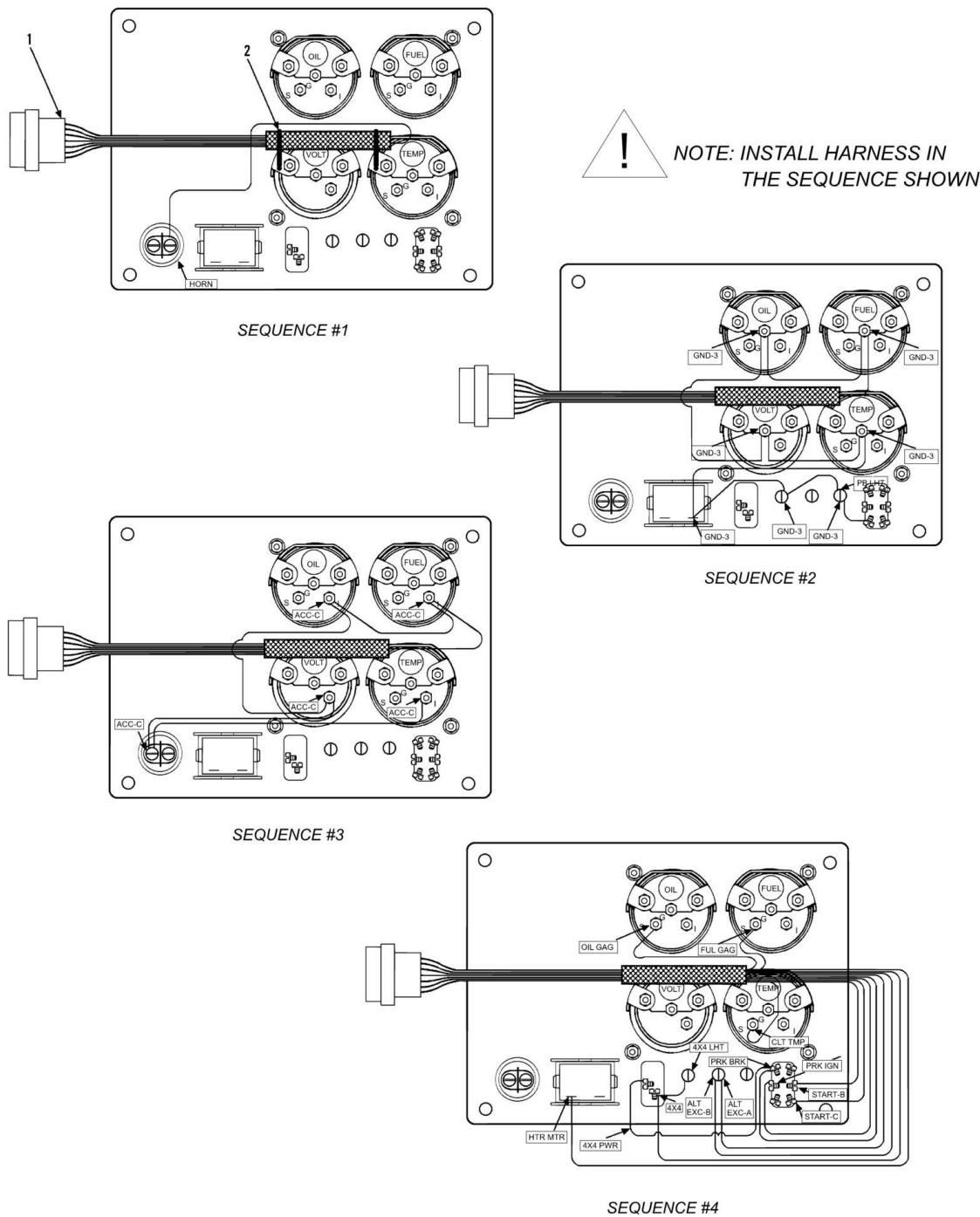
FIGURE 9-25. (91143161) OUTRIGGER VALVE

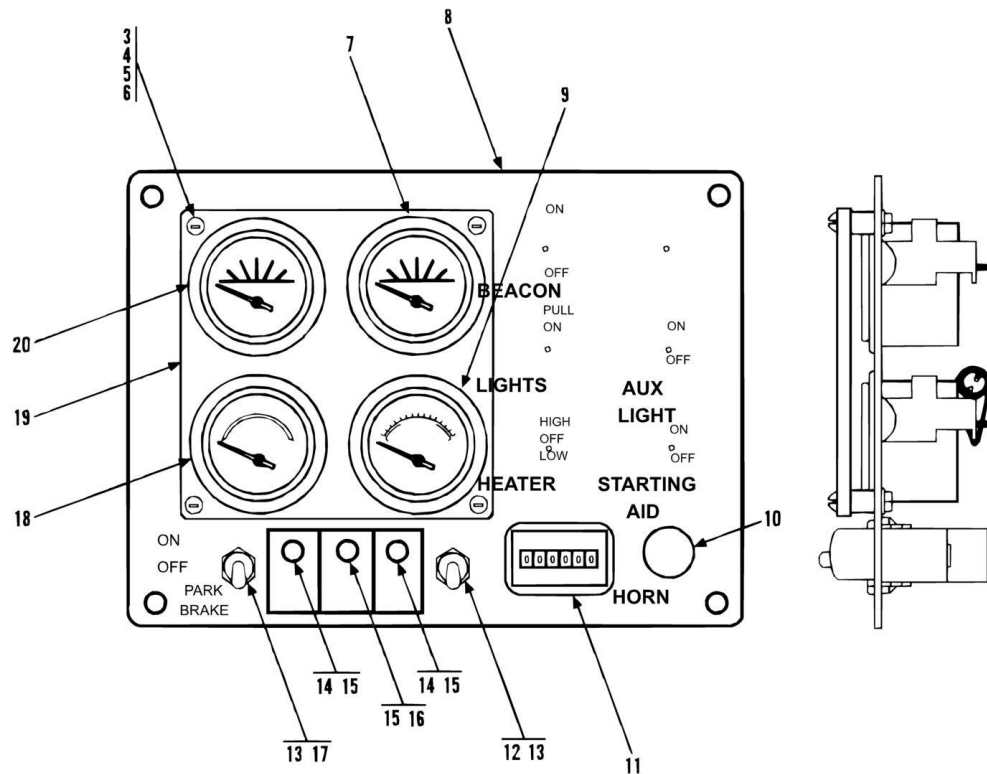
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143161	1	OUTRIGGER CONTROL VALVE ASSY (includes all items)	
	91154006	2	HANDLE KIT (includes items 6 thru 11)	
	90206417	AR	VALVE SECTION SEAL KIT (one kit per section)	
1	91144132	1	LEFT END COVER ASSY	
2	91144133	2	VALVE SECTION AND SPOOL ASSY (not sold separately)	
3	91144134	1	RIGHT END COVER ASSY	
4	91144131	4	LOCKWASHER	
5	91144130	4	BOLT	
6	91154007	2	VERTICAL HANDLE	
7	91144136	6	COTTER PIN	
8	91144137	2	MOUNTING PLATE AND PINS	
9	91144138	2	HANDLE PIN	
10	91144139	8	FILLISTER HD MACHINE SCREW	
11	91144140	2	HANDLE BRACKET	

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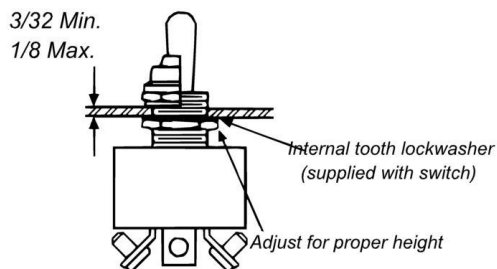
SECTION 10 - ELECTRICAL

FIGURE 10-1. (91145031) GAUGE PANEL ASSEMBLY





With lockwasher under panel, bushing extension above panel must not exceed .125" or the seal may be cut.



TYPICAL SWITCH
AND BOOT
INSTALLATION

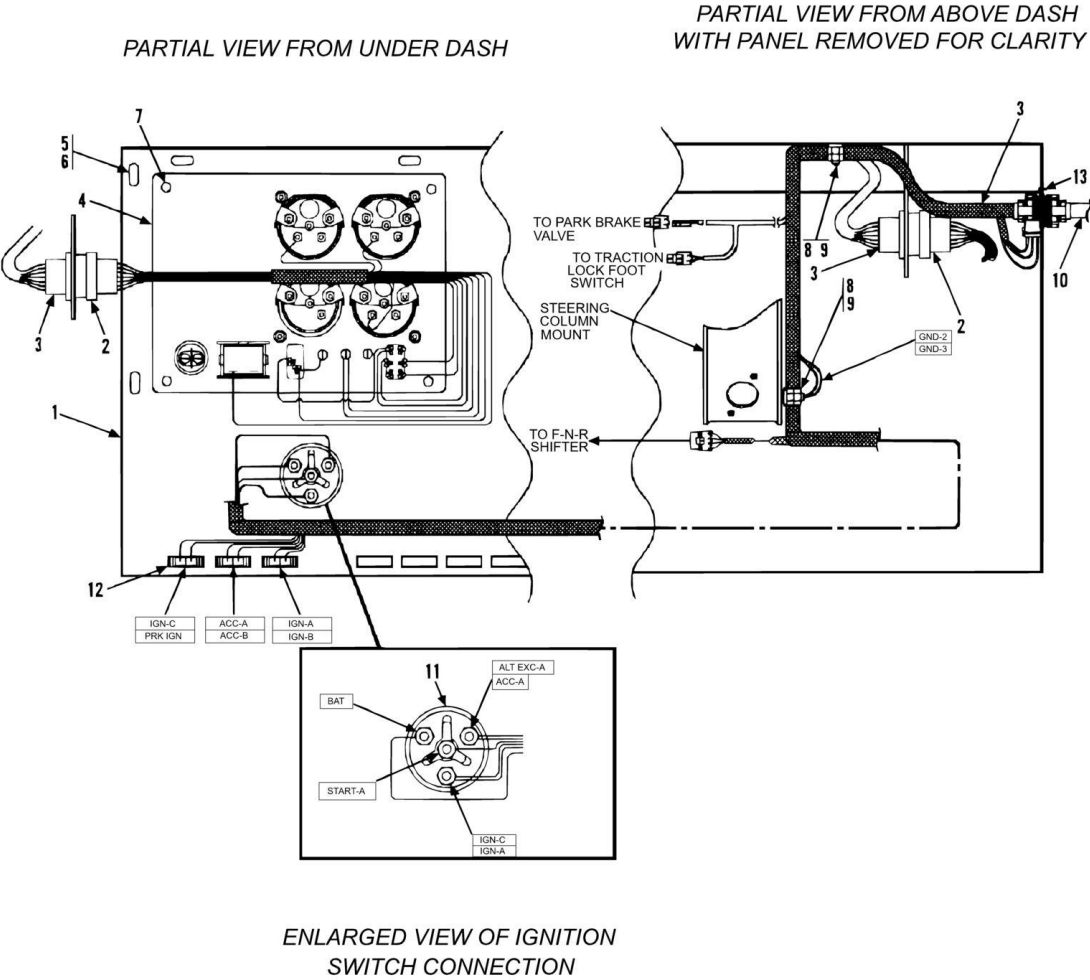
SECTION 10 - ELECTRICAL

FIGURE 10-1. (91145031) GAUGE PANEL ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145031	1	GAUGE PANEL ASSY (includes all items)	
1	91143137	1	PANEL WIRING HARNESS	
2	91053419	2	TIE WRAP	
3	91143227	4	RUBBER SPACER	
4	88301077	4	MACHINE SCREW, #8-32X1-1/4IN	
5	88561104	4	STEEL PUNCHED WASHER	
6	88501610	4	HEX NUT, #8-32	
7	91033247	1	OIL PRESSURE GAUGE	
8	91143138	1	FORMICA DASH PANEL	
9	77383709	1	VOLTMETER	
10	24771004	1	BUTTON	
11	91143130	1	HOUR METER	
12	77383467	1	TOGGLE - SPST	
13	77383470	2	BOOT	
14	91143128	2	AMBER DASH LIGHT	
15	91143129	3	TINNERMAN NUT	
16	91143127	1	RED DASH LIGHT	
17	91143114	1	TOGGLE - DPDT	
18	90205687	1	WATER TEMP GAUGE	
19	91143221	1	GAUGE PROTECTOR	
20	90205686	1	FUEL GAUGE	

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FIGURE 10-2. (91161208) DASH PANEL



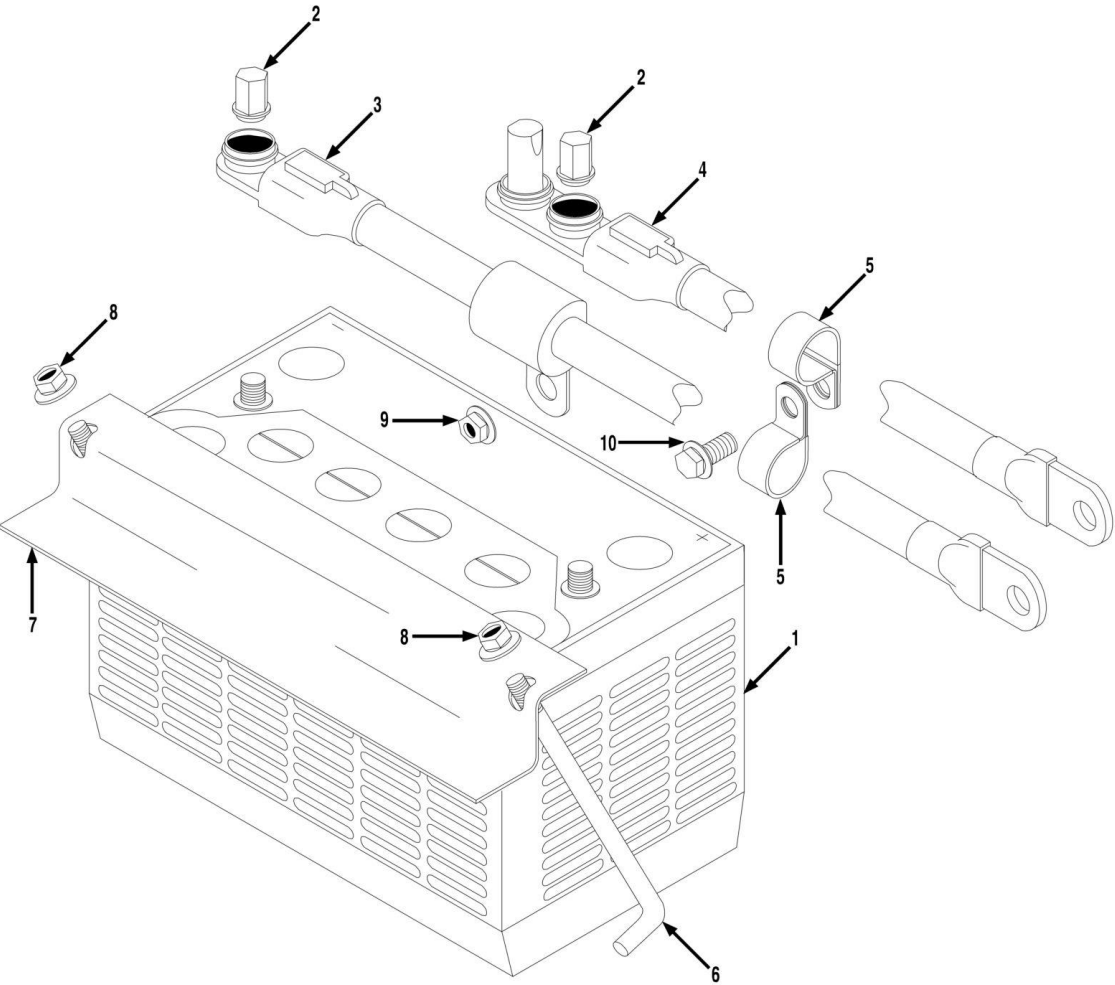
SECTION 10 - ELECTRICAL

FIGURE 10-2. (91161208) DASH PANEL

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91161208	1	DASH PANEL	
2		Ref	GAUGE PANEL WIRING HARNESS (See (91145031) GAUGE PANEL ASSEMBLY for Breakdown)	
3	91163020	1	DASH PANEL WIRING HARNESS	
4		Ref	GAUGE PANEL (See (91145031) GAUGE PANEL ASSEMBLY for Breakdown)	
5	77143003	7	WHIZ-LOC SCREW	
6	77143006	4	WHIZ-LOC NUT	
7	88261022	4	HEX SOC BUT HD MACHINE SCREW, 5/16-18X3/4	
8	24861120	2	CLAMP	
9	88501006	3	HEX NUT, 3/8-16	
10		Ref	ENGINE WIRING HARNESS (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
11	91033317	1	IGNITION SWITCH	
12	77363268	3	15 AMP FUSE	
13	88321029	1	SELF-TAPPING SCREW, 10-24X3/8	

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FIGURE 10-3. BATTERY AND CABLES



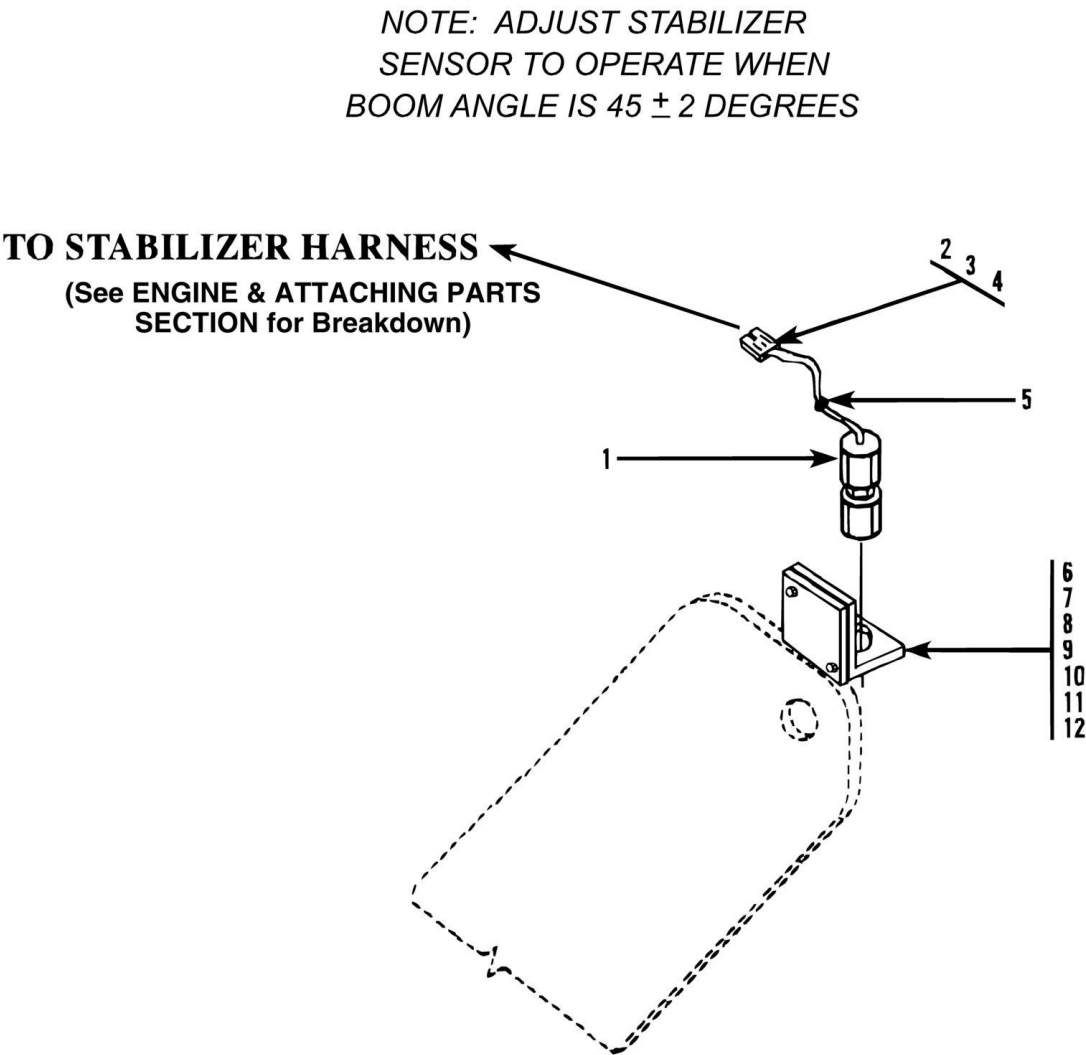
SECTION 10 - ELECTRICAL

FIGURE 10-3. BATTERY AND CABLES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083483	1	BATTERY, (12 volt, 1000 amps), TOP STUD, 3/8-16 UNC THREAD, BCI GROUP 31	
2	77383567	2	BATTERY POST TERMINAL	
3	91143124	1	NEGATIVE BATTERY CABLE	
4	91143099	1	POSITIVE BATTERY CABLE	
5	85941017	4	SUPPORT CLAMP	
6	91081640	2	HOLD DOWN STUD	
7	91141429	1	BATTERY HOLD DOWN	
8	77143006	2	WHIZ LOCKNUT, 5/16-18	
9	77143015	1	WHIZ LOCKNUT, 3/8-16	
10	77143003	2	WHIZ LOCK SCREW, 5/16-18X5/8	
10	14403416	AR	DI-ELECTRIC GREASE (add to caps of jump terminals on battery cables)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 10-4. (91165006) STABILIZER PROXIMITY SENSOR



