

GRADALL®

Illustrated Parts Manual

Models
522D LoPro
524D LoPro

SN 0191001

P/N - 9148-4013

Revised July 6, 2007



JLG®

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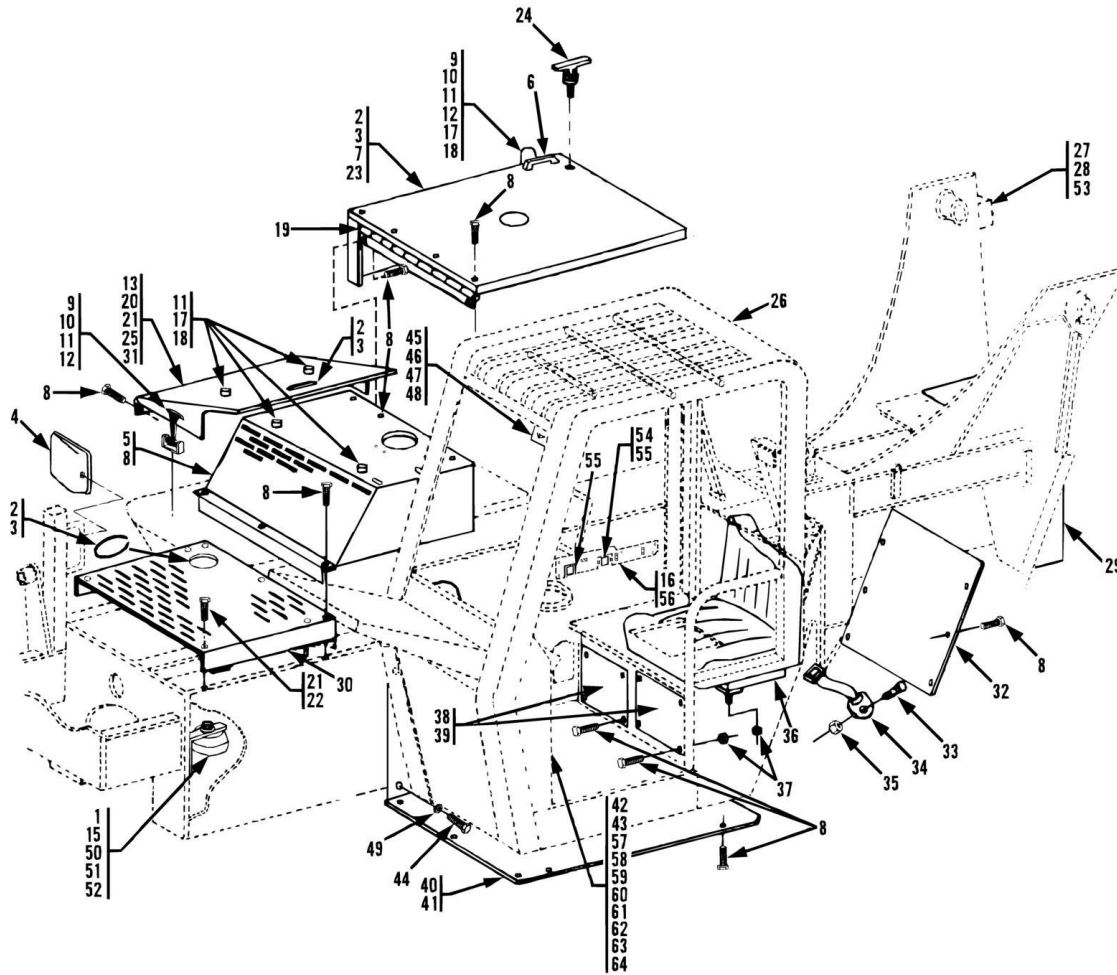
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FIGURE 1-1. FRAME SHROUDING AND TRIM



SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-1. FRAME SHROUDING AND TRIM

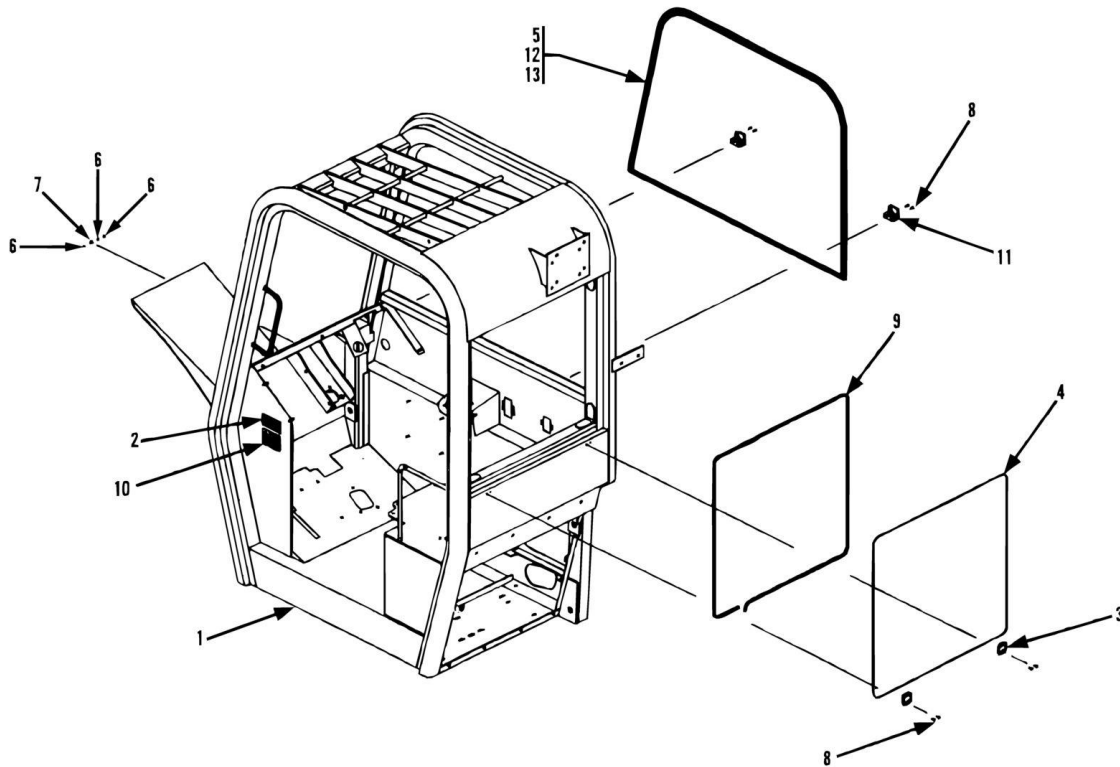
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91486001	Ref	FRAME WELDMENT	
1	88201016	1	HEX HD CAPSCREW, 5/16-18x1/2, GR5	
2	90206196	64 in	TRIM-LOK, (pre-packaged in 25ft lengths)	
3		Ref	ADHESIVE	
4	83683291	1	MIRROR	
5	91486006	1	RADIATOR COVER	
6	91123172	1	GRAB HANDLE	
7	90200755	24 in	WEATHERSTRIP, (pre-packaged in 35ft rolls)	
8	77143003	45	WHIZ LOCK SCREW, 5/16-18X5/8	
9	90207458	3	DRAW LATCH	
10	88301193	12	ROUND HEAD MACHINE SCREW, #10-32X1/2	
11	88551007	17	LOCKWASHER, #10	
12	88501613	6	HEX NUT, #10-32	
13	91086175	1	TANK COVER	
14	91363065	1	HOSE GUARD, (located under dash panel, beneath steering column, not shown)	
15	88551010	1	LOCKWASHER, 5/16	
16	77143006	7	WHIZ LOCKNUT, 5/16-18, (use 2 with item 14, not shown)	
17	91083173	5	RUBBER HD SCREW BUMPER	
18	88501612	5	HEX NUT, #10-24	
19	91141218	1	HINGE	
20	88521604	2	HEX LOCKNUT, #8-32	
21	88561003	9	FLAT WASHER, 5/16	
22	91123124	4	WHIZ LOCK SCREW, 5/16-18X1/2	
23	91481016	1	ENGINE COVER	
24	91303021	1	T-HANDLE	
25	88301073	2	RD HD MACHINE SCREW, #8-32X3/4	
26		Ref	OPEN CAB ASSEMBLY, (see OPEN CAB for Breakdown)	
27	91403574	1	BACK-UP ALARM	
28	88201016	2	HEX HD CAPSCREW, 5/16-18x1/2, GR5	
29	91083289	1	COUNTER WEIGHT PLATE	
30	91486007	1	DECK COVER	
31	85211088	2	RUBBER BUMPER	
32	91141436	1	REAR CAB COVER	
33	88201050	2	HEX HD CAPSCREW, 7/16-14X1, GR5	
34	91033029	1	SEAT BELT, (not used with optional seat)	
35	88501007	2	HEX NUT, 7/16-14	
36	91033485	1	SEAT W/ARMREST, (std)	
36	91124107	1	SLIDE ADJ KIT, (used with std seat)	
36	91043237	1	GRAMMER SEAT, (opt)	
36	88201020	4	HEX HD CAPSCREW, 5/16-18X1, GR5, (use with opt seat)	
37	77143006	8	WHIZ LOCK NUT, 5/16-18	
38	91081475	1	HEATER COVER PLATE	
39	91141329	1	VALVE ACCESS COVER	
40	91361005	1	BELLY PAN	
41	91083533	10	FENDER WASHER, 1-1/2, O.D.	
42	91403230	1	MANUAL CASE	
43	77143013	4	WHIZ LOCK NUT, 1/4-20	
44	83201158	4	HEX HD CAPSCREW, 7/8-9X1-3/4, (torque to 450-475 ft lbs)	
45	91033320	1	TILT GAGE	

SECTION 1 - CHASSIS AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	88204912	1	HEX HD CAPSCREW, 1/4-20X1, GR5	
47	88561107	1	FLAT WASHER, 1/4	
48	88521204	1	HEX LOCKNUT, 1/4-20	
49	77383118	4	HARDENED WASHER, 7/8	
50	91143357	1	HORN, (includes items 51 & 52)	
51	91144439	1	HORN BRACKET	
52		Ref	NUT	
53	86683122	1	TIE STRAP	
54	91146081	1	DIP-STICK COVER	
55	88261014	4	SOCKET BUTTON HD CAPSCREW, 1/4-20X1/2	
56	91386002	1	SHEET METAL SUPPORT	
57	91384011	1	GRADALL MATERIAL HANDLER SAFETY MANUAL	
58	91031268	1	EMI ROUGH TERRAIN FORKLIFT SAFETY MANUAL	
59	91484014	1	OPERATOR'S MANUAL	
60	24604172	1	GRADALL/EMI OPERATOR ORIENTATION VIDEO	
62	77331004	1	ENGINE MANUAL	
63	90554001	1	PLATFORM MANUAL	
64	91484015	1	SERVICE MANUAL	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-2. (91483001) OPEN CAB



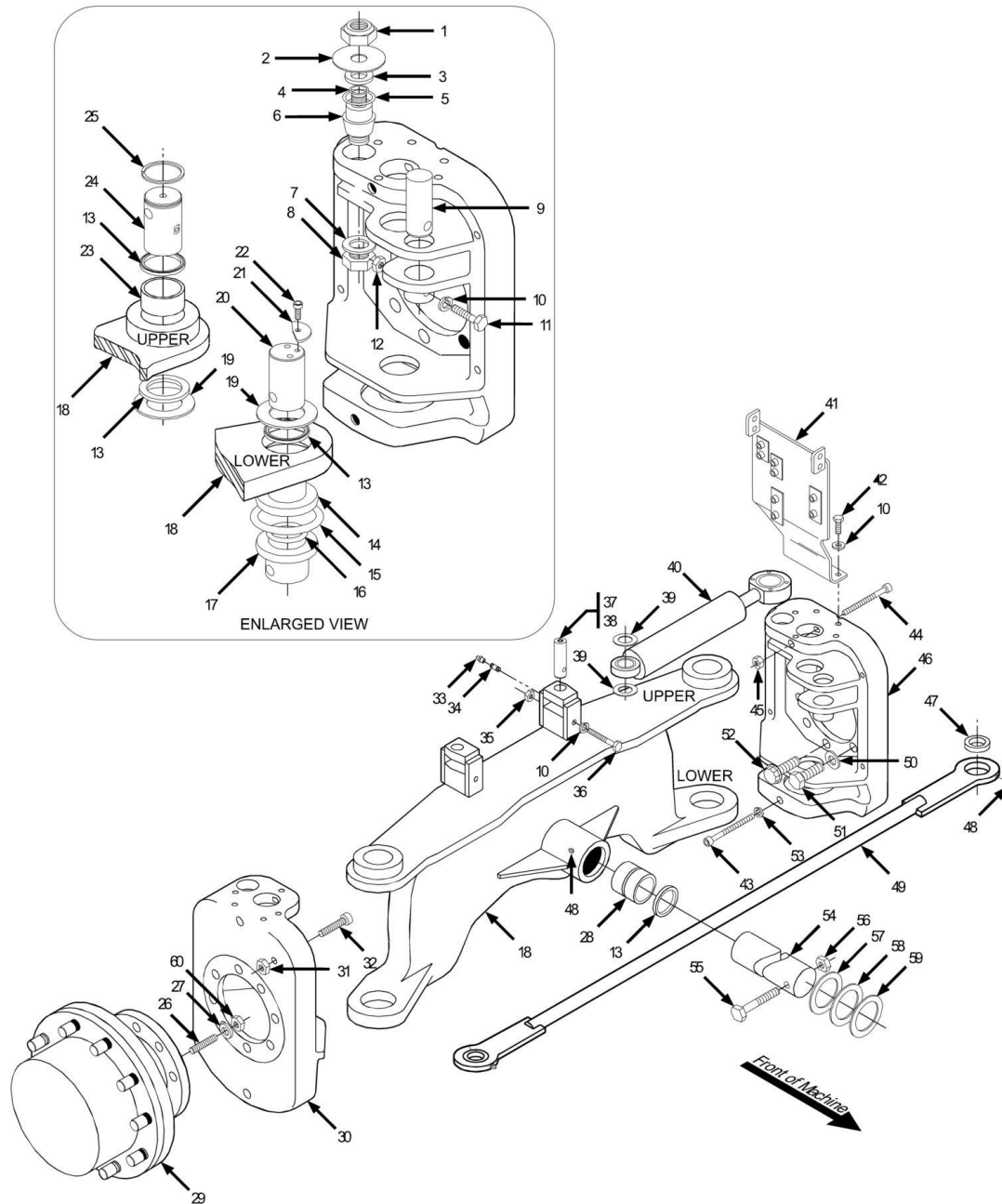
SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-2. (91483001) OPEN CAB

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483001	Ref	OPEN CAB, (includes all items)	
1	91484001	1	CAB WELDMENT	
2	91484002	1	SERIAL TAG	
3	91334003	2	WINDOW CLIP, FLAT	
4	91484003	1	REAR WINDOW	
5	91484004	1	RH SIDE WINDOW	
6	91164086	3	HOLE PLUG, .313	
7	91164087	1	HOLE PLUG, .750	
8	91334004	8	SCREW, #10-32x1	
9	91344031	9.5 ft	SEAL	
10	91164094	1	ROPS WARNING	
11	91334005	2	WINDOW CLIP	
12	91484005	AR	POWER BOND	
13	80364009	AR	HI VISCOSITY URETHANE	

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-3. REAR AXLE AND ATTACHING PARTS



NOTE #1: Cylinder base end must be free to rotate. Shim Steering Cylinder base end as required to maintain a total maximum gap of 1/16IN.

NOTE #2: Shim bottom Knuckles as required to maintain no more than 1/32IN movement. Shim top Knuckles to maintain no more than 1/16IN gap. Must have a minimum of one shim.

NOTE #3: Install 5/8 long thread on Stud into Drive Hub (shortest length threads on Stud)

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-3. REAR AXLE AND ATTACHING PARTS

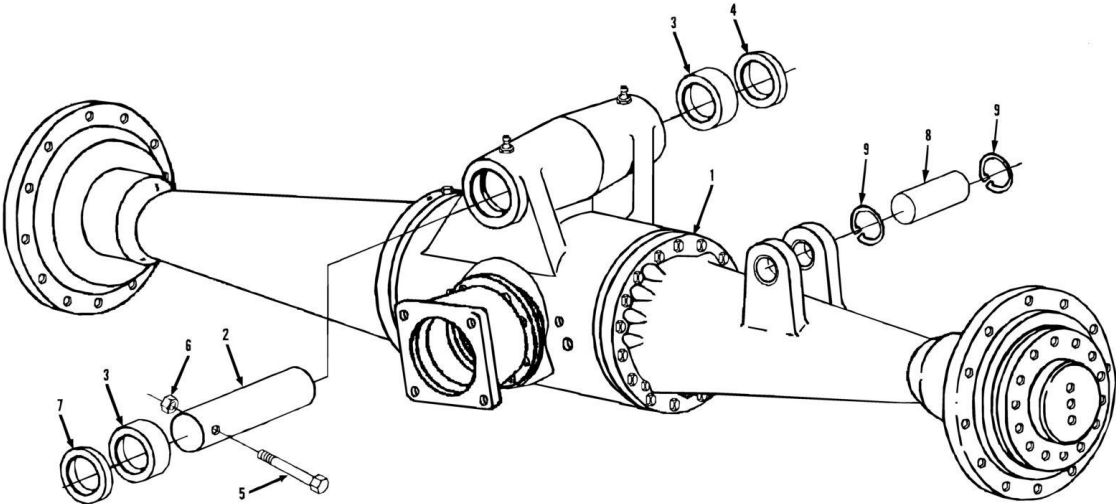
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91415040	AR	STEERING CYLINDER PIN KIT, (includes one each of items 1 thru 8, one kit needed for each side)	
1	88521312	2	LOCKNUT, 3/4-10, (torque to 160-175 ft-lbs)	
2	91081415	2	DIRT SHIELD	
3	91041732	2	SPACER	
4	88591019	2	O-RING	
5	88591104	2	O-RING	
6	91343052	2	ROD END STEER CYLINDER PIN	
7	91403162	2	HARDENED WASHER	
8	88501420	2	HEX JAM NUT, 1-1/4-12, (torque to 280-305 ft-lbs)	
9	91403082	2	TIE ROD PIN	
10	88551011	8	LOCKWASHER, 3/8	
11	83201021	2	HEX HD CAPSCREW, 3/8-16X3	
12	88521306	2	HEX LOCKNUT, 3/8-16	
13	91403145	8	WIPER SEAL	
14	91403034	2	LOWER BUSHING	
15	91403146	2	O-RING	
16	88591108	2	O-RING	
17	91401081	2	THRUST BUSHING	
18	91386009	1	REAR AXLE WELDMENT, (includes items 14, 23 & 28)	
19	91403163	AR	KINGPIN SHIM	
19	91403164	AR	KINGPIN SHIM	
19	91403165	AR	KINGPIN SHIM	
19	91403166	AR	KINGPIN SHIM	
20	91403078	2	LOWER KINGPIN	
21	91403067	2	RETAINING WASHER	
22	88211068	2	SOCKET HD CAPSCREW, 3/8-16X5/8, GR8	
23	91403031	2	UPPER BUSHING	
24	91483024	2	UPPER KINGPIN	
25	88581325	2	SNAP RING	
26	91123092	4	STUD	
27	85401340	4	HARD WASHER	
28	91403033	2	PIVOT TUBE BUSHING	
29		Ref	DRIVE HUB, (524D), (See DRIVE TRAIN SECTION for Breakdown)	
29		Ref	NON-DRIVE HUB, (522D), (See DRIVE TRAIN SECTION for Breakdown)	
30	91480002	1	R.H. KNUCKLE	
31	88501110	2	HEX NUT, 5/8-11	
32	88212321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
33	90028740	2	GREASE FITTING, FEMALE	
34	88701021	2	NIPPLE, 1/8X2	
35	88501006	2	HEX NUT, 3/8-16	
36	83201144	2	HEX HD CAPSCREW, 3/8-16X5-3/4	
37	91403372	2	BASE END STEER CYLINDER PIN	
38	88711280	2	HEX SOCKET PIPE PLUG, 1/8	
39	91403065	AR	KINGPIN SHIM, (see note # 1)	
39	91403066	AR	KINGPIN SHIM, (see note # 1)	
40		Ref	STEERING CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

SECTION 1 - CHASSIS AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	91486011	1	L.H. TUBE SUPPORT	
41	91406099	1	R.H. TUBE SUPPORT	
42	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
43	88212285	2	SOCKET HD CAPSCREW, 3/4-10X5, GR8	
44	88212272	2	SOCKET HD CAPSCREW, 5/8-11X8, GR8	
45	88521210	2	HEX LOCKNUT, 5/8	
46	91480001	1	L.H. KNUCKLE	
47	91043246	2	SELF-ALIGNING BUSHING, (tie rod)	
48	88671001	4	LUBE FITTING, STRAIGHT, 1/8	
49	91386010	1	TIE ROD WELDMENT, (includes item 47)	
50	86681572	12	HARDENED WASHER, 3/4	
51	83201006	12	HEX HD CAPSCREW, 3/4-10X2	
52	91043222	4	12 POINT SCREW, 3/4-10X2	
53	88551154	2	LOCKWASHER, 3/4, (hi-collar)	
54	91081177	1	REAR AXLE PIN	
55	90020247	1	HEX HD CAPSCREW, 1-1/4-7X6, GR5	
56	85101098	1	LOCKNUT, 1-1/4-7	
57	91081691	1	SHIM, (.1046 thick)	
58	91031009	1	SHIM, (.0598 thick)	
59	90206846	1	SHIM, (.1345 thick)	
60	91083449	4	HEX NUT, 1/2-13	

SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-4. FRONT AXLE MOUNTING



SECTION 1 - CHASSIS AND ATTACHING PARTS

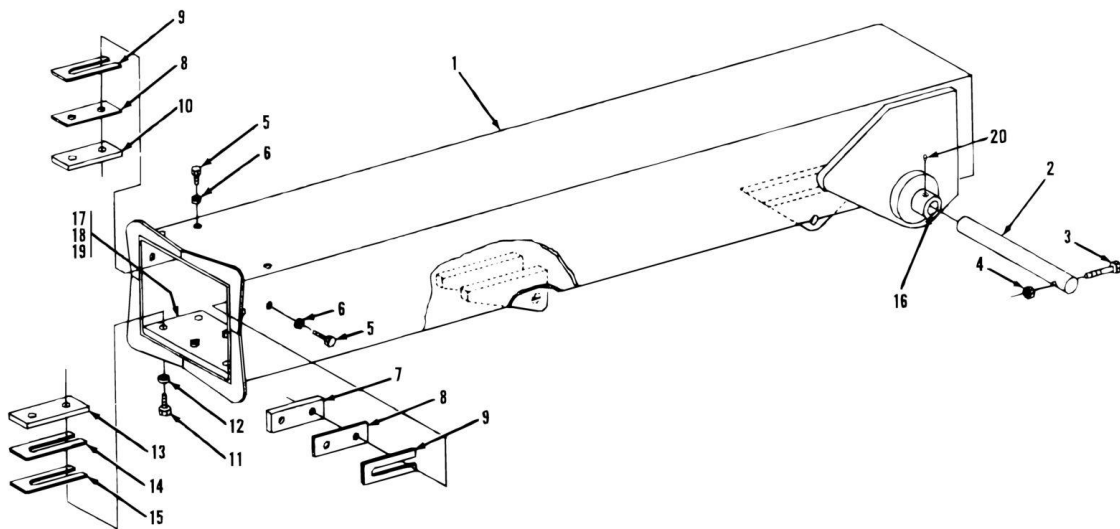
FIGURE 1-4. FRONT AXLE MOUNTING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	FRONT AXLE, (See DRIVE TRAIN SECTION for Breakdown)	
2	91081176	1	FRONT SWAY PIN	
3	90205891	2	SPACER	
4	91031014	1	SHIM WASHER	
5	83201172	1	HEX HD CAPSCREW, 1-8X5, GR8	
6	88521016	1	HEX LOCKNUT, 1-8	
7	91083480	1	SHIM WASHER	
8	91403225	1	PIN	
9	90028935	2	RETAINING RING	

SECTION 2 - BOOM

SECTION 2 - BOOM

FIGURE 2-1. 2 SECTION BOOM (STD) FIRST BOOM SECTION



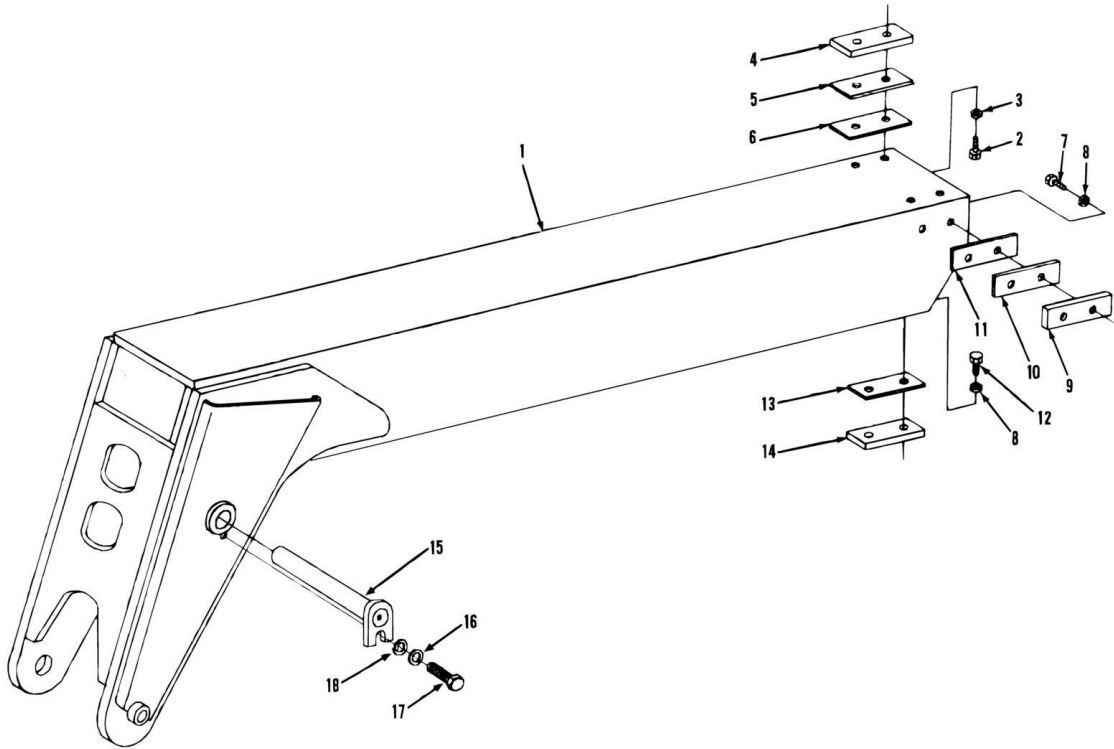
SECTION 2 - BOOM

FIGURE 2-1. 2 SECTION BOOM (STD) FIRST BOOM SECTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91086101	1	FIRST BOOM SECTION	
2	91081148	1	BOOM BASE PIN	
3	88201107	1	HEX HD CAPSCREW, 5/8-11X5	
4	88521010	1	HEX LOCKNUT, 5/8-11	
5	88201532	8	HEX HD CAPSCREW, 3/8-24X3/4,GR5, (Torque to 32-37 ft lbs)	
5	88201533	AR	HEX HD CAPSCREW, 3/8-24X7/8,GR5, (Torque to 32-37 ft lbs)	
6	90027470	8	HARDENED FLATWASHER, 3/8	
7	91033186	2	BEARING PAD	
8	91031236	4	SPACER	
9	90205870	4	SHIM	
10	91033189	2	BEARING PAD	
11	88201568	4	HEX HD CAPSCREW, 1/2-20X2, GR5, (Torque to 68-78 ft lbs)	
11	88201569	AR	HEX HD CAPSCREW, 1/2-20X2-1/4, GR5, (Torque to 68-78 ft lbs)	
12	90027471	4	HARDENED FLATWASHER, 1/2	
13	91083063	2	BEARING PAD	
14	91081172	2	SPACER	
15	91081171	2	SHIM	
16	91083298	2	BUSHING	
17	91081397	1	BEARING PLATE	
18	88201607	2	HEX HD CAPSCREW, 3/4-16X1-1/4, GR5	
19	90027473	2	WASHER	
20	88671001	2	LUBE FITTING, STRAIGHT, 1/8	