SECTION 10 - ELECTRICAL

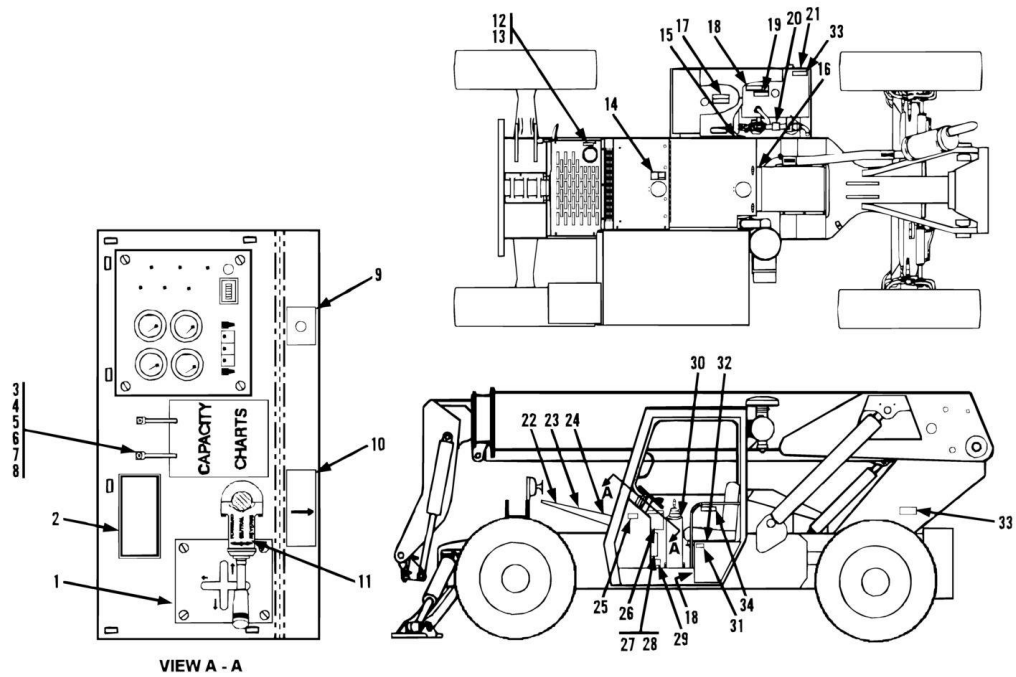
FIGURE 10-4. (91165006) STABILIZER PROXIMITY SENSOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165006	1	STABILIZER PROXIMITY SENSOR ASSY (includes items 1 thru 5)	
1	91143155	1	PROXIMITY SENSOR SWITCH	
2	80963062	1	WEATHER PROOF SHROUD (4-wire)	
3	80963069	4	MALE PIN TERMINAL	
4	80963066	4	CABLE SEALS	
5	91053419	1	TIE WRAP	
6	91161185	1	STABILIZER SENSOR BRACKET	
7	88301093	2	RD HD MACHINE SCREW, 10-24X3/4	
8	88551007	2	LOCKWASHER, #10	
9	88561001	4	FLAT WASHER, 3/16	
10	91043199	2	SQUARE NUT, #10-24	
11	90027187	4	TIE WRAP	
12	90021705	1	SUPPORT CLAMP	

SECTION 11 - MISCELLANEOUS

SECTION 11 - MISCELLANEOUS

FIGURE 11-1. FRAME DECALS



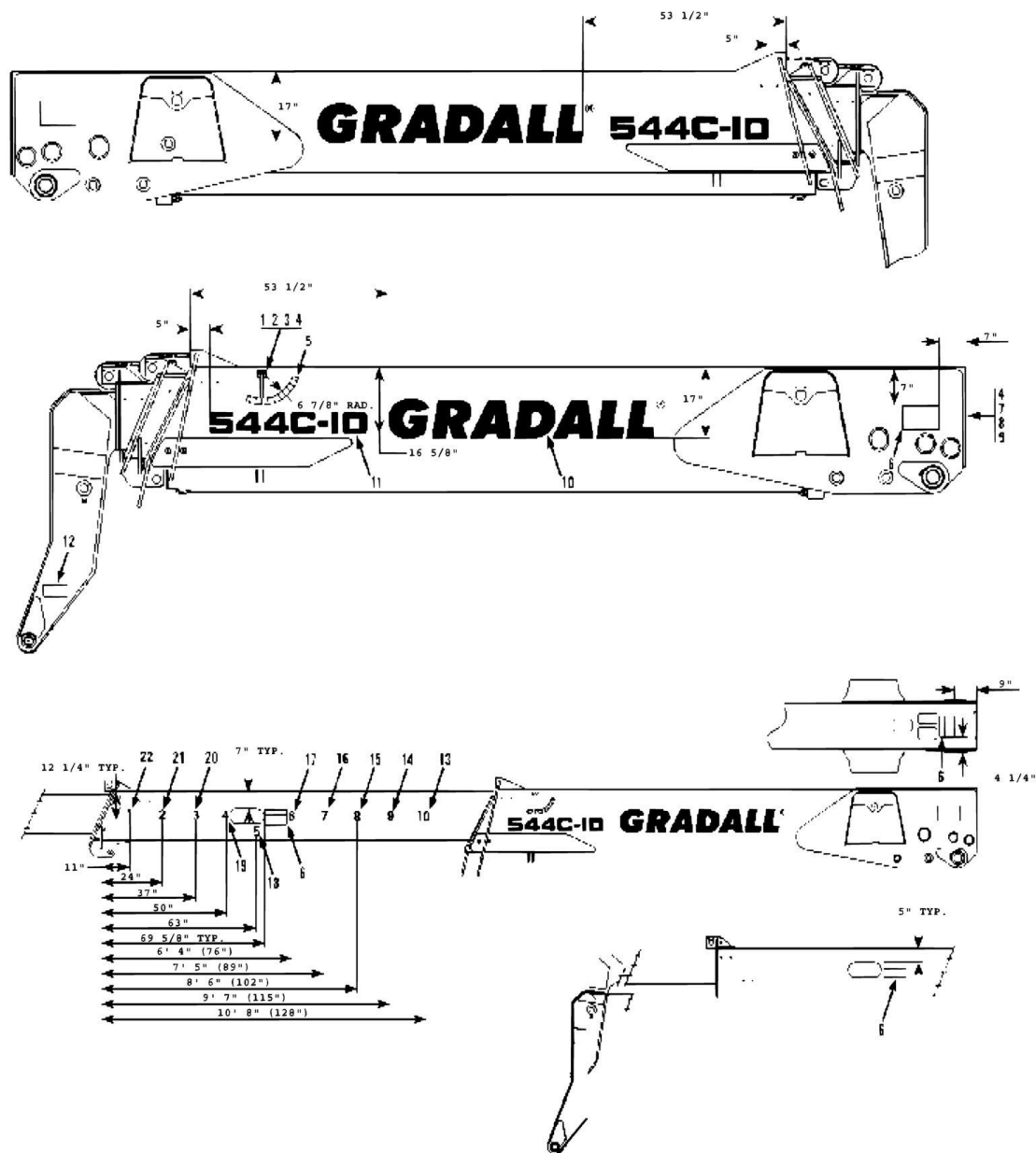
SECTION 11 - MISCELLANEOUS

FIGURE 11-1. FRAME DECALS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165037	1	544C-10 DECAL KIT (std white) (includes items 4 thru 6, 9 thru 26 & 29 thru 33 See FRAME DECALS and items 5, 6 & 10 thru 22 See BOOM DECALS) (544C-10)	
1	91083341	1	TILT/SWAY CONTROL PLATE	
2	91163212	1	WARNING DECAL	
3	91163087	2	LOAD CHART BRACKET	
4	91163184	1	CAPACITY CHART COVER	
5	91163074	1	LOAD CHART STABILIZERS DOWN	
6	91163075	1	LOAD CHART STABILIZERS UP	
7	88261017	2	BUTTON HEAD HEX SOCKET CAPSCREW, 1/4-20X7/8	
8	91163215	1	LOAD CHART, 180, SWING CARRIAGE	
9	91143120	1	INSTRUMENT PANEL DECAL	
10	91083314	1	TRACTION DECAL	
11	91163028	1	F-N-R DECAL	
12	91083494	1	BATTERY WARNING DECAL	
13	91083497	1	JUMP START WARNING DECAL	
14	91043210	1	COOLING SYSTEM CAUTION DECAL	
15	91033011	1	WARNING DECAL	
16	77343018	1	WARNING DECAL	
17	91083510	1	FUEL WARNING DECAL	
18	91083492	2	OIL WARNING DECAL	
19	91143288	1	HYDRAULIC OIL PLATE	
20	91143162	1	TEST PORT DECAL	
21	91163130	1	OIL LEVEL DECAL	
22	83601011	1	ACCIDENT PREVENTION DECAL	
23	91043215	1	LIFTING PERSONNEL DECAL	
24	91163224	1	SERVICE INSTRUCTION DECAL	
25	91043211	1	RIDERS WARNING DECAL	
26	91063047	1	WARNING DECAL	
27	91163237	1	SERIAL NUMBER AND ATTACHMENT PLATE	
28	88341022	4	DRIVE SCREW	
29	91003030	1	PATENT DECAL	
30	91303047	1	BOOM OPERATION DECAL	
31	77333027	1	MADE IN USA DECAL	
32	91023006	1	STABILIZER DECAL	
33	91043209	3	PINCH POINT DECAL	
34	91143292	1	DIPSTICK DECAL	
		Ref	NOTE: STANDARD DECALS ARE WHITE. OPTIONAL DECALS ARE BLACK. ONLY STANDARD DECALS ARE INCLUDED IN 91165037 DECAL KIT.	

SECTION 11 - MISCELLANEOUS

FIGURE 11-2. BOOM DECALS



SECTION 11 - MISCELLANEOUS

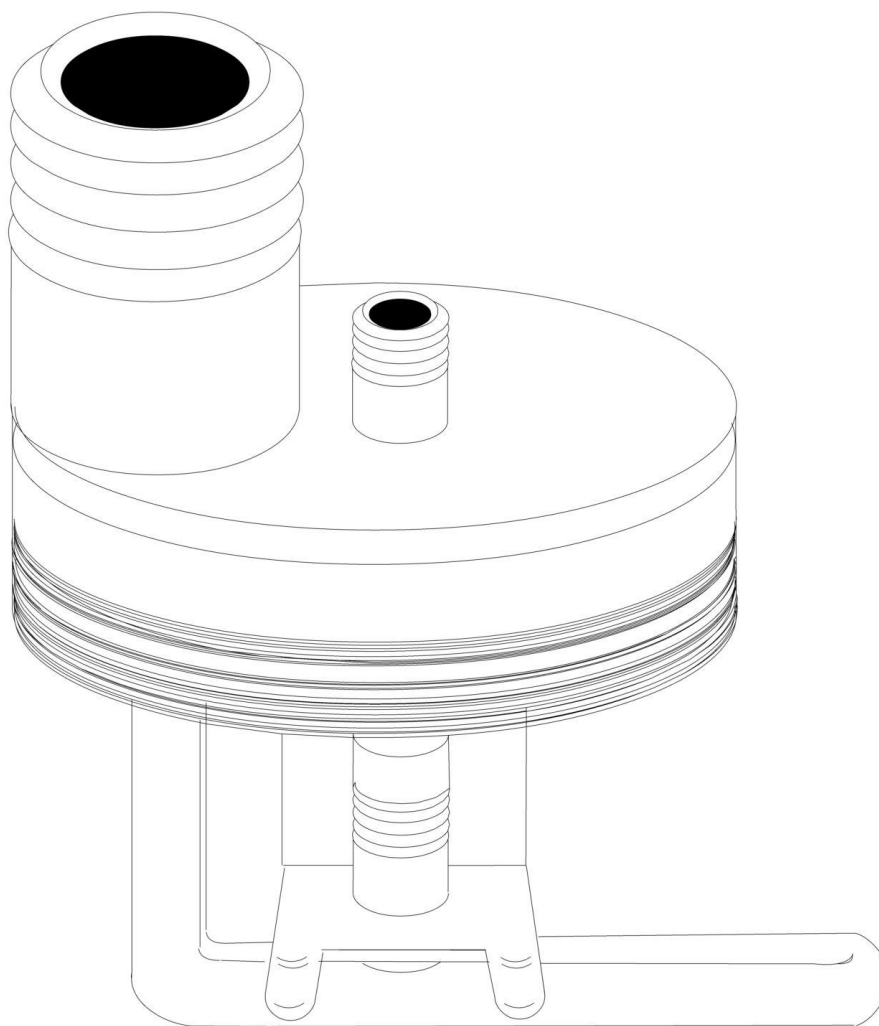
FIGURE 11-2. BOOM DECALS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165037	1	544C-10 DECAL KIT (std white) (includes items 4 thru 6, 9 thru 26 & 29 thru 33 See FRAME DECALS and items 5,6 & 10 thru 22 See BOOM DECALS) (544C-10)	
1	90200445	1	PENDULUM	
2	90200688	1	BEARING	
3	90026491	1	SHOULDER BOLT, 1/4-20	
4	88561108	1	WASHER, 5/16	
5	91003031	1	BOOM ANGLE DECAL	
6	77023009	7	HOLE WARNING DECAL	
7	88201017	4	HEX HD CAPSCREW, 5/16-18X5/8, GR5	
8	91161206	1	BOOM END COVER	
9	88551010	4	LOCKWASHER, 5/16	
10	91123037	2	GRADALL DECAL (std)	
10	91123038	2	GRADALL DECAL (opt)	
11	91163050	2	544C-10 DECAL (std) (544C-10)	
11	91163051	2	544C-10 DECAL (opt) (544C-10)	
12	91033023	1	QUICK SWITCH DECAL	
13	91163085	1	"10" DECAL (std)	
13	91163086	1	"10" DECAL (opt)	
14	91163083	1	"9" DECAL (std)	
14	91163084	1	"9" DECAL (opt)	
15	91163081	1	"8" DECAL (std)	
15	91163082	1	"8" DECAL (opt)	
16	91163079	1	"7" DECAL (std)	
16	91163080	1	"7" DECAL (opt)	
17	91163077	1	"6" DECAL (std)	
17	91163078	1	"6" DECAL (opt)	
18	91123044	1	"5" DECAL (std)	
18	91123045	1	"5" DECAL (opt)	
19	91003020	1	"4" DECAL (std)	
19	91043136	1	"4" DECAL (opt)	
20	91123042	1	"3" DECAL (std)	
20	91123043	1	"3" DECAL (opt)	
21	91003018	1	"2" DECAL (std)	
21	91043135	1	"2" DECAL (opt)	
22	91003016	1	"1" DECAL (std)	
22	91043134	1	"1" DECAL (opt)	
		Ref	NOTE: STANDARD DECALS ARE WHITE. OPTIONAL DECALS ARE BLACK. ONLY STANDARD DECALS ARE INCLUDED IN 91165037 DECAL KIT.	

SECTION 12 - OPTIONAL EQUIPMENT

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-1. (91043353) BLOCK HEATER



REPLACES FROST PLUG ON RIGHT SIDE OF ENGINE.

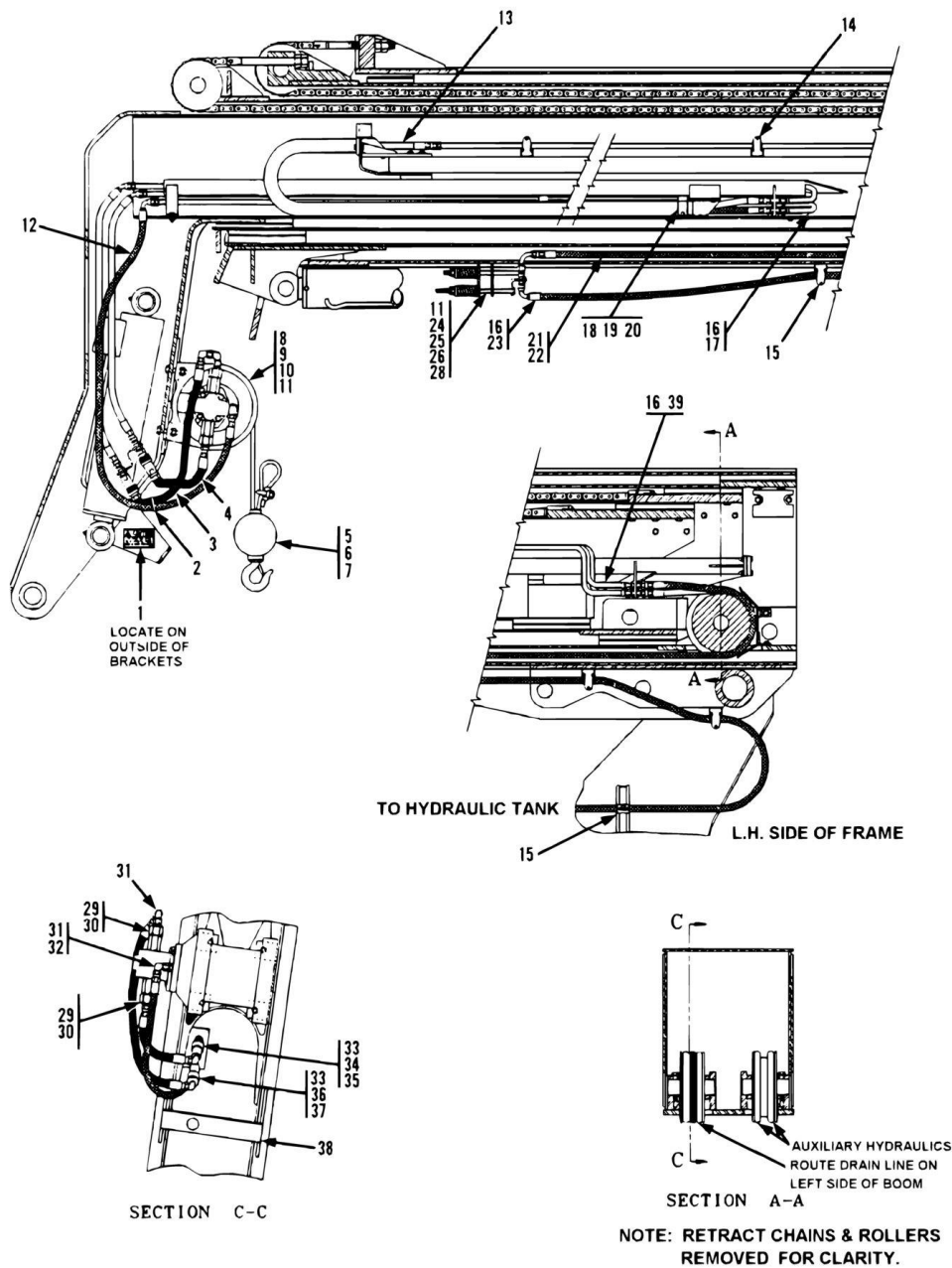
SECTION 12 - OPTIONAL EQUIPMENT

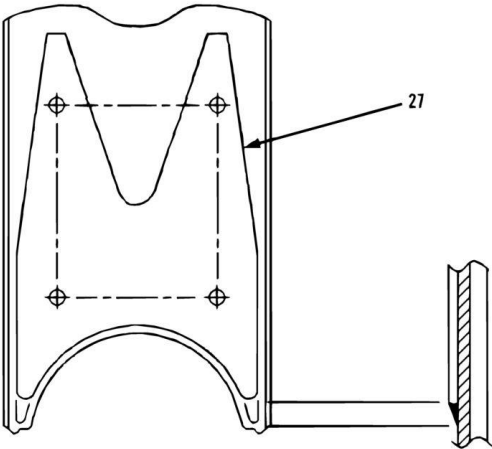
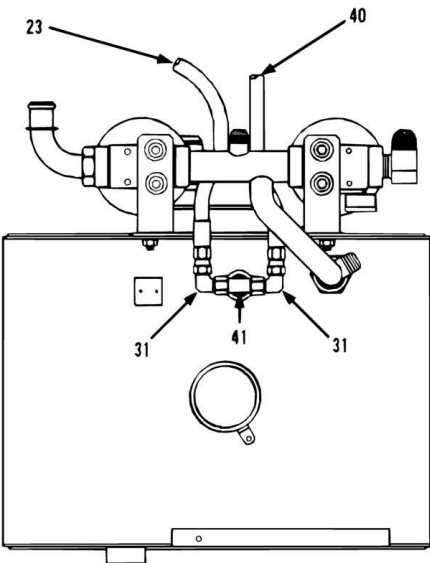
FIGURE 12-1. (91043353) BLOCK HEATER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043353	1	BLOCK HEATER	

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FIGURE 12-2. (91165011) WINCH INSTALLATION





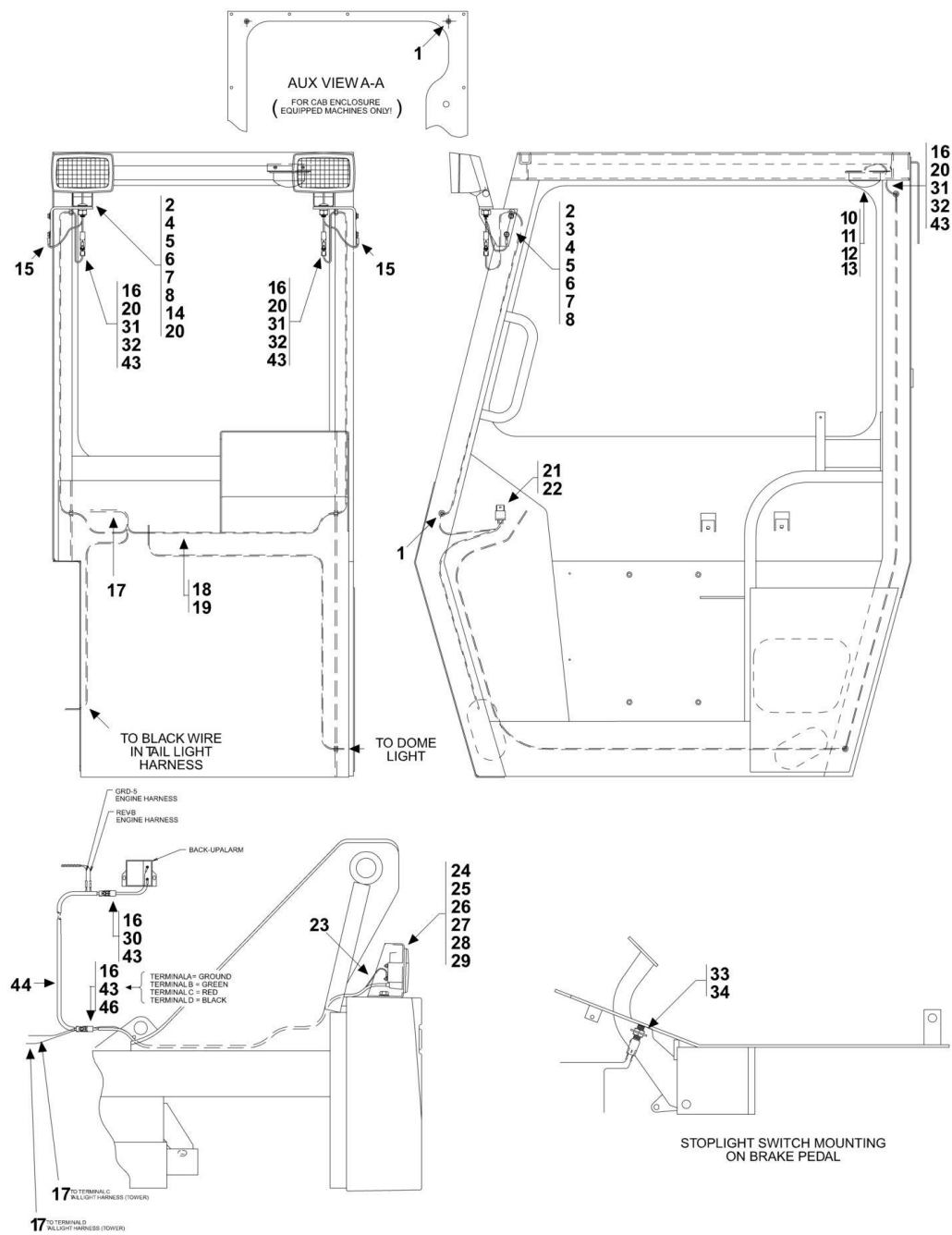
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-2. (91165011) WINCH INSTALLATION

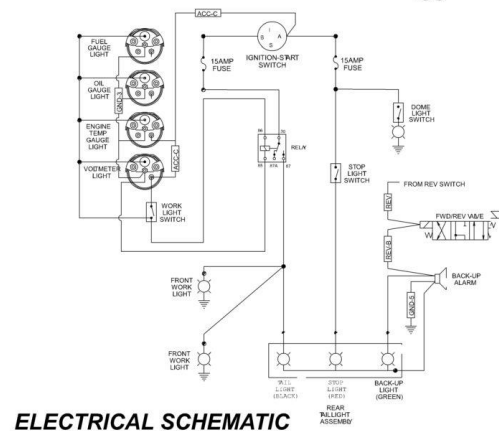
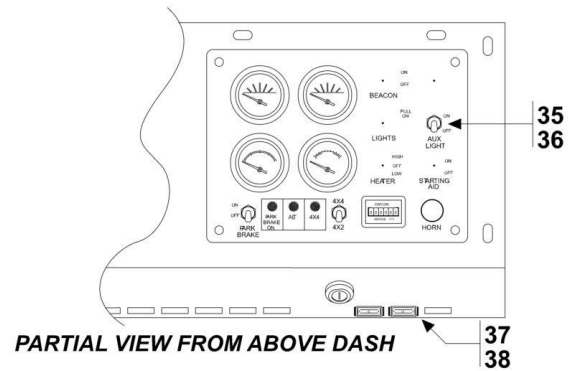
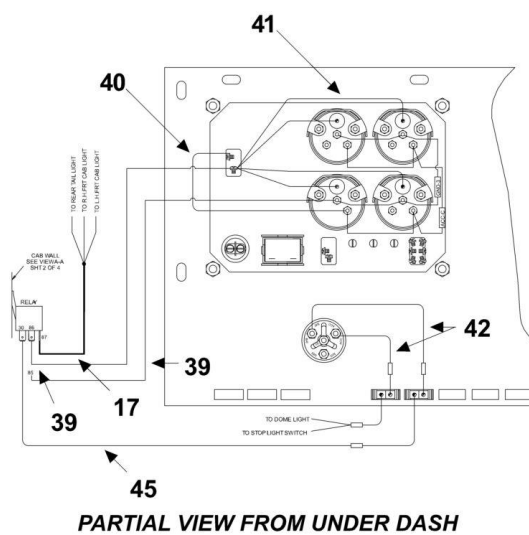
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165011	Ref	WINCH INSTALLATION, (includes all items except item 40)	
1	91083535	1	CAUTION DECAL	
2	90027187	5	TIE WRAP, (locate as required)	
3	84716148	1	HOSE ASSY	
4	84718046	1	HOSE ASSY	
5	90207882	1	CABLE	
6	90201443	1	HOOK AND BALL	
7	90028990	1	WIRE ROPE CLIP	
8	91363079	1	WINCH	
9	88201070	4	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5	
10	90027471	8	HARDENED WASHER, 1/2	
11	88501008	5	HEX NUT, 1/2-13	
12	84719474	1	HOSE ASSY	
13	84718959	1	HOSE ASSY	
14	91083217	3	CUSHION CLAMP	
15	90207463	5	CUSHION CLAMP	
16	88661085	3	BULKHEAD UNION, 3/4-16X1/2 TUBE	
17	91163064	1	TUBE ASSY	
18	77133389	3	STACK BOLT	
19	77133139	3	TUBE CLAMP	
20	77133390	3	SAFETY CLIP	
21	84719455	1	HOSE ASSY	
22	91143145	1	ELBOW, 90, (swivel nut)	
23	84718427	1	HOSE ASSY	
24	91121134	1	SPRING RETAINER	
25	91123054	1	COMPRESSION SPRING	
26	91166072	1	HOSE TAKE-UP WELDMENT	
27	91141194	1	WINCH MOUNTING PLATE	
28	88501108	1	HEAVY HEX JAM NUT, 1/2-13	
29	91033161	2	FLOW REGULATOR	
30	91033230	2	REDUCER, (-16 TO -8)	
31	88662106	4	ELBOW, 90, (swivel nut)	
32	88661011	1	MALE CONNECTOR, 1/4X1/2 TUBE	
33	88661113	2	ELBOW, 90, 1/2X1/2 TUBE	
34	91163139	1	FEMALE COUPLER	
35	91043125	1	DUST PLUG	
36	91163138	1	MALE COUPLER	
37	91043126	1	DUST CAP	
38	91121159	1	STOWAGE BRACKET	
39	91163063	1	TUBE ASSY	
40	84718748	1	HOSE ASSY	
41	88662225	1	SWIVEL NUT BRANCH TEE, 1/2 TUBE	

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FIGURE 12-3. (91145021) WORK LIGHT PACKAGE



SECTION 12 - OPTIONAL EQUIPMENT



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-3. (91145021) WORK LIGHT PACKAGE

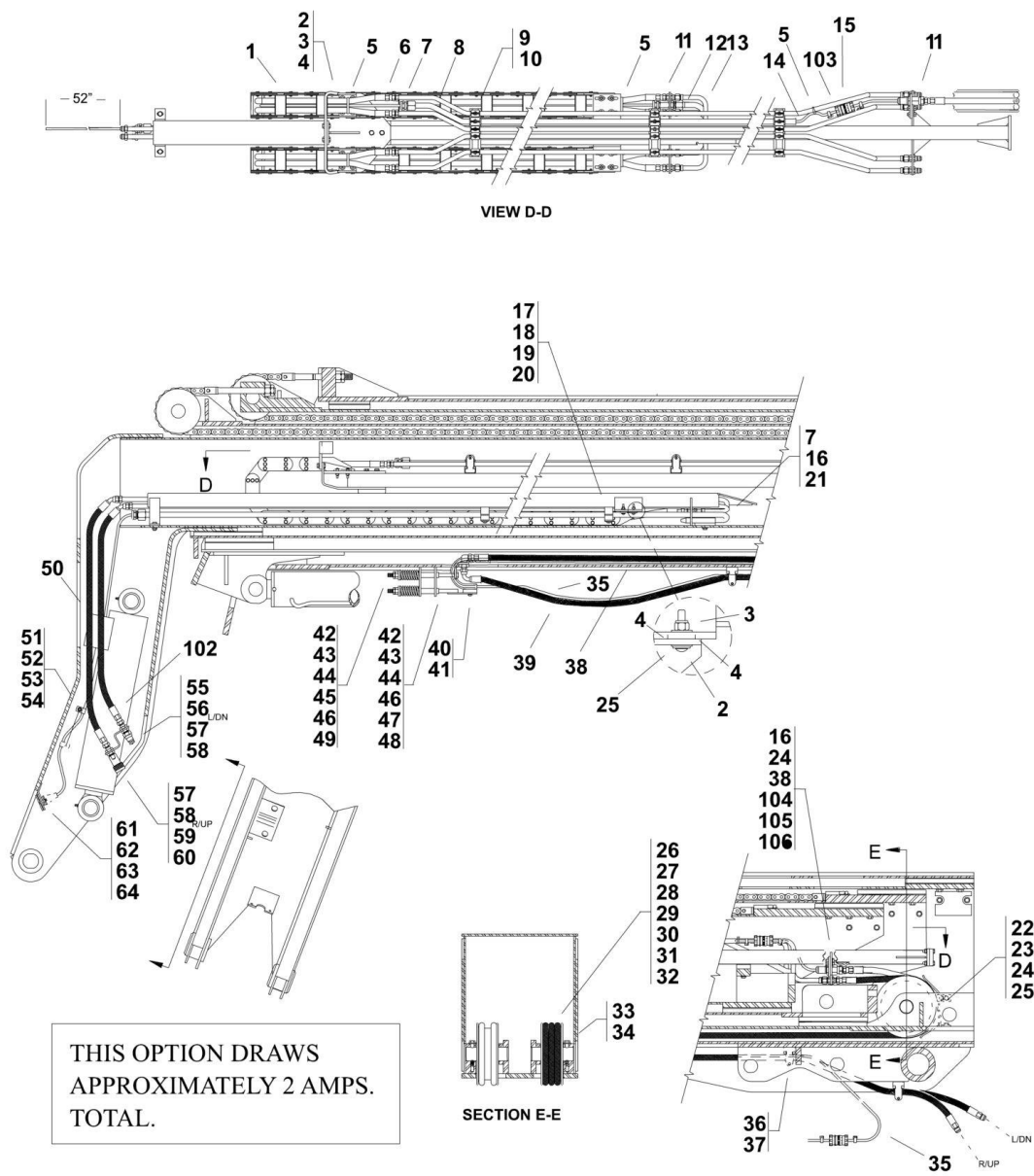
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145021	1	WORK LIGHT PACKAGE, (includes all items)	
1	90027214	8	RUBBER GROMMET	
2	80963050	2	UTILITY FLOOD LIGHT	
3	91141183	1	L.H. LIGHT SUPPORT	
4	88201035	2	HEX HD CAPSCREW, 3/8-16X1,GR5	
5	88561109	2	FLAT WASHER, 3/8	
6	88551011	2	LOCKWASHER, 3/8	
7	88501006	2	HEX NUT, 3/8-16	
8	90027319	4	TAP SCREW, 1/4-20X1	
9		Ref	WIRE LOOM, (use on all wires)	
10	91011009	1	MOUNTING BRACKET	
11	90029955	1	RUBBER GROMMET	
12	88321022	2	SELF TAPPING SCREW, #8-32X3/8	
13	24861167	1	INTERIOR LIGHT	
14	91141182	1	R.H. LIGHT SUPPORT	
15	86883260	2	EYELET	
16	80963069	9	W PACK CONNECTOR, (male pin)	
17	91143270	1	LIGHT HARNESS	
18	91053419	19	TIE WRAP	
19	86683122	6	TIE WRAP	
20	80963055	3	W PACK CONNECTOR, (tower)	
21	77383410	1	RELAY, (located on side wall of cab)	
22	88321039	1	SELF TAPPING SCREW, #10-32X1/2	
23	91141364	1	JUMPER WIRE	
24	88201108	1	HEX HD CAPSCREW, 3/4-10X1-1/4, GR5	
25	88561115	1	FLAT WASHER, 3/4	
26	88551016	1	LOCKWASHER, 3/4	
27	91121145	1	TAIL LIGHT HOUSING	
28	91121146	1	TAIL LIGHT BRACKET	
29	91365045	1	TAIL LIGHT ASSEMBLY, (includes the following seven items)	
29	91123065	1	TAIL LIGHT	
29	86661147	38 in	WIRE, 16 GAUGE, (black)	
29	86661149	38 in	WIRE, 16 GAUGE, (green)	
29	86661152	38 in	WIRE, 16 GAUGE, (red)	
29	86683480	3	BUTT CONNECTOR	
29	82033996	45 in	WIRE LOOM	
29	86683122	2	TIE WRAP	
30	80963058	1	W PACK CONNECTOR, (shroud)	
31	80963056	3	W PACK CONNECTOR, (shroud)	
32	80963068	3	W PACK CONNECTOR, (female pin)	
33	91143117	1	STOP LIGHT SWITCH	
34	91141197	1	MOUNTING TAB	
35	77383467	1	LIGHT SWITCH	
36	77383470	1	BOOT	
37	91143108	2	FUSE HOLDER	
38	77363268	2	FUSE, 15 AMP	
39	91141265	2	JUMPER WIRE	
40	91141258	1	JUMPER WIRE	
41	91033360	4	GAUGE LIGHTING KIT	
42	91141259	2	JUMPER WIRE	

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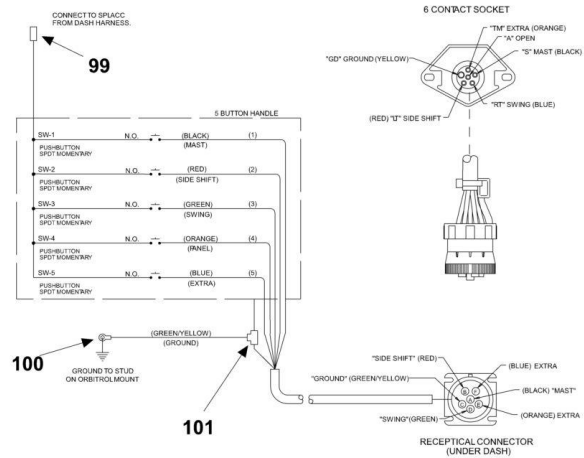
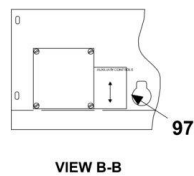
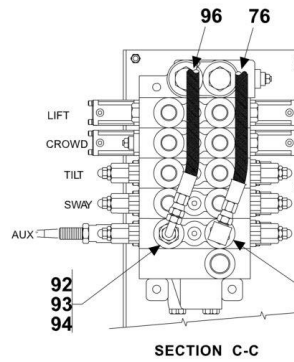
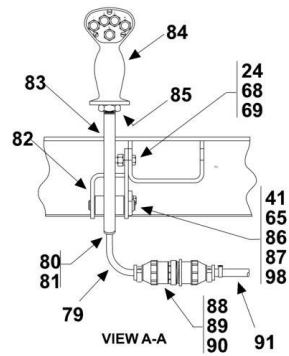
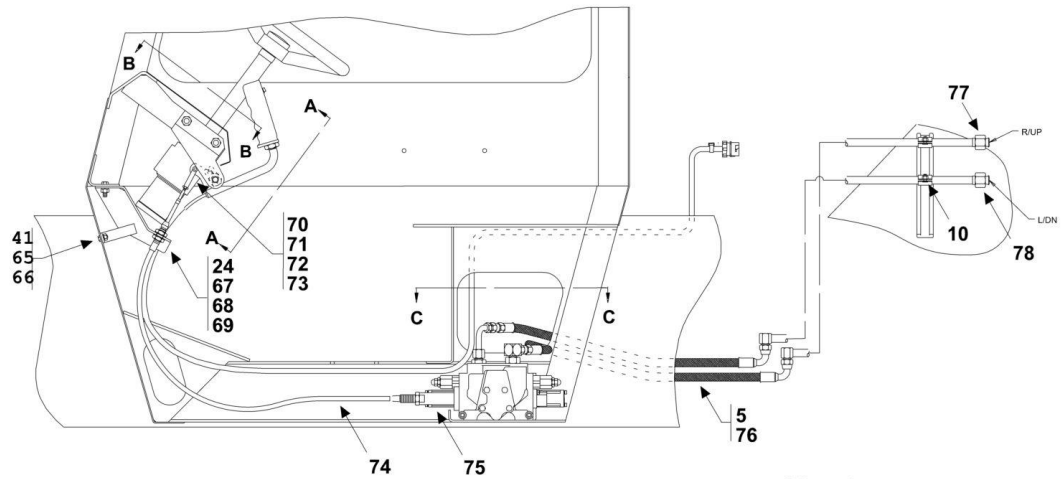
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	80963066	12	W PACK CONNECTOR, (cable seal)	
44	91143210	1	TAIL LIGHT HARNESS	
45	91141266	1	JUMPER WIRE	
46	80963062	1	W PACK CONNECTOR, (shroud)	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-4. (91165010) AUXILIARY HYDRAULICS W/ELECTRIC



SECTION 12 - OPTIONAL EQUIPMENT



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-4. (91165010) AUXILIARY HYDRAULICS W/ELECTRIC