SECTION 2 - BOOM

FIGURE 2-2. 2 SECTION BOOM (STD) SECOND BOOM SECTION



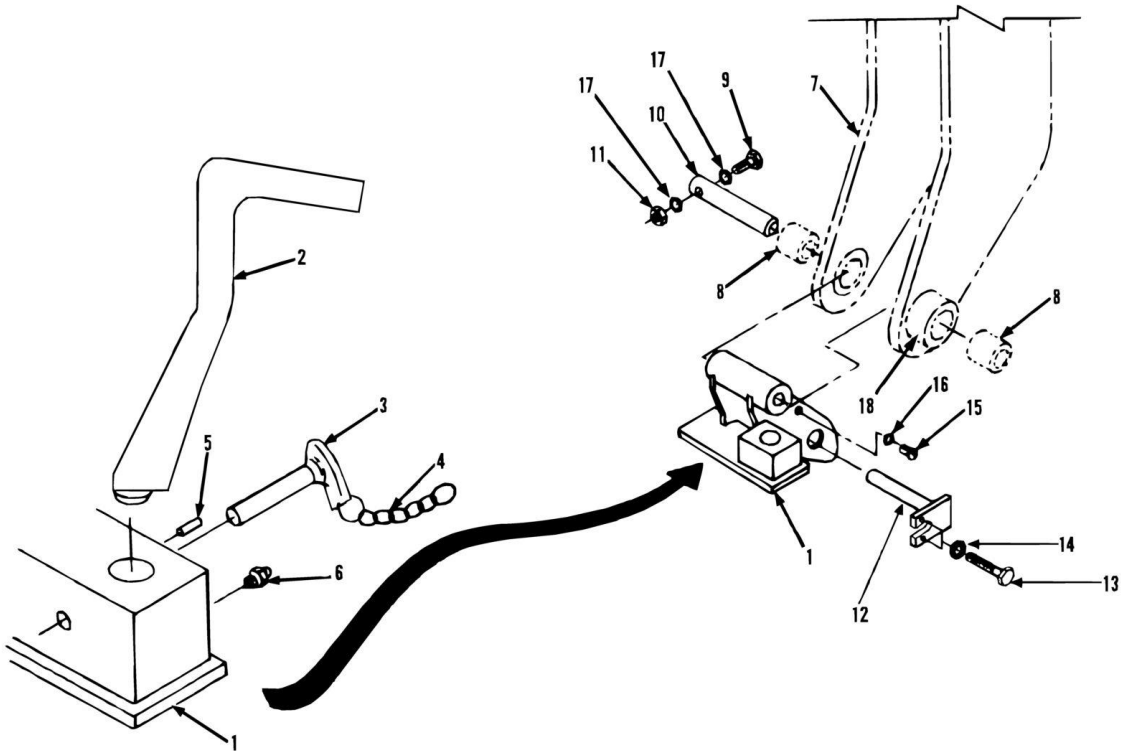
SECTION 2 - BOOM

FIGURE 2-2. 2 SECTION BOOM (STD) SECOND BOOM SECTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91086102	1	SECOND BOOM SECTION	
2	88201564	4	HEX HD CAPSCREW, 1/2-20X1,GR5, (Torque to 68-78 ft lbs)	
3	90027471	4	HARDENED WASHER	
4	91083297	2	BEARING PAD	
5	91081447	2	SPACER	
6	91121081	AR	SHIM	
7	88201532	4	HEX HD CAPSCREW, 3/8-24X3/4,GR5, (Torque to 32-37 ft lbs)	
7	88201533	AR	HEX HD CAPSCREW, 3/8-24X7/8,GR5, (Torque to 32-37 ft lbs)	
8	90027470	8	HARDENED FLAT WASHER	
9	91033186	2	BEARING PAD	
10	91031236	2	SPACER	
11	90205870	2	SHIM	
12	88201537	4	HEX HD CAPSCREW, 3/8-24X1-3/4, GR5, (Torque to 32-37 ft lbs)	
13	91081457	2	SPACER	
14	91083307	2	BEARING PAD	
15	91146052	1	PIN WELDMENT	
16	88551013	1	LOCKWASHER, 1/2	
17	88201065	1	HEX HD CAPSCREW, 1/2-13X1	
18	83621283	1	SPECIAL WASHER	

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FIGURE 2-3. (91085091) QUICK SWITCH ASSEMBLY



SECTION 2 - BOOM

FIGURE 2-3. (91085091) QUICK SWITCH ASSEMBLY

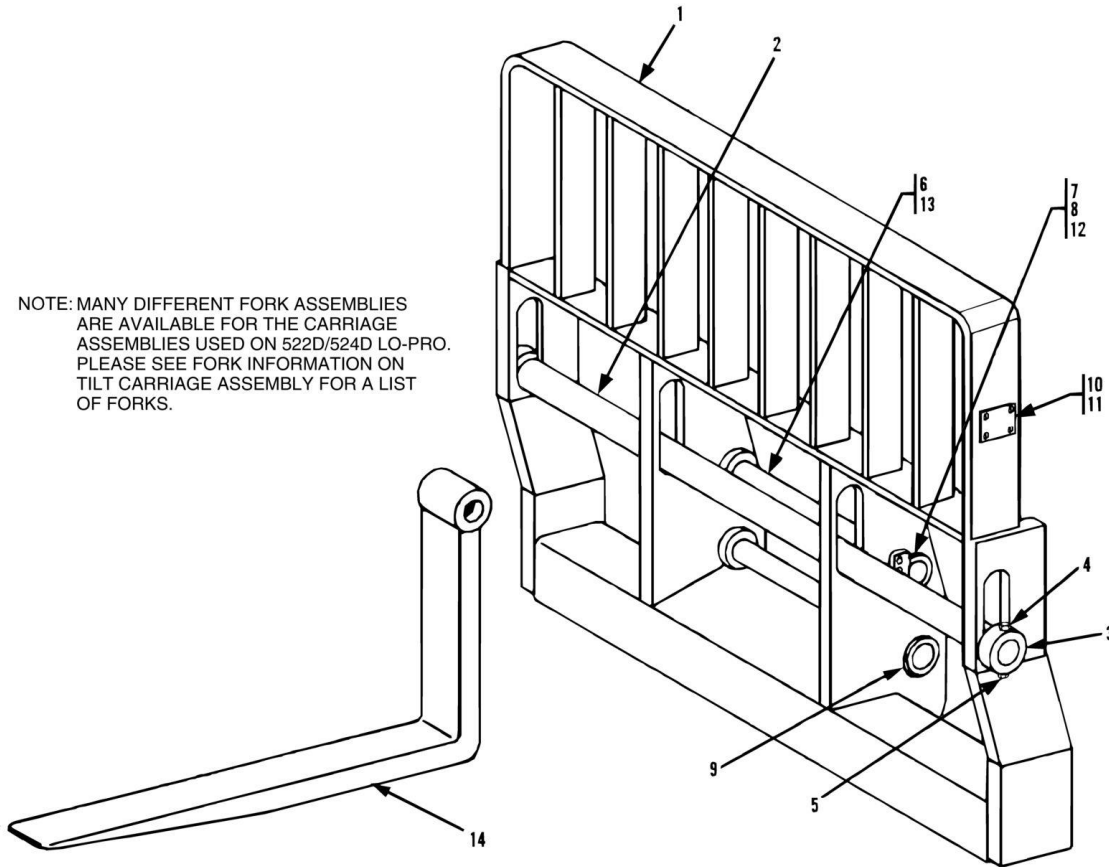
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085091	1	QUICK SWITCH ASSEMBLY,(Includes Items 1 thru 6, 15 & 16)	
1	91086152	1	QUICK SWITCH WELDMENT	
2	91086151	1	PLUNGER WELDMENT	
3	90207902	1	QUICK RELEASE PIN	
4	91033038	1	JACK CHAIN, 5IN LONG, SIZE 12	
5	88631509	1	ROLL PIN, 1/4X2	
6	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
7		Ref	SECOND BOOM SECTION, (See 2 SECTION BOOM (STD) SECOND BOOM SECTION for Breakdown)	
8	91363085	2	BUSHING	
9	91121308	1	HEX HD CAPSCREW, 5/8-11X5,GR5	
10	91041365	1	HEAD PIN	
11	91121309	1	HEX LOCKNUT, 5/8-11, (Torque to 185-200 ft lbs)	
12	91166062	1	TILT CYLINDER PIN	
13	83201123	2	HEX HD CAPSCREW, 1/2-13X1,GR8	
14	88561111	2	WASHER, 1/2	
15	88301193	1	ROUND HD MACHINE SCREW, #10-32X1/2	
16	88561105	1	FLAT WASHER, #10	
17	91121310	2	WASHER,5/8	
18	88671001	2	LUBE FITTING, STRAIGHT, 1/8	

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FIGURE 3-1. (91085033) 48 INCHES; TILT CARRIAGE ASSEMBLY

NOTE: MANY DIFFERENT FORK ASSEMBLIES ARE AVAILABLE FOR THE CARRIAGE ASSEMBLIES USED ON 522D/524D LO-PRO. PLEASE SEE FORK INFORMATION ON TILT CARRIAGE ASSEMBLY FOR A LIST OF FORKS.



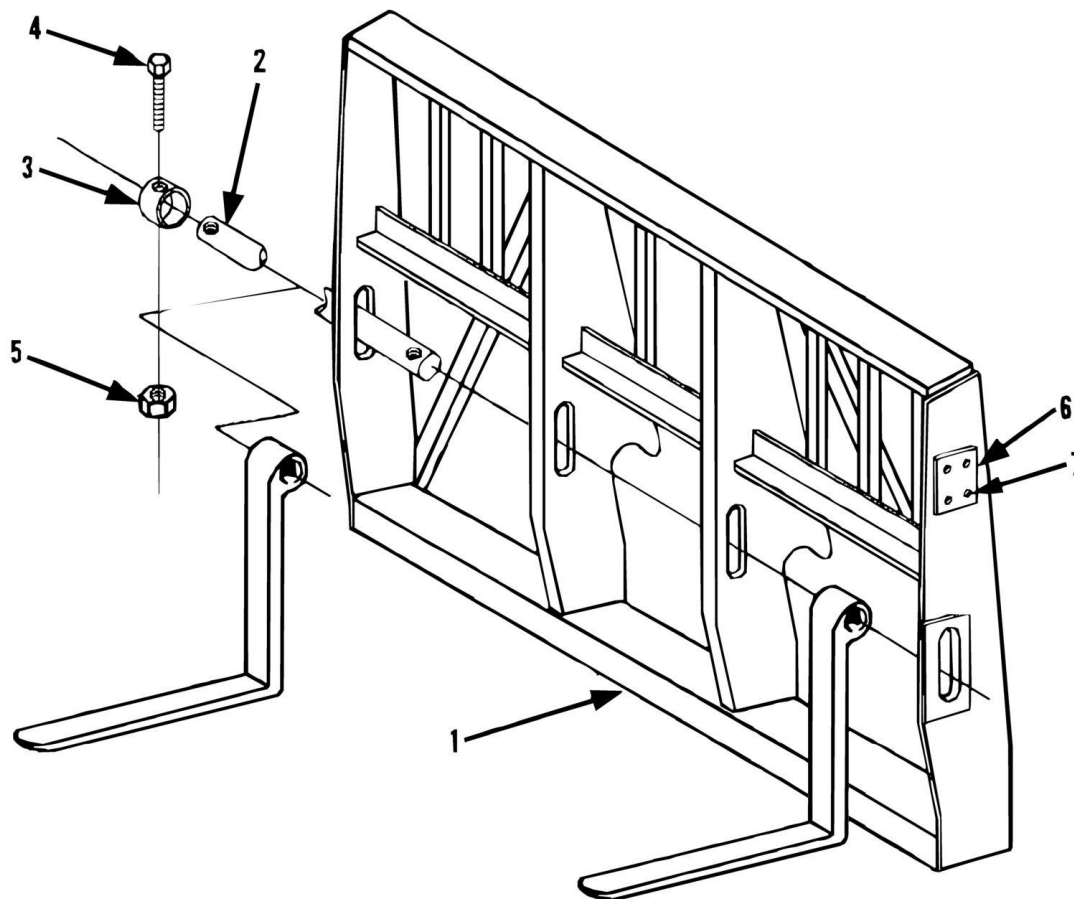
SECTION 3 - ATTACHMENTS

FIGURE 3-1. (91085033) 48 INCHES; TILT CARRIAGE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085033	Ref	48IN TILT CARRIAGE ASSY, (includes items 1 thru 14)	
1	91086116	1	CARRIAGE WELDMENT	
2	90451058	1	FORK PIN	
3	90200003	2	COLLAR	
4	88201105	2	HEX HD CAPSCREW, 5/8-11X4,GR5	
5	88521310	2	HEX LOCKNUT, 5/8-11	
6	91081369	1	HEAD PIN	
7	91081368	1	RETAINER BAR	
8	88201066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
9	90207046	1	TILT PIN	
10	90153001	1	SERIAL NUMBER PLATE	
11	88341022	4	DRIVE SCREW, #10X3/8	
12	88551013	2	LOCKWASHER, 1/2	
13	91121124	1	SLEEVE	
14	90453002	2	FORK	
14	90600390	2	CUBING FORK	

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FIGURE 3-2. (90455051) Q.S. CARRIAGE ASSEMBLIES



NOTE: MANY DIFFERENT FORK ASSEMBLIES ARE AVAILABLE FOR THE CARRIAGE ASSEMBLIES USED ON 522D/524D LO-PRO. PLEASE SEE FORK INFORMATION ON TILT CARRIAGE ASSEMBLY FOR A LIST OF FORKS.

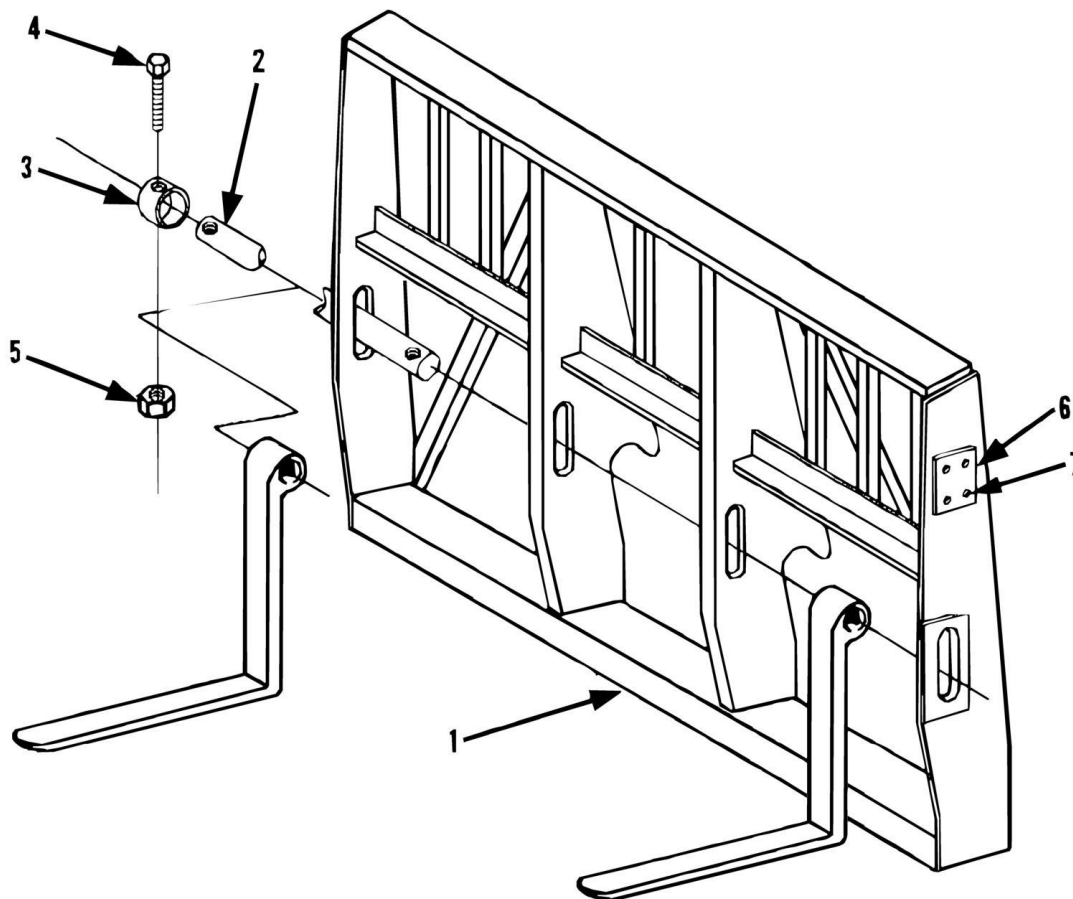
SECTION 3 - ATTACHMENTS

FIGURE 3-2. (90455051) Q.S. CARRIAGE ASSEMBLIES

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

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FIGURE 3-3. (90455052) Q.S. CARRIAGE ASSEMBLIES



NOTE: MANY DIFFERENT FORK ASSEMBLIES ARE AVAILABLE FOR THE CARRIAGE ASSEMBLIES USED ON 522D/524D LO-PRO. PLEASE SEE FORK INFORMATION ON TILT CARRIAGE ASSEMBLY FOR A LIST OF FORKS.

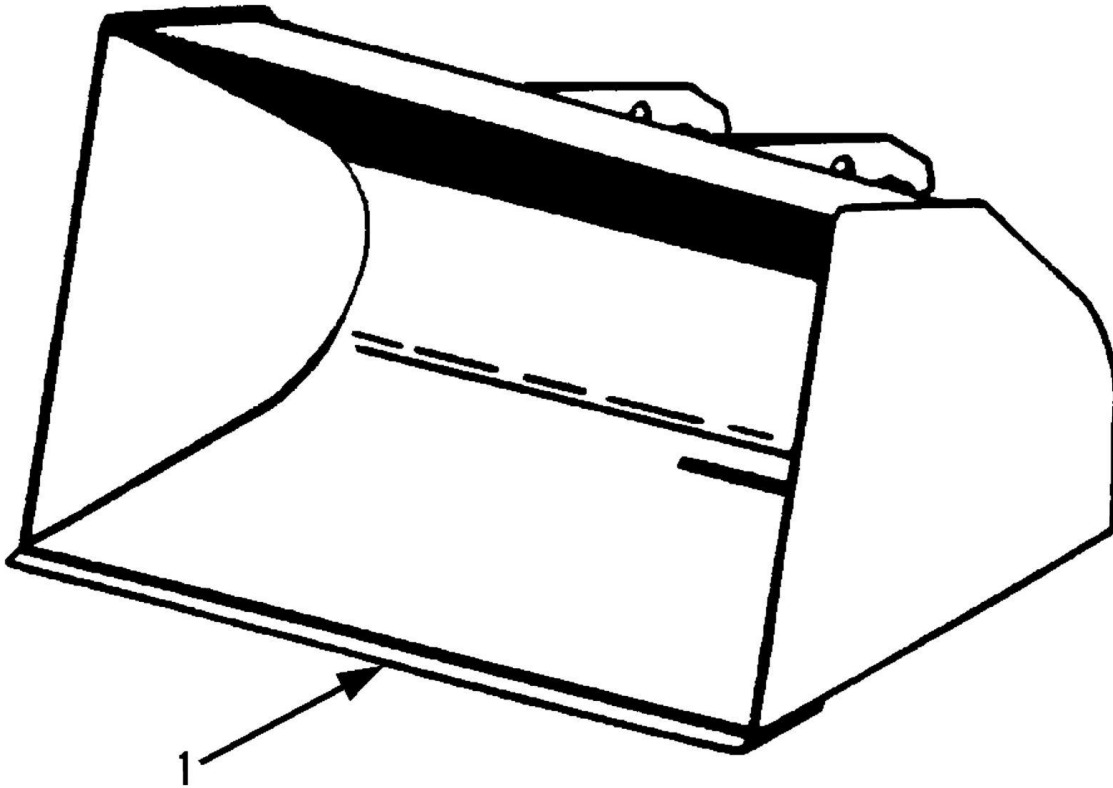
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FIGURE 3-3. (90455052) Q.S. CARRIAGE ASSEMBLIES

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

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FIGURE 3-4. BUCKETS



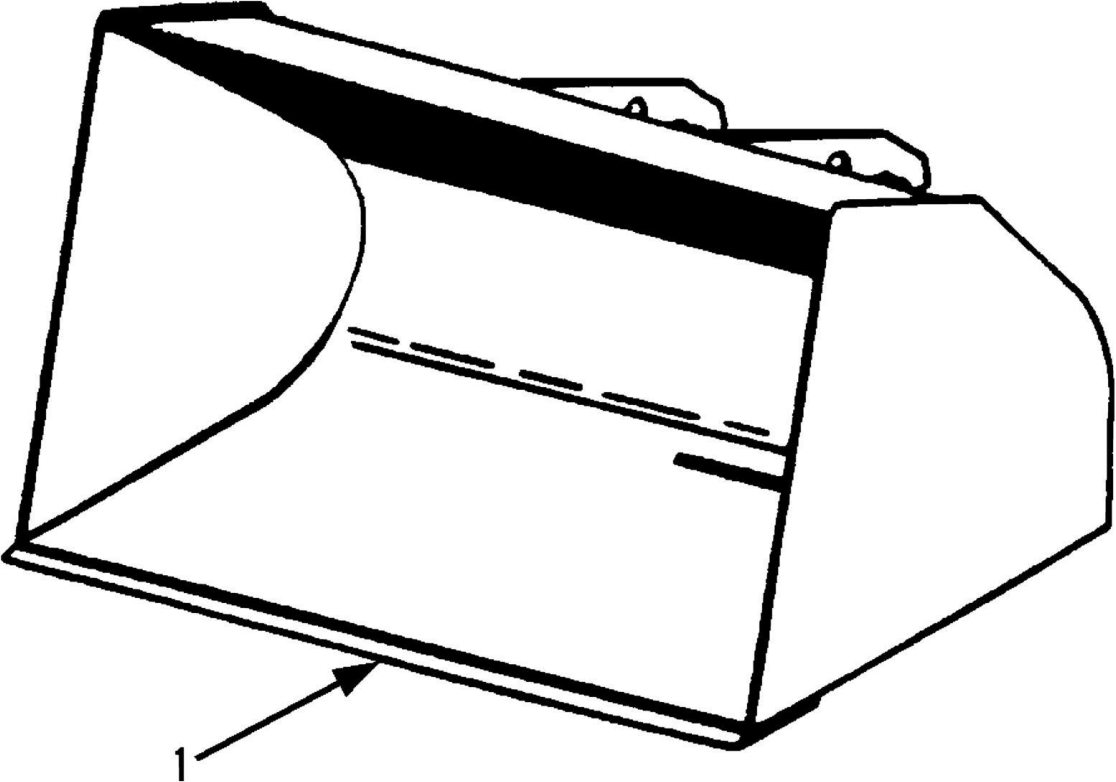
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FIGURE 3-4. BUCKETS

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

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FIGURE 3-5. BUCKETS



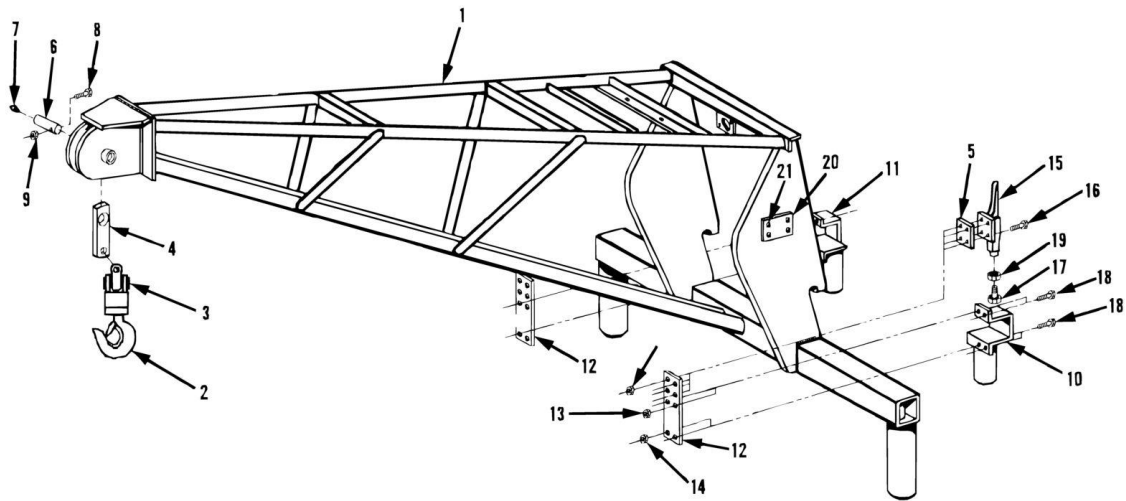
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FIGURE 3-5. BUCKETS

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

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FIGURE 3-6. (90455011) 10FEET; TRUSS BOOM ASSEMBLY



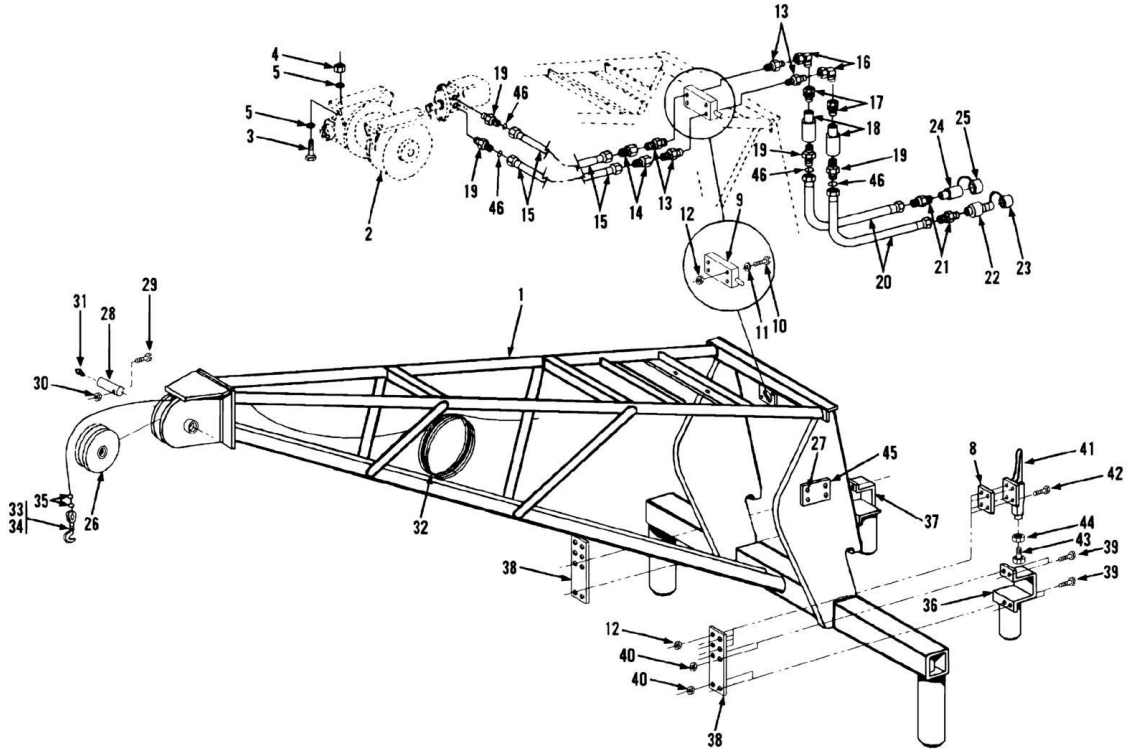
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FIGURE 3-6. (90455011) 10FEET; TRUSS BOOM ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455011	1	10FT TRUSS BOOM ASSY, (includes all items)	
1	90801353	1	10FT TRUSS BOOM WELDMENT	
2	90453040	1	SWIVEL HOOK	
3	90453041	1	SHACKLE	
4	90451053	1	HANGER	
5	90451047	2	SPACER	
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	ATTACHMENT SN PLATE	
21	88341022	4	ROUND HD DRIVE SCREW, #10X3/8	
22	91083511	1	CAPACITY DECAL, (not shown)	

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FIGURE 3-7. (90455012) 10FEET; TRUSS BOOM W/ WINCH ASSEMBLY



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FIGURE 3-7. (90455012) 10FEET; TRUSS BOOM W/ WINCH ASSEMBLY