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165010	Ref	AUXILIARY HYDRAULICS W/ELECTRIC, (includes all items)	
1	91163174	1	HOSE CARRIER	
2	88261030	8	SOCKET BUTTON HD CAPSCREW, 3/8-16X1-1/4	
3	88521306	8	HEX LOCKNUT, 3/8-16	
4	88561004	12	FLAT WASHER, 3/8	
5	90027187	7	TY-RAP	
6	84718959	2	HOSE ASSY	
7	91143141	3	CORD CONNECTOR	
8	91363068	1	TUBE ASSY	
9	91083217	6	CUSHION CLAMP, 5/8	
10	90207463	5	CUSHION CLAMP, 3/4	
11	88661085	4	BULK HEAD UNION, 3/4-16X1/2 TUBE	
12	91163060	1	TUBE ASSY	
13	91163059	1	TUBE ASSY	
14	91163062	1	TUBE ASSY	
15	91163061	1	TUBE ASSY	
16	91163100	2	STRAIGHT THREAD BULK HEAD FITTING	
17	77133389	3	STACK BOLT	
18	77133136	3	TUBE CLAMP	
19	77133137	3	COVER PLATE	
20	88201023	3	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
21	91163066	1	TUBE ASSY	
22	91166038	1	HOSE GUIDE BRACKET	
23	88201032	3	HEX HD CAPSCREW, 3/8-16X5/8, GR5	
24	88551011	9	LOCKWASHER, 3/8	
25	88561109	7	FLAT WASHER, 3/8	
26	91161138	1	HOSE SHEAVE PIN	
27	91143024	1	HOSE SHEAVE	
28	91041451	2	THRUSTWASHER	
29	14404793	AR	UNION 76 MEGAPLEX GREASE	
30	91041449	AR	THRUSTWASHER	
31	91041450	AR	THRUSTWASHER	
32	91041596	AR	THRUSTWASHER	
33	88201074	1	HEX HD CAPSCREW, 1/2-13X3-1/4, GR5	
34	88551013	1	LOCKWASHER, 1/2	
35	91363151	1	AUX BOOM WIRING HARNESS	
36	90207464	8	CUSHION CLAMP, 1/2	
37	91043120	4	CUSHION CLAMP	
38	84719455	3	HOSE ASSY	
39	84719018	2	HOSE ASSY	
40	88201017	2	HEX HD CAPSCREW, 5/16-18X5/8, GR5	
41	88551010	4	LOCKWASHER, 5/16	
42	88501008	3	HEX NUT, 1/2-13	
43	88501108	3	HEAVY HEX JAM NUT, 1/2-13	
44	91123054	3	COMPRESSION SPRING	
45	90027180	2	90, BULK HEAD FITTING	
46	91121134	3	SPRING RETAINER	
47	91126032	1	CABLE TAKE-UP SUPPORT	
48	91366015	1	HOSE TAKE-UP WELDMENT	
49	91166068	2	HOSE TAKE-UP WELDMENT	

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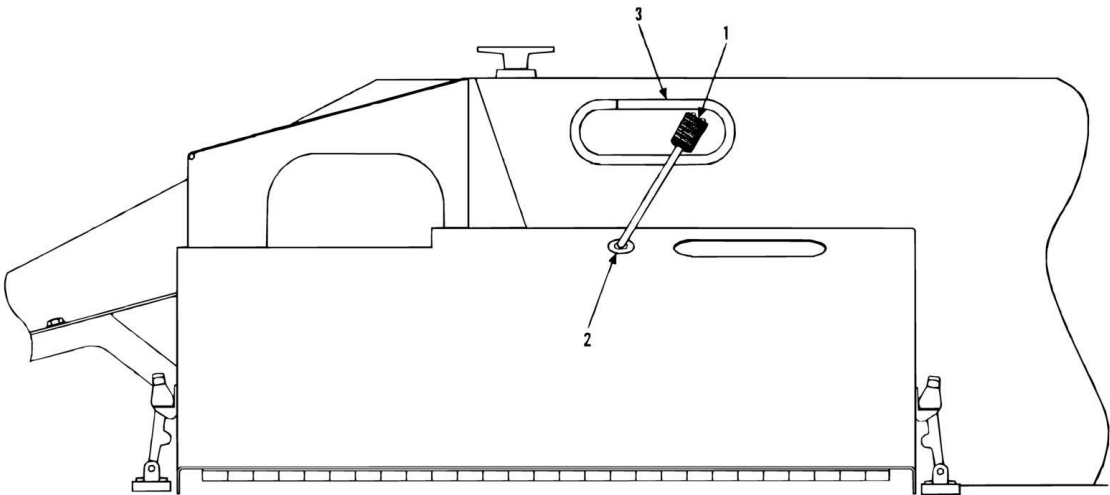
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	84718637	1	HOSE ASSY	
51	91203039	1	CLAMP SUPPORT	
52	88551009	2	LOCKWASHER, 1/4	
53	88561107	2	FLAT WASHER, 1/4	
54	88501004	2	HEX NUT, 1/4-20	
55	90204244	1	MALE HYDRAULIC COUPLER	
56	91043126	1	DUST CAP	
57	91043321	2	STRAIGHT THREAD BULK HEAD FITTING	
58	88712304	2	REDUCING BUSHING, 1/2X3/8	
59	90204245	1	FEMALE HYDRAULIC COUPLER	
60	91043125	1	DUST PLUG	
61	91121139	1	RECEPTACLE BRACKET	
62	90207661	1	SIX CONTACT RECEPTACLE	
63	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
64	88521304	2	HEX LOCKNUT, 1/4-20	
65	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
66	88501005	1	HEX NUT, 5/16-18	
67	91126023	1	CABLE BRACKET WELDMENT	
68	88201036	4	HEX HD CAPSCREW, 3/18-16X1-1/4, GR5	
69	88501006	4	HEX NUT, 3/8-16	
70	88821002	1	YOKE END	
71	88633001	1	YOKE PIN, 1/4	
72	88631302	1	COTTER PIN, 1/16X3/4	
73	88501404	1	HEX JAM NUT, 1/4-28	
74	91163131	1	PUSH-PULL CABLE	
75	91123062	1	CABLE ADAPTER BONNET	
76	84718685	1	HOSE ASSY	
77	91163097	1	TUBE ASSY	
78	91163096	1	TUBE ASSY	
79	Bulk	12 in	LOOM, 5/16 I.D.	
80	91123051	1	MOLDED RUBBER BUSHING	
81	14402248	AR	3M ADHESIVE	
82	91126025	1	LEVER BRACKET	
83	91126024	1	LEVER WELDMENT	
84		Ref	5 BUTTON HANDLE, (See (91033387) 5-BUTTON HANDLE for Breakdown)	
85	88501112	1	HEAVY HEX JAM NUT, 3/4-10	
86	91126027	1	PIN WELDMENT	
87	91083136	2	BUSHING	
88	77363232	1	RECEPTACLE CONNECTOR	
89	77363228	6	PIN CONTACT	
90	91143107	1	STRAIN RELIEF	
91	91143105	1	AUX WIRING HARNESS	
92	91123022	1	ELBOW, 90, - LONG	
93	88662020	2	CONNECTOR, (includes item 94)	
94	88591207	2	O-RING	
95	88662106	1	ELBOW, 90, (swivel nut)	
96	84718686	1	HOSE ASSY	
97	91033394	1	AUX CONTROL DECAL	
98	90028662	2	WAVE BEND WASHER	
99	86983193	1	MALE BULLET	
100	91033391	1	INSULATED RING TERMINAL	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
101	90028968	1	CONNECTOR	
102	84718943	1	HOSE ASSY	
103	91363185	1	AUX BOOM WIRING HARNESS	
104	91361032	1	DISCONNECT PLATE	
105	88661014	1	MALE CONNECTOR, 3/4X1/2 TUBE	
106	88201035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-5. (91145032) VANDAL KIT



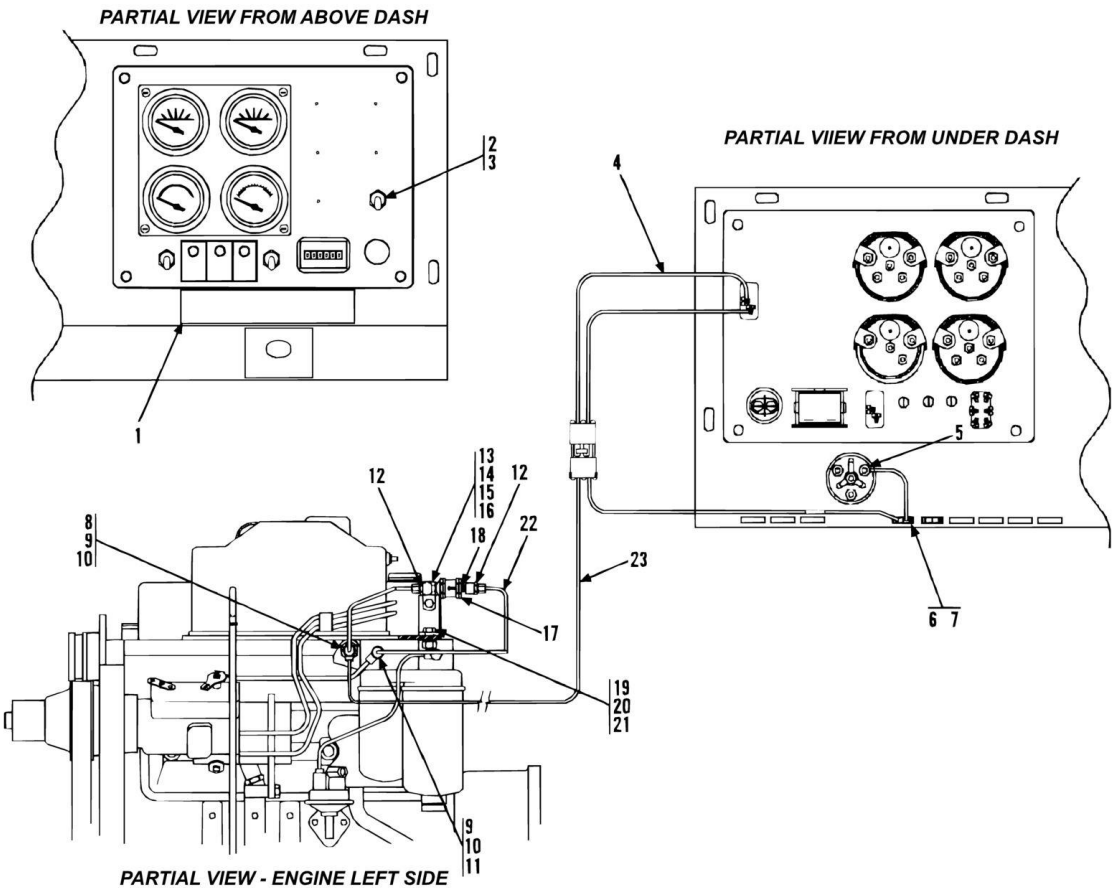
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-5. (91145032) VANDAL KIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145032	1	VANDAL KIT (includes all items)	
1	91083365	1	PADLOCK	
2	86961044	2	RUBBER GROMMET	
3	90206194	12 in	TRIM LOCK	

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FIGURE 12-6. (91155004) GLOW PLUG INSTALLATION



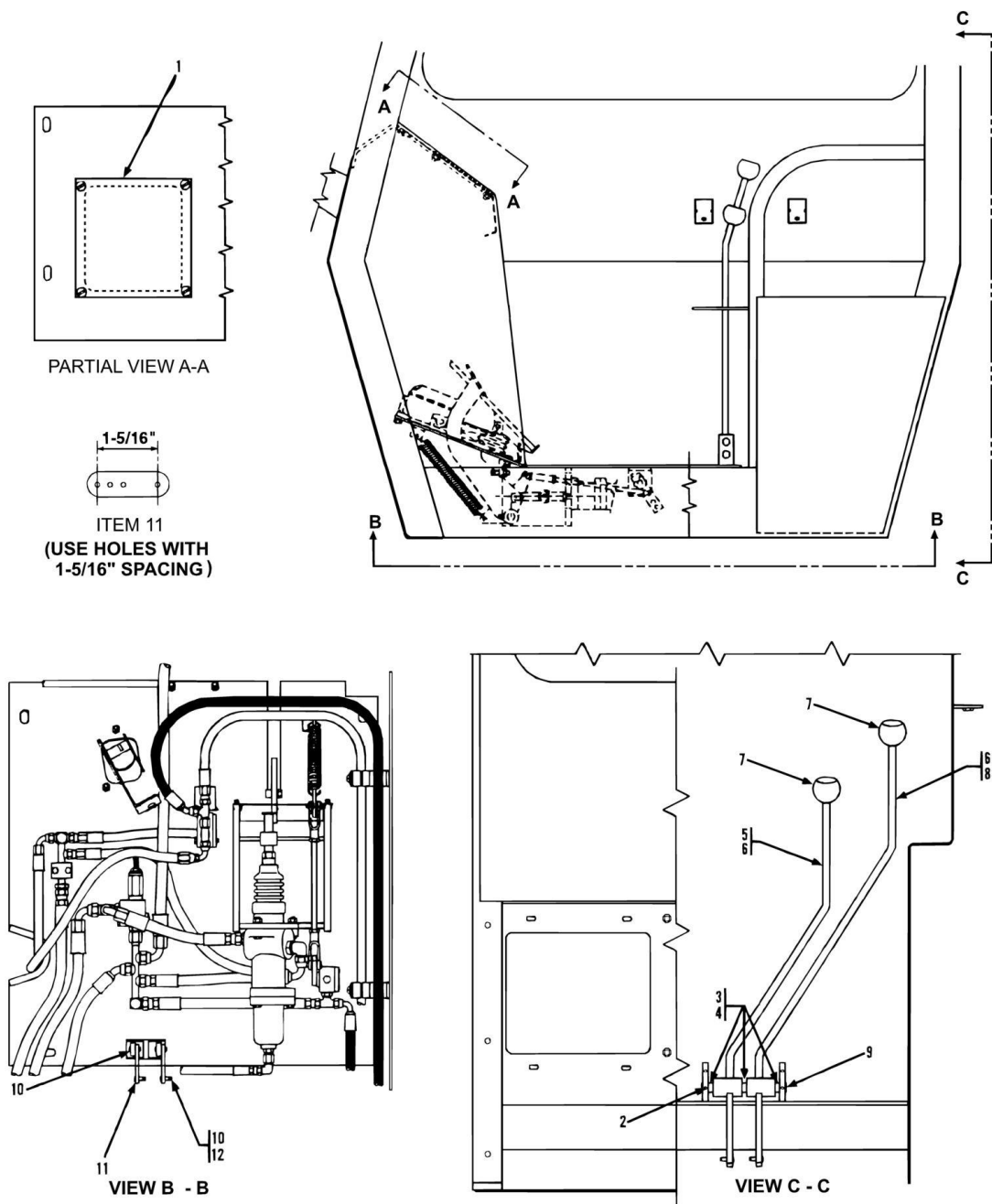
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FIGURE 12-6. (91155004) GLOW PLUG INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91155004	1	GLOW PLUG INSTALLATION (includes all items)	
1	91143164	1	INSTRUCTION DECAL	
2	91143163	1	TOGGLE SWITCH	
3	77383470	1	BOOT	
4	91145034	1	WIRING HARNESS	
5	86983190	1	#10 EYELET	
6	91143108	1	FUSE HOLDER	
7	77363268	1	15 AMP FUSE	
8	91043415	1	THERMOSTART	
9	91083371	2	TUBE NUT	
10	91083375	2	OLIVE	
11	91083374	1	BANJO CONNECTOR	
12	91083380	2	BRASS ADAPTER (includes nut and sleeve)	
13	91151007	1	SUPPORT BRACKET	
14	24861170	1	CLIP	
15	88201016	1	HEX HD CAPSCREW, 5/16-18x1/2, GR5	
16	88551010	1	LOCKWASHER, 5/16	
17	86683330	1	FUEL CHECK VALVE	
18	88701002	1	CLOSE NIPPLE, 1/4	
19	88201050	1	HEX HD CAPSCREW, 7/16-14X1	
20	88501007	1	HEX NUT, 7/16-14	
21	88551012	1	LOCKWASHER, 7/16	
22	91081676	1	STEEL TUBE, 3/16IN O.D. (cut and bend as required.)	
23	91145035	1	WIRING HARNESS	

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FIGURE 12-7. (91165012) R.H. TILT/SWAY



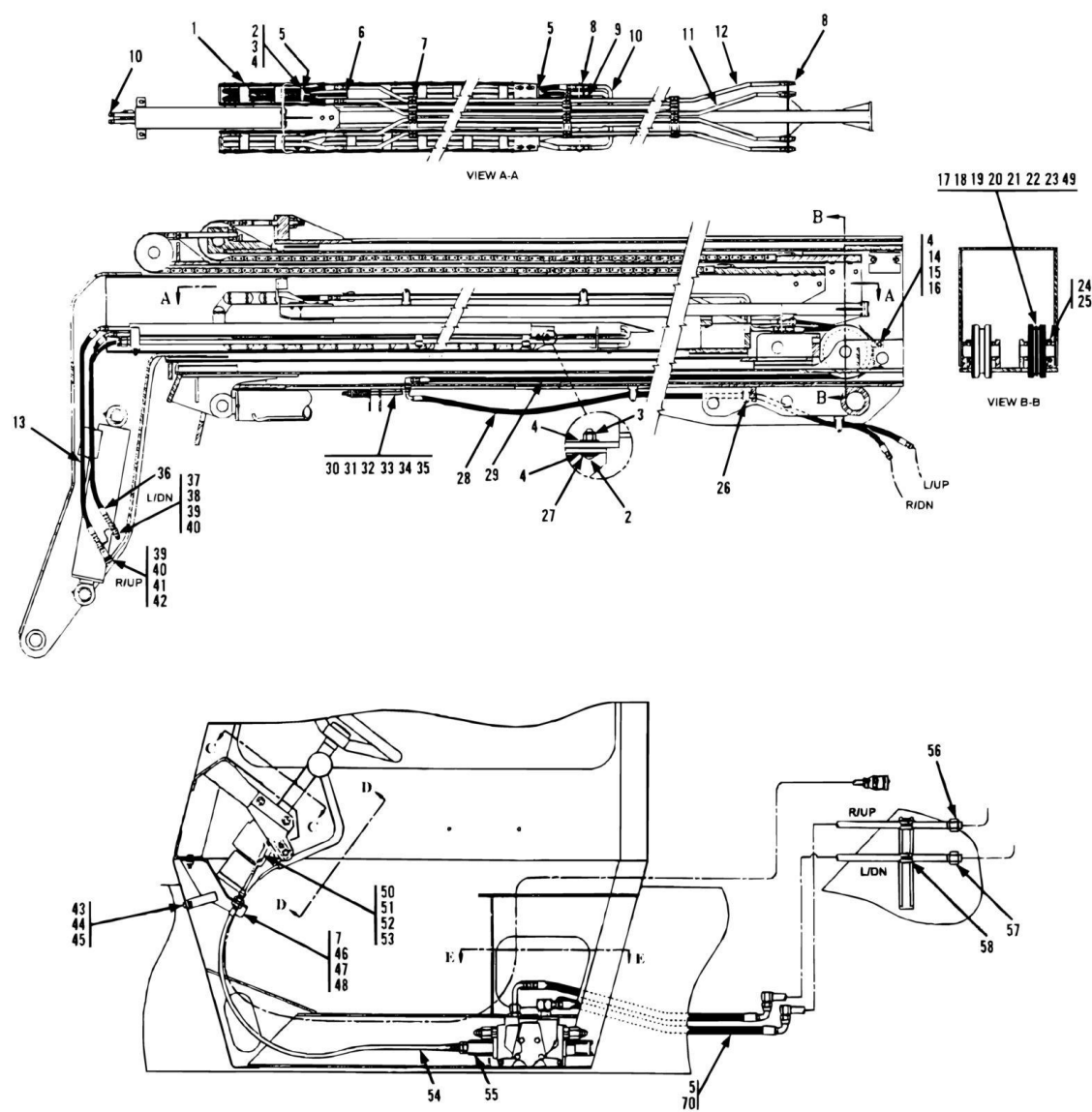
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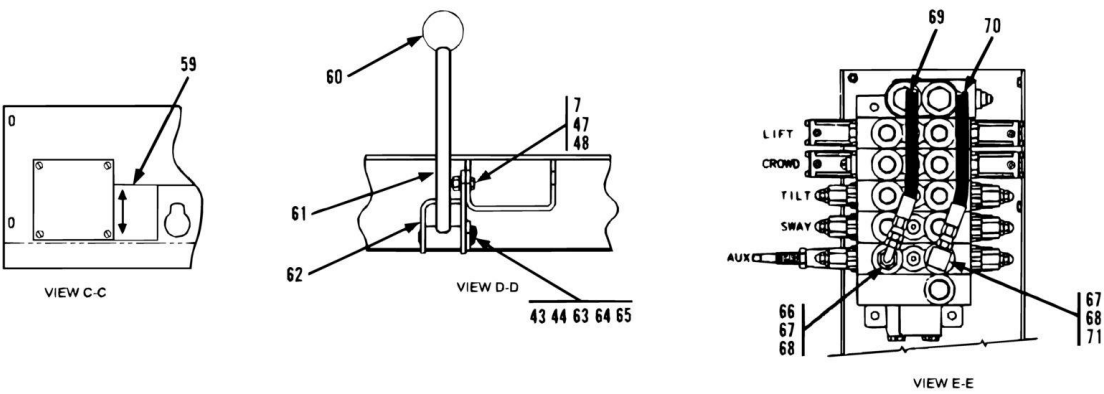
FIGURE 12-7. (91165012) R.H. TILT/SWAY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165012	Ref	R.H. TILT/SWAY (includes all items)	
1	91081480	1	COVER PLATE	
2	88631338	1	COTTER PIN	
3	90028662	3	WAVE BEND WASHER	
4	88561113	9	WASHER, 5/8	
5	91146043	1	SWAY LEVER	
6	91083136	4	BUSHING	
7	90200638	2	KNOB	
8	91146042	1	TILT LEVER	
9	91081354	1	SHAFT	
10	88631301	4	COTTER PIN	
11	91361023	2	ROD LINKAGE	
12	90021552	2	CLEVIS PIN	

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FIGURE 12-8. (91165009) AUXILIARY HYDRAULICS ASSEMBLY





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FIGURE 12-8. (91165009) AUXILIARY HYDRAULICS ASSEMBLY

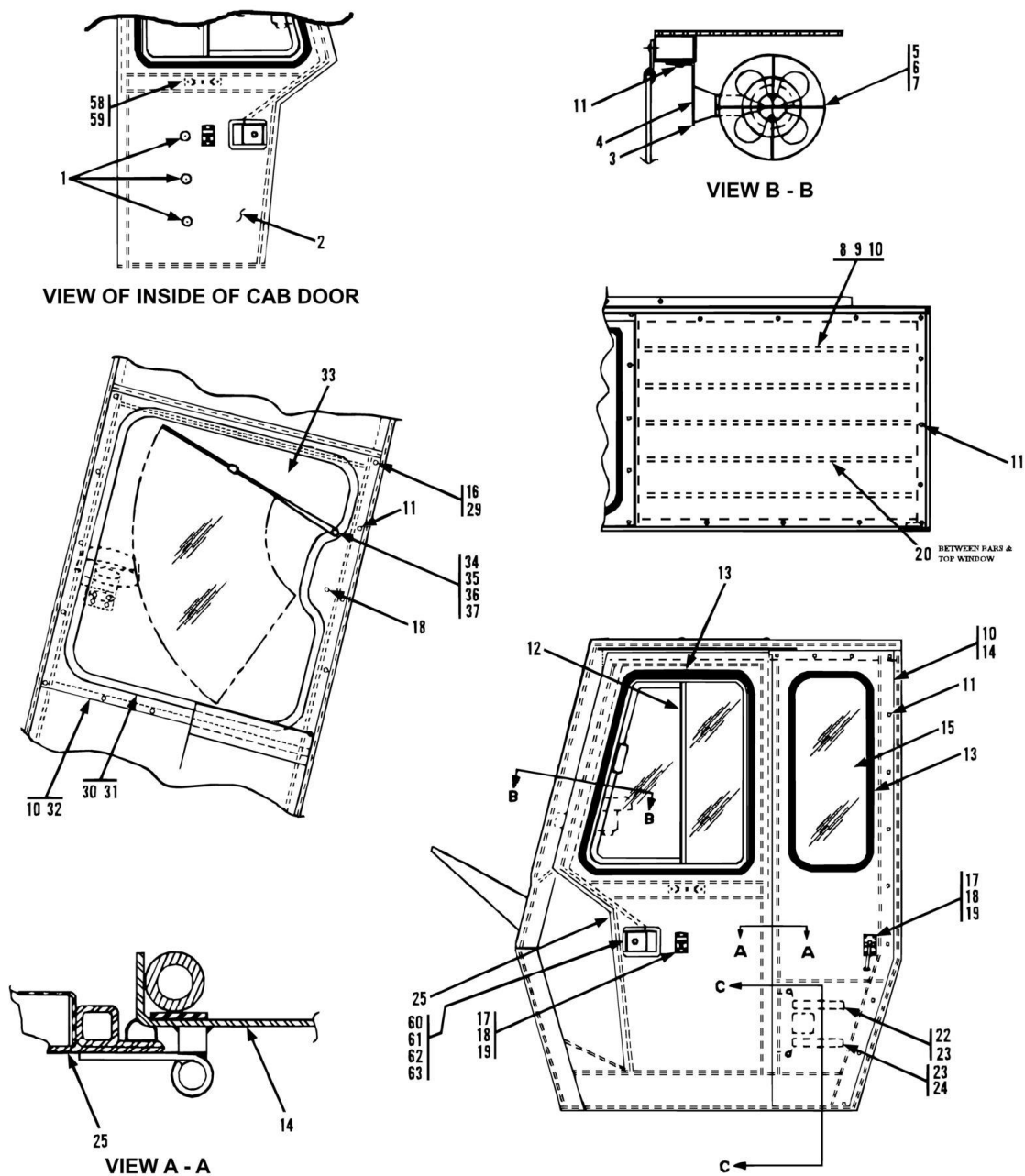
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165009	1	AUXILIARY HYDRAULICS ASSY, (includes all items)	
1	91363203	1	HOSE CARRIER	
2	88261030	8	SOCKET BUTTON HD CAPSCREW, 3/8-16X1-1/4	
3	88521306	8	LOCKNUT, 3/8-16	
4	88561004	15	WASHER, 3/8	
5	90027187	5	TY-RAP	
6	84718959	2	HOSE ASSY	
7	91083217	6	TUBE CLAMP	
8	88661085	4	BULKHEAD FITTING	
9	91163060	1	TUBE ASSY	
10	91163059	1	TUBE ASSY	
11	91163062	1	TUBE ASSY	
12	91163061	1	TUBE ASSY	
13	84718637	1	HOSE ASSY	
14	88551011	7	LOCKWASHER, 3/8	
15	88201032	3	HEX HD CAPSCREW, 3/8-16X5/8	
16	91566043	1	HOSE GUIDE BRACKET	
17	3423301	1	HOSE SHEAVE PIN	
18	91143024	1	HOSE SHEAVE	
19	91041451	2	THRUST WASHER	
20	14404793	AR	UNION 76, MEGA PLEX GREASE	
21	91041449	AR	THRUSTWASHER	
22	91041450	AR	THRUSTWASHER	
23	91041596	AR	THRUSTWASHER	
24	88201074	1	HEX HD CAPSCREW, 1/2-13X3-1/4, GR5	
25	88551013	1	LOCKWASHER, 1/2	
26	90207464	8	CUSHION CLAMP	
27	88561109	4	FLAT WASHER, 3/8	
28	84719018	2	HOSE ASSY	
29	84719455	2	HOSE ASSY	
30	91166068	2	HOSE TAKE-UP WELDMENT	
31	91123054	2	COMPRESSION SPRING	
32	91121134	2	SPRING RETAINER	
33	88501008	2	HEX NUT, 1/2-13	
34	88501108	2	JAM NUT, 1/2-13	
35	90027180	2	90, BULKHEAD FITTING	
36	84718943	1	HOSE ASSY	
37	91163138	1	MALE HYDRAULIC COUPLER	
38	91043126	1	DUST CAP	
39	91043321	2	STRAIGHT BULKHEAD FITTING	
40	88712304	2	PIPE BUSHING, 1/2x3/8	
41	91163139	1	FEMALE HYDRAULIC COUPLER	
42	91043125	1	DUST PLUG	
43	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
44	88551010	2	LOCKWASHER, 5/16	
45	88501005	1	HEX NUT, 5/16-18	
46	91126023	1	CABLE BRACKET WELDMENT	
47	88201036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
48	88501006	4	HEX NUT, 3/8	
49	88671001	1	LUBE FITTING, STRAIGHT 1/8	

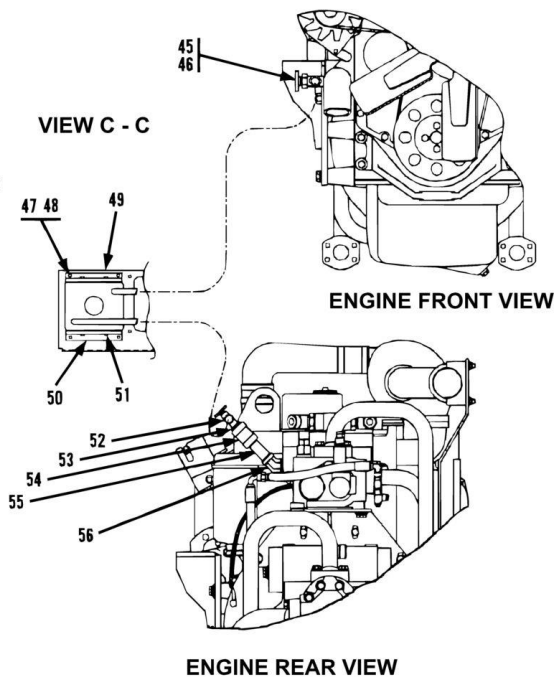
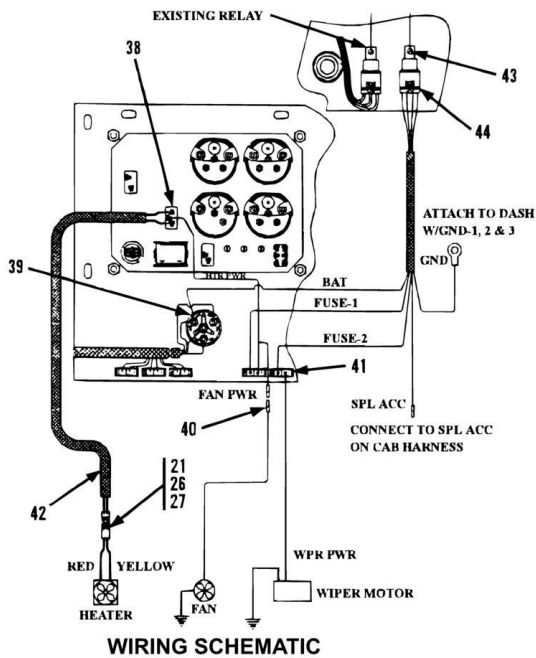
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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	88821002	1	YOKE END	
51	88633001	1	CLEVIS PIN	
52	88631302	1	COTTER PIN	
53	88501404	1	HEX JAM NUT, 1/4-28	
54	91163131	1	PUSH-PULL CABLE	
55	91123062	1	CABLE ADAPTER BONNET	
56	91163097	1	TUBE ASSY	
57	91163096	1	TUBE ASSY	
58	90207463	2	CUSHION CLAMP	
59	91033417	1	AUXILIARY CONTROL DECAL	
60	90200299	1	KNOB	
61	91126026	1	HANDLE WELDMENT	
62	91126025	1	LEVER BRACKET	
63	91126027	1	PIN WELDMENT	
64	91083136	2	BUSHING	
65	90028662	2	WAVE BEND WASHER	
66	91123022	1	90, ELBOW, LONG	
67	88662020	2	CONNECTOR, (includes item 68)	
68	88591207	2	O-RING	
69	84718686	1	HOSE ASSY	
70	84718685	1	HOSE ASSY	
71	88662106	1	ELBOW, 90, (swivel nut)	

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FIGURE 12-9. (91165050) CAB ENCLOSURE (Excluding 02550001)





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FIGURE 12-9. (91165050) CAB ENCLOSURE

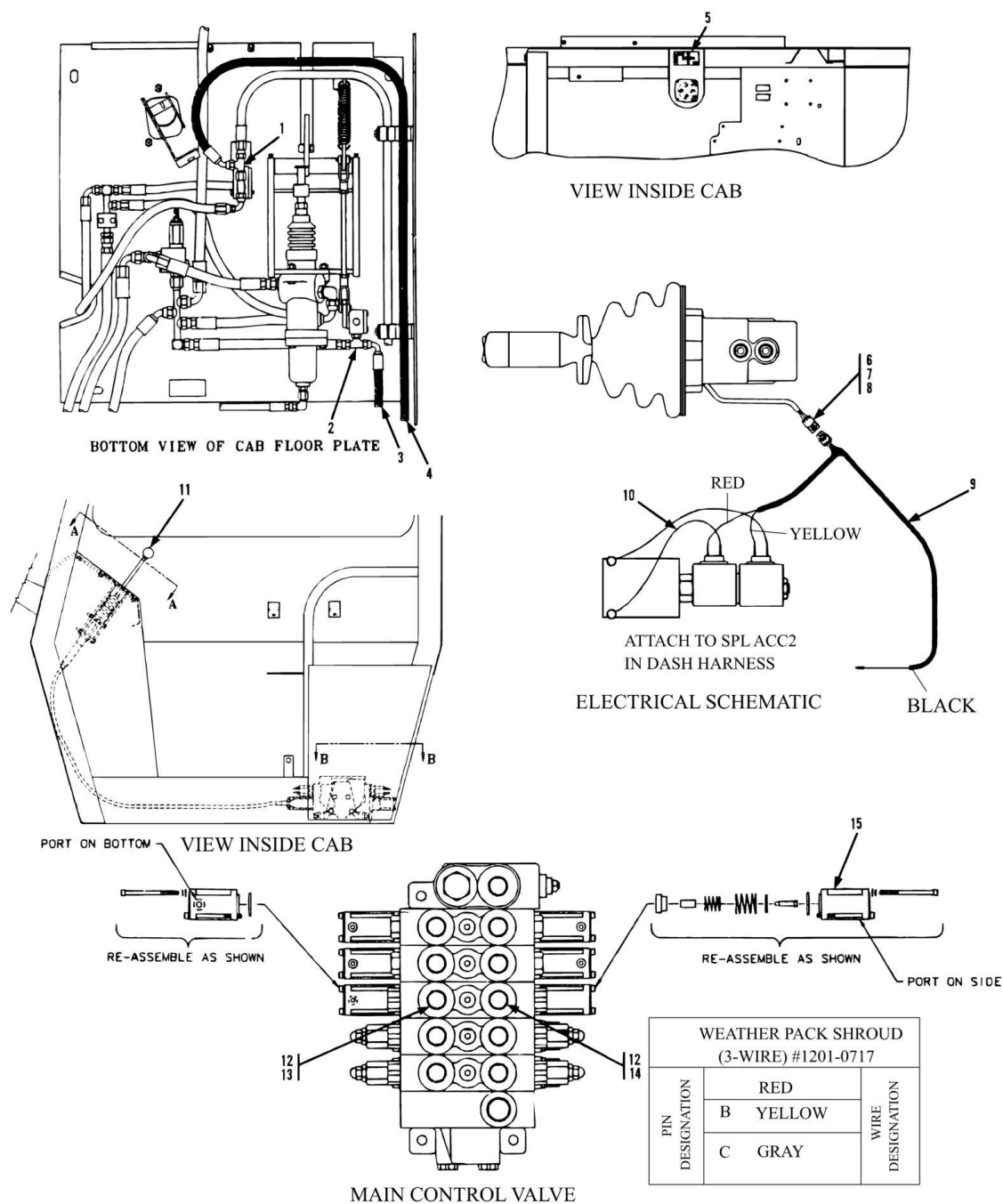
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165050	1	CAB ENCLOSURE (includes all items)	
1	91053559	3	INSULATION CAP	
2	91083378	1	INSULATION PANEL	
3	90029955	2	RUBBER GROMMET	
4	91081499	1	MOUNTING ANGLE	
5	90200680	1	DEFROSTER FAN	
6	88211030	4	HEX HD CAPSCREW, 5/16-18X3-1/2 GR5	
7	77143017	4	WHIZ-LOK NUT, #10-24	
8		Ref	TOP WINDOW (See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	
9	91143190	AR	GASKA-TAPE (12.2ft)	
10	14403190	AR	VULKEM CAULK	
11	90027319	43	SELF-TAPPING SCREW, 1/4-20X1	
12		Ref	DOOR SLIDING WINDOW (See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	
13	83661145	14 ft	WEATHER STRIP	
14	91086115	2	LEFT SIDE WINDOW FRAME	
15		Ref	LEFT SIDE WINDOW (See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	
16	88201001	5	HEX HD CAPSCREW, 1/4-20X1/2, GR5	
17	91081545	1	DOOR HOLDER	
18	77143016	9	ROUND HD MACHINE SCREW, #10-32X5/8	
19	77143017	9	HEX NUT, #10-32	
20	91143220	78 in	TRIM LOK	
21	80963058	1	SHROUD	
22	90206169	1	HEATER HOSE	
23	86683193	4	HOSE CLAMP	
24	90206170	1	HEATER HOSE	
25	91085057	1	CAB DOOR (includes 58 thru 63)	
26	80963069	1	MALE PIN TERMINAL	
27	80963067	2	CABLE SEAL	
29	88561107	5	WASHER, 1/4	
30	91083348	10 ft	CHANNEL MOULDING	
31	91083392	10 ft	RELEASE FILLER STRIP (locate release cord just below wiper motor with knot located at loose end of cord)	
32	91141332	1	FRONT WINDOW FRAME	
33		Ref	FRONT WINDOW (See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	
34	90206023	1	WIPER MOTOR	
35	90027214	2	BUTTON GROMMET	
36	91033464	1	WIND SHIELD WIPER ARM	
37	91033465	1	WIPER BLADE	
38	77383744	1	HEATER SWITCH	
39	86983188	1	RING TERMINAL	
40	86983193	1	MALE CONNECTOR	
41	77363268	2	15 AMP FUSE	
42	91123125	1	HEATER HARNESS	
43	88321029	1	SELF-TAPPING SCREW, 10-24X3/8	
44	91163183	1	CAB ENCLOSURE HARNESS	
45	77383540	1	ORIFICE	
46	91083155	1	TRUCK VALVE	

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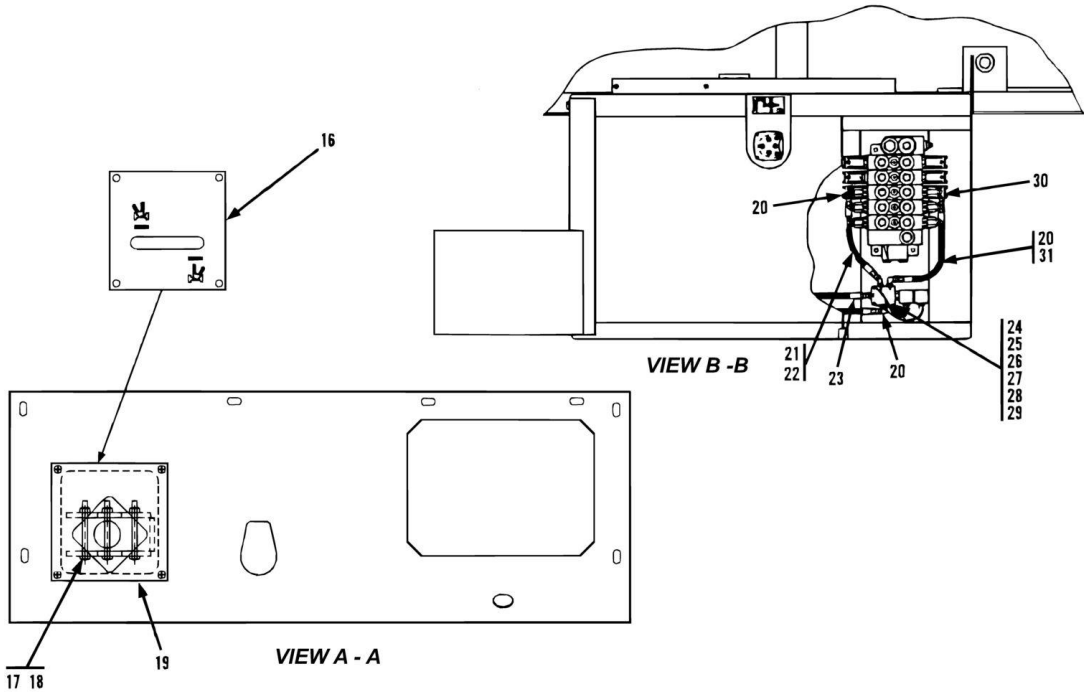
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	77143004	4	WHIZ-LOK SCREW	
48	77143006	4	WHIZ-LOK NUT	
49	91043429	1	HEATER	
50	91031521	2	HEATER MOUNTING BRACKET	
51	88201005	4	HEX HD CAPSCREW, 1/4-20X1, GR5	
52	24641328	1	SHUT-OFF VALVE	
53	88711383	1	PIPE BUSHING, 1/2X3/8	
54	88711213	1	COUPLING, 1/2	
55	88701070	1	PIPE NIPPLE, 1/2X2 1/2	
56	88712034	1	STREET ELBOW, 1/2X45	
57	91083376	1	EMERGENCY EXIT DECAL (not shown)(located on corner post of cab next to emergency release cord)	
58	90203840	1	PULL HANDLE (on inside of door)	
59	88321039	2	SELF TAPPING SCREW	
60	91083263	1	FLUSH LOCK	
61	88301070	4	RD HD MACHINE SCREW, #8-32X1/2IN	
62	88521604	4	LOCKNUT, #8-32	
63	88561104	4	FLAT WASHER, #8	
		Ref	ADDED ITEMS 58 THRU 63.	