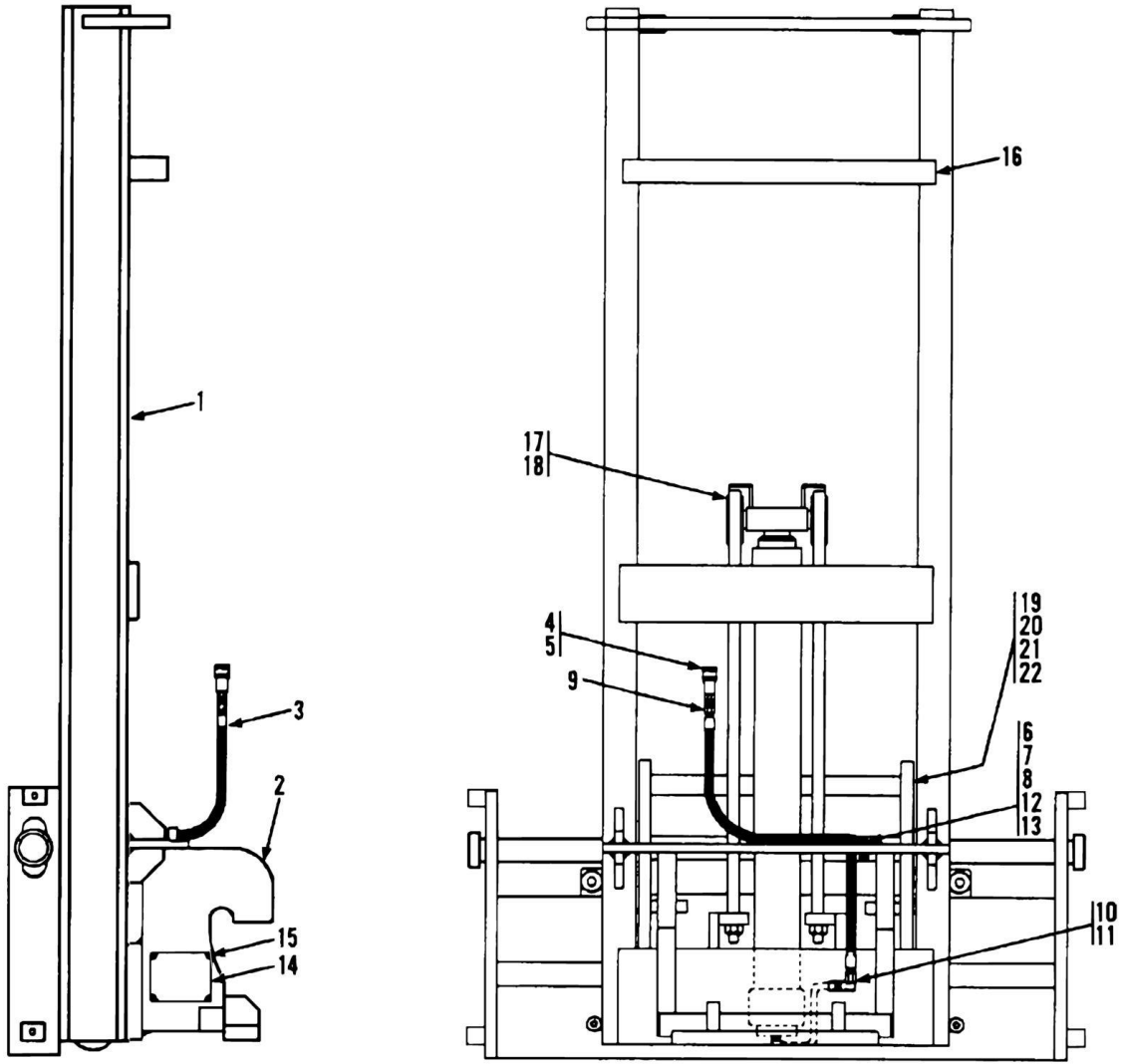
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455012	1	TRUSS BOOM ASSY W/WINCH, (includes all items)	
1	90801353	1	TRUSS BOOM WELDMENT	
2		Ref	WINCH W/MOTOR, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
3	88201096	4	HEX HD CAPSCREW, 5/8-11X1-3/4, GR5	
4	88501010	4	HEX NUT, 5/8-11	
5	88561113	8	FLAT WASHER, 5/8	
8	90451047	2	SPACER	
9		Ref	CROSSOVER VALVE, (See HYDRAULIC COMPONENTS 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 ASSEMBLY	
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)	
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)	
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)	
24	91403413	1	FEMALE COUPLER, (SN 2005283-01 to Present)	
25	91043125	1	DUST CAP	
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, 3/8	
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	ATTACHMENT SERIAL NO PLATE	

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

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FIGURE 3-8. (90455035) AND (90455037) 6FEET; MAST ASSEMBLY



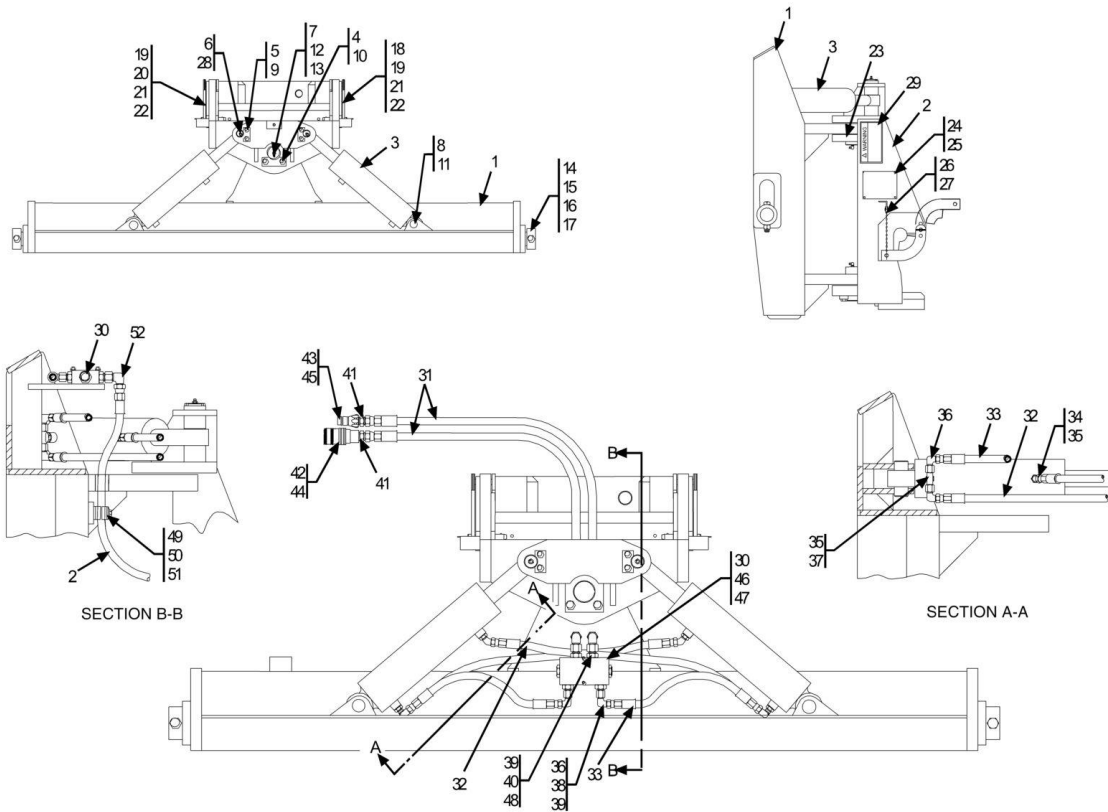
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FIGURE 3-8. (90455035) AND (90455037) 6FEET; MAST ASSEMBLY

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 NO PLATE	
15	88341022	4	DRIVE SCREW, #10X3/8	
16	90451039	1	STOP TUBE	
17	91034372	2	RETAINING RING	
18	91034373	2	CHAIN ROLLER	
19	91034374	6	LOAD ROLLER, (inside carriage frame)	
20	91034375	AR	SHIM	
21	91034376	4	SIDE THRUST ROLLER, (small outside roller)	
22	91034377	2	SCREW	

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FIGURE 3-9. (90455044) 100DEG SWING FORK ASSEMBLY



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FIGURE 3-9. (90455044) 100DEG SWING FORK ASSEMBLY

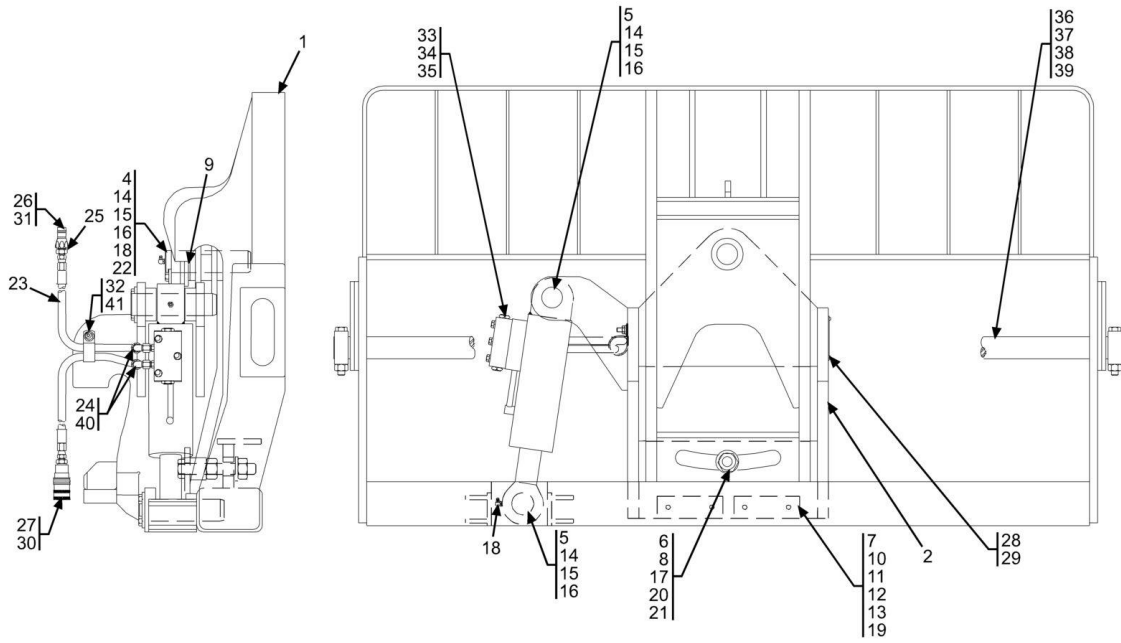
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455044	1	100, SWING FORK ASSEMBLY, (includes all items)	
1	91046061	1	CARRIAGE WELDMENT	
2	91046062	1	PIVOT WELDMENT	
3	90453034	2	HYDRAULIC CYLINDER	
4	91041322	2	LOCKING PLATE	
5	91411073	2	LOCKING PLATE	
6	91041324	2	PIVOT PIN	
7	91041325	2	PIVOT PIN	
8	91041326	2	PIVOT PIN	
9	83201024	4	HEX HD CAPSCREW, 3/8-16X1, GR8	
10	83201026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	
11	88581136	4	SNAP RING	
12	88671022	2	LUBE FITTING, 90, 1/8	
13	91041327	2	BUSHING	
14	90551013	1	FORK PIN	
15	90200003	2	COLLAR	
16	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
17	88521310	2	HEX LOCKNUT, 5/8-11	
18	91146053	1	LH SUPPORT BRACKET	
19	91141350	2	PIN	
20	91146054	1	RH SUPPORT BRACKET	
21	88631449	2	ROLL PIN, 1/8X1-1/2	
22	91043221	2	DETENT PIN	
23	91041356	6	SPACER	
24	90153001	1	SERIAL NUMBER PLATE	
25	88341022	4	DRIVE SCREW, #10X3/8	
26	91033039	2	CHAIN CONNECTION	
27	91033038	24 in	CHAIN	
28	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
29	91143282	2	PINCH POINT DECAL	
30	91043186	1	DOUBLE PILOT CHECK VALVE	
31	84718067	2	HOSE ASSEMBLY	
32	90204097	2	HOSE ASSEMBLY	
33	77133201	2	HOSE ASSEMBLY	
34	88662084	2	ELBOW, 45, (includes item 35)	
35	88591204	6	O-RING	
36	88662105	6	ELBOW, 90, (swivel nut)	
37	88662152	2	BRANCH TEE, (includes item 35)	
38	88662018	2	CONNECTOR, (includes item 39)	
39	88591205	4	O-RING	
40	91041361	2	FITTING	
41	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE (Prior to SN 2005283-01)	
41	88662006	2	CONNECTOR, (includes 8859-1205 o-ring), (SN 2005283-01 to Present)	
42	91163139	1	FEMALE QUICK DISCONNECT (Prior to SN 2005283-01)	
42	91403413	1	FEMALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
43	91163138	1	MALE QUICK DISCONNECT (Prior to SN 2005283-01)	
43	91403414	1	MALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
44	91043125	1	DUST CAP	
45	91043126	1	DUST CAP	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
46	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
47	88561002	2	FLAT WASHER, 1/4	
48	91041362	2	ORIFICE FITTING	
49	91083249	1	CLAMP SET	
50	77133140	1	COVER PLATE	
51	77133177	1	HEX HD CAPSCREW, 5/16X1-3/8	
52	88662106	2	ELBOW, 90, (swivel nut)	

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FIGURE 3-10. (91305016) 66INCHES; SLOPE PILER CARRIAGE ASSEMBLY



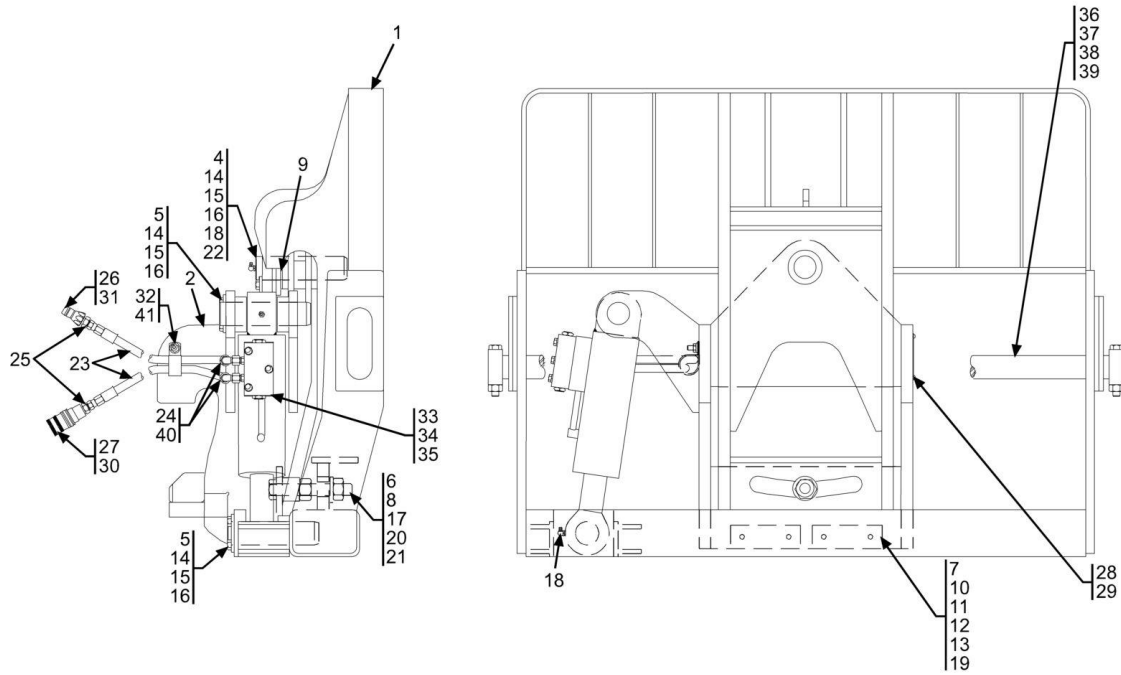
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FIGURE 3-10. (91305016) 66INCHES; SLOPE PILER CARRIAGE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91305016	1	66IN SLOPE PILER CARRIAGE ASSEMBLY, (includes all items)	
1	91306030	1	CARRIAGE WELDMENT, 66IN	
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, 16 GA	
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	HARDENED WASHER, 1-1/16	
22	91081622	1	PIN	
23	84716434	2	HOSE ASSEMBLY	
24	83661316	2	ADAPTER	
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 PLATE NUMBER	
30	91043125	1	DUST PLUG	
31	91043126	1	DUST CAP	
32	77143015	1	WHIZ LOCKNUT, 3/8-16	
33		Ref	DUAL PO 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	HEX LOCKNUT, 5/8-11	
40	88662105	2	ELBOW, 90, (swivel nut)	
41	84521062	1	SUPPORT CLAMP	

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FIGURE 3-11. (91085058) 48INCHES; SLOPE PILER CARRIAGE ASSEMBLY



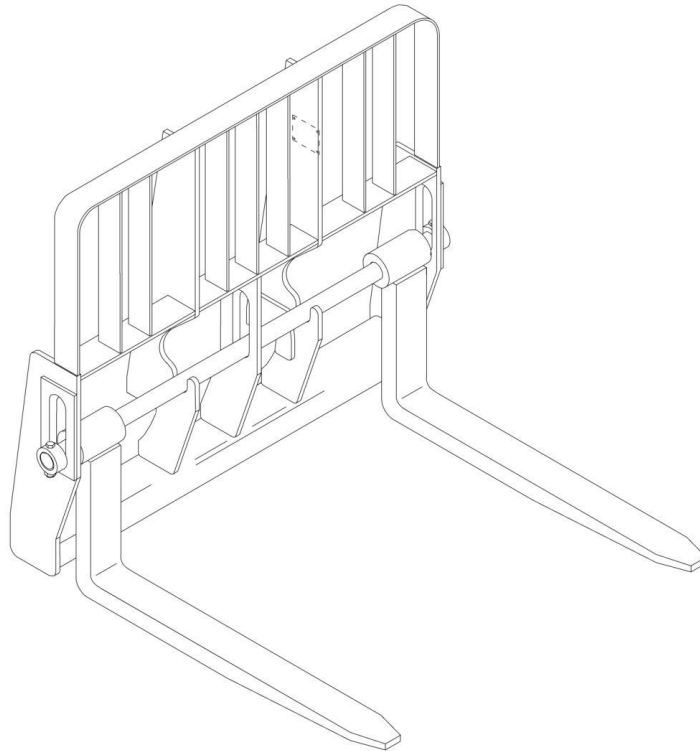
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FIGURE 3-11. (91085058) 48INCHES; SLOPE PILER CARRIAGE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085058	1	48IN SLOPE PILER CARRIAGE ASSEMBLY, (includes all items)	
1	91086121	1	CARRIAGE WELDMENT, 48IN	
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, 16 GA	
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	HARDENED WASHER, 1-1/16	
22	91081622	1	PIN	
23	84716434	2	HOSE ASSEMBLY	
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 PLATE NUMBER	
30	91043125	1	DUST PLUG	
31	91043126	1	DUST CAP	
32	77143015	1	WHIZ-LOCK NUT, 3/8-16	
33		Ref	DUAL PO 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	HEX LOCKNUT, 5/8-11	
40	88662105	2	ELBOW, 90, (swivel nut)	
41	84521062	1	SUPPORT CLAMP	

SECTION 3 - ATTACHMENTS

FIGURE 3-12. FORK INFORMATION



NOTE: FORKS RATED LESS THAN THE ATTACHMENT OR MACHINES 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

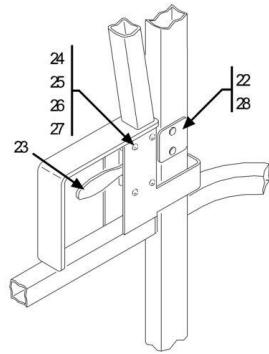
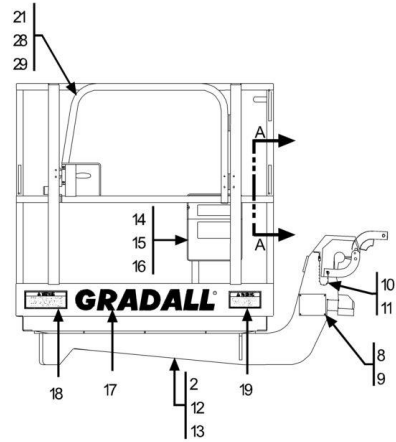
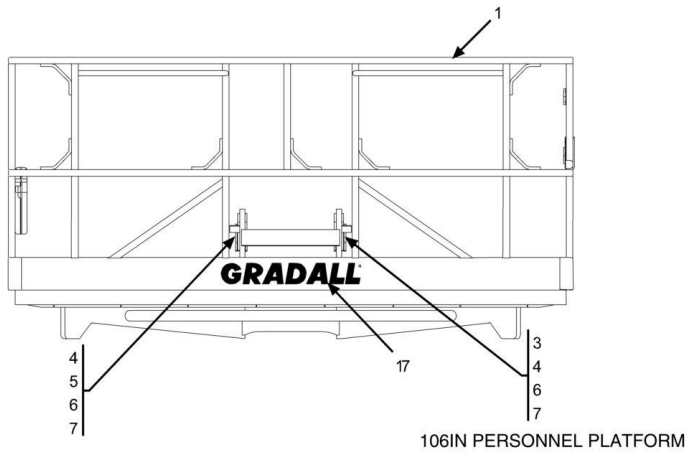
FIGURE 3-12. FORK INFORMATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90600390	2	48IN CUBING FORK, 2X2, 3000 lbs, (B, C & D series)	
	90601819	2	48IN PALLET FORK, 1-3/4X6, 9000 lbs, (B, C & D series)	
	90453002	2	48IN PALLET FORK, 2X4, 8000 lbs, (B, C & D series)	
	90553005	2	48IN PALLET FORK, 2X6, 10,000 lbs, (B, C & D series)	
	90553008	2	48IN PALLET FORK, 1-3/4X4, 5000 lbs, (used on 6ft swing mast only, P/N9045-5047)	
	90601015	2	60IN PALLET FORK, 2X6, 10,000 lbs, (B, C & D series)	
	91163269	2	60IN PALLET FORK, 2X6, 11,300 lbs, (B, C & D series)	
	90453045	2	60IN PALLET FORK, 2X6, 11,300 lbs, (used on 6ft swing mast only, P/N9045-5054)	
	90553018	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C & D series)	
	91123132	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C & 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, 2-1/2X8, 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 & D series)	
	90553018	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C & D series)	

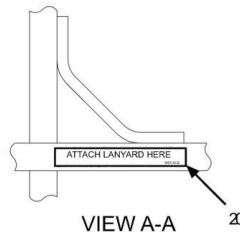
SECTION 3 - ATTACHMENTS

FIGURE 3-13. (90555024) PERSONNEL PLATFORM ASSEMBLY

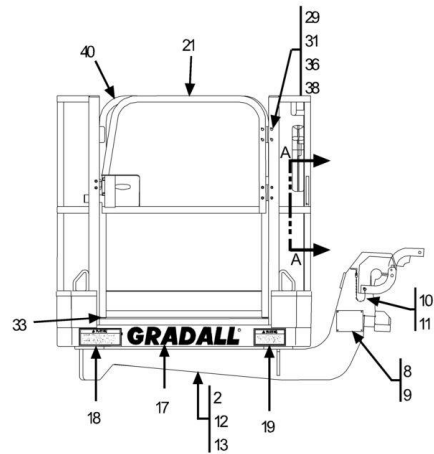
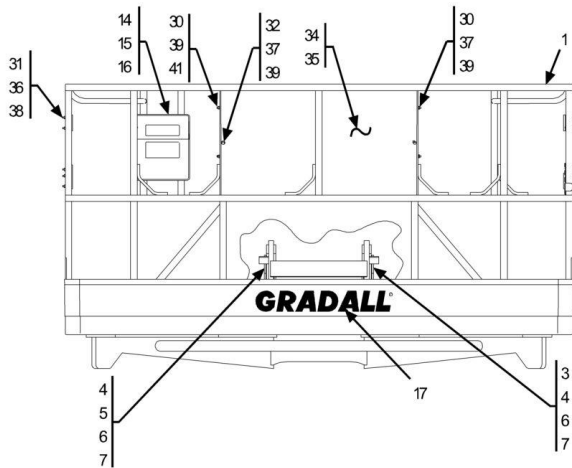
DO NOT USE THE PERSONNEL PLATFORM UNTIL PROPER CAPACITY CHART AND DECALS ARE IN PLACE.



VIEW OF LATCH AREA ON GATE



96IN PERSONNEL PLATFORM



SECTION 3 - ATTACHMENTS

FIGURE 3-13. (90555024) PERSONNEL PLATFORM ASSEMBLY

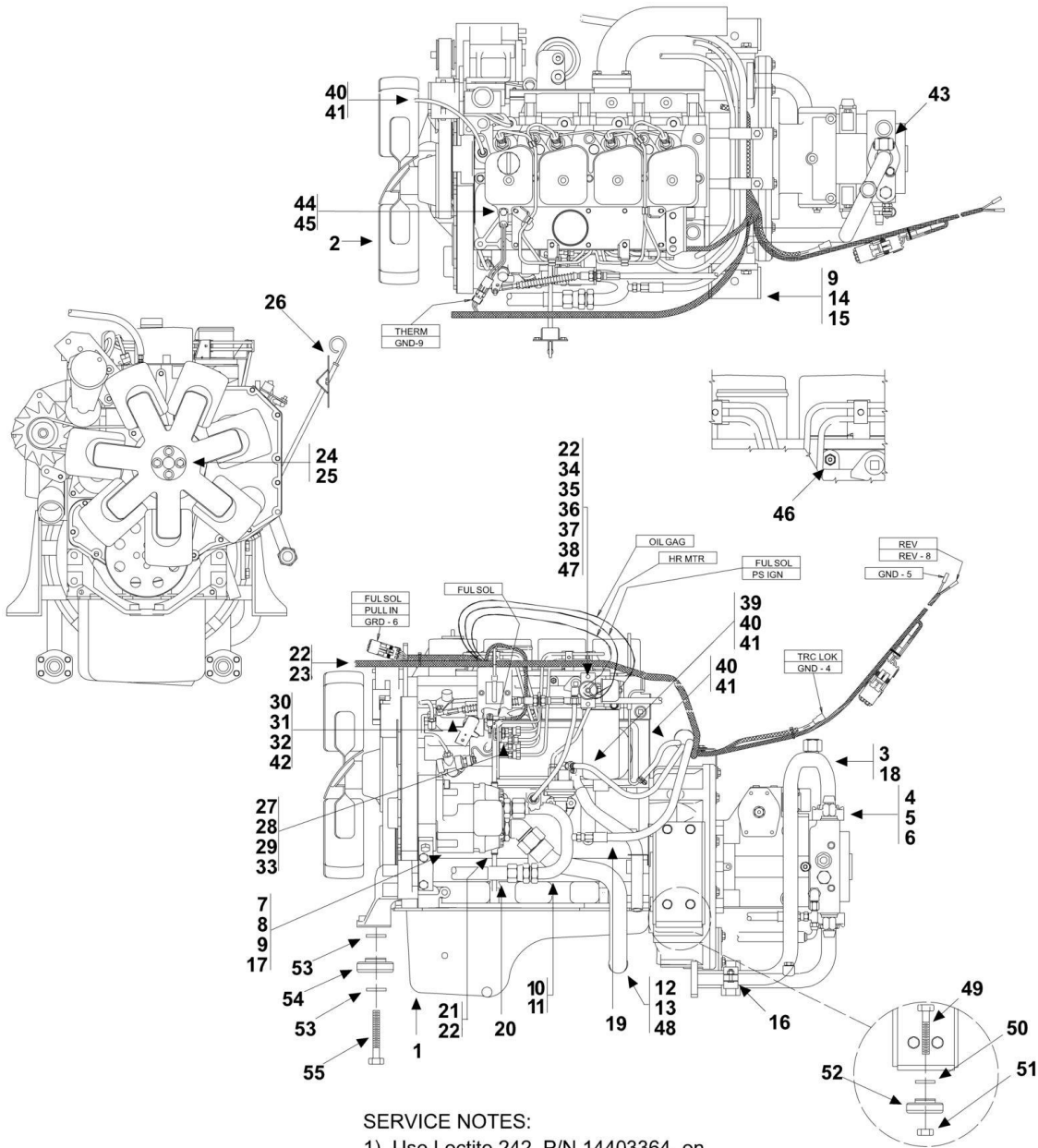
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90555024	1	PERSONNEL PLATFORM ASSY, (includes all items)	
1		Ref	106IN PERSONNEL PLATFORM, (includes items 21 thru 29)	
1	90553034	1	96IN PERSONNEL PLATFORM, (includes items 21 thru 27 & 29 thru 41)	
2	90556020	1	ADAPTER SUPPORT	
3	91146053	1	LH SUPPORT BRACKET	
4	91141350	2	PIN	
5	91146054	1	RH SUPPORT BRACKET	
6	88631449	2	ROLL PIN, 1/8X1-1/2	
7	91043221	2	DETENT PIN	
8	90553033	1	SERIAL NUMBER PLATE	
9	88341022	4	DRIVE SCREW, #10X3/8	
10	91033039	2	CHAIN CONNECTION	
11	91033038	24 in	CHAIN	
12	86081050	8	HEX HD CAPSCREW, 5/8-11X1-1/2	
13	88551015	8	LOCKWASHER, 5/8	
14	91403230	1	MANUAL HOLDER	
15	77143013	4	WHIZ-LOCK NUT, 1/4-20	
16	90554001	1	PERSONNEL WORK PLATFORM MANUAL	
17	80903009	3	GRADALL DECAL, (106in platform)	
17	77333053	3	GRADALL DECAL, (96in platform)	
18	90553026	1	WARNING DECAL	
19	90553031	1	WARNING DECAL	
20	90553032	AR	LANYARD DECAL	
21	90554006	1	GATE	
22	90554007	1	LATCH PLATE	
23	90554008	1	LATCH	
24	90554009	4	ROUND HD SCREW	
25	90554010	4	HEX NUT, #10-24	
26	90554011	4	WASHER, #10	
27	90554012	4	WASHER	
28	90554013	10	BLIND FASTENER	
29	90554014	2	HINGE	
30	0641524	4	HEX HD CAPSCREW, 5/16-18X3	
31	2080063	16	NYLON LOCK NUT, 1/4-20	
32	2080064	14	NYLON LOCK NUT, 5/16-18	
33	3520072	5	CAP PLUG	
34	3573363	1	GUARD PLATE	
35	3641438	1	BENT RAIL	
36	3911428	16	ROUND HD SCREW, 1/4-20X3/4	
37	3911528	12	ROUND HD SCREW, 5/16-18X3/4	
38	4711400	16	WASHER, 1/4	
39	4711500	32	WASHER, 5/16	
40	4846528	1	BASKET END WELDMENT	
41	3311501	2	HEX NUT, 5/16-18	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

SECTION 4 - ENGINE AND ATTACHING PARTS

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. (91395007) EPA ENGINE LEFT SIDE VIEW



SERVICE NOTES:

- 1). Use Loctite 242, P/N 14403364, on all bolt threads.
- 2). Use Loctite pipe sealant, P/N 14404082, on all pipe threads.
- 3). Use Loctite 545, P/N 14404082, on all hydraulic fitting threads.
- 3). Add 12 qts. of oil, P/N 14403420, to crankcase.

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. (91395007) EPA ENGINE LEFT SIDE VIEW

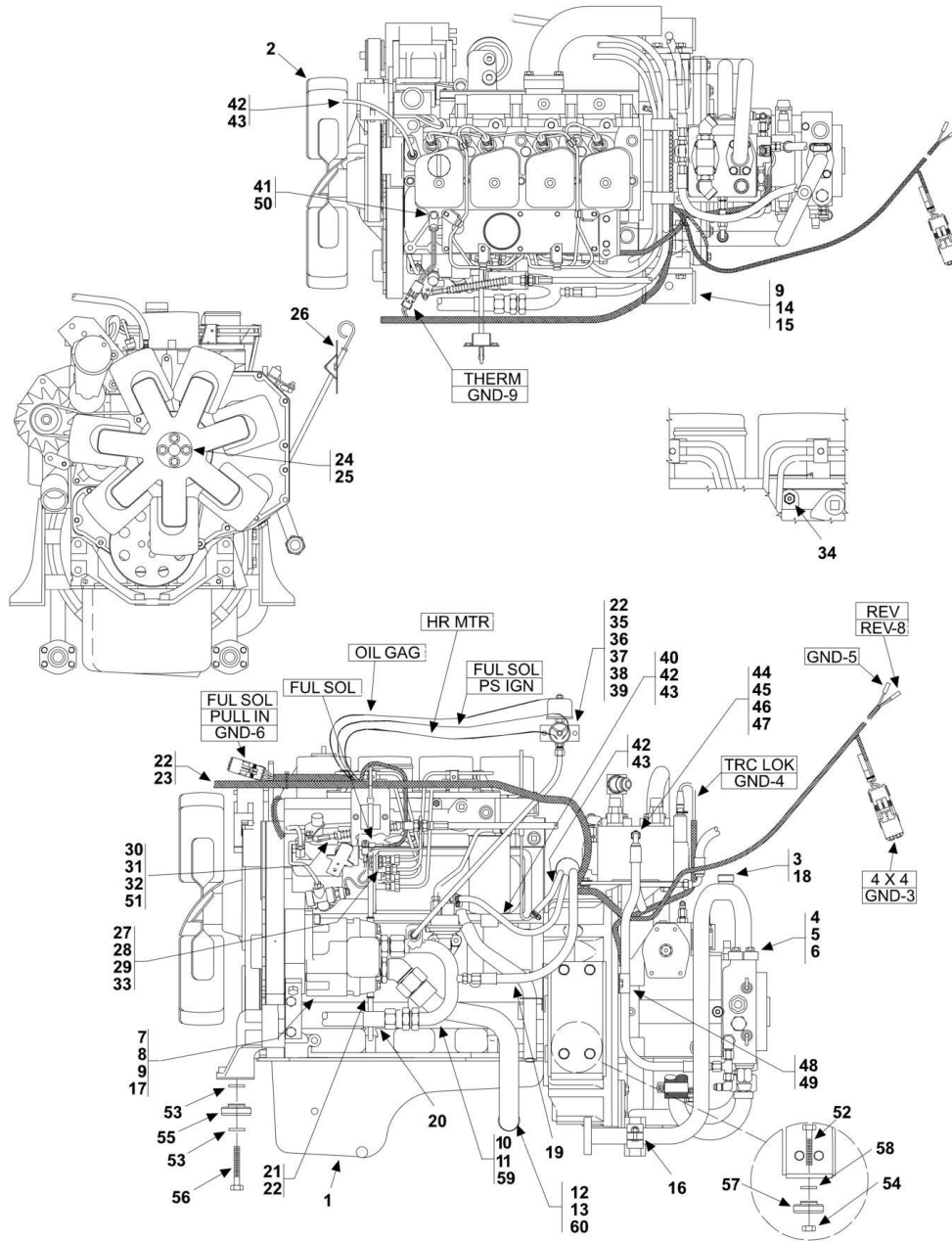
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91335033		CUMMINS ENGINE FILTER KIT, (Includes all Items)	
	91084001		OIL FILTER ELEMENT	
	77383303		FUEL FILTER	
	91083218		FUEL FILTER	
	91403103		AIR FILTER SAFETY ELEMENT	
	91403102		AIR FILTER ELEMENT	
	91395007	Ref	ENGINE ASSEMBLY, (Includes all Items on EPA ENGINE LEFT SIDE VIEW Except 49 thru 55; Includes Items 1 thru 55 on EPA ENGINE RIGHT SIDE VIEW, and all Items on EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING)	
1	91333031	1	CUMMINS ENGINE, B3.9C-80	
2	91303056	1	FAN ASSEMBLY	
3	91143055	1	TUBE ASSEMBLY	
4	84712738	2	SPLIT FLANGE CLAMP	
5	83201135	4	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
6	88551012	4	LOCKWASHER, 7/16	
7		Ref	MAIN PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	83191057	2	SOCKET HD CAPSCREW, M12X1.75X80	
9	83191010	10	LOCKWASHER, M12	
10	91323023	1	TUBE ASSEMBLY	
11	88662010	1	CONNECTOR, (Includes Item 59)	
12	91323022	1	SUCTION TUBE	
13	88662090	1	ELBOW, 45, (Includes Item 48)	
14	91336004	2	REAR ENGINE MOUNTING BRACKET	
15	83191032	8	HEX HD CAPSCREW, M12X1.75X35, GR8, (Torque to 58-68 ft lbs)	
16	90205792	1	CUSHION CLAMP	
17	90027471	2	HARD WASHER	
18	91083106	1	O-RING	
19	84717934	1	HOSE ASSEMBLY	
20	84717851	1	HOSE ASSEMBLY	
21	91083493	10 in	SPLIT FLEX LOOM, 1/2	
22	90027187	4	TIE-WRAP	
23		Ref	ENGINE WIRING HARNESS, (See ELECTRICAL SECTION for Breakdown)	
24	83191041	4	HEX HD CAPSCREW, M8X1.25X70	
25	88561108	4	FLATWASHER, 5/16	
26	91146101	1	DIPSTICK WELDMENT	
27	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
28	88551009	2	LOCKWASHER, 1/4	
29	88501616	2	HEX NUT, 1/4	
30	83683246	1	BALL JOINT TERMINAL	
32	91163260	1	ACCELERATOR CABLE	
33	91331020	1	THROTTLE CABLE BRACKET	
34	24741047	1	PRESSURE SWITCH	
35	91143315	1	OIL PRESSURE SENDER	
36	91081388	1	TAPPED BAR	
37	86883075	1	TUBE FITTING	
38	72071980	18 in	NYLON TUBE, 3/8	
39	90030271	1	HOSE NIPPLE	
40	82092118	118 in	FUEL LINE HOSE, 5/16	

SECTION 4 - ENGINE AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	86883106	4	HOSE CLAMP	
42	90027684	1	YOKE END	
43	84714006	2	ORS CAP	
44	91365014	1	QUICK START THERMOSTAT ASSY, (Includes the Following Four Items)	
44	91363031	1	THERMOSTAT	
44	80963058	1	SHROUD CONNECTOR, 2-WIRE	
44	80963069	2	MALE PIN TERMINAL	
44	80963065	2	CABLE SEAL	
45	83191038	1	HEX HD CAPSCREW, M10X1.5X20	
46	91363029	1	ATOMIZER	
47	86883074	1	TUBE FITTING, 90	
48	88591210	1	O-RING	
49	77321274	2	HEX HD CAPSCREW, 7/8-9X5, GR8	
50	91331002	2	REBOUND WASHER	
51	88521214	2	HEX LOCKNUT, 7/8-9	
52	91333003	2	SHOCK MOUNT	
53	91081158	2	REBOUND WASHER	
54	91333002	1	SHOCK MOUNT	
55	91083338	1	HEX HD CAPSCREW, M16X120, GR8	
56	88591209	1	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. (91385020) EPA ENGINE LEFT SIDE VIEW



SERVICE NOTES:

- 1). Use Loctite 242, P/N 14403364, on all bolt threads.
- 2). Use Loctite pipe sealant, P/N 14404082, on all pipe threads.
- 3). Use Loctite 545, P/N 14404082, on all hydraulic fitting threads.
- 3). Add 12 qts. of oil, P/N 14403420, to crankcase.

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. (91385020) EPA ENGINE LEFT SIDE VIEW

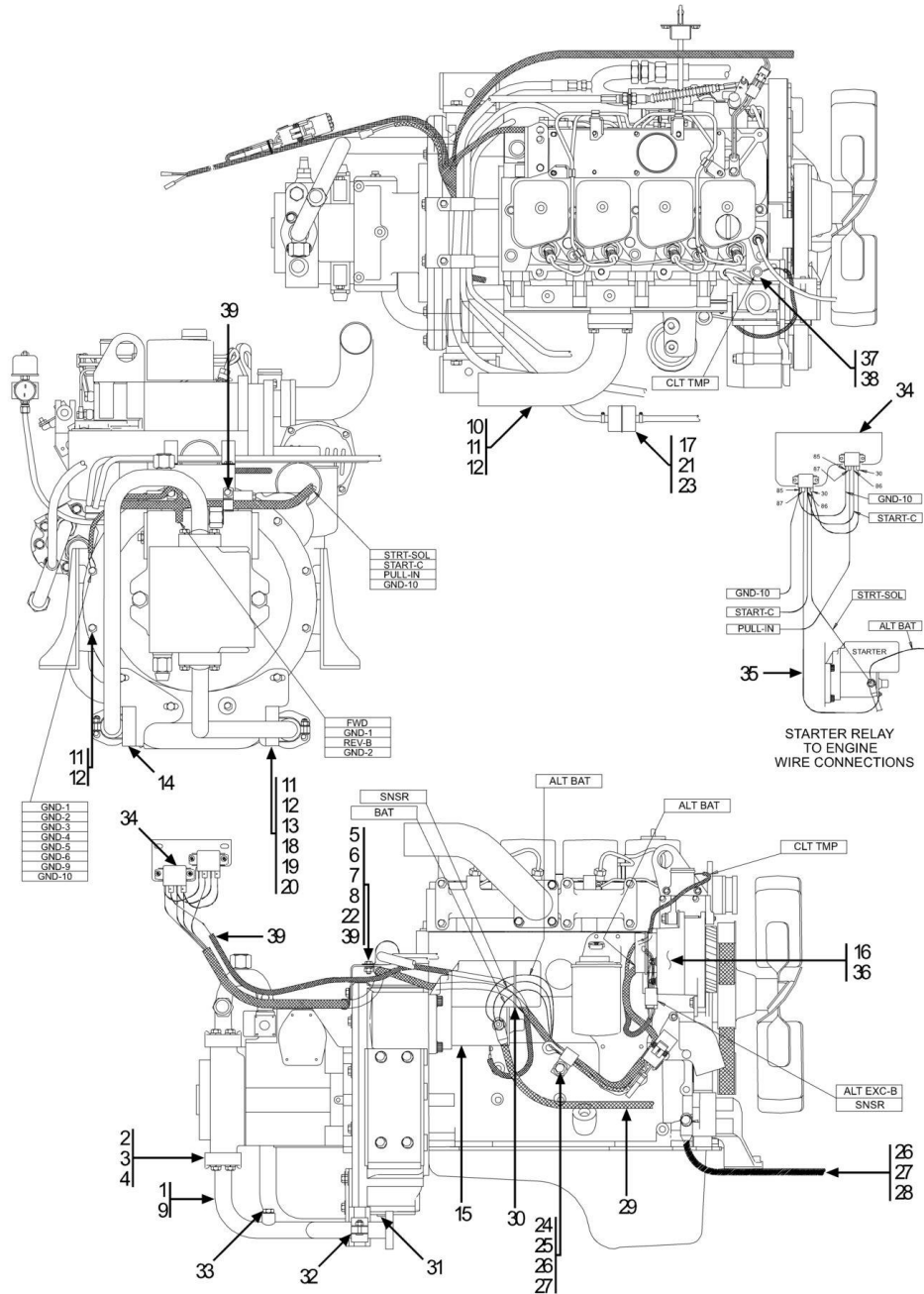
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91335033		CUMMINS ENGINE FILTER KIT, (Includes all Items)	
	91084001		OIL FILTER ELEMENT	
	77383303		FUEL FILTER	
	91083218		FUEL FILTER	
	91403103		AIR FILTER SAFETY ELEMENT	
	91403102		AIR FILTER ELEMENT	
	91385020	Ref	ENGINE ASSEMBLY, (Includes all Items on EPA ENGINE LEFT SIDE VIEW Except 52 thru 58; Includes Items 1 thru 55 on EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING, and all Items on RADIATOR ASSEMBLY)	
1	91333031	1	CUMMINS ENGINE, B3.9C-80	
2	91303056	1	FAN ASSEMBLY	
3	91143055	1	TUBE ASSEMBLY	
4	84712738	2	SPLIT FLANGE CLAMP	
5	83201135	4	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
6	88551012	4	LOCKWASHER, 7/16	
7		Ref	MAIN PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	83191057	2	SOCKET HD CAPSCREW, M12X1.75X80	
9	83191010	10	LOCKWASHER, M12	
10	91323023	1	TUBE ASSEMBLY	
11	88662010	1	CONNECTOR, (Includes Item 59)	
12	91323022	1	SUCTION TUBE	
13	88662090	1	ELBOW, 45, (Includes Item 60)	
14	91336004	2	REAR ENGINE MOUNTING BRACKET	
15	83191032	8	HEX HD CAPSCREW, M12X1.75X35, GR8, (Torque to 58-68 ft lbs)	
16	90205792	1	CUSHION CLAMP	
17	90027471	2	HARD WASHER	
18	91083106	1	O-RING	
19	84717934	1	HOSE ASSEMBLY	
20	84717851	1	HOSE ASSEMBLY	
21	91083493	10 in	SPLIT FLEX LOOM, 1/2	
22	90027187	4	TIE-WRAP	
23		Ref	ENGINE WIRING HARNESS, (See ELECTRICAL SECTION for Breakdown)	
24	83191041	4	HEX HD CAPSCREW, M8X1.25X70	
25	88561108	4	FLAT WASHER, 5/16	
26	91146101	1	DIPSTICK WELDMENT	
27	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
28	88551009	2	LOCKWASHER, 1/4	
29	88501616	2	HEX NUT, 1/4	
30	83683246	1	BALL JOINT TERMINAL	
32	91163260	1	ACCELERATOR CABLE	
33	91331020	1	THROTTLE CABLE BRACKET	
34	91363029	1	ATOMIZER, 1/8	
35	24741047	1	PRESSURE SWITCH	
36	91143315	1	OIL PRESSURE SENDER	
37	91081388	1	TAPPED BAR	
38	86883075	2	TUBE FITTING	
39	Bulk	18 in	NYLON HOSE, 3/8	
40	90030271	1	HOSE NIPPLE	

SECTION 4 - ENGINE AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	83191038	1	HEX HD CAPSCREW, M10X1.5X20	
42	82092118	114 in	FUEL LINE HOSE, 5/16	
43	86883106	4	HOSE CLAMP	
44	77133447	1	HOSE ASSEMBLY	
45	91083306	1	CONNECTOR, (Includes Item 47)	
46	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
47	88591206	1	O-RING	
48	85941017	1	SUPPORT CLAMP	
49	88561109	1	FLAT WASHER, 3/8	
50	91365014	1	QUICK START THERMOSTAT ASSEMBLY, (Includes the Following Four Items)	
50	91363031	1	THERMOSTAT	
50	80963058	1	SHROUD CONNECTOR, 2-WIRE	
50	80963069	2	MALE PIN TERMINAL	
50	80963065	2	CABLE SEAL	
51	90027684	1	YOKE END	
52	77321274	2	HEX HD CAPSCREW, 7/8-9X5, GR8	
53	91081158	2	REBOUND WASHER	
54	88521214	2	HEX LOCKNUT, 7/8-9	
55	91333002	1	SHOCK MOUNT	
56	91083338	1	HEX HD CAPSCREW, M16X120, GR8	
57	91333003	2	SHOCK MOUNT	
58	91331002	2	REBOUND WASHER	
59	88591209	1	O-RING	
60	88591210	1	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. (91395007) EPA ENGINE RIGHT SIDE VIEW



SERVICE NOTES:

- 1). Use Loctite, P/N 14403364, on all bolt & fitting threads except pipe threads.
- 2). Use Loctite pipe sealant, P/N 14404082, on all pipe threads.
- 3). Add 12 qts. of oil, P/N 14403420, to crankcase.

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. (91395007) EPA ENGINE RIGHT SIDE VIEW

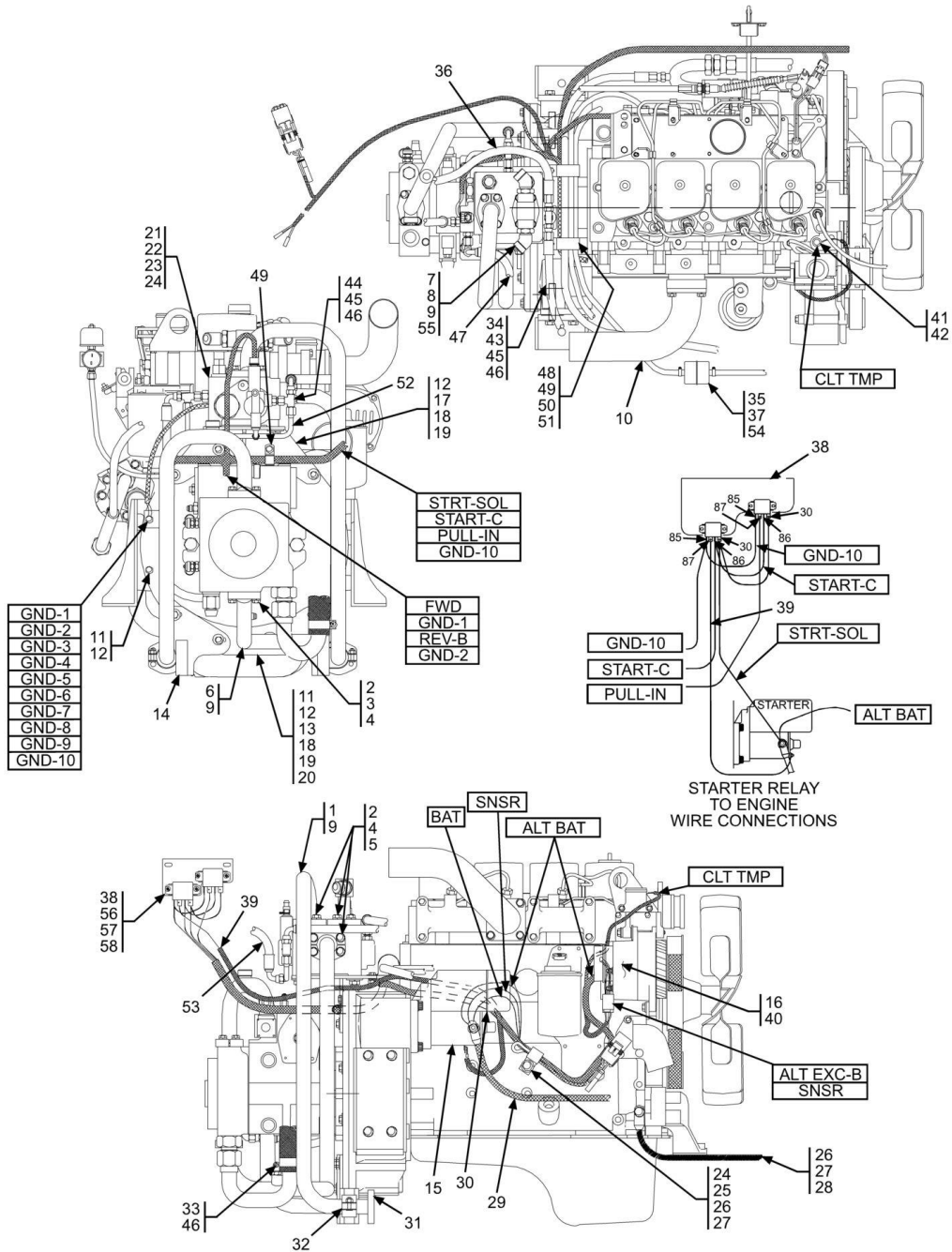
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91395007	Ref	ENGINE ASSEMBLY, (Includes all Items on EPA ENGINE LEFT SIDE VIEW Except 49 thru 55; Includes Items 1 thru 39 on EPA ENGINE RIGHT SIDE VIEW, and all Items on EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING)	
1	91333004	1	TUBE ASSEMBLY	
2	84712738	2	SPLIT FLANGE CLAMP	
3	83201135	4	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
4	88551012	4	LOCKWASHER, 7/16	
5	88201018	2	HEX HD CAPSCREW, 5/16-18X-3/4, GR8	
6	88501005	2	HEX NUT, 5/16-18	
7	91091001	1	CLAMP SUPPORT	
8	88551010	2	LOCKWASHER, 5/16	
9	91083106	1	O-RING	
10		Ref	EXHAUST TUBING AND ATTACHING PARTS, (See EXHAUST SYSTEM for Breakdown)	
11	83191021	13	HEX HD CAPSCREW, M10X1.5X30, GR8	
12	83191013	16	LOCKWASHER, M10	
13	91336003	1	TUBE SUPPORT	
14	91086131	1	TUBE SUPPORT	
15	91083456	1	STARTER	
16	91083503	1	ALTERNATOR, (Includes Item 36)	
17	91146058	1	FLOW DIVIDER BRACKET	
18	83191006	1	HEX HD CAPSCREW, M10X1.5X40, GR8	
19	88561109	3	FLAT WASHER, 3/8	
20	83191005	2	HEX HD CAP SCREW, M10X1.5X45, GR8	
21	83483497	2	HOSE CLAMP	
22	90028660	2	SUPPORT CLAMP	
23	88551013	11 in	5/16, HOSE	
24	88561111	1	FLAT WASHER, 1/2	
25	91143122	1	SUPPORT CLAMP, 5/8	
26	83191004	2	HEX HD CAP SCREW, M12X1.75X30, GR8	
27	83191010	2	LOCKWASHER, M12	
28	91083481	1	NEGATIVE BATTERY CABLE	
29	91083482	1	POSITIVE BATTERY CABLE	
30	90027187	1	TIE-WRAP	
31	88711284	1	HEX SOCKET PIPE PLUG, 3/4	
32	90205792	1	CUSHION CLAMP	
33	88661384	1	HEX HD PLUG, 3/8 TUBE,	
34	91345008	1	STARTER RELAY ASSEMBLY, (Includes the Following Seven Items)	
34	77383377	2	SOLENOID RELAY	
34	88211028	4	HEX HD CAPSCREW, #10-24X1/2, GR8	
34	88501612	4	HEX NUT, #10-24	
34	88551007	4	LOCKWASHER, #10	
34	88561105	4	FLAT WASHER, #10	
34	91331014	1	RELAY MOUNTING PLATE	
34	91373009	1	JUMPER WIRE	
35	91363066	1	JUMPER WIRE	
36	91083504	1	REGULATOR	
37	91143314	1	WATER TEMPERATURE SENDER	
38	88711385	1	REDUCER BUSHING, 1/2x1/8	

SECTION 4 - ENGINE AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
39	24861170	3 Ref	SUPPORT CLAMP NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-4. (91385020) EPA ENGINE RIGHT SIDE VIEW



SERVICE NOTES:

- 1). Use Loctite, P/N 1440-3364, on all bolt & fitting threads except pipe threads.
- 2). Use Loctite pipe sealant, P/N 1440-4082, on all pipe threads.
- 3). Add 12 qts. of oil, P/N 1440-3420, to crankcase.

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-4. (91385020) EPA ENGINE RIGHT SIDE VIEW

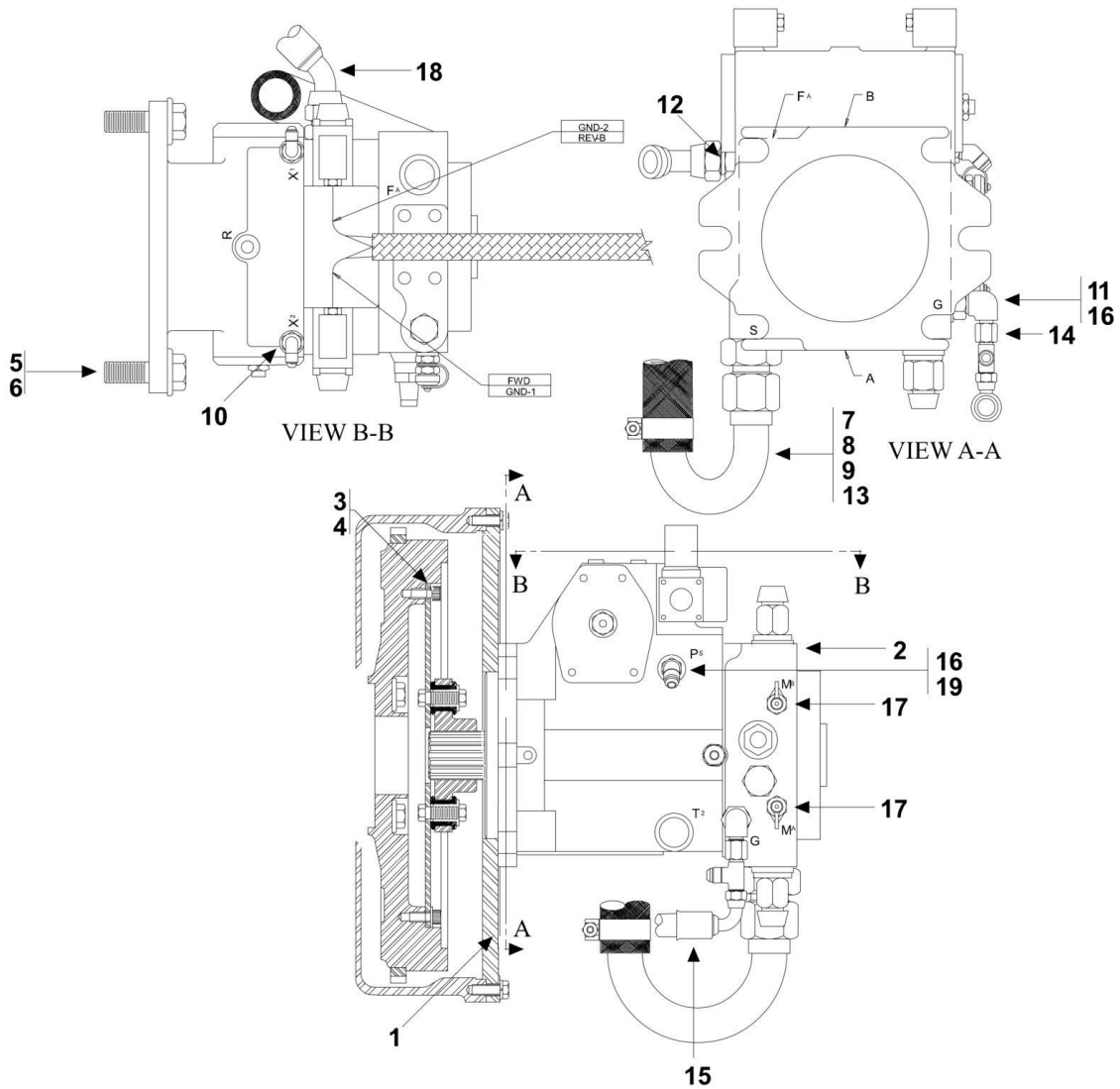
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91385020	Ref	ENGINE ASSEMBLY, (Includes all Items on EPA ENGINE LEFT SIDE VIEW Except 52 thru 58; Includes Items 1 thru 55 on EPA ENGINE RIGHT SIDE VIEW, and all Items on EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING)	
1	91333004	1	TUBE ASSEMBLY	
2	84712738	8	SPLIT FLANGE CLAMP	
3	83201135	4	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
4	88551012	16	LOCKWASHER, 7/16	
5	83201155	12	HEX HD CAPSCREW, 7/16-14X1-3/4, GR8	
6	91163201	1	TUBE ASSEMBLY	
7	91083266	1	TUBE ASSEMBLY	
8	88662421	2	ELBOW, 45, (Includes Item 55)	
9	91083106	4	O-RING	
10		Ref	EXHAUST TUBING AND ATTACHING PARTS, (See EXHAUST SYSTEM for Breakdown)	
11	83191021	5	HEX HD CAPSCREW, M10X1.5X30, GR8	
12	83191013	12	LOCKWASHER, M10	
13	91336003	1	TUBE SUPPORT	
14	91086131	1	TUBE SUPPORT	
15	91083456	1	STARTER	
16	91083503	1	ALTERNATOR, (Includes Item 40)	
17	91146058	1	FLOW DIVIDER BRACKET	
18	83191006	5	HEX HD CAPSCREW, M10X1.5X40, GR8	
19	88561109	7	FLATWASHER, 3/8	
20	83191005	2	HEX HD CAPSCREW, M10X1.5X45, GR8	
21		Ref	TRACTION LOCK VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
23	88551013	2	LOCKWASHER, 1/2	
24	88561111	3	FLAT WASHER, 1/2	
25	91143122	1	SUPPORT CLAMP, 5/8	
26	83191004	2	HEX HD CAPSCREW, M12X1.75X30, GR8	
27	83191010	2	LOCKWASHER, M12	
28	91083481	1	NEGATIVE BATTERY CABLE	
29	91083482	1	POSITIVE BATTERY CABLE	
30	90027187	1	TIE-WRAP	
31	88711284	1	HEX SOCKET PIPE PLUG, 3/4	
32	90205792	1	CUSHION CLAMP	
33	88662064	1	ELBOW, 90, (Includes Item 46)	
34	88662224	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
35	Bulk	11 in	HOSE, 5/16	
36	84719141	1	HOSE ASSEMBLY	
37	83483497	2	HOSE CLAMP	
38	91345008	1	STARTER RELAY ASSEMBLY, (Includes the Following Seven Items)	
38	77383377	2	SOLENOID RELAY	
38	88211028	4	HEX HD CAPSCREW, #10-24X1/2, GR8	
38	88501612	4	HEX NUT, #10-24	
38	88551007	4	LOCKWASHER, #10	
38	88561105	4	FLAT WASHER, #10	
38	91331014	1	RELAY MOUNTING PLATE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
38	91373009	1	JUMPER WIRE	
39	91363066	1	JUMPER WIRE	
40	91083504	1	REGULATOR	
41	91143314	1	WATER TEMPERATURE SENDER	
42	88711385	1	REDUCER BUSHING, 1/2x1/8	
43	84717889	1	HOSE ASSEMBLY	
44	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
45	88662005	2	CONNECTOR, (Includes Item 46)	
46	88591204	3	O-RING	
47	84718185	1	HOSE ASSEMBLY	
48	90028660	2	SUPPORT CLAMP	
49	24861170	4	SUPPORT CLAMP	
50	88201020	2	HEX HD CAPSCREW, 5/16-18X1, GR5	
51	88521205	2	HEX LOCKNUT, 5/16-18	
52	91163098	1	FLOW DIVIDER TUBE	
53	84719142	1	HOSE ASSEMBLY	
54	91083218	1	FUEL FILTER	
55	88591207	2	O-RING	
56	88201001	2	HEX HD CAPSCREW, 1/4-20X1/2, GR5	
57	88561107	1	FLAT WASHER, 1/4	
58	88551009	2	LOCKWASHER, 1/4	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-5. (91395007) EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING