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FIGURE 12-10. (91165116) TILT ON JOYSTICK



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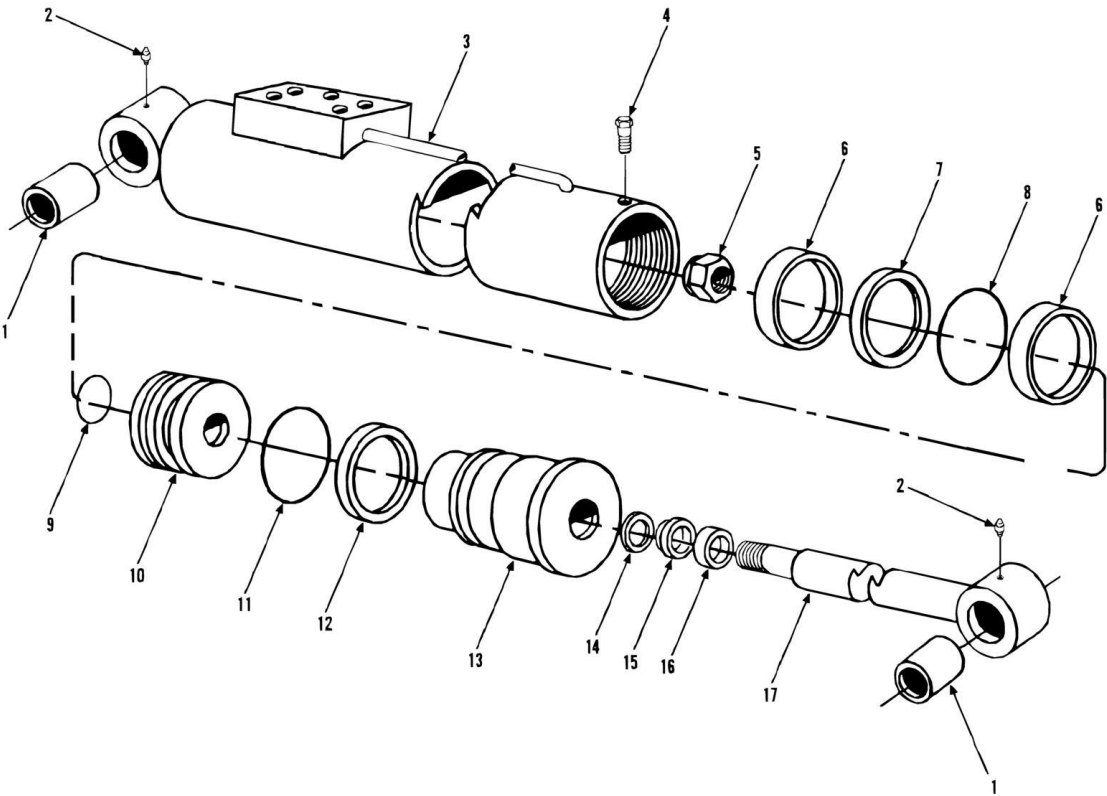
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FIGURE 12-10. (91165116) TILT ON JOYSTICK

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165116	1	TILT ON JOYSTICK (includes all items)	
1	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
2	88662139	1	RUN TEE (includes o-ring)	
2	88591204	1	O-RING	
3	84717893	1	HOSE ASSY	
4	84718846	1	HOSE ASSY	
5	91303041	1	BOOM CONTROL DECAL	
6	80963060	1	WEATHER PACK SHROUD	
7	80963069	3	W.P. MALE PIN TERMINAL	
8	91143187	3	W.P. CABLE SEAL	
9	91083490	1	JOYSTICK HARNESS	
10	90207719	2	JUMPER WIRE - GREEN	
11	91303019	1	REMOTE CONTROL VALVE	
12	91033487	2	CHECK VALVE PLATE	
13	91143147	1	ORIFICE PLATE (.095)	
14	91143146	1	ORIFICE PLATE (.109)	
15	91033483	1	VALVE POSITIONER KIT	
16	91123105	1	SWAY CONTROL PLATE	
17	88201012	3	HEX HD CAPSCREW, 1/4-20X2 3/4, GR5	
18	88521304	3	HEX LOCKNUT, 1/4-20	
19	91126040	1	L.H. SWAY BRACKET	
20	88662064	3	ELBOW, 90, (includes o-ring)	
20	88591204	3	O-RING	
21	88662084	1	ELBOW, 45, (includes o-ring)	
21	88591204	1	O-RING	
22	84718847	1	HOSE ASSY	
23	91085071	1	MODIFIED CONNECTOR	
24	91303038	1	SOLENOID VALVE	
25	91141331	1	SPACER	
26	88561107	2	FLAT WASHER, 1/4	
27	88201012	2	HEX HD CAPSCREW, 1/4-20X 2 3/4, GR5	
28	88551009	2	LOCKWASHER, 1/4	
29	88501004	2	HEX NUT, 1/4-20	
30	88662005	1	CONNECTOR (includes o-ring)	
30	88591204	1	O-RING	
31	77133201	1	HOSE ASSY	

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FIGURE 12-11. (91083471) SWAY CYLINDER



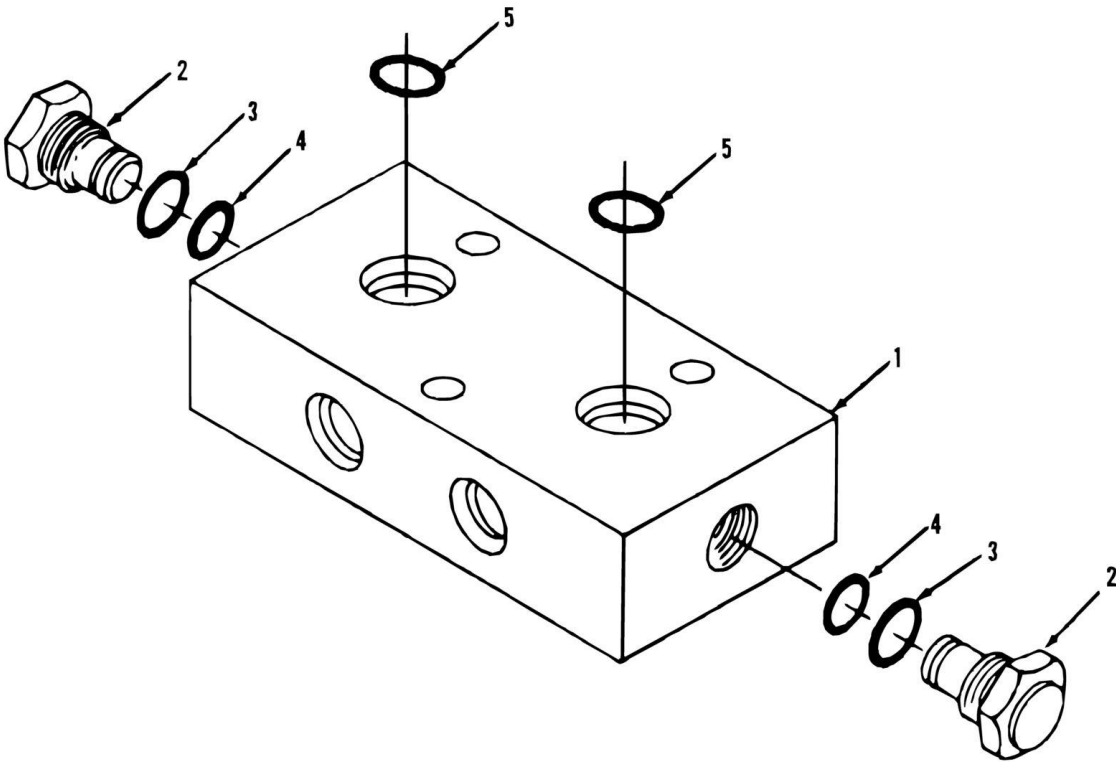
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FIGURE 12-11. (91083471) SWAY CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	9108-3471	1	SWAY CYLINDER ASSY, (includes all items)	
	9108-4308	Ref	SEAL KIT, (includes items 6 thru 9, 11, 12 & 14 thru 16)	
1	9106-4016	2	BUSHING	
2	9114-4128	2	GREASE FITTING	
3	9112-4083	1	CASE ASSEMBLY	
4	9114-4017	1	CAPSCREW, #8X32X.375	
5	9103-4156	1	LOCKNUT, (lubricate and torque to 350-400 ft lbs)	
6	Kit	2	WEAR RING	
7	Kit	1	PISTON SEAL	
8	Kit	1	O-RING	
9	Kit	1	O-RING	
10	9112-4084	1	PISTON	
11	Kit	1	O-RING	
12	Kit	1	BACK-UP RING	
13	9112-4085	1	CYLINDER HEAD	
14	Kit	1	STEP SEAL	
15	Kit	1	U-CUP	
16	Kit	1	WIPER	
17	9112-4086	1	ROD ASSEMBLY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-12. (91083262) DUAL P.O. CHECK VALVE



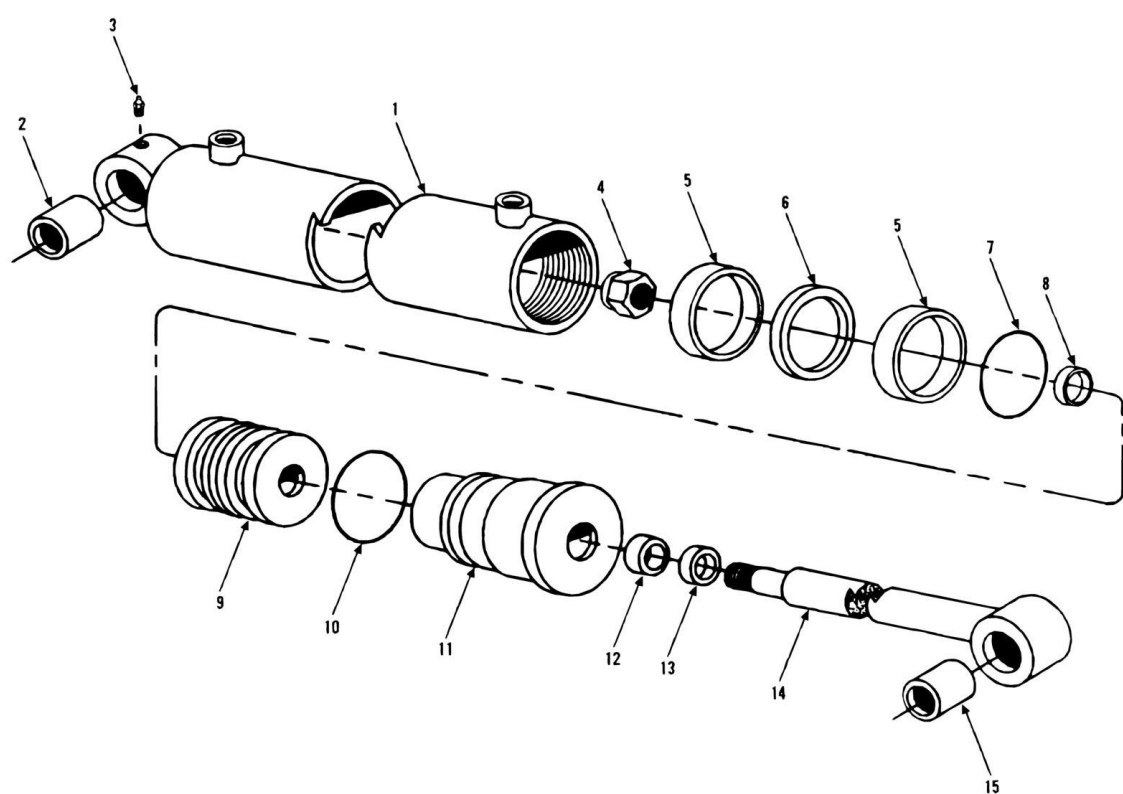
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FIGURE 12-12. (91083262) DUAL P.O. CHECK VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083262	1	DUAL P.O. CHECK VALVE ASSY (includes all items)	
	91044002	Ref	SEAL KIT (includes items 3 & 4)	
		Ref	BODY	
2	77133248	2	CHECK VALVE	
3	91084227	2	O-RING	
4	91084228	2	O-RING	
5	88591009	2	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-13. (91033366) SWING CYLINDER



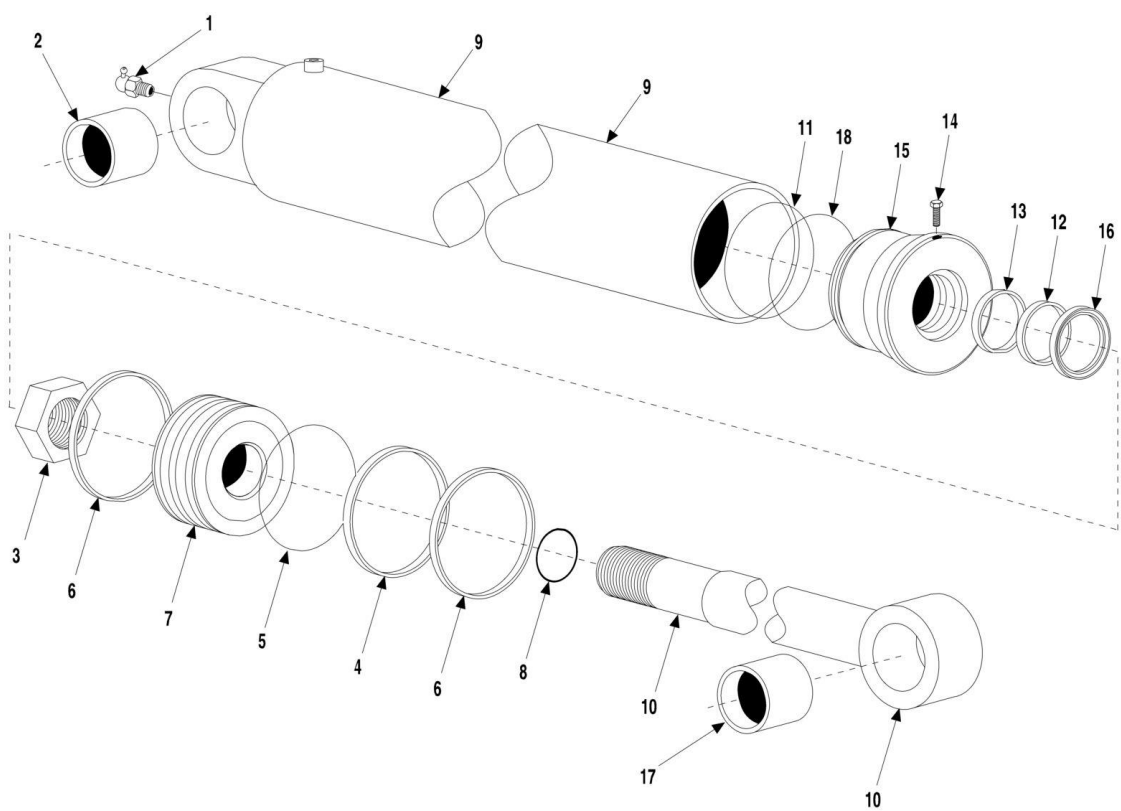
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FIGURE 12-13. (91033366) SWING CYLINDER

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 lbs)	
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 12-14. (90453034) SWING CYLINDER ASSEMBLY



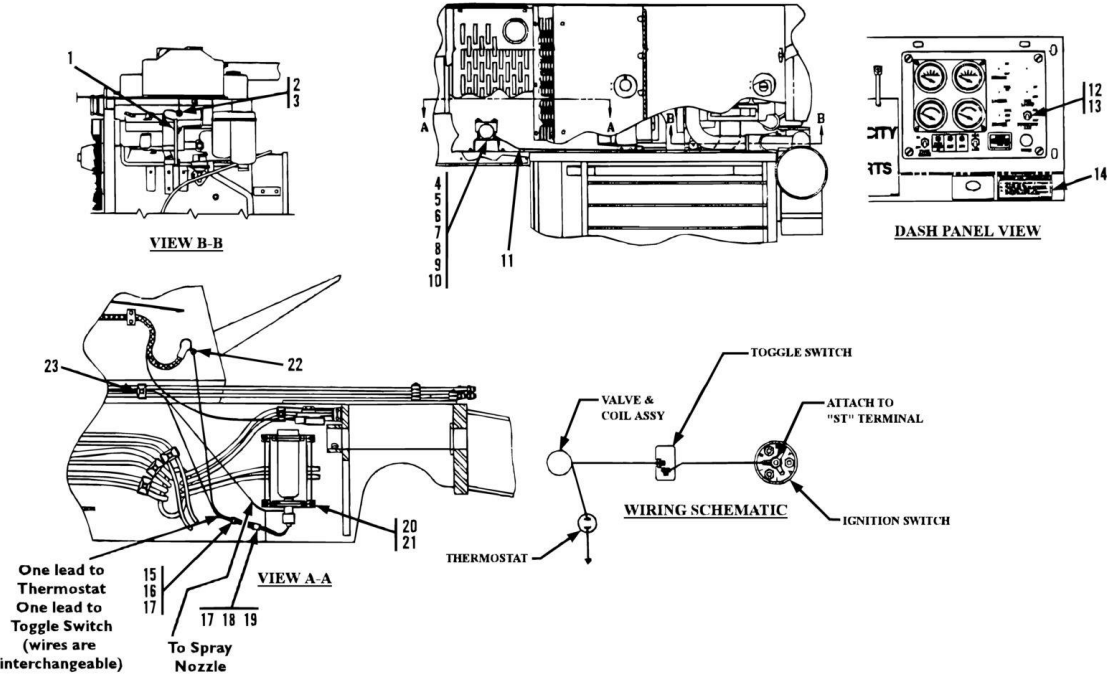
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-14. (90453034) SWING CYLINDER ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90453034	1	SWING CYLINDER, (includes all items)	
	91144006	1	SEAL KIT, (includes items 4 thru 6, 8, 11 thru 13, 16 & 18)	
1	91144125	1	GREASE FITTING	
2	91034157	1	BUSHING	
3	91144038	1	LOCKNUT	
4	91164020	1	PISTON SEAL	
5	91164021	1	O-RING	
6	91164019	2	WEAR RING	
7	91144039	1	PISTON	
8	91164022	1	O-RING	
9	91034435	1	BARREL	
10	91034436	1	PISTON ROD	
11	91164024	1	BACK-UP RING	
12	91204468	1	U-CUP	
13	91164025	1	STEP SEAL	
14	91124096	1	SELF TAPPING SCREW	
15	91144040	1	CYLINDER HEAD	
16	91204469	1	WIPER	
17	91124087	1	BUSHING	
18	91034437	1	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-15. (91165028) ETHER START



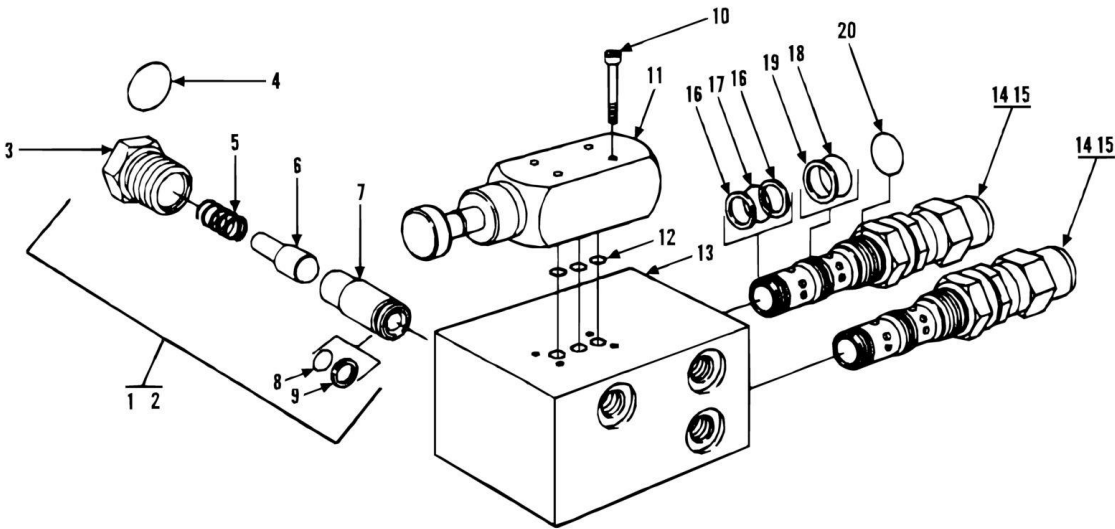
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-15. (91165028) ETHER START