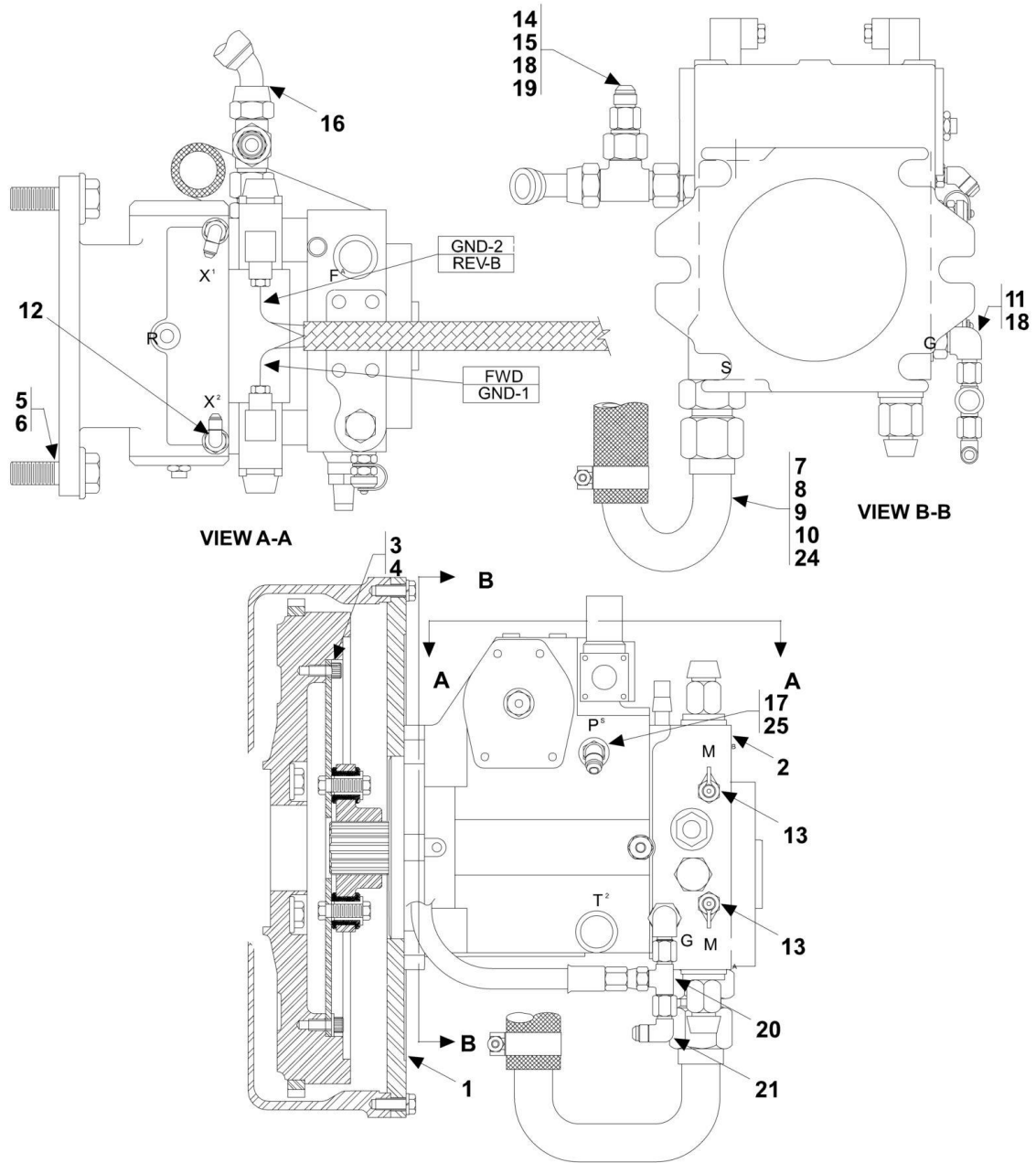
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-5. (91395007) EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91395007	Ref	ENGINE ASSEMBLY, (Includes all Items on EPA ENGINE LEFT SIDE VIEW Except 52 thru 58; Includes Items 1 thru 55 on EPA ENGINE RIGHT SIDE VIEW, and all Items on EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING)	
1	91083019	1	PUMP MT. AND FLYWHEEL COUPLING, (Includes Items 20 & 21)	
2		Ref	HYDROSTATIC TRANS PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
3	88211068	8	SOCKET HD CAPSCREW, 3/8-16X5/8 GR8, (Torque to 40-45 ft lbs)	
4	88551011	8	LOCKWASHER, 3/8	
5	88201112	2	HEX HD CAPSCREW, 3/4-10X2-1/4, GR5, (Torque to 240-265 ft lbs)	
6	90027473	2	LOCK WASHER, 3/4	
7	88662011	1	CONNECTOR, (Includes Item 22)	
8	91083246	1	HOSE	
9	80633030	2	BAND CLAMP	
10	90027906	2	ELBOW, 90	
11	91083222	1	STR THD REDUCER CONNECTOR, 90, (Includes Item 16)	
12	88662008	1	CONNECTOR, (Includes Item 16)	
13	91083536	1	INTAKE TUBE	
14	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
15	84717852	1	HOSE ASSY	
16	88591207	2	O-RING	
17	91053020	2	TEST COUPLING	
18	84717839	1	HOSE ASSY	
19	88662084	1	ELBOW, 45, (Includes Item 23)	
20	91344048	1	PUMP MOUNT PLATE	
21	91084312	1	COUPLING ASSY, (Bolts Included)	
22	88591210	1	O-RING	
23	88591204	1	O-RING	

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FIGURE 4-6. (91385020) EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING



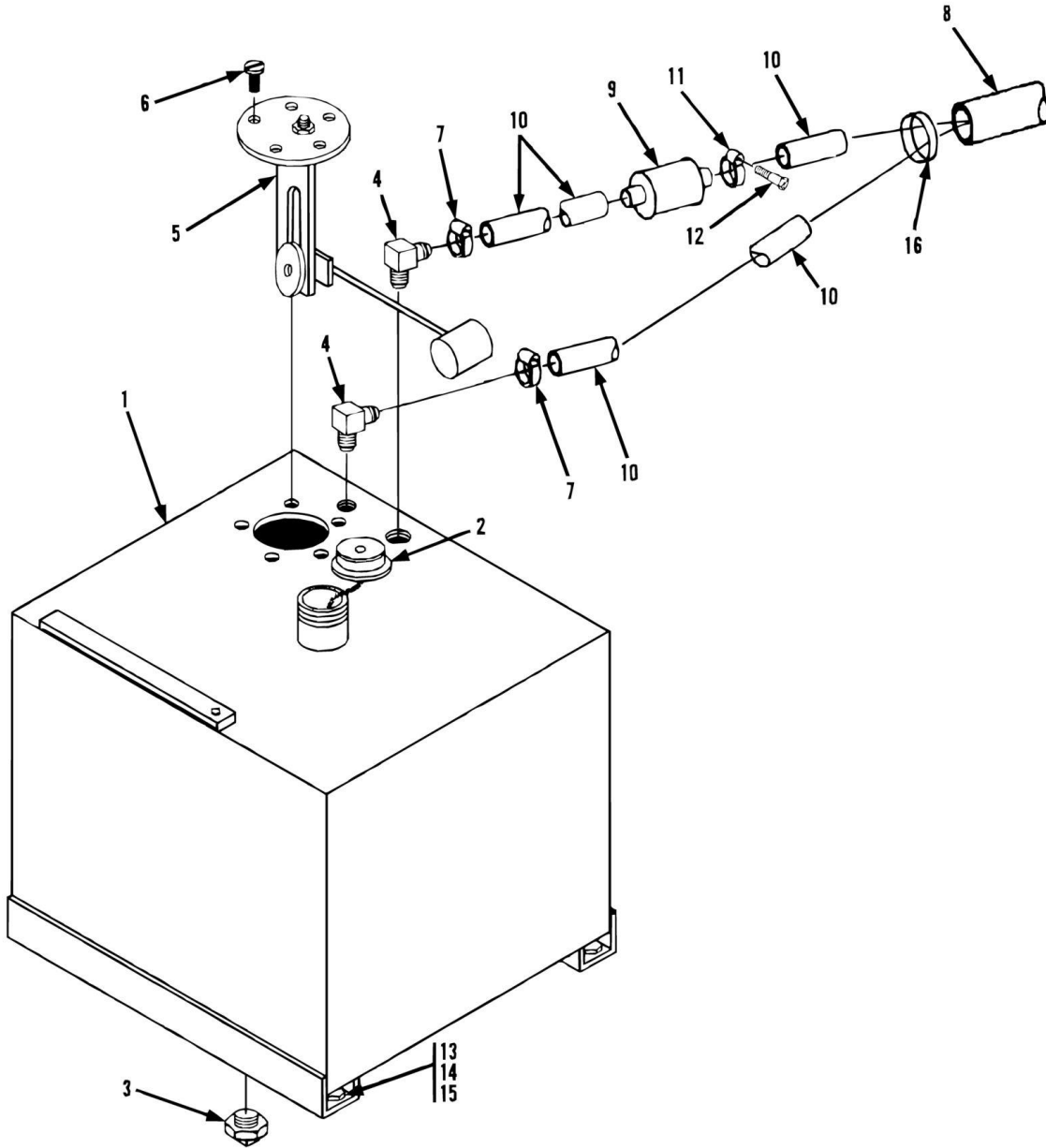
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-6. (91385020) EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91385020	Ref	ENGINE ASSEMBLY, (Includes all Items on EPA ENGINE LEFT SIDE VIEW Except 52 thru 58; Includes Items 1 thru 55 on EPA ENGINE RIGHT SIDE VIEW, and all Items on EPA ENGINE PUMP MOUNT AND FLYWHEEL HOUSING)	
1	91083019	1	PUMP MT. AND FLYWHEEL COUPLING, (Includes Items 22 & 23)	
2		Ref	HYDROSTATIC TRANS PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
3	88211068	8	SOCKET HD CAPSCREW, 3/8-16X5/8 GR8, (Torque to 40-45 ft lbs)	
4	88551011	8	LOCKWASHER, 3/8	
5	88201112	2	HEX HD CAPSCREW, 3/4-10X2-1/4, GR5, (Torque to 240-265 ft lbs)	
6	90027473	2	LOCKWASHER, 3/4	
7	88662011	1	CONNECTOR, (Includes Item 24)	
8	91083536	1	INTAKE TUBE	
9	91083246	1	HOSE	
10	80633030	2	BAND CLAMP	
11	91083222	1	STR THD REDUCER CONNECTOR, 90, (Includes Item 18)	
12	90027906	2	ELBOW, 90	
13	91053020	2	TEST COUPLING	
14	88662242	1	SWIVEL NUT RUN TEE, 3/4 TUBE	
15	83651133	1	REDUCER WITH ADAPTOR	
16	84717839	1	HOSE ASSEMBLY	
17	88662084	1	ELBOW, 45, (Includes Item 25)	
18	88591207	2	O-RING	
19	88662008	1	CONNECTOR, (Includes Item 18)	
20	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
21	88662105	1	ELBOW, 90, (Swivel Nut)	
22	91344048	1	PUMP MOUNT PLATE	
23	91084312	1	COUPLING ASSY, (Bolts Included)	
24	88591210	1	O-RING	
25	88591204	1	O-RING	

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FIGURE 4-7. (91155016) FUEL TANK AND LINES



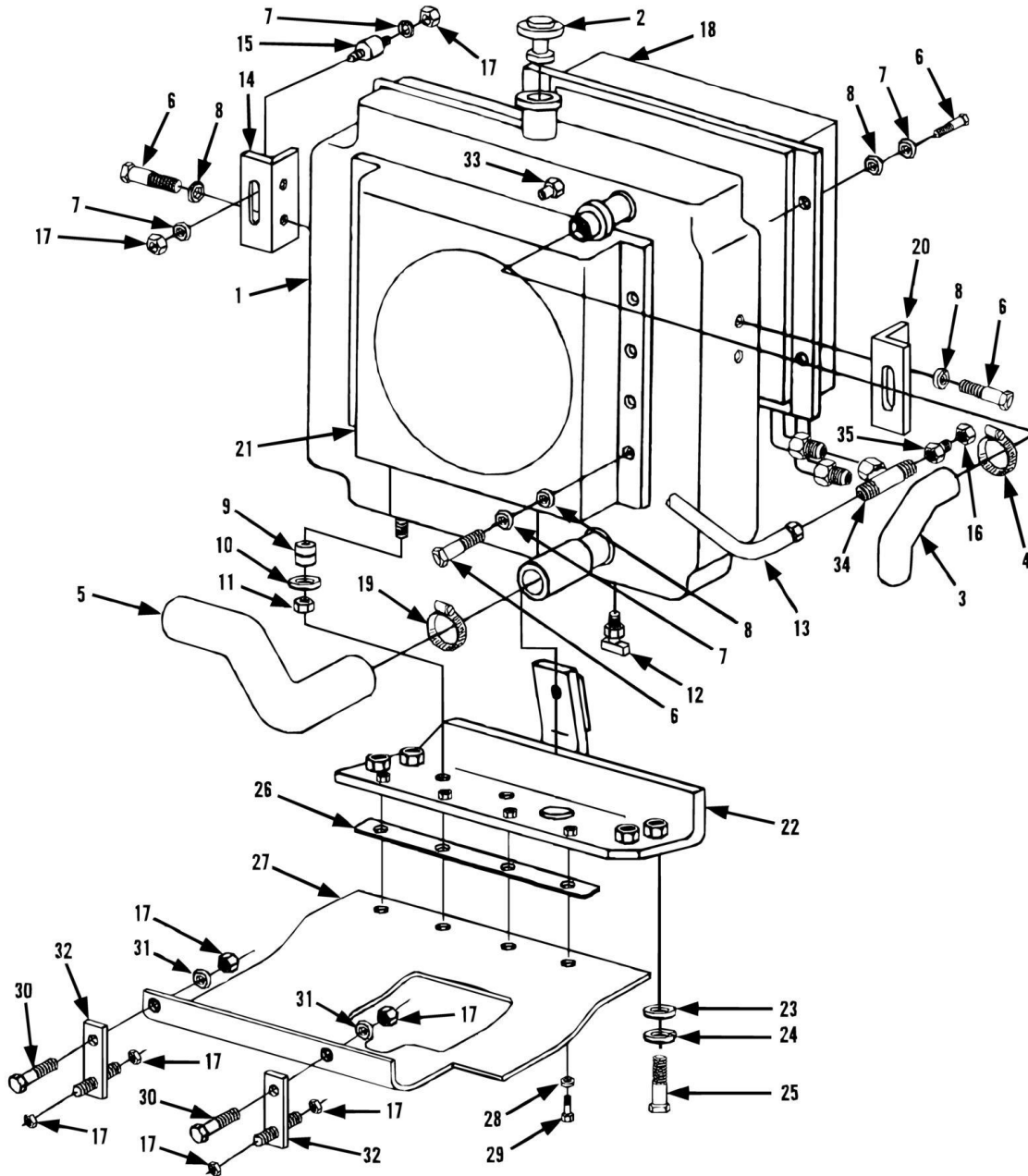
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-7. (91155016) FUEL TANK AND LINES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91155016	1	FUEL TANK ASSY, (Includes Items 1 thru 6)	
1	91153031	1	FUEL TANK, (Includes Items 2 & 3)	
2	86541381	1	FUEL TANK CAP, (w/chain)	
3	88711283	1	HEX SOCKET PIPE PLUG, 1/2	
4	84712746	2	HOSE NIPPLE, 90, 1/2X3/8	
5	91143316	1	FUEL SENDER	
6	91083491	5	GASKETED SCREW, 10-32	
7	86883106	2	HOSE CLAMP	
8	71492142	20 in	FLEX LOOM	
9		Ref	FUEL FILTER, (See EPA ENGINE LEFT SIDE VIEW for Breakdown)	
10		Ref	FUEL LINE HOSE, 5/16IN ID, (See EPA ENGINE LEFT SIDE VIEW for Breakdown)	
11	90028660	1	SUPPORT CLAMP	
12	91123124	1	WHIZ-LOK SCREW, 5/16-18X1/2	
13	88201095	4	HEX HD CAPSCREW, 5/8-11X1-1/2, GR5	
14	88561008	4	FLAT WASHER, 5/8	
15	88551015	4	LOCKWASHER, 5/8	
16	86683122	2	TIE WRAP	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-8. (91085139) RADIATOR ASSEMBLY



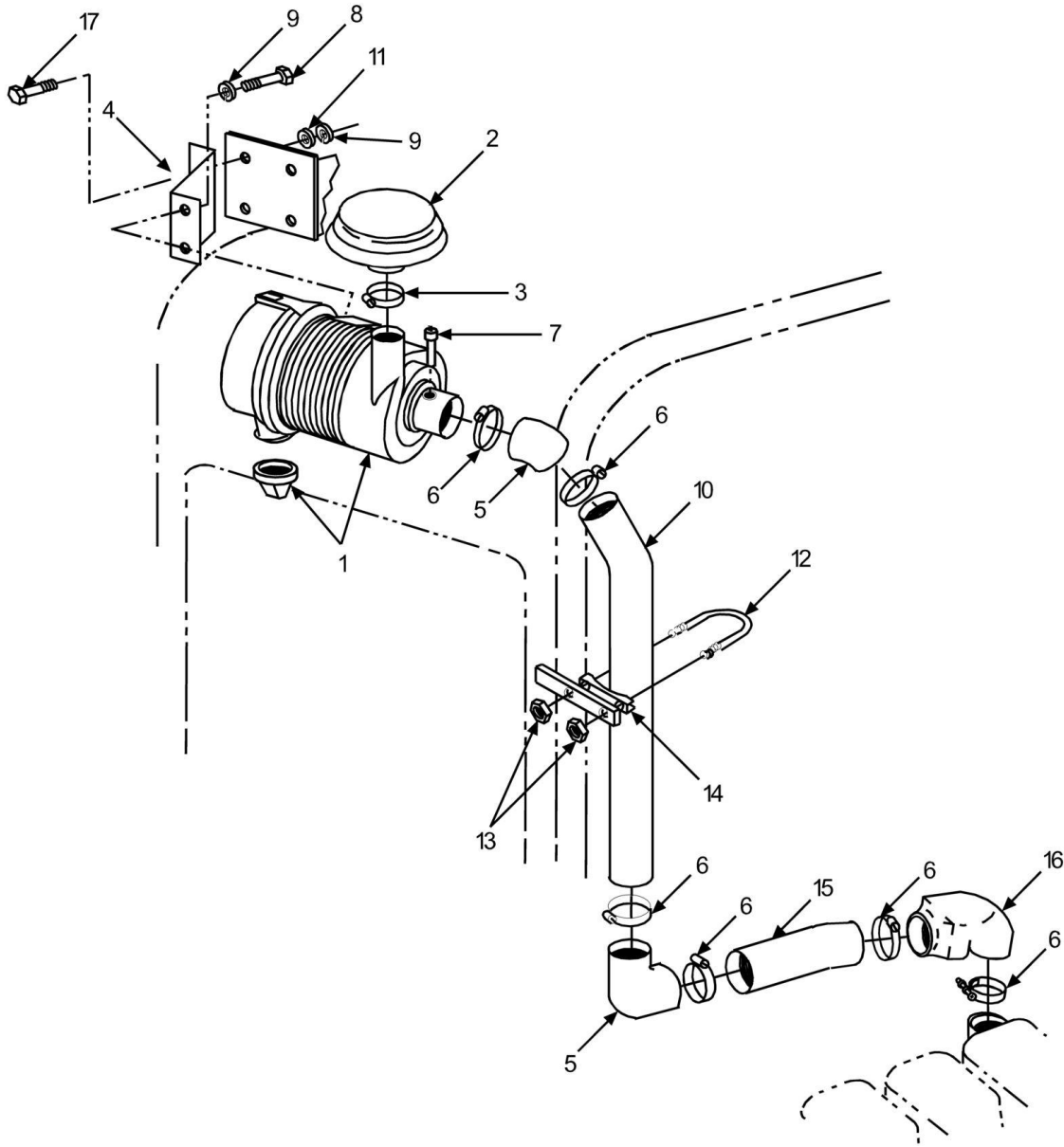
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-8. (91085139) RADIATOR ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085139	Ref	RADIATOR ASSEMBLY, (Includes Items 1, 2, 3, one of Item 4, 5 thru 8 12, 13, 14, 18, one of Item 19, 20, 21 & 33 thru 36)	
1	91143269	1	RADIATOR, (Includes Item 2)	
2	91084198	1	RADIATOR CAP, 16 PSI	
3	91083094	1	UPPER RADIATOR HOSE	
4	85071128	2	HOSE CLAMP	
5	91083364	1	LOWER RADIATOR HOSE	
6	88201016	16	HEX HD CAPSCREW, 5/16-18x1/2, GR5	
7	88561003	16	FLAT WASHER, 5/16	
8	88551010	16	LOCKWASHER, 5/16	
9	83683308	2	SHOCK MOUNT	
10	90205918	2	WASHER	
11	88521206	2	HEX LOCKNUT, 3/8-16	
12	84521056	1	DRAIN COCK	
13	84719109	1	HOSE ASSY	
14	91081181	1	MOUNTING BRACKET	
15	91033137	2	SHOCK MOUNT	
16	88661408	1	NUT	
17	77143006	10	WHIZ LOCKNUT, 5/16-18	
18	91083573	1	OIL COOLER	
19	86883327	2	HOSE CLAMP	
20	91081541	1	MOUNTING BRACKET	
21	91083085	1	RADIATOR SHROUD	
22	91086174	1	RADIATOR MOUNT	
23	88561006	4	FLATWASHER, 1/2	
24	88551013	4	LOCKWASHER, 1/2	
25	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
26	91301086	1	FLAT BAR	
27	91123168	1	DUST SHIELD	
28	88561003	4	WASHER	
29	88201021	4	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
30	88201020	2	HEX HD CAPSCREW, 5/16-18X1, GR5	
31	91083533	2	FENDER WASHER	
32	91081654	2	BAR	
33	90030271	1	HOSE END FITTING, 5/16	
34	88662227	1	SWIVEL NUT BRANCH TEE, 3/4 TUBE	
35	88661345	1	REDUCER ADAPTER	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-9. AIR CLEANER PIPING



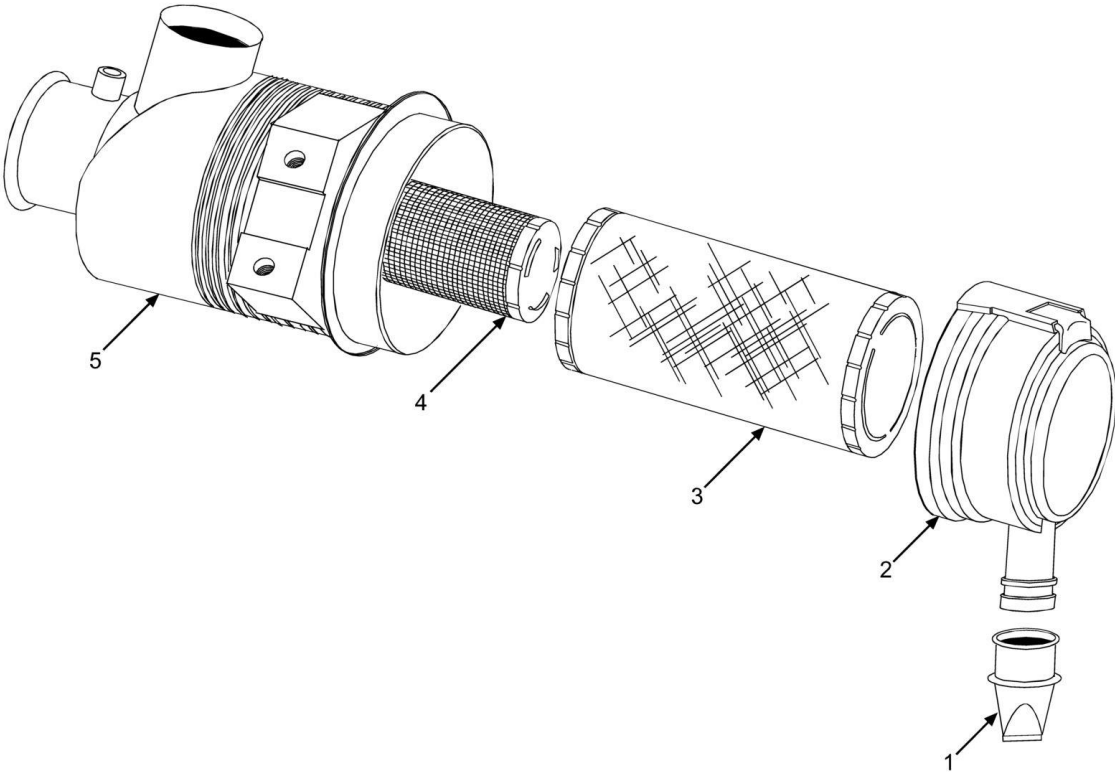
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-9. AIR CLEANER PIPING

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	7IN AIR CLEANER, VINYL HOUSING, (See 7IN AIR CLEANER for Breakdown)	
2	91403512	1	AIR INLET HOOD, (Includes Item 3)	
3		Ref	CLAMP	
4	91481005	1	AIR CLEANER SUPPORT	
5	91083128	2	ELBOW, 90	
6	91163129	6	BAND CLAMP	
7	83671475	1	SERVICE INDICATOR	
8	83191028	2	HEX HD CAPSCREW, M8X1-1/4X25, GR8	
9	88551010	4	LOCKWASHER, 5/16	
10	91483015	1	UPPER INTAKE TUBE	
11	88561003	2	FLAT WASHER, 5/16	
12	24921332	1	MUFFLER CLAMP, (Includes Items 13 & 14)	
13		Ref	NUT	
14		Ref	BRIDGE	
15	91083124	1	AIR INTAKE TUBE	
16	91083126	1	AIR INTAKE ELBOW, 90	
17	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-10. (91383065) 7 INCHES AIR CLEANER