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91165028	1	ETHER START OPTION (includes all items except item 20)	
1	86983202	1	WIRE CONNECTOR	
2	86983195	2	WIRE CONNECTOR	
3	88711385	1	PIPE BUSHING, 1/2X1/8	
4	91083361	1	QUICK START KIT (includes all wire and nylon tubes needed for installation)	
5	91161283	1	MOUNTING BRACKET	
6	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
7	88551009	2	LOCKWASHER, 1/4	
8	88501004	2	HEX NUT, 1/4-20	
9	90206198	15 in	TRIM-LOK	
10	14402248	AR	3M ADHESIVE	
11	90027187	4	TY-RAP	
12	91143163	1	TOGGLE SWITCH	
13	77383470	1	BOOT	
14	91143202	1	INSTRUCTION DECAL	
15	80963057	1	TOWER CONNECTOR, 2-WAY	
16	80963068	2	FEMALE PIN TERMINAL	
17	80963065	4	CABLE SEAL	
18	80963069	2	MALE PIN TERMINAL	
19	80963058	1	SHROUD CONNECTOR, 2-WAY	
20	80963102	4	WELD STUD, 5/16-18X3/4	
21	77143006	4	WHIZ-LOK NUT, 5/16-18	
22	77163117	1	RUBBER GROMMET	
23	86621230	2	SUPPORT CLAMP	

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FIGURE 12-16. (90553016) SWING VALVE ASSEMBLY



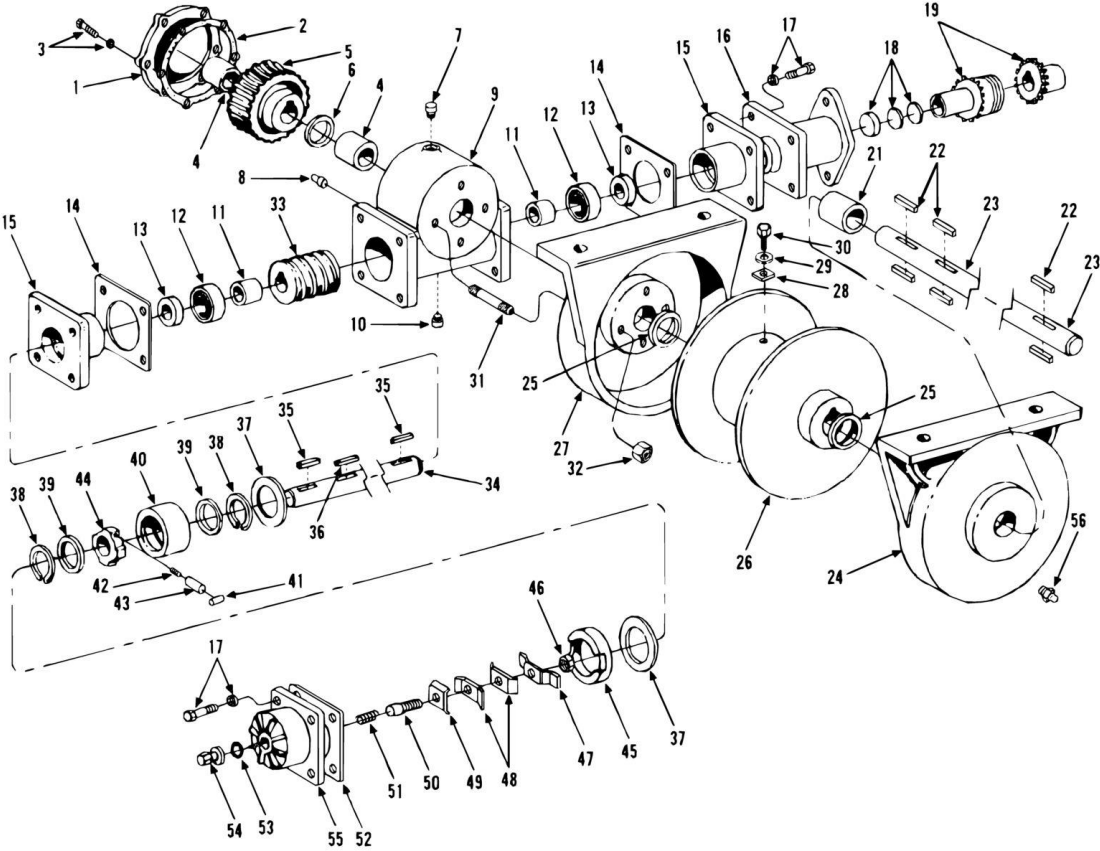
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-16. (90553016) SWING VALVE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90553016	2	SWING VALVE ASSY (includes all items except seal kits)	
	91044303	1	SWING VALVE SEAL KIT (includes quantity of (1) Seal Kit, item 2, quantity of (3) O-Rings, item 12, quantity of (2) Seal Kits, item 15)	
1	91044284	1	CHECK VALVE ASSY (includes items 3 thru 9)	
2	91044002	AR	CHECK VALVE SEAL KIT (includes items 4, 8 & 9)	
3		Ref	RETAINER	
4	Kit	1	O-RING	
5		Ref	SPRING	
6		Ref	BALL AND SPRING GUIDE ASSY	
7		Ref	CAGE	
8	Kit	1	O-RING	
9	Kit	1	BACK-UP WASHER	
10	88211034	4	SOCKET HD CAPSCREW, #10-24X1/2, GR8	
11	90553014	1	PILOT VALVE	
12	Kit	3	O-RING	
13		Ref	VALVE BODY	
14	91044301	2	COUNTERBALANCE VALVE ASSY (includes items 16 thru 20)	
15	91044302	AR	COUNTERBALANCE VALVE SEAL KIT (include items 16 thru 20)	
16	Kit	2	BACK-UP WASHER	
17	Kit	1	O-RING	
18	Kit	1	O-RING	
19	Kit	1	BACK-UP WASHER	
20	Kit	1	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-17. (90453050) TRUSS BOOM WINCH



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FIGURE 12-17. (90453050) TRUSS BOOM WINCH

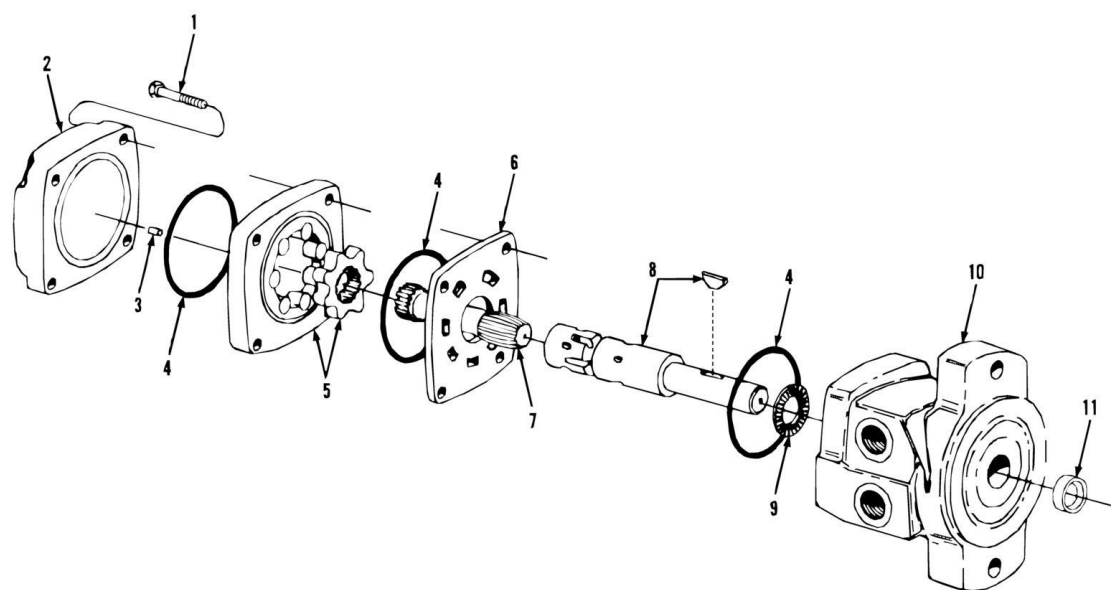
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90453050	1	TRUSS BOOM WINCH (includes all items)	
1	90208147	1	GEAR CASE COVER	
2	90208171	1	GEAR CASE GASKET	
3	88201035	6	HEX HD CAPSCREW, 3/8-16X1, GR5	
3	88551011	6	LOCKWASHER, 3/8	
4	90208154	2	BUSHING	
5	90208150	1	WORM GEAR	
6	90208174	1	BUSHING	
7	90208168	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	12	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
17	88551011	8	LOCKWASHER, 3/8	
18	90208187	AR	COUPLER SPACER	
19	90208181	1	COUPLER WINCH 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 HOUSING	
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	90208146	1	BRAKE DRUM	
56	88671001	1	LUBE FITTING, STRAIGHT, 1/8	

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FIGURE 12-18. (90207879) WINCH MOTOR



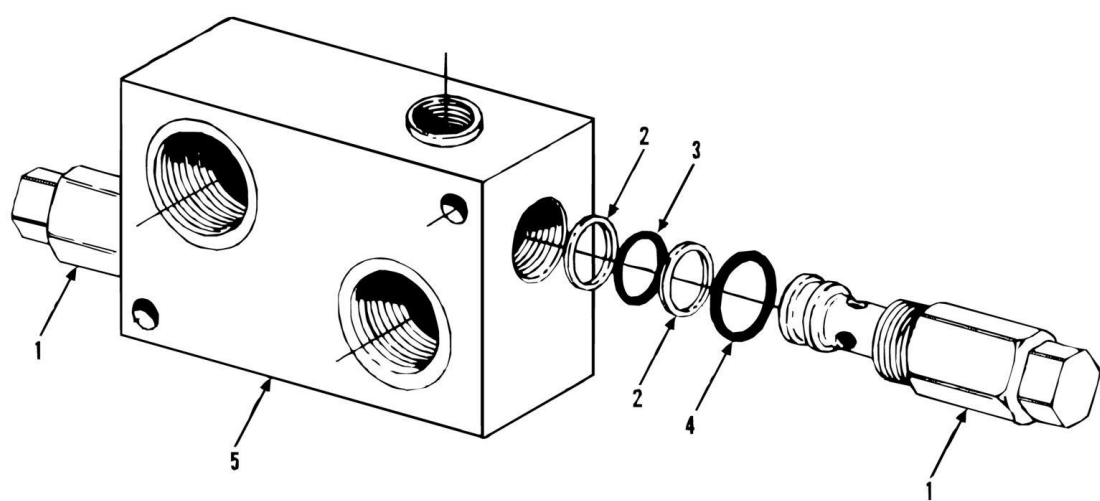
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FIGURE 12-18. (90207879) WINCH MOTOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90207879	1	WINCH MOTOR (includes all items)	
	90208212	1	SHAFT SEAL KIT (includes items 4 & 11)	
1	83201057	4	HEX HD CAPSCREW, 3/8-16X2, GR8	
2	90208203	1	END COVER	
3	90208204	1	PIN	
4	Kit	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	Kit	1	SHAFT SEAL	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-19. (90602706) CROSSOVER VALVE



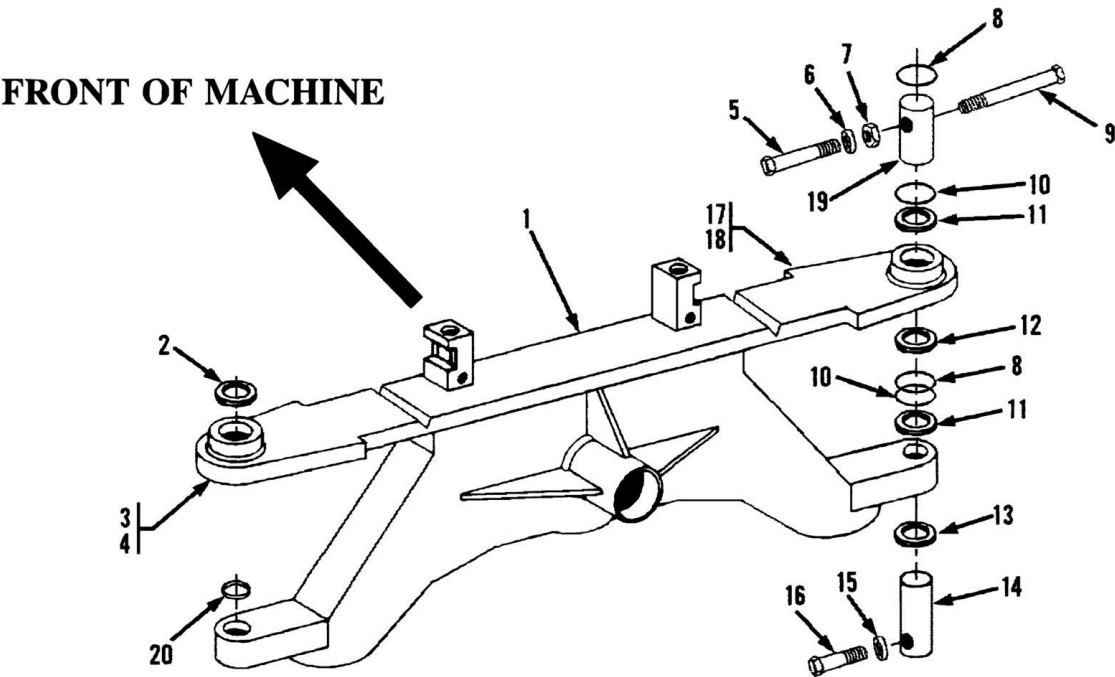
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FIGURE 12-19. (90602706) CROSSOVER VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90602706	1	CROSSOVER RELIEF VALVE (includes all items)	
1	90203440	2	RELIEF CARTRIDGE (includes items 2 thru 4)	
2	90203437	4	BACKUP RING (2/cartridge)	
3	90203438	2	O-RING (1/cartridge)	
4	90203439	2	O-RING (1/cartridge)	
5		Ref	BODY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-20. (91145136) REAR AXLE REWORK KIT FOR SERVICE ONLY



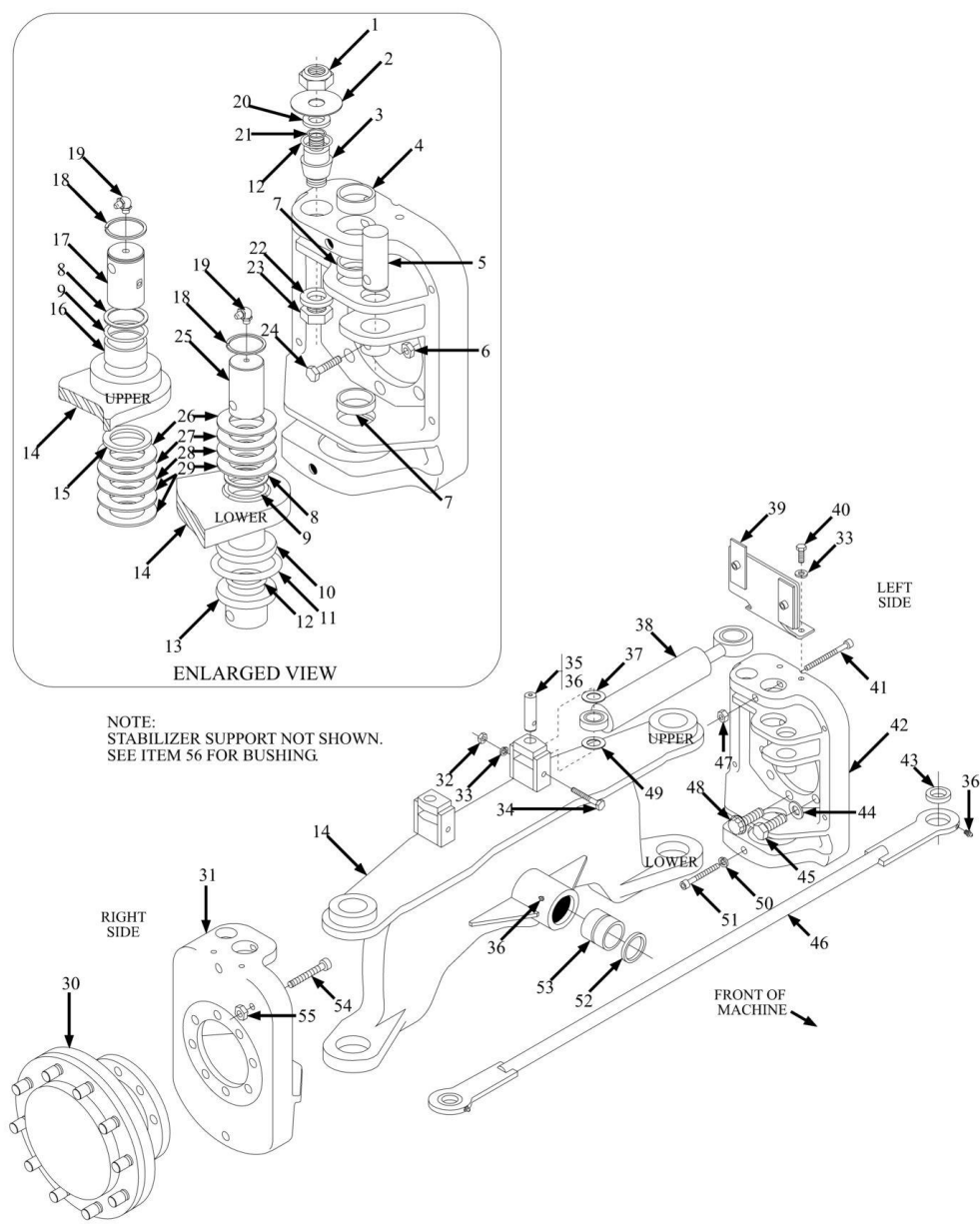
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FIGURE 12-20. (91145136) REAR AXLE REWORK KIT FOR SERVICE ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145136	1	REAR AXLE REWORK KIT (includes all items)	
1		Ref	REAR AXLE WELDMENT	
2	91123028	2	BUSHING	
3	91145134	1	LUG REWORK ASSY (includes items 2 & 4)	
4	91146111	1	LUG WELD	
5	88211117	2	SOCKET HEAD CAPSCREW, 1/2-13x4-1/2,GR8	
6	88551109	2	LOCKWASHER, 1/2	
7	88521208	2	HEX LOCKNUT, 1/2	
8	88581323	4	RETAINING RING	
9	88211121	2	SOCKET HEAD CAPSCREW, 1/2-13x6-1/2, GR8	
10	91123030	4	BACK-UP RING	
11	88591032	2	O-RING	
12	86921268	2	LIP SEAL	
13	91123029	2	O-RING	
14	91141424	2	LOWER KING PIN	
15	88551153	2	LOCKWASHER, 5/8	
16	88212321	2	SOCKET HEAD CAPSCREW, 5/8-11X3-3/4, GR8	
17	91145135	1	LUG REWORK ASSY (includes items 2 & 18)	
18	91146112	1	LUG WELD	
19	91081693	2	UPPER KING PIN	
20	91123027	2	BUSHING	

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FIGURE 12-21. (91145042) REAR AXLE ADVANTAGE KIT FOR SERVICE ONLY



NOTE:
STABILIZER SUPPORT NOT SHOWN.
SEE ITEM 56 FOR BUSHING.

NOTE #1: Customer to use existing wheel hubs & hardware, drive motors, drive tube assemblies, and drain line hoses or order separately if replacement is required.

NOTE #2: Cylinder base must be free to rotate. Shim steer cylinder base end as required to maintain a total max. gap of 1/16".

NOTE #3: Shim bottom knuckles as required to maintain no more than 1/32" movement. Shimtop knuckles as required to maintain no more than 1/16" gap. Must have a minimum of one shim.