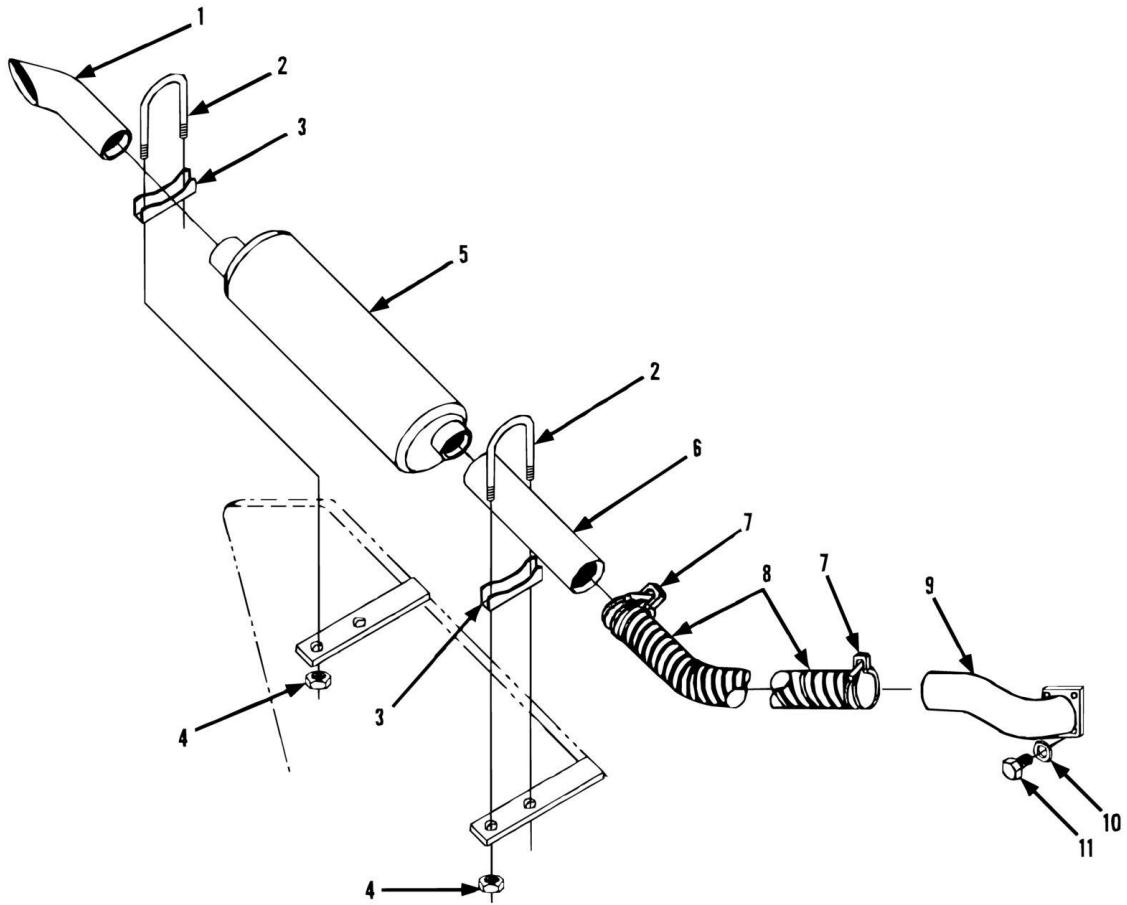
SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-10. (91383065) 7 INCHES AIR CLEANER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91383065	1	7IN AIR CLEANER, (Includes all Items)	
1	80274006	1	VACUATOR VALVE	
2	91384010	1	COVER ASSEMBLY	
3	91403102	1	FILTER ELEMENT	
4	91403103	1	SAFETY ELEMENT	
5		Ref	BODY, VINYL HOUSING, (Not Sold Separately Order P/N 9138-3065)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-11. EXHAUST SYSTEM



SECTION 4 - ENGINE AND ATTACHING PARTS

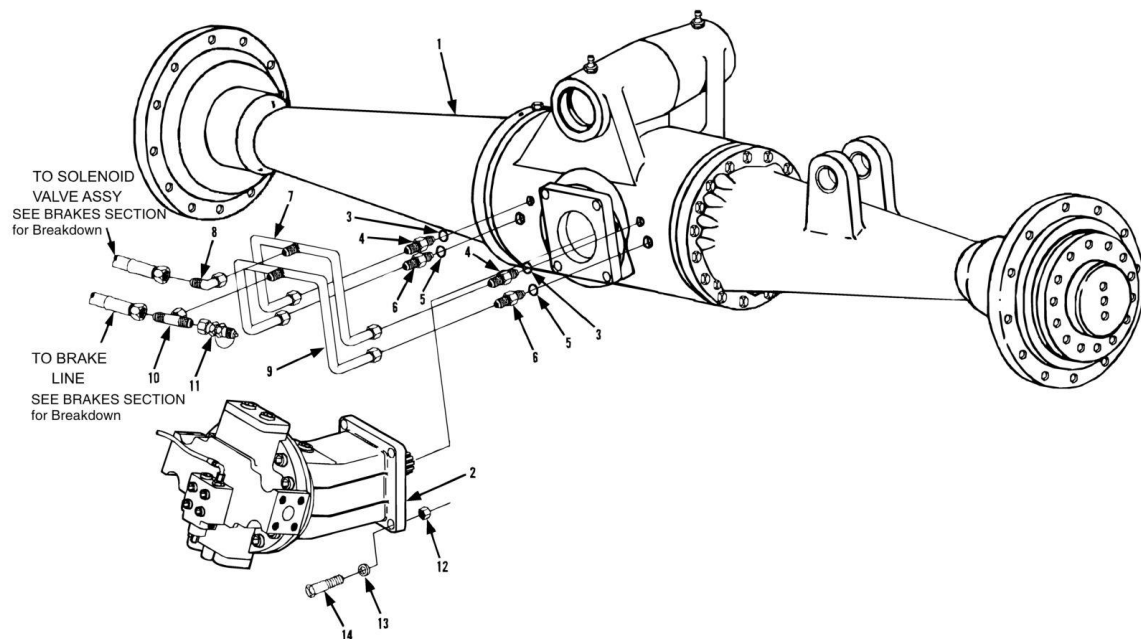
FIGURE 4-11. EXHAUST SYSTEM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083560	1	TAIL PIPE	
2	83683175	2	MUFFLER CLAMP, (Includes Items 3 & 4)	
3		Ref	BRIDGE	
4		Ref	NUT	
5	91083250	1	MUFFLER	
6	91483011	1	EXHAUST PIPE	
7	91163268	2	FLEX PIPE CLAMP	
8	91483041	1	FLEXIBLE TUBING	
9	91086055	1	EXHAUST TUBE	
10	83191013	4	LOCKWASHER, M10	
11	83191021	4	HEX HD CAPSCREW, M10X1.5X30	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 5 - DRIVE TRAIN

SECTION 5 - DRIVE TRAIN

FIGURE 5-1. (91485018) FRONT AXLE ASSEMBLY



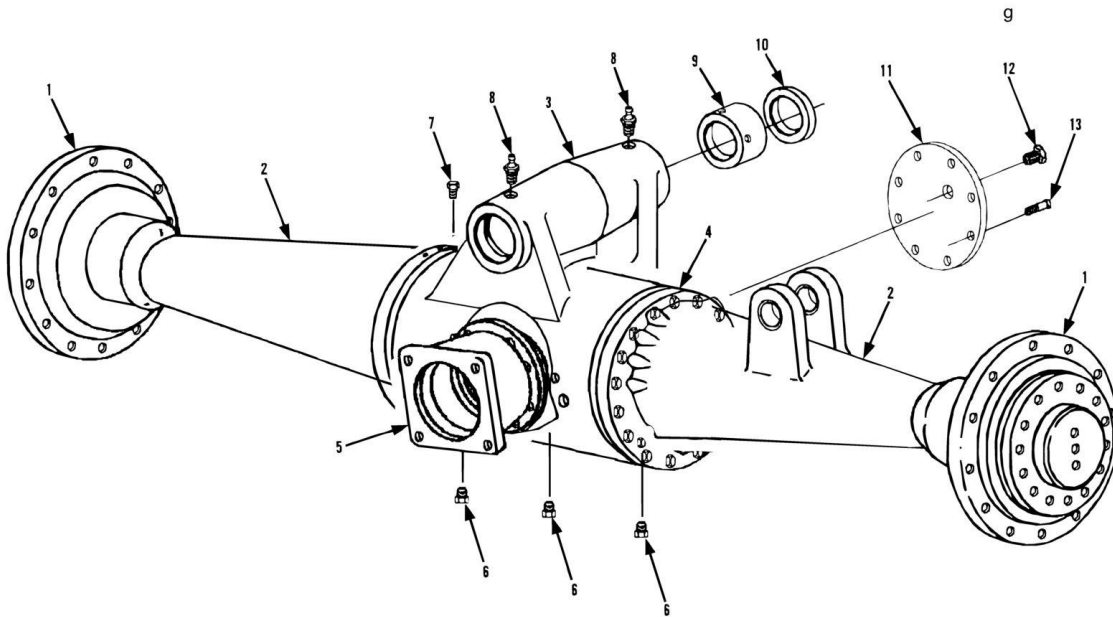
SECTION 5 - DRIVE TRAIN

FIGURE 5-1. (91485018) FRONT AXLE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485018	1	FRONT AXLE ASSEMBLY, (includes items 1 thru 14)	
1		Ref	FRONT AXLE, (See FRONT AXEL 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	TEST FITTING	
12	77383580	4	HIGH NUT, 3/4-16, (torque nuts to 265-290 ft lbs)	
13	90027473	4	HARD WASHER, 3/4	
14	88201616	4	HEX HD CAPSCREW, 3/4-16X3-1/2, GR5	

SECTION 5 - DRIVE TRAIN

FIGURE 5-2. (91123119) FRONT AXLE



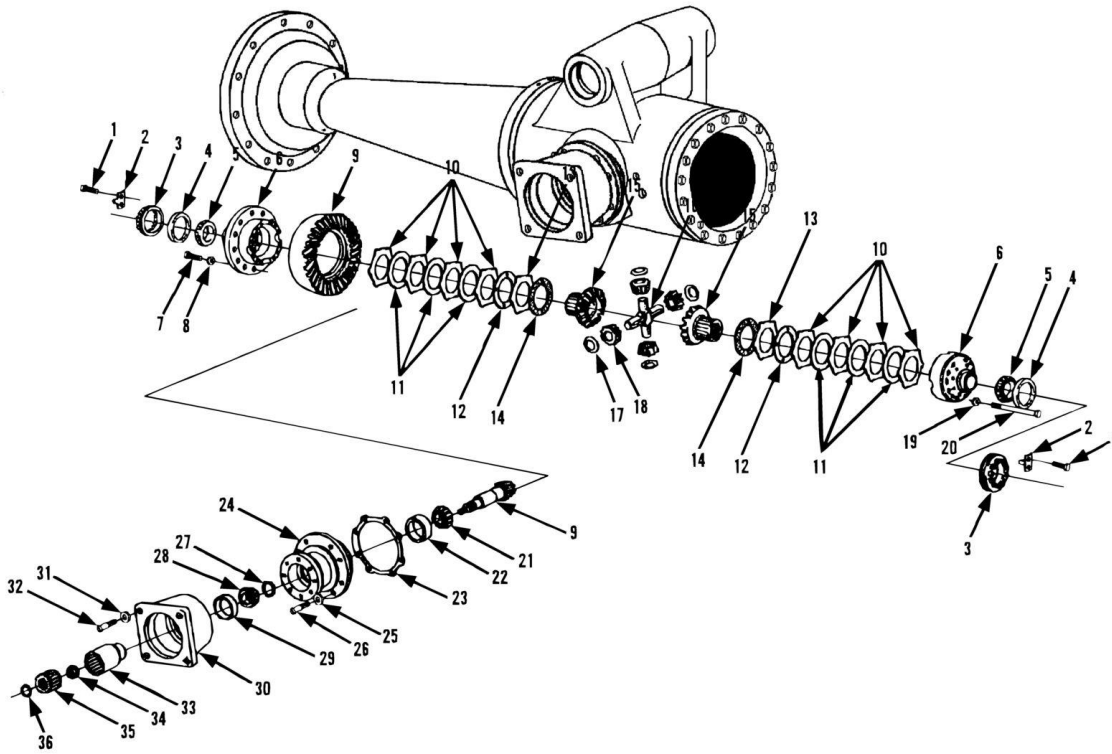
SECTION 5 - DRIVE TRAIN

FIGURE 5-2. (91123119) FRONT AXLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91123119	1	FRONT AXLE, (includes all items on pages 6-2, 6-3, 6-4 & 6-5)	
		Ref	WHEEL FLANGE ASSY, (See REAR STEERING AXLE DRIVE HUB for Breakdown)	
2		Ref	LEFT AND RIGHT HOUSING ASSY, (See BRAKE ASSEMBLY for Breakdown)	
3	91144326	1	CENTER HOUSING ASSY, (includes item 9)	
4		Ref	BRAKE ASSY, (See FLOORPLATE COMPONENTS for Breakdown)	
5		Ref	CARRIER ASSY, (See CARRIER 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	91141511	1	COVER	
12	88711284	1	LEVEL PLUG	
13	91144332	8	CAPSCREW, M8X1.25X16.0	

SECTION 5 - DRIVE TRAIN

FIGURE 5-3. CARRIER ASSEMBLY



SECTION 5 - DRIVE TRAIN

FIGURE 5-3. CARRIER ASSEMBLY

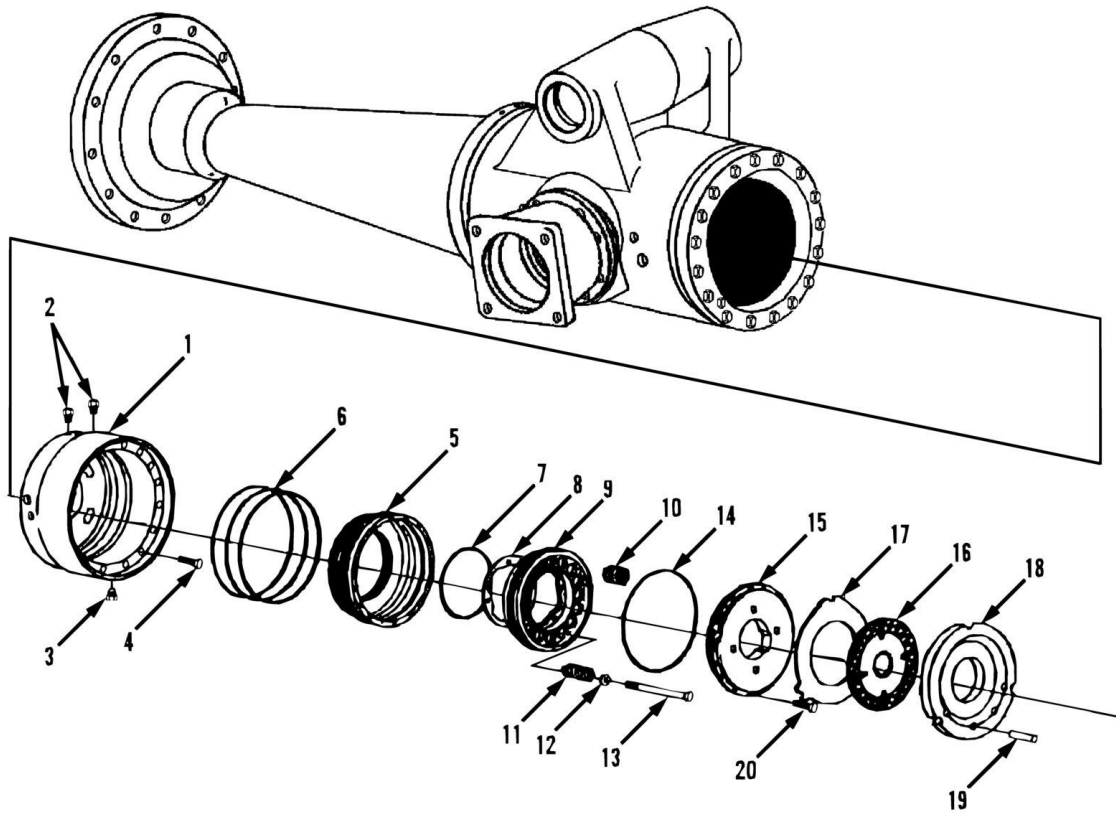
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91144382	Ref	LIMITED SLIP PLATE STACK KIT, (includes items 10, 11, 12, 13 & 14)	
	91144383	Ref	PINION CAGE SHIM KIT, (includes item 23)	
	91144384	Ref	DRIVE PINION SHIM KIT, (includes item 27)	
	91144385	Ref	LIMITED SLIP SHIM KIT,(includes item 12)	
1	91144386	4	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	

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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.	

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FIGURE 5-4. BRAKE ASSEMBLY



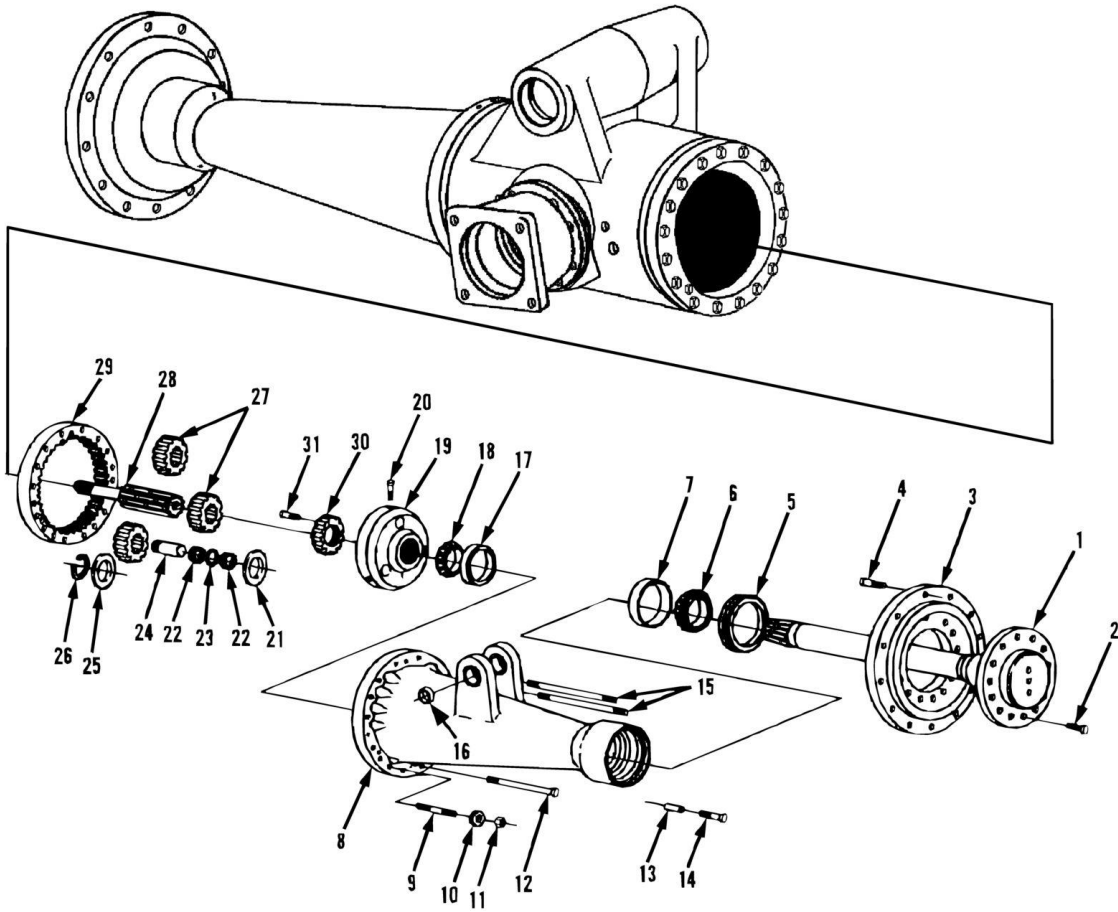
SECTION 5 - DRIVE TRAIN

FIGURE 5-4. BRAKE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91144442	Ref	BRAKE SEAL KIT, (includes items 6, 7 & 14), (services both sides)	
	91144369	Ref	BRAKE PISTON PLATE KIT, (includes items 15, 16, 17 & 18), (services one side)	
	91144370	Ref	BRAKE PLATE AND SEAL KIT, (includes items 6, 7, 14, 15, 16, 17 & 18), (services one side)	
	91144371	Ref	PISTON BRAKE SHIM KIT, (includes item 8), (services one side)	
1	91144372	1	BRAKE HOUSING, (right side only - left side included in center housing)	
2	91144373	4	HYDRAULIC LINE BLEEDER	
3		Ref	DRAIN PLUG, (See CARRIER ASSEMBLY for Breakdown)	
4	91144374	3	CAPSCREW - RIGHT SIDE ONLY, M8X1.25X40.0	
5	91124094	2	BRAKE PISTON AND PLATE ASSY, (includes items 6, 7, 9, 10, 14, 15 & 20)	
6	Kit	6	O-RING	
7	Kit	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	24	SPRING	
11	91144378	16	SPRING	
12	86881421	16	WASHER	
13	91144379	16	RETURN SPRING BOLT	
14	Kit	2	O-RING	
15	Kit	2	BRAKE ACTUATING PLATE	
16	Kit	8	FRICITION DISC	
17	Kit	8	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.	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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



SECTION 5 - DRIVE TRAIN

FIGURE 5-5. (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 & 7)	
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	86984452	2	BEARING CUP	
7	86984451	2	BEARING CONE	
8	91144337	1	HOUSING ASSY - RIGHT SIDE, (shown), (includes items 6, 16 & 18)	
8	91144338	Ref	RING GEAR AND HOUSING ASSY - RIGHT SIDE, (shown), (includes items 6, 16, 18 & 29)	
8	91144339	1	HOUSING ASSY-LEFT SIDE, (not shown), (includes items 6, 16 & 18)	
8	91144340	Ref	RING GEAR AND HOUSING ASSY - LEFT SIDE, (not shown), (includes items 6, 16, 18 & 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	91144354	2	BEARING CONE	
18	91144353	2	BEARING CUP	
19	91144355	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	6	PLANETARY PINION	
28	91144364	1	SUN GEAR, (287.0mm) - RIGHT SIDE, (shown)	
28	91144365	1	SUN GEAR, (247.0mm) - LEFT SIDE, (not shown)	
29	91144366	2	RING GEAR	
30	91144367	2	ADJUSTING NUT	
31	91144368	2	CAPSCREW, (adjusting nut lock)	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR BOTH SIDES.	

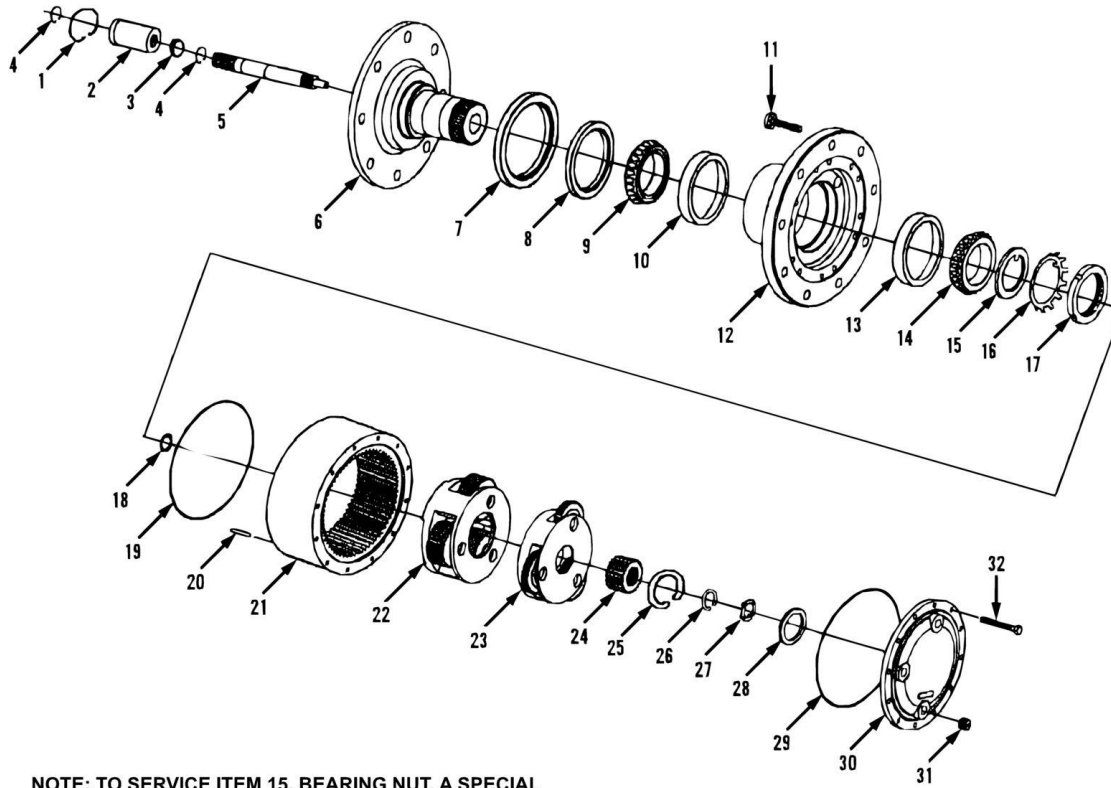
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FIGURE 5-6. NON-DRIVE WHEEL HUB

**INFORMATION FOR THIS PAGE WAS
UNAVAILABLE AT THE TIME OF PUBLICATION.**

SECTION 5 - DRIVE TRAIN

FIGURE 5-7. (91483020) REAR STEERING AXLE DRIVE HUB



NOTE: TO SERVICE ITEM 15, BEARING NUT, A SPECIAL WRENCH IS REQUIRED. ORDER 91404449 WRENCH.

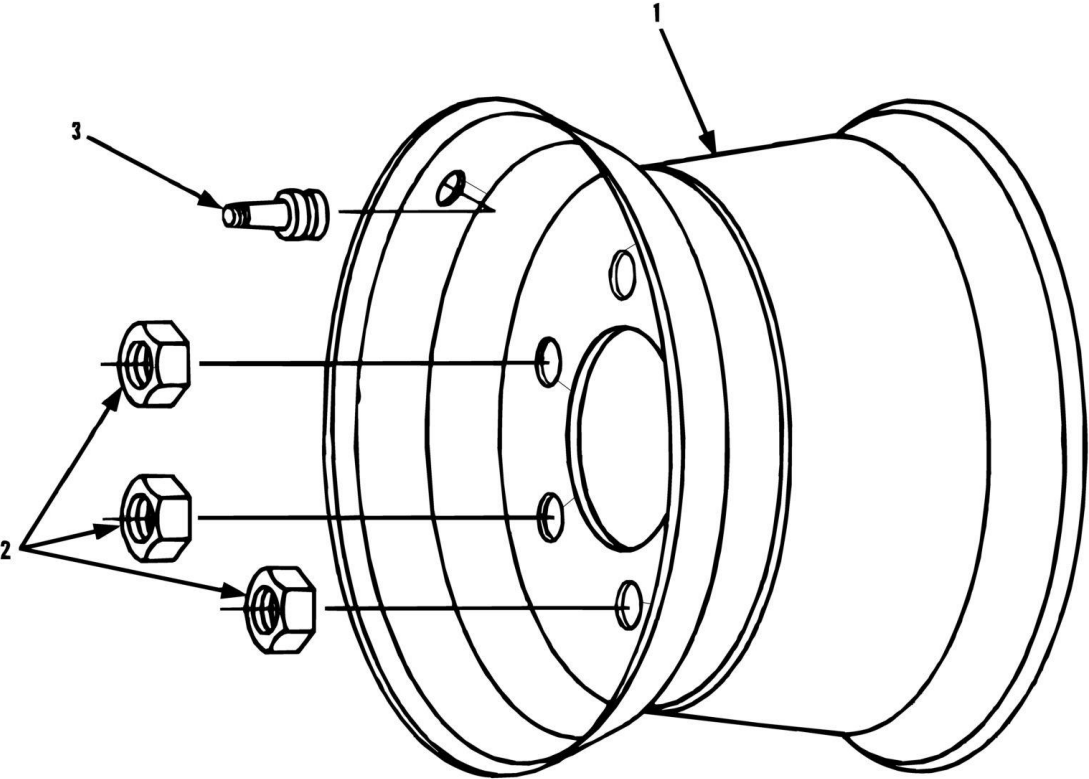
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FIGURE 5-7. (91483020) REAR STEERING AXLE DRIVE HUB

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483020	1	REAR DRIVE HUB, (includes all items)	
1	90202548	1	RETAINING RING	
2	91484006	1	COUPLING	
3	91484007	1	SPACER	
4	91484008	2	RETAINING RING	
5	91484009	1	INPUT SHAFT	
6	91484010	1	SPINDLE	
7	91414004	1	BOOT SEAL	
8	91414005	1	OIL SEAL	
9	91414006	1	BEARING CONE	
10	91414007	1	BEARING CUP	
11	91034028	12	WHEEL BOLT	
12	91414008	1	HUB	
13	91414009	1	BEARING CUP	
14	91414010	1	BEARING CONE	
15	91414011	1	THRUSTWASHER	
16	91414012	1	LOCKWASHER	
17	91414013	1	BEARING NUT	
18	91414014	1	THRUSTWASHER	
19	91414015	1	O-RING	
20	77344055	2	DOWEL PIN	
21	91414016	1	RING GEAR	
22	91414017	1	SECONDARY CARRIER ASSY	
23	91414018	1	PRIMARY CARRIER ASSY	
24	91414019	1	SUN GEAR	
25	91414027	1	RETAINING RING	
26	91414020	1	RETAINING RING	
27	91414021	1	THRUSTWASHER	
28	91414022	1	THRUSTWASHER	
29	7024177	1	O-RING	
30	91414024	1	COVER	
31	91414025	3	MAGNETIC PIPE PLUG	
32	91414026	20	HEX HD BOLT	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE HUB ASSEMBLY ONLY.	