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FIGURE 12-21. (91145042) REAR AXLE ADVANTAGE KIT FOR SERVICE ONLY

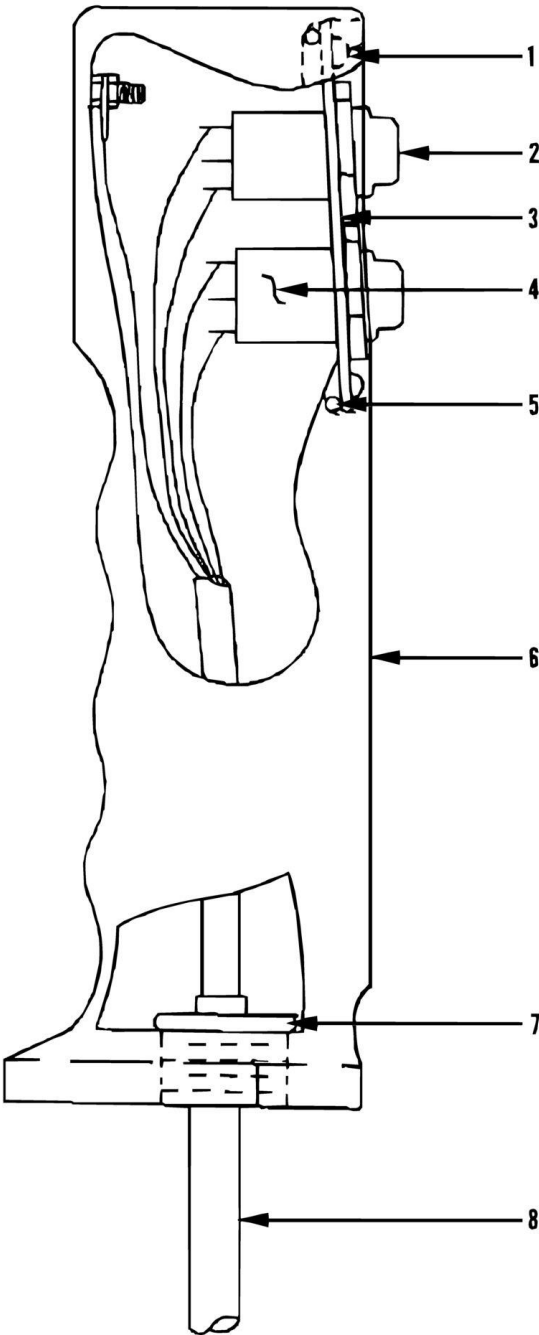
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145042	Ref	REAR AXLE ADVANTAGE KIT (includes all items except 30, 44, 45 & 48)	
1	88521312	2	HEX LOCKNUT, 3/4-10 (torque to 160-175 ft lbs)	
2	91081415	2	DIRT SHIELD	
3	91041481	2	STEERING CYLINDER PIN (knuckle end)	
4	91121239	2	BUSHING	
5	91041439	2	TIE ROD PIN	
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	91166013	1	REAR AXLE WELDMENT (includes items 10, 16, 53 & 56)	
15	86921268	2	LIP SEAL	
16	91123028	2	BUSHING (upper)	
17	91081693	2	UPPER KING PIN	
18	88581323	4	RETAINING RING	
19	88671022	4	LUBE FITTING, 30, 1/8	
20	91041732	AR	SPACER	
21	88591019	2	O-RING	
22	91041459	2	WASHER	
23	88501416	2	HEX JAM NUT, 1-14 (torque to 225-250 ft lbs)	
24	83201140	2	HEX HD CAPSCREW, 3/8-16X2-3/4, GR8	
25	91141424	2	LOWER KING PIN	
26	91041596	AR	SHIM (20 gauge, see note #3)	
27	91041449	AR	SHIM (.060 thick, see note #3)	
28	91041450	AR	SHIM (.0478 thick, see note #3)	
29	91041451	AR	SHIM (.106 thick, see note #3)	
30		Ref	DRIVE HUB (use existing hubs, See CHASSIS AND ATTACHING PARTS SECTION AND DRIVE TRAIN SECTION for Breakdown)	
31	91120004	1	R.H. STEERING KNUCKLE	
32	88501006	2	HEX NUT, 3/8-16	
33	88551011	6	LOCKWASHER, 3/8	
34	83201144	2	HEX HD CAPSCREW, 3/8-16X5-3/4, GR5	
35	91081695	2	STEERING CYLINDER PIVOT PIN (axle end)	
36	88671001	6	LUBE FITTING, STRAIGHT, 1/8	
37	91041598	AR	SHIM (.060 thick, see note #2)	
38		Ref	STEERING CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
39	91166056	1	L.H. TUBE SUPPORT	
39	91166055	1	R.H. TUBE SUPPORT	
40	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
41	88211121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8	
42	91120003	1	L.H. STEERING KNUCKLE	
43	91043247	2	SELF-ALIGNING BUSHING	
44		Ref	HARDENED WASHER, 3/4 (use existing hardware, See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45		Ref	HEX HD CAPSCREW, 3/4-10X2 (use existing hardware, See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	
46	91166063	1	TIE ROD (includes item 43)	
47	88521208	2	HEX LOCKNUT, 1/2	
48		Ref	CAPSCREW 12 PT, 3/4-10X2, GR8 (use existing hardware, See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	
49	90201918	AR	SHIM (10 gauge, see note #2)	
50	88551153	2	LOCKWASHER, 5/8	
51	88212321	2	SLOT HD CAPSCREW, 5/8-11X3-3/4, GR8	
52	24601570	2	LIP SEAL	
53	91123031	2	BUSHING	
54	88212321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
55	88501110	2	HEAVY HEX JAM NUT, 5/8-11	
56	91163019	2	BUSHING (stabilizer support, not shown)	

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FIGURE 12-22. (91033387) 5-BUTTON HANDLE



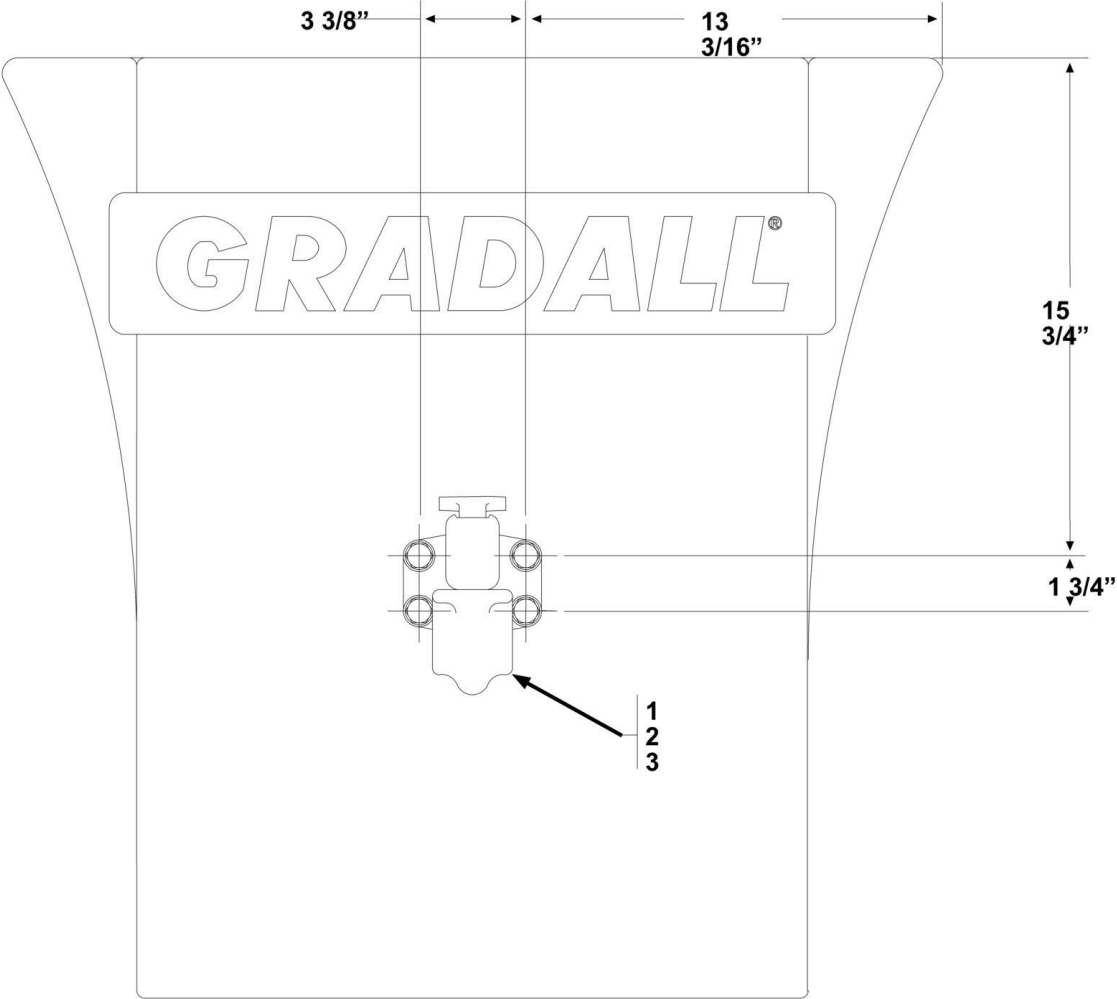
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FIGURE 12-22. (91033387) 5-BUTTON HANDLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033387	1	5-BUTTON HANDLE (includes all items)	
1	91364015	3	FACE PLATE SCREW	
2	91364016	5	PUSH BUTTON BOOT	
3	91364017	1	FACE PLATE	
4	91364018	5	PUSH BUTTON SWITCH	
5	91364019	1	FACE PLATE GASKET	
6	91364020	1	HOUSING	
7	91364021	1	CABLE STOP	
8	91364022	1	CABLE (2.75 ft)	

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FIGURE 12-23. (91035101) PINTLE HOOK



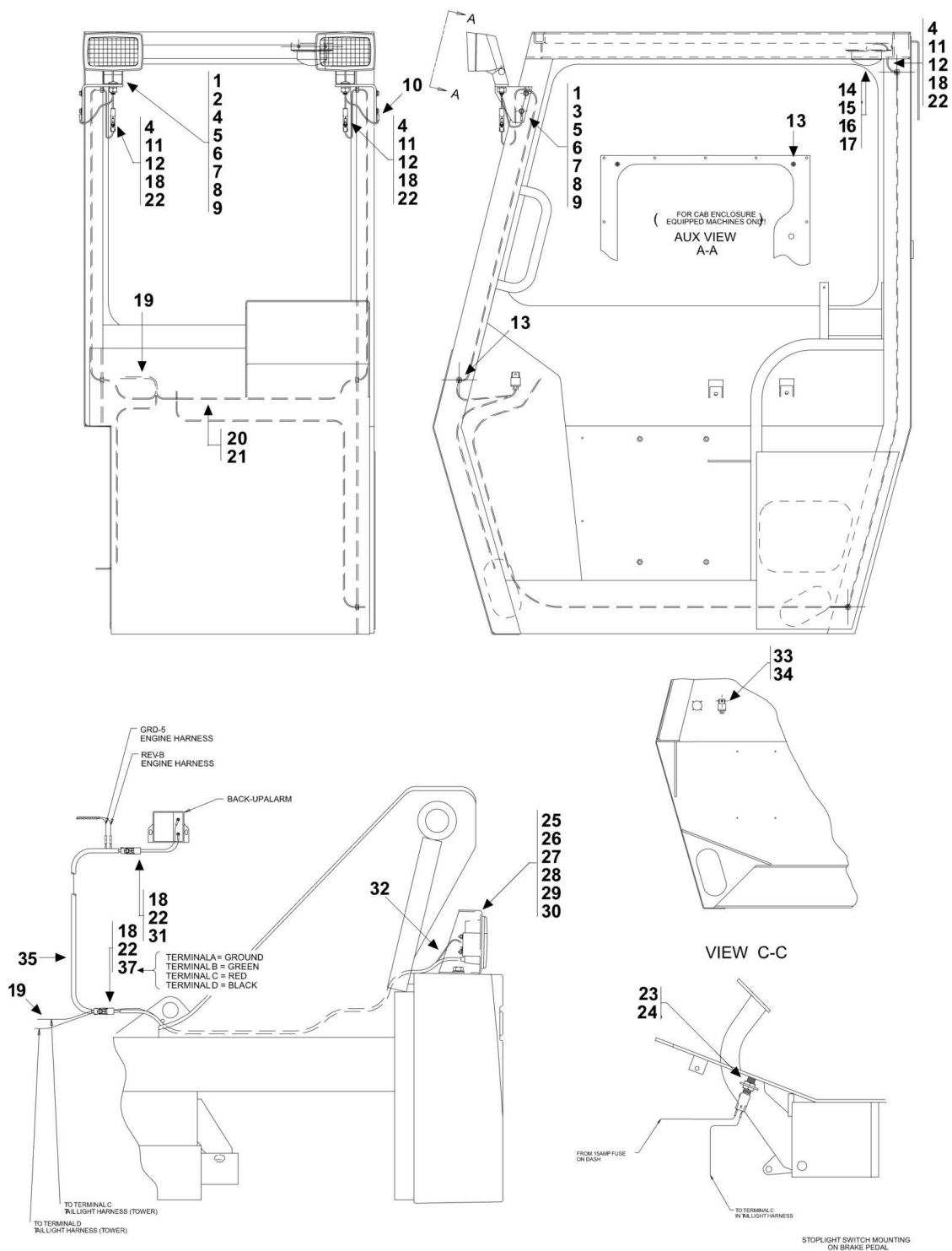
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FIGURE 12-23. (91035101) PINTLE HOOK

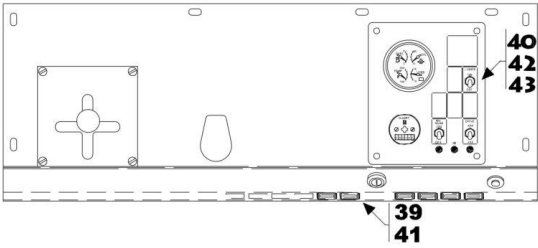
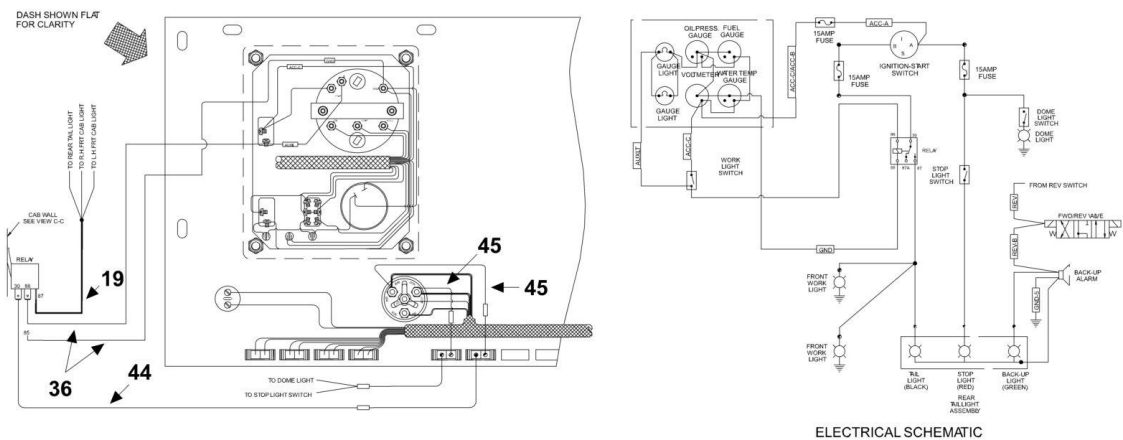
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035101	1	PINTLE HOOK INSTALLATION (includes all items)	
1	90200602	1	PINTLE HOOK	
2	83201120	4	HEX HD CAPSCREW, 1-3/4 x1/2-13, GR8	
3	88551013	4	LOCKWASHER #2	

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FIGURE 12-24. (91145098) WORK LIGHT PACKAGE (SN 0255016 to Present)



SECTION 12 - OPTIONAL EQUIPMENT



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-24. (91145098) WORK LIGHT PACKAGE (SN 0255016 to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145098	1	WORK LIGHT PACKAGE, (includes all items)	
1	80963050	2	UTILITY FLOOD LIGHT	
2	91141182	1	R.H. LIGHT SUPPORT	
3	91141183	1	L.H. LIGHT SUPPORT	
4	80963055	4	W PACK CONNECTOR, (tower)	
5	88201035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
6	88561109	2	FLATWASHER, 3/8	
7	88551011	2	LOCKWASHER, 3/8	
8	88501006	2	HEX NUT, 3/8-16	
9	90027319	4	DR AND TAP SCREW, 1/4-20X1	
10	86883260	2	EYELET	
11	80963056	3	W PACK CONNECTOR, (shroud)	
12	80963068	3	W PACK CONNECTOR, (female pin)	
13	90027214	8	RUBBER GROMMET	
14	91011009	1	MOUNTING BRACKET	
15	90029955	1	RUBBER GROMMET	
16	88321022	2	SELF TAPPING SCREW, #8-32X3/8	
17	24861167	1	INTERIOR LIGHT	
18	80963069	9	W PACK CONNECTOR, (male pin)	
19	91143270	1	LIGHT HARNESS	
20	86683122	6	TIE WRAP	
21	91053419	19	TIE WRAP	
22	80963066	12	W PACK CONNECTOR, (cable seal)	
23	91141197	1	MOUNTING TAB	
24	91143117	1	STOPLIGHT SWITCH	
25	91121145	1	TAIL LIGHT HOUSING	
26	91121146	1	TAIL LIGHT BRACKET	
27	91365045	1	TAIL LIGHT ASSEMBLY, (includes the following seven items)	
27	91123065	1	TAIL LIGHT	
27	86661147	38 in	WIRE, 16 GAUGE, (black)	
27	86661149	38 in	WIRE, 16 GAUGE, (green)	
27	86661152	38 in	WIRE, 16 GAUGE, (red)	
27	86683480	3	BUTT CONNECTOR	
27	82033996	45 in	WIRE LOOM	
27	86683122	2	TIE WRAP	
28	88201108	1	HEX HD CAPSCREW, 3/4-10X1-1/4, GR5	
29	88561115	1	FLAT WASHER, 3/4	
30	88551016	1	LOCKWASHER, 3/4	
31	80963058	1	W PACK CONNECTOR, (shroud)	
32	91141364	1	JUMPER WIRE	
33	77383410	1	RELAY	
34	88321039	1	SELF TAPPING SCREW, #10-32X1/2	
35	91143210	1	TAIL LIGHT HARNESS	
36	91141265	2	JUMPER WIRE	
37	80963062	1	W PACK CONNECTOR, (shroud)	
38		Ref	WIRE LOOM, (use on all wires)	
39	77363268	2	FUSE, 15 AMP	
40	77383467	1	LIGHT SWITCH	
41	91143108	2	FUSE HOLDER	
42	77383470	1	BOOT	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	91363009	1	LIGHTS ON/OFF DECAL	
44	91141266	1	JUMPER WIRE	
45	91141259	2	JUMPER WIRE	

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An Oshkosh Corporation Company

Corporate Office
JLG Industries, Inc.
1 JLG Drive
McConnellsburg PA. 17233-9533
USA

☎ (717) 485-5161

📠 (717) 485-6417

JLG Worldwide Locations

JLG Industries (Australia)
P.O. Box 5119
11 Bolwarra Road
Port Macquarie
N.S.W. 2444
Australia

☎ +61 2 65 811111

📠 +61 2 65 813058

JLG Latino Americana Ltda.
Rua Eng. Carlos Stevenson,
80-Suite 71
13092-310 Cam inas-SP
Brazil

☎ +55 19 3295 0407

📠 +55 19 3295 1025

JLG Industries (UK) Ltd
Bentley House
Bentley Avenue
Middleton
Greater Manchester
M24 2GP - England

☎ +44 (0)161 654 1000

📠 +44 (0)161 654 1001

JLG France SAS
Z.I. de Baulieu
47400 Fauillet
France

☎ +33 (0)5 53 88 31 70

📠 +33 (0)5 53 88 31 79

JLG Deutschland GmbH
Max-Planck-Str. 21
D - 27721 Ritterhude - Ihlpohl
Germany

☎ +49 (0)421 69 350 20

📠 +49 (0)421 69 350 45

JLG Equipment Services Ltd.
Rm 1107 Landmark North
39 Lung Sum Avenue
Sheung Shui N. T.
Hong Kong

☎ (852) 2639 5783

📠 (852) 2639 5797

JLG Industries (Italia) s.r.l.
Via Po. 22
20010 Pregnana Milanese - MI
Italy

☎ +39 029 359 5210

📠 +39 029 359 5845

Oshkosh-JLG Singapore
Technology Equipment Pte Ltd
29 Tuas Ave 4,
Jurong Industrial Estate
Singapore, 639379

☎ +65-6591 9030

📠 +65-6591 9031

Oshkosh-JLG (Tianjin) Equipment
Technology, Ltd
Pudong Kerry Parkside
Room 3705
1155 Fang Dian Road
Pudong, Shanghai 201204
China

☎ +0086 21 60311575

📠 +0086 21 60311599

Plataformas Elevadoras
JLG Iberica, S.L.
Trapadella, 2
P.I. Castellbisbal Sur
08755 Castellbisbal, Barcelona
Spain

☎ +34 93 772 4700

📠 +34 93 771 1762

JLG Sverige AB
Enkopingsvagen 150
Box 704
SE - 176 27 Jarfalla
Sweden

☎ +46 (0)850 659 500

📠 +46 (0)850 659 534

www.jlg.com