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FIGURE 5-8. WHEELS AND TIRES



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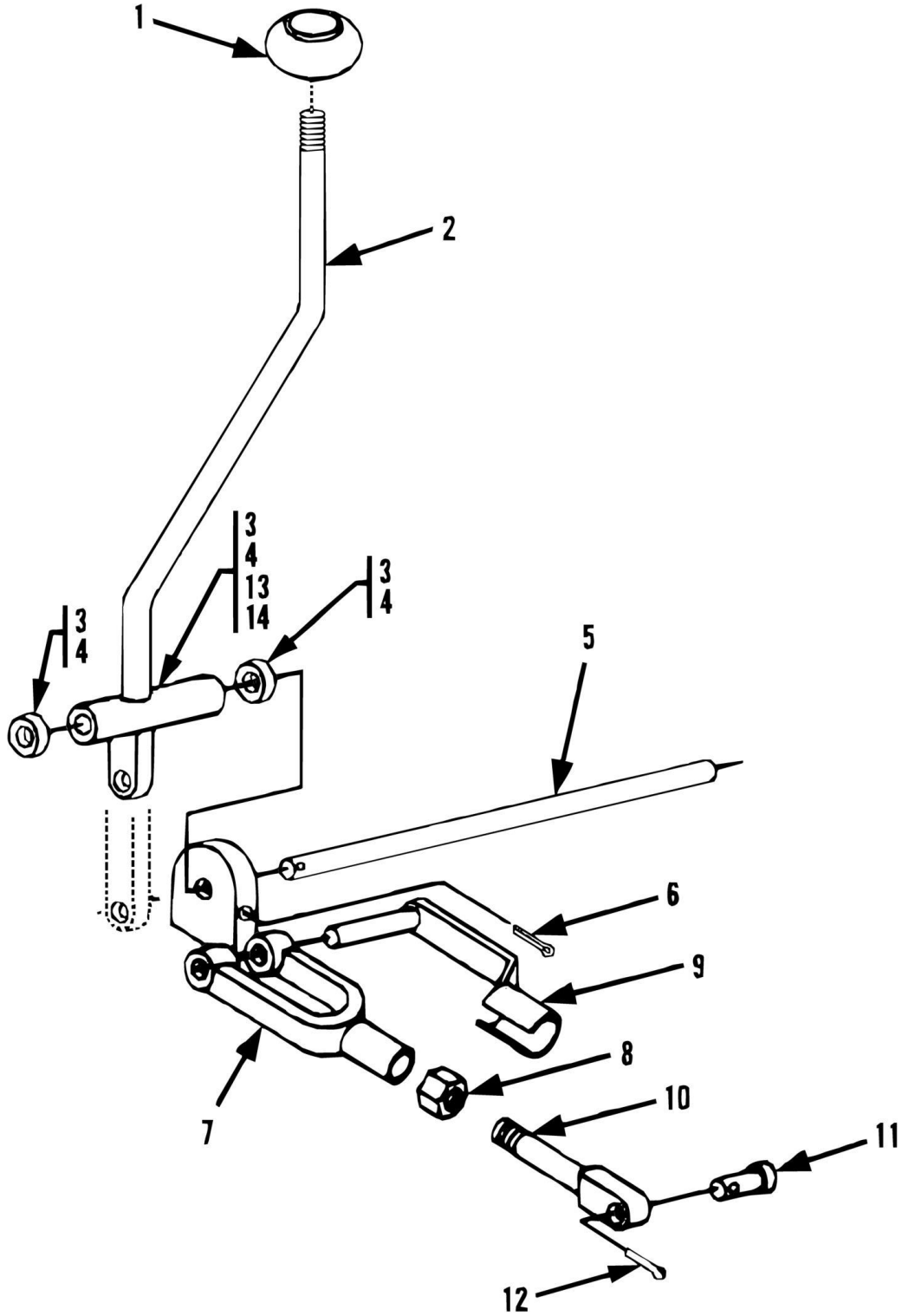
FIGURE 5-8. WHEELS AND TIRES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91125002	1	R.H. TIRE ASSEMBLY, (includes items 1, 3 & 4)	
	91125003	1	L.H. TIRE ASSEMBLY, (includes items 1, 3 & 4)	
1	91043298	1	WHEEL	
2	91043146	12	LUG NUT	
3	91083385	1	VALVE	
4	91033104	1	TUBE, (not illustrated)	

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FIGURE 6-1. (91385009) TILT LEVER ASSEMBLY



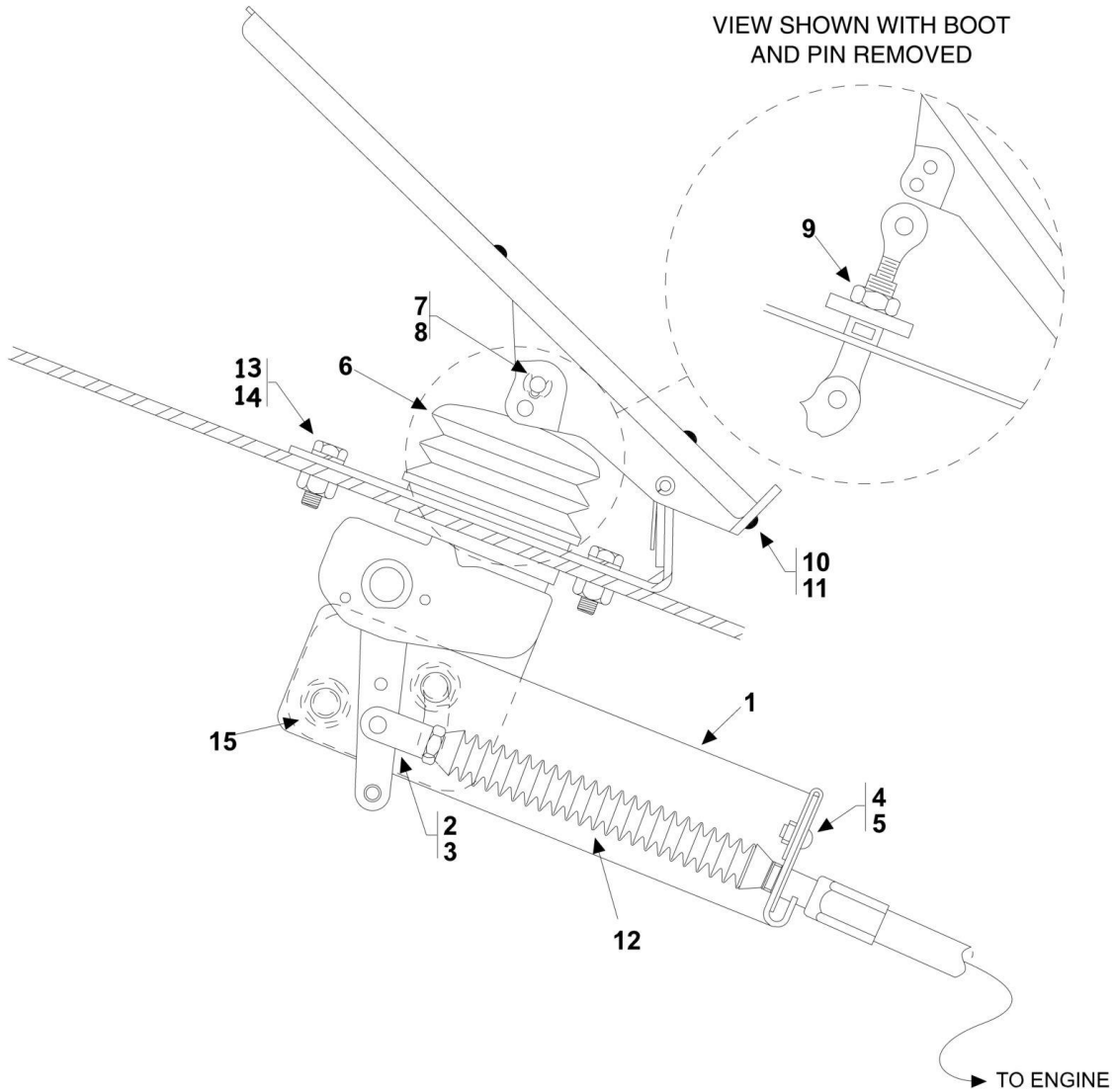
SECTION 6 - CONTROLS

FIGURE 6-1. (91385009) TILT LEVER ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91385009	1	TILT LEVER ASSEMBLY, (includes items 1, 2 & 13)	
1	90200638	1	KNOB	
2	91386007	1	TILT LEVER WELDMENT	
3	90028662	3	WAVE BEND WASHER	
4	88561113	9	FLAT WASHER, 5/8	
5	91081354	1	SHAFT	
6	88631338	1	COTTER PIN, 3/16X1-3/4	
7	88821004	1	YOKE END	
8	88501406	1	HEX JAM NUT, 3/8-24	
9	90027987	1	SPRING CLEVIS	
10	91086081	1	ROD LINKAGE	
11	90021552	1	CLEVIS PIN	
12	91363036	1	HITCH PIN CLIP	
13	91083136	2	BUSHING	
14	91301020	1	SPACER	

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FIGURE 6-2. (91143342) ACCELERATOR PEDAL ASSEMBLY



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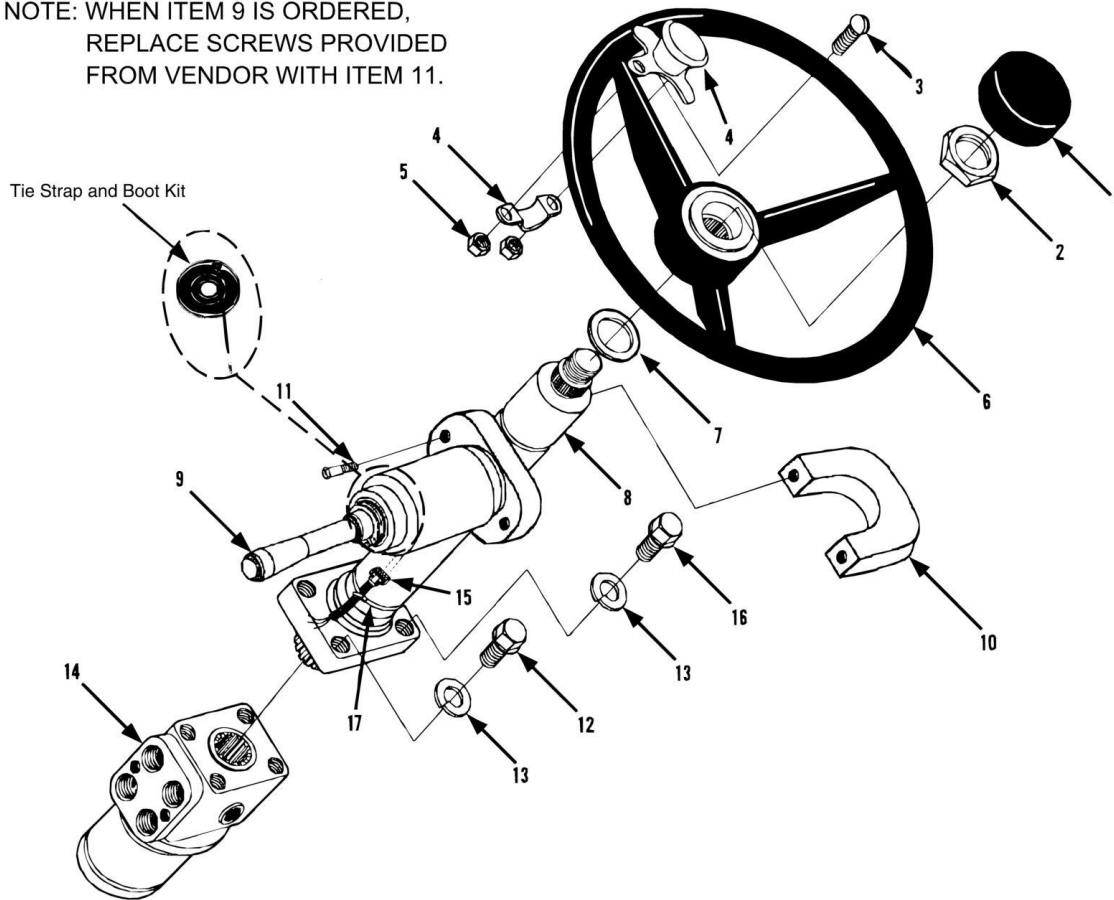
FIGURE 6-2. (91143342) ACCELERATOR PEDAL ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143342	1	ACCELERATOR PEDAL ASSEMBLY, (includes items 1 thru 11 & 15)	
	91144431	1	CABLE SUPPORT BRACKET KIT, (includes items 1 & 15)	
	91144432	1	CABLE ATTACHMENT KIT, (includes items 2 thru 5)	
	91144197	1	BOOT KIT, (includes items 6 thru 9)	
	91144433	1	HEEL REST KIT, (includes items 10 & 11)	
1	Kit	1	CABLE SUPPORT	
2	Kit		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	ACCELERATOR CABLE, (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
13	88201003	3	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
14	88551009	3	LOCKWASHER, 1/4	
15	Kit	2	FLANGE NUT	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 6 - CONTROLS

FIGURE 6-3. STEERING COLUMN AND ATTACHING PARTS

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



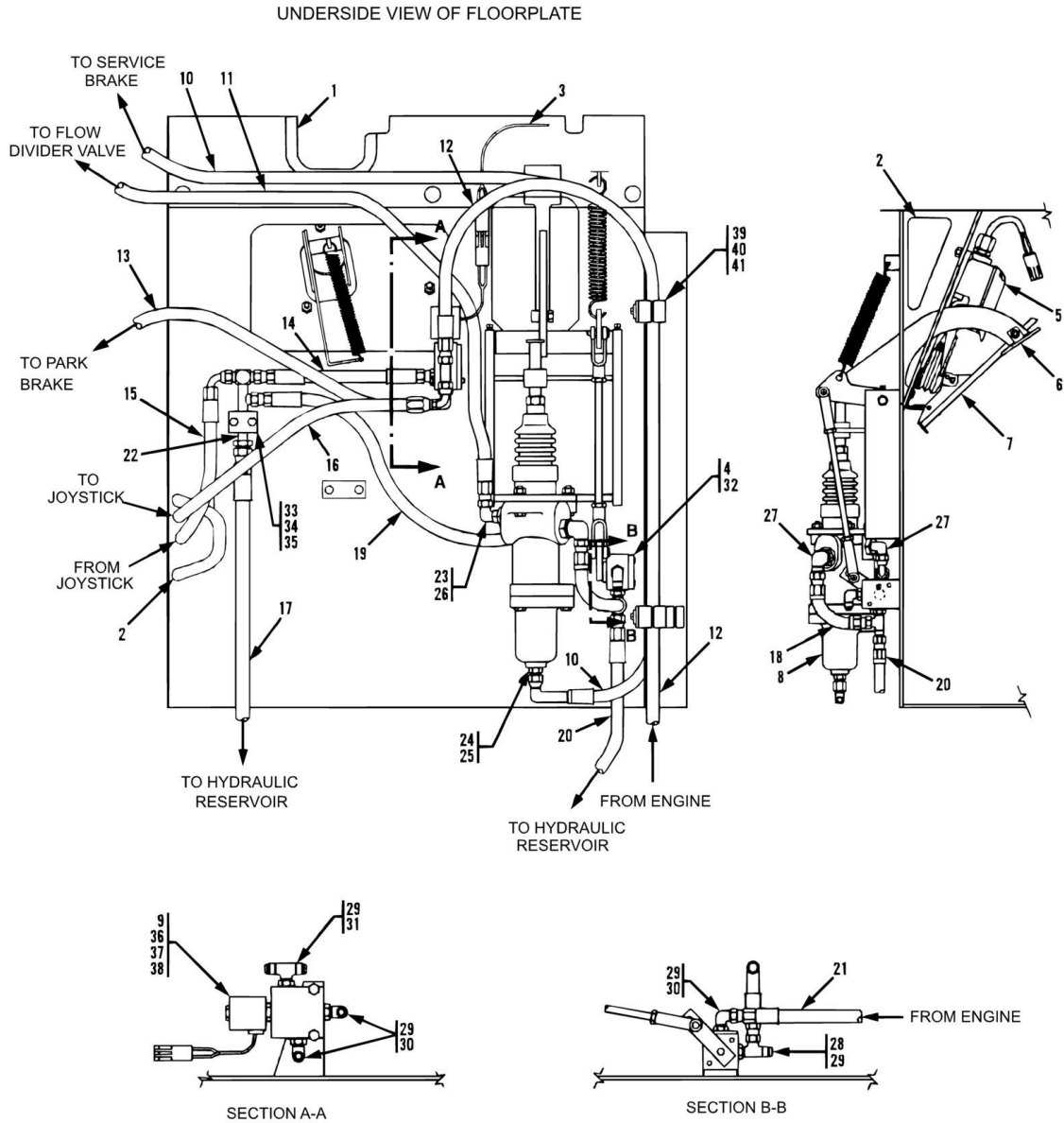
SECTION 6 - CONTROLS

FIGURE 6-3. STEERING COLUMN AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91144190	Ref	STEERING CONTROL UNIT SEAL KIT	
	91144448	1	TIE STRAP AND BOOT KIT	
1	91333043	1	STEERING WHEEL CAP	
2	91144191	1	STEERING WHEEL NUT	
3	88301311	2	FLAT HD MACHINE SCREW, 1/4-20X1	
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	91363025	1	F/N/R SHIFTER, (includes item 10)	
10	91144458	1	CLAMP SET	
11	83191059	2	SOCKET HD CAPSCREW, M5X0.8, (torque to 30-35 in lbs)	
12	88201035	2	HEX HD CAPSCREW, 3/8-16X1	
13	88551011	4	LOCKWASHER, 3/8	
14	91123126	1	STEERING CONTROL UNIT	
15		Ref	DASH WIRING HARNESS, (See ELECTRICAL SECTION for Breakdown)	
16	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
17	86683122	1	TIE WRAP	

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FIGURE 6-4. FLOORPLATE COMPONENTS



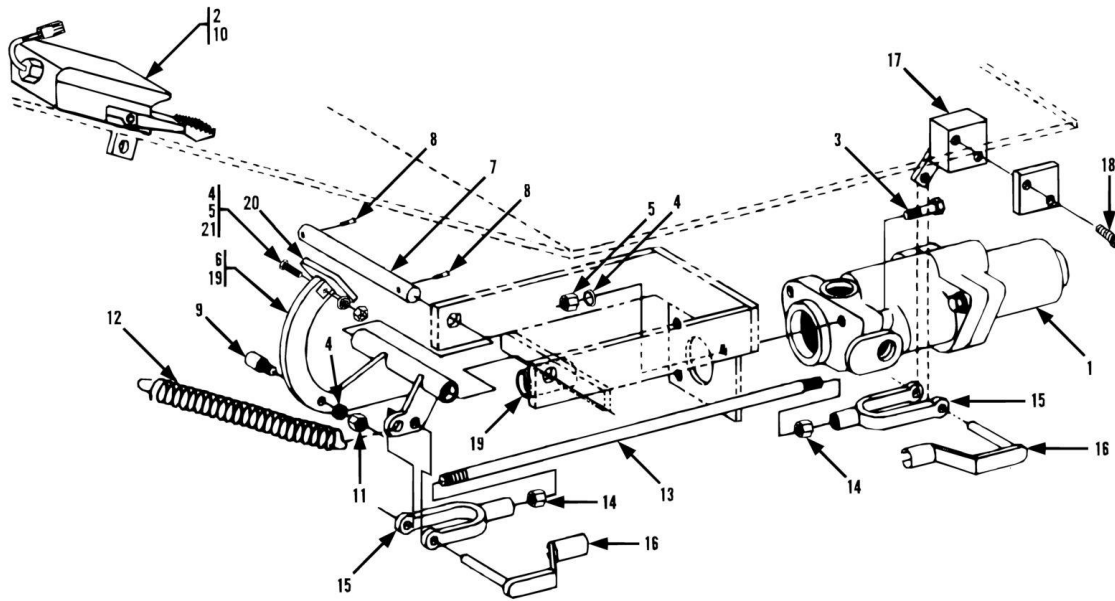
SECTION 6 - CONTROLS

FIGURE 6-4. FLOORPLATE COMPONENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90206195	11 in	TRIM-LOCK, (pre-packaged in 25ft lengths)	
2	90206199	59 in	TRIM-LOCK, (pre-packaged in 25ft lengths)	
3		Ref	DASH HARNESS, (See ELECTRICAL SECTION for Breakdown)	
4		Ref	INCHING VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5		Ref	FOOT SWITCH, (See CONTROLS SECTION for Breakdown), (524D only)	
6		Ref	BRAKE PEDAL AND LINKAGE, (See CONTROLS SECTION for Breakdown)	
7		Ref	ACCELERATOR PEDAL ASSY, (See CONTROLS SECTION for Breakdown)	
8		Ref	BRAKE VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9		Ref	SOLENOID VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
10		Ref	HOSE ASSY, (See BRAKES SECTION for Breakdown)	
11	84717641	1	HOSE ASSY	
12	84717304	Ref	HOSE ASSY	
13		Ref	HOSE ASSY, (See BRAKES SECTION for Breakdown)	
14	84718689	1	HOSE ASSY	
15		Ref	HOSE ASSY, (See HYDRAULIC CIRCUITS SECTION for Breakdown)	
16		Ref	HOSE ASSY, (See HYDRAULIC CIRCUITS SECTION for Breakdown)	
17		Ref	HOSE ASSY, (See HYDRAULIC CIRCUITS SECTION for Breakdown)	
18	84717893	1	HOSE ASSY	
19	84718688	1	HOSE ASSY	
20		Ref	HOSE ASSY, (See HYDRAULIC CIRCUITS SECTION for Breakdown)	
21		Ref	HOSE ASSY, (See HYDRAULIC CIRCUITS SECTION for Breakdown)	
22	91163109	1	HYDRAULIC TUBE	
23	88662105	1	ELBOW, 90, (Swivel Nut)	
24	83633002	1	STRAIGHT THREAD CONNECTOR	
25	90207856	1	COPPER GASKET	
26	91083306	1	STRAIGHT THREAD CONNECTOR	
27	91083310	2	ELBOW, 90	
28	88662139	1	BRANCH TEE, (includes item 29)	
29	88591204	5	O-RING	
30	88662064	3	ELBOW, 90, (includes item 29)	
31	88662152	1	BRANCH TEE, (includes item 29)	
33	91033138	1	TUBE CLAMP	
34	77133498	1	CLAMP COVER	
35	77133499	2	HEX HD CAPSCREW, 1/4-20X5/16	
36	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
37	88561107	2	FLAT WASHER, 1/4	
38	88551009	2	LOCKWASHER, 1/4	
39	77133136	2	CLAMP SET	
40	77133137	2	COVER PLATE	
41	88201023	2	HEX HD CAPSCREW, 5/16-18x1-3/4 GR5	

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FIGURE 6-5. BRAKE AND INCHING LINKAGE



SECTION 6 - CONTROLS

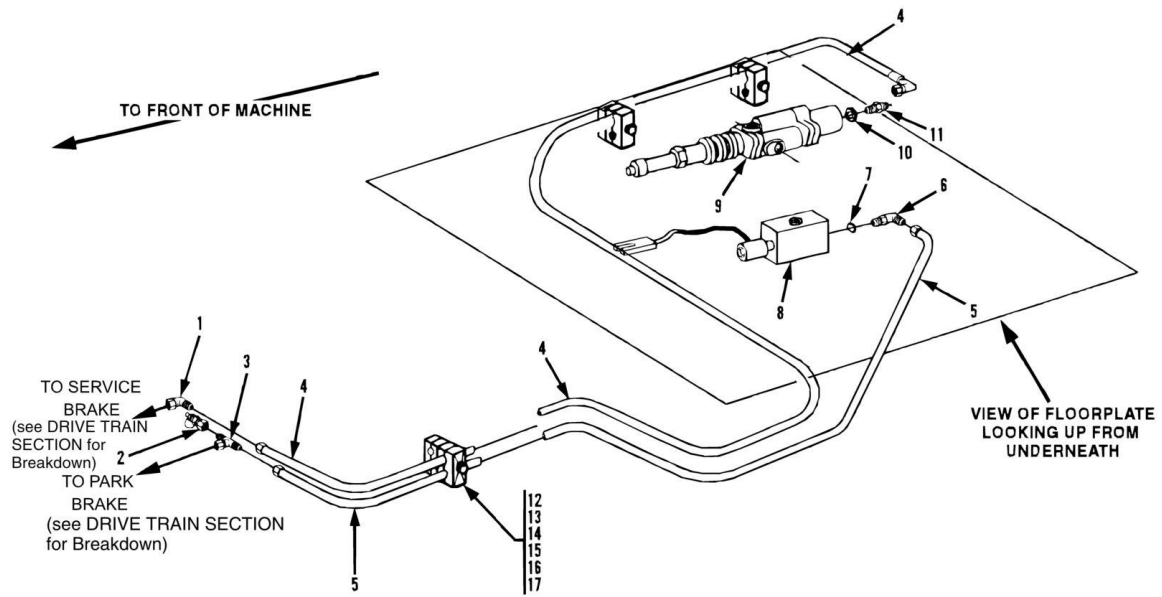
FIGURE 6-5. BRAKE AND INCHING LINKAGE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	BRAKE VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91163093	1	FOOT SWITCH, (524D only)	
3	88201022	3	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
4	88551010	5	LOCKWASHER, 5/16	
5	88501005	4	HEX NUT, 5/16-18	
6	91146108	1	BRAKE PEDAL	
7	90200284	1	SHAFT	
8	88441001	2	SQUARE HD CAPSCREW, 1/4-20X1/2	
9	91083312	1	CAM ROLLER	
10	88261017	3	SOCKET BUTTON HD CAPSCREW, 1/4-20X7/8, (524D only)	
11	88501405	1	HEX JAM NUT, 5/16-24	
12	91043214	1	SPRING	
13	91081332	1	LINKAGE ROD	
14	88501406	2	HEX JAM NUT, 3/8-24	
15	88821004	2	YOKE END	
16	90027987	2	CLEVIS PIN	
17		Ref	INCHING VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	91083136	4	BUSHING	
20	91146102	1	PEDAL WELDMENT	
21	88201021	1	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	

SECTION 7 - BRAKES

SECTION 7 - BRAKES

FIGURE 7-1. SERVICE/PARKING BRAKE LINES



SECTION 7 - BRAKES

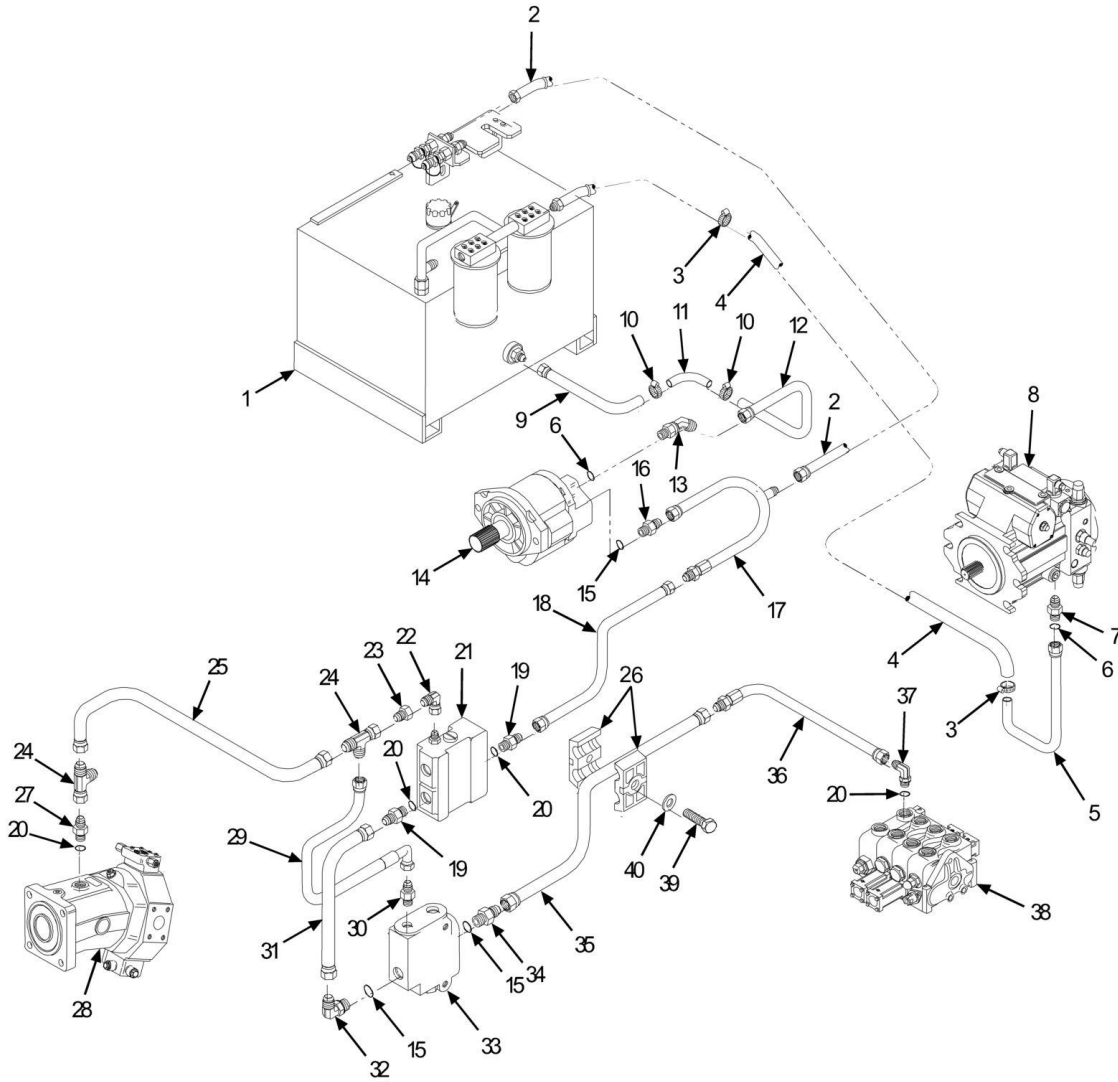
FIGURE 7-1. SERVICE/PARKING BRAKE LINES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	ELBOW, 90, (Swivel Nut), (See DRIVE TRAIN SECTION for Breakdown)	
2		Ref	TEST FITTING, (See DRIVE TRAIN SECTION for Breakdown)	
3		Ref	SWIVEL NUT BRANCH TEE, 3/8 TUBE, (See DRIVE TRAIN SECTION for Breakdown)	
4	84719115	1	HOSE ASSY	
5	84718759	1	HOSE ASSY	
6		Ref	ELBOW, 90, (includes item 7), (See CONTROLS SECTION for Breakdown)	
7		Ref	O-RING, (See CONTROLS SECTION for Breakdown)	
8		Ref	SOLENOID VALVE ASSY,(See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9		Ref	BRAKE VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
10		Ref	COPPER GASKET, (See CONTROLS SECTION for Breakdown)	
11		Ref	STRAIGHT THREAD CONNECTOR, (See CONTROLS SECTION for Breakdown)	
12	77133137	1	COVERPLATE	
13	77323029	1	CLAMP SET	
14	91213002	1	CLAMP SET	
15	88201023	1	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
16	77133306	1	STACK BOLT	
17	77133390	1	SAFETY CLIP	

SECTION 8 - HYDRAULIC CIRCUITS

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-1. OIL SUPPLY AND PRESSURE LINES



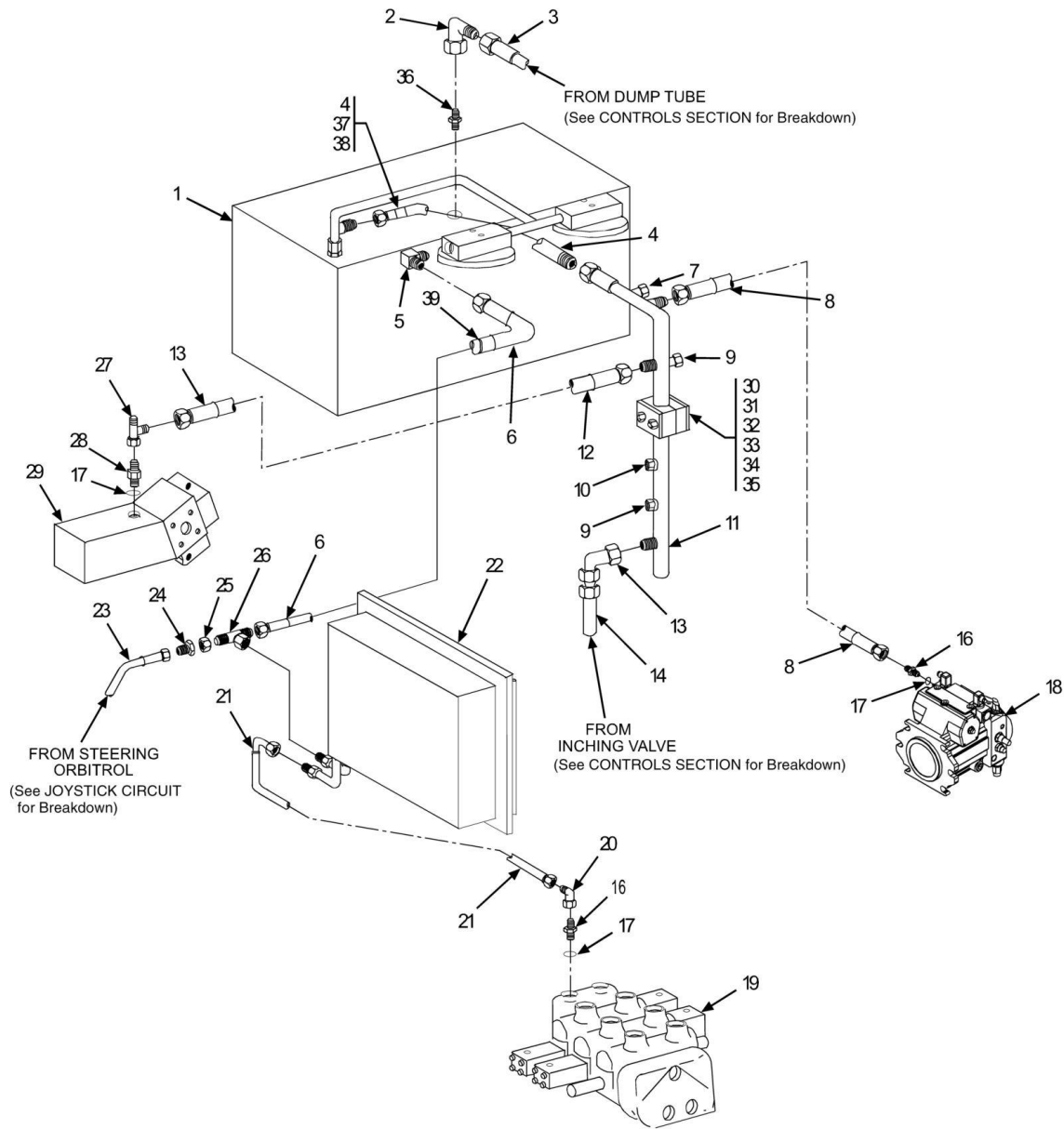
SECTION 8 - HYDRAULIC CIRCUITS

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	84717934	1	HOSE ASSY	
3	80633030	2	BAND CLAMP	
4	91083246	1	HOSE ASSY	
5	91083536	1	INTAKE TUBE	
6	88591210	2	O-RING	
7	88662011	1	STR. THREAD CONNECTOR, (includes item 6)	
8		Ref	HYDROSTATIC TRANSMISSION, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9	91083145	1	SUCTION TUBE	
10	90028482	2	HOSE CLAMP	
11	77133166	1	SUCTION HOSE	
12	91323022	1	SUCTION TUBE	
13	88662090	1	ELBOW, 45, (includes item 6)	
14		Ref	MAIN HYDRAULIC PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
15	88591209	3	O-RING	
16	88662010	1	CONNECTOR, (includes item 15)	
17	91323023	1	TUBE ASSY	
18	84717851	1	HOSE ASSY	
19	88662008	2	CONNECTOR, (includes item 20)	
20	88591207	4	O-RING	
21		Ref	FLOW DIVIDER VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88662106	1	ELBOW, 90, (swivel nut)	
23	86883469	1	REDUCER	
24	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
25	84717832	1	HOSE ASSY	
26	77133133	1	CLAMP SET	
27	91053426	1	ADAPTER, (includes item 20)	
28		Ref	FRONT DRIVE MOTOR ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
29	84717803	1	HOSE ASSY	
30	83661316	1	STR. THREAD CONNECTOR	
31	91083293	1	TUBE ASSY	
32	88662061	1	ELBOW, 90, (includes item 15)	
33		Ref	PRIORITY FLOW CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
34	88662025	1	CONNECTOR, (includes item 15)	
35	84719038	1	HOSE ASSY	
36	91083232	1	TUBE ASSY	
37	88662067	1	ELBOW, 90, (includes item 20)	
38		Ref	MAIN CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
39	88201025	1	HEX HD CAPSCREW, 5/16-18X2-1/4, GR5	
40	77133134	1	COVER PLATE	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-2. DUMP CIRCUIT



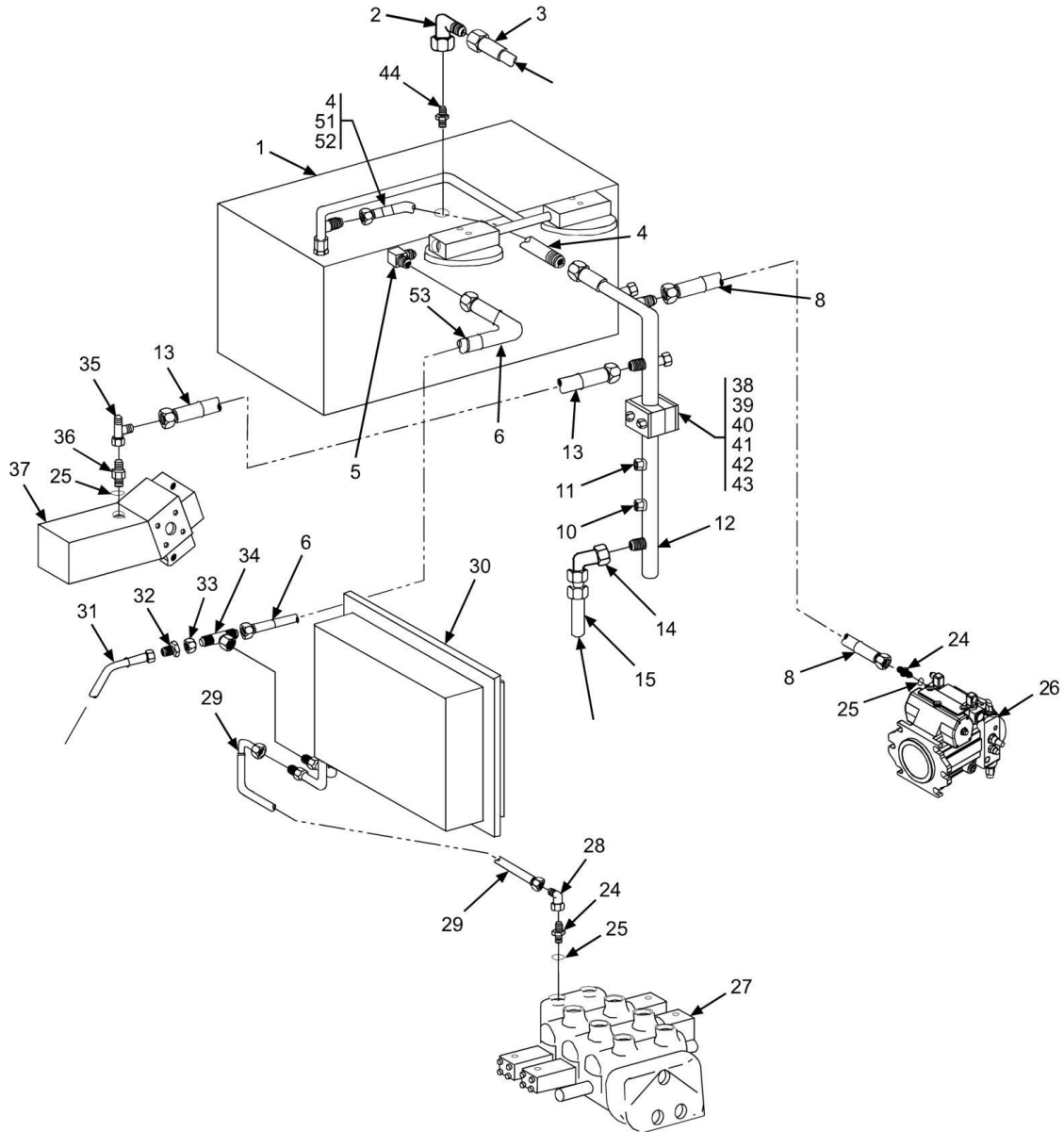
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-2. DUMP CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	HYDRAULIC RESERVOIR, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88662106	1	ELBOW, 90, (swivel nut)	
3	84718164	1	HOSE ASSY	
4	84719071	1	HOSE ASSY	
5	83623032	1	ELBOW, 90	
6	84719109	1	HOSE ASSY	
7	88661365	1	HEX CAP, 1/2 TUBE	
8	84717839	1	HOSE ASSY	
9	88661364	1	HEX CAP, 3/8 TUBE	
10	88661362	1	HEX CAP, 1/4 TUBE	
11	91123149	1	DRAIN TUBE ASSY	
12	84717911	1	HOSE ASSY	
13	88662105	1	ELBOW, 90, (swivel nut)	
14	84716719	1	HOSE ASSY	
15	88591207	1	O-RING	
16	88662008	2	CONNECTOR, (includes item 17)	
17	88591207	2	O-RING	
18		Ref	HYDROSTATIC TRANSMISSION, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19		Ref	MAIN HYDRAULIC CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
20	88662108	1	ELBOW - 90, (swivel nut)	
21	84719110	1	HOSE ASSY	
22		Ref	OIL COOLER ASSY, (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
23		Ref	HOSE ASSY, (See STEERING CYLINDER for Breakdown)	
24	88661345	1	TUBE END REDUCER, 3/4X3/8	
25	88661408	1	NUT	
26	88662227	1	SWIVEL NUT BRANCH TEE, 3/4 TUBE	
27	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
28	91053426	1	STRAIGHT THREAD ADAPTOR, (includes item 15)	
29		Ref	FRONT DRIVE MOTOR ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
30	77133053	1	CLAMP SET	
31	77133052	1	COVER PLATE	
32	88201010	2	HEX HD CAPSCREW, 1/4-20X2-1/4, GR5	
33	88501004	2	HEX NUT, 1/4-20	
34	88551009	2	LOCKWASHER, 1/4	
35	88561107	2	FLAT WASHER, 1/4	
36	88661013	1	MALE CONNECTOR	
37	71492142	8 in	FLEX LOOM	
38	86683122	2	TIE WRAP	
39	90027187	1	TIE WRAP	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-3. DUMP CIRCUIT



SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-3. DUMP CIRCUIT

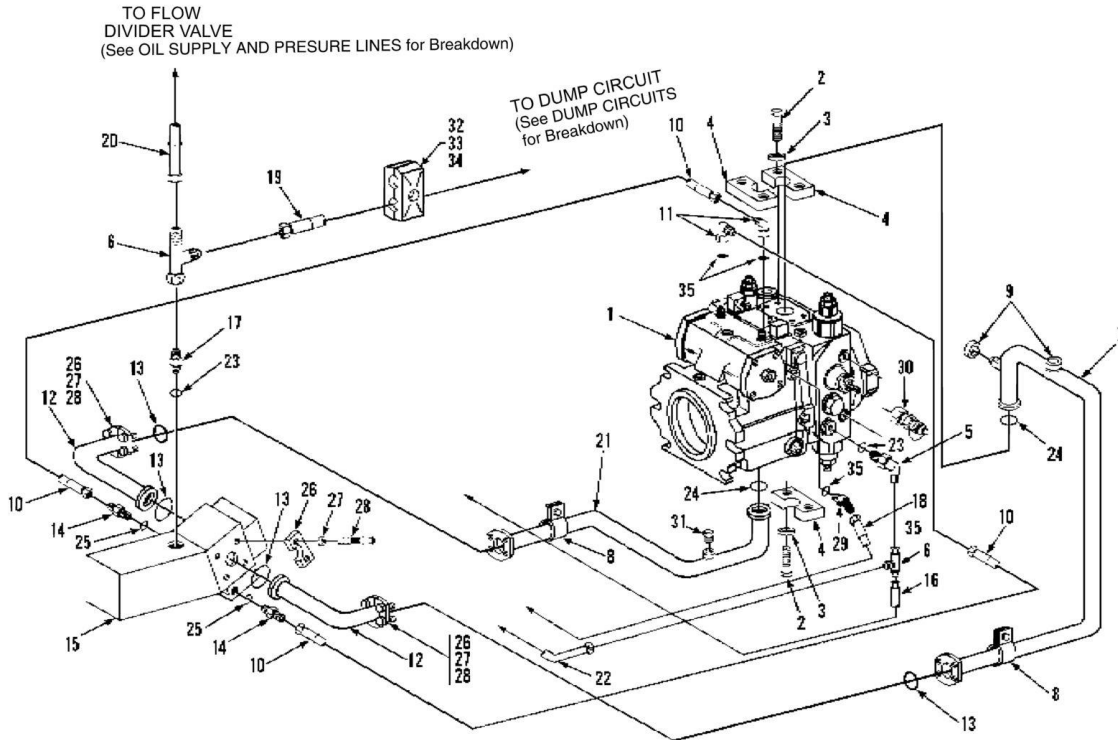
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	HYDRAULIC RESERVOIR, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88662106	1	ELBOW, 90, (swivel nut)	
3	84718164	1	HOSE ASSY	
4	84719071	1	HOSE ASSY	
5	83623032	1	ELBOW, 90	
6	84719109	1	HOSE ASSY	
7	84719430	1	HOSE ASSY	
8	84717839	1	HOSE ASSY	
9	84717889	1	HOSE ASSY	
10	88661364	1	HEX CAP, 3/8 TUBE	
11	88661362	1	HEX CAP, 1/4 TUBE	
12	91123149	1	DRAIN TUBE ASSY	
13	84717911	1	HOSE ASSY	
14	88662105	1	ELBOW, 90, (swivel nut)	
15	84716719	1	HOSE ASSY	
16	88662064	1	ELBOW, 90, (includes item 17)	
17	88591204	2	O-RING	
18		Ref	SOLENOID VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	88662224	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
20		Ref	TRACTION LOCK VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
21	84719429	1	HOSE ASSY	
22	83651133	1	REDUCER WITH ADAPTOR	
23	88662242	1	SWIVEL NUT RUN TEE, 3/4 TUBE	
24	88662008	2	CONNECTOR, (includes item 25)	
25	88591207	3	O-RING	
26		Ref	HYDROSTATIC TRANSMISSION, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
27		Ref	MAIN HYDRAULIC CONTROL VALVE ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
28	88662108	1	ELBOW - 90, (swivel nut)	
29	84719110	1	HOSE ASSY	
30		Ref	OIL COOLER ASSY, (See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
31		Ref	HOSE ASSY, (See STEERING CYLINDER item 22 for Breakdown)	
32	88661345	1	TUBE END REDUCER, 3/4X3/8	
33	88661408	1	NUT	
34	88662227	1	SWIVEL NUT BRANCH TEE, 3/4 TUBE	
35	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
36	91053426	1	STRAIGHT THREAD ADAPTOR, (includes item 25)	
37		Ref	FRONT DRIVE MOTOR ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
38	77133053	1	CLAMPSET	
39	77133052	1	COVER PLATE	
40	88201010	2	HEX HD CAPSCREW, 1/4-20X2-1/4, GR5	
41	88501004	2	HEX NUT, 1/4-20	
42	88551009	2	LOCKWASHER, 1/4	
43	88561107	2	FLAT WASHER, 1/4	
44	88661013	1	MALE CONNECTOR	

SECTION 8 - HYDRAULIC CIRCUITS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45	88662005	1	CONNECTOR, (includes item 17)	
46	84719141	1	HOSE ASSY	
47	88551009	2	LOCKWASHER, 1/4	
48	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
49	88561001	2	FLAT WASHER, 3/16	
50	91481006	1	MOUNTING BAR	
51	71492142	8 in	FLEX LOOM	
52	86683122	2	TIE WRAP	
53	90027187	1	TIE WRAP	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-4. DRIVE CIRCUIT - FRONT



1. Item 18 routes to Inching Valve (See CONTROLS SECTION for Breakdown, item 4)
2. Item 22 routes to Solenoid Valve (See CONTROLS SECTION for Breakdown, item 9)
3. Item 16 routes to Hydraulic Reservoir (See CONTROLS SECTION for Breakdown, item 17 front connector)

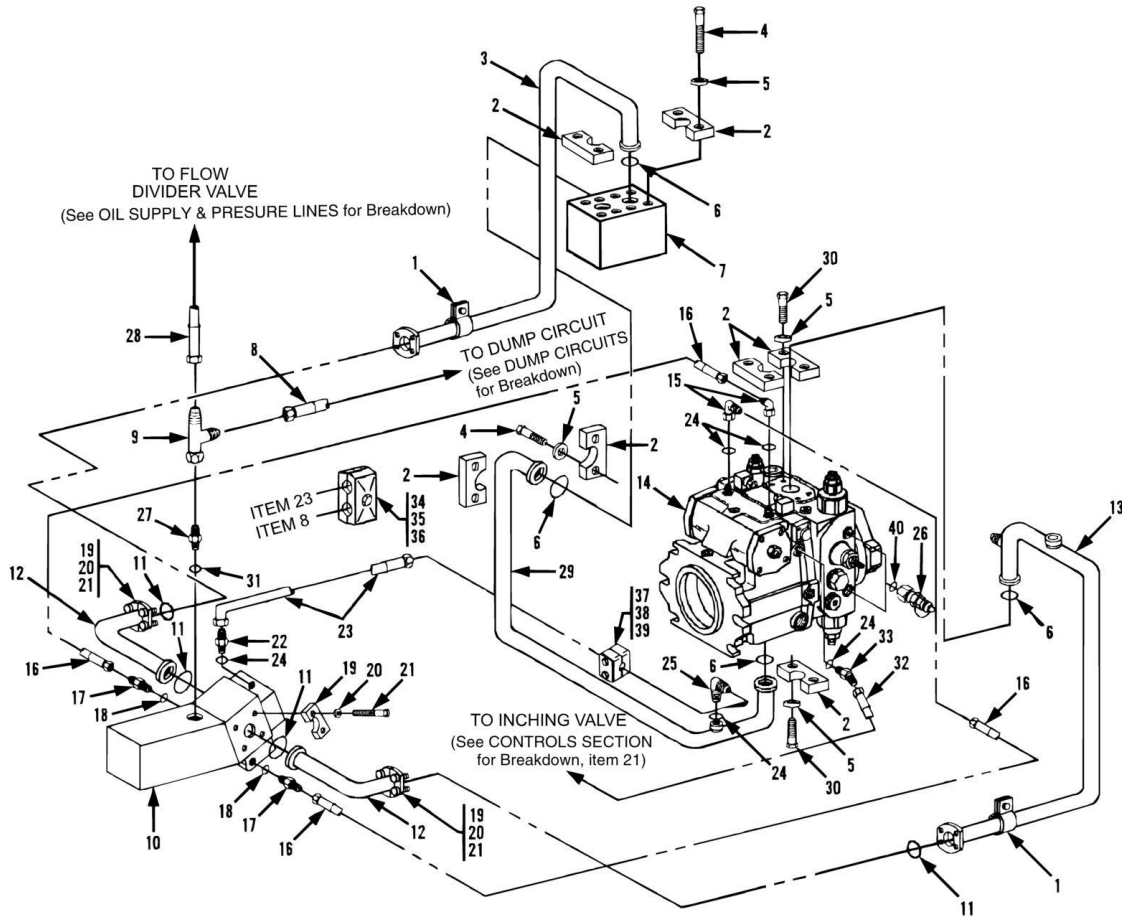
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-4. DRIVE CIRCUIT - FRONT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	HYDROSTATIC TRANSMISSION ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	83201135	8	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
3	88551012	8	LOCKWASHER, 7/16	
4	84712738	4	FLANGE HALF	
5	91083222	1	ELBOW, 90, (includes item 23)	
6	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
7	91143055	1	TUBE ASSY	
8	90205792	2	CUSHION CLAMP	
9	84714006	2	CAP	
10	84718861	2	HOSE ASSY	
11	90027906	2	ELBOW, 90, (includes item 35)	
12	84718657	2	HOSE ASSY	
13	91083339	4	O-RING	
14	88662003	1	CONNECTOR (includes item 25)	
15		Ref	FRONT DRIVE MOTOR, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
16	84717852	1	HOSE ASSY	
17	91053426	1	STRAIGHT THREAD ADAPTER, (includes item 23)	
18	84717344	1	HOSE ASSY	
19	84717911	1	HOSE ASSY	
20	84717832	1	HOSE ASSY	
21	91393003	1	TUBE ASSY	
22	84717304	1	HOSE ASSY	
23	88591207	2	O-RING	
24	91083106	2	O-RING	
25	88591202	2	O-RING	
26	84712739	8	FLANGE HALF	
27	88551013	16	LOCKWASHER, 1/2	
28	83201120	16	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
29	88662084	1	ELBOW, 45, (includes item 35)	
30	91053020	2	STAUFF TEST COUPLING	
31	88661384	1	HEX PLUG, 3/8 TUBE	
32	77133140	2	COVER PLATE	
33	77133177	2	HEX HD CAPSCREW, 5/16-18X1-3/8	
35	88591204	3	O-RING	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-5. DRIVE CIRCUIT - FRONT



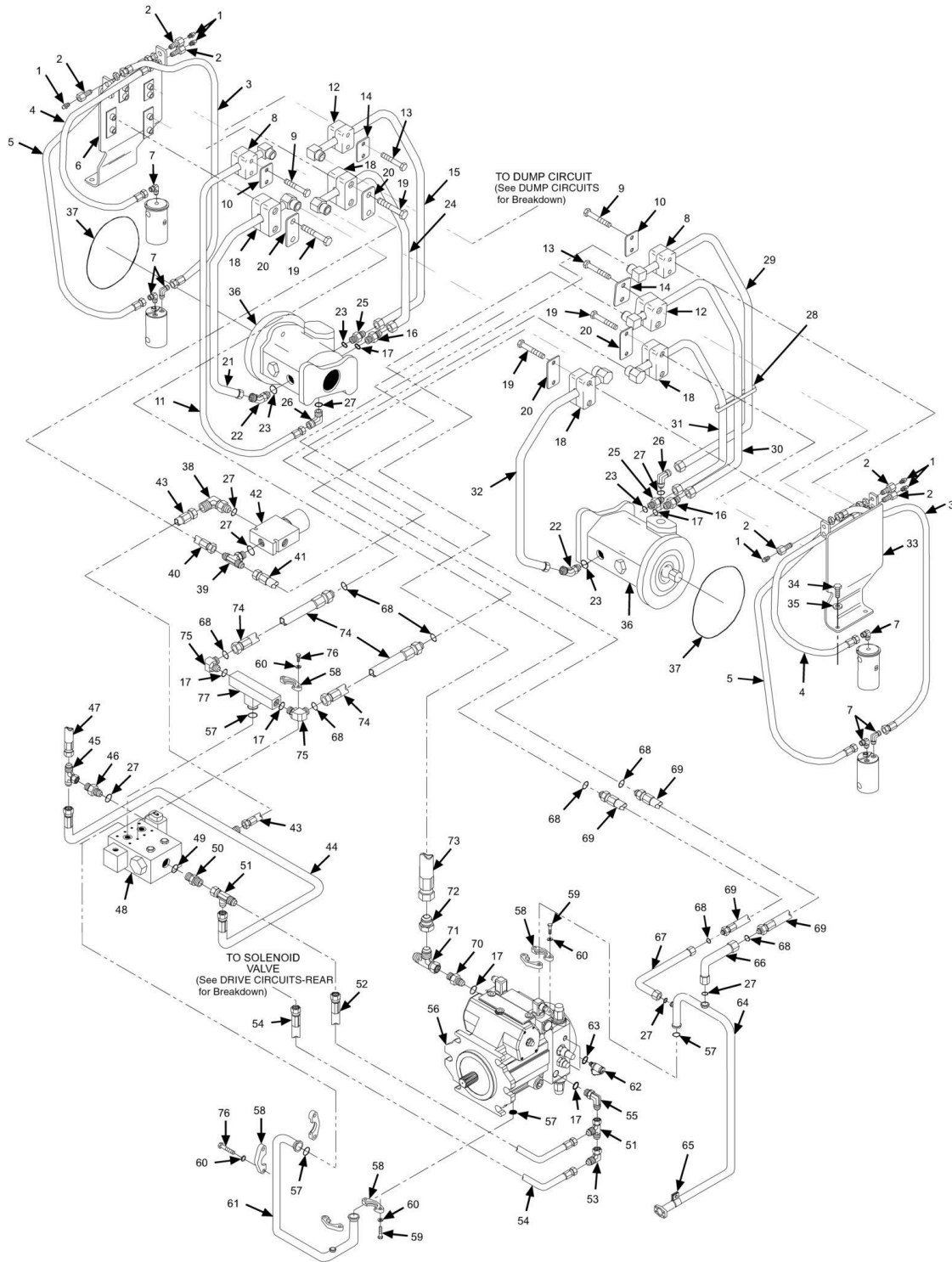
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-5. DRIVE CIRCUIT - FRONT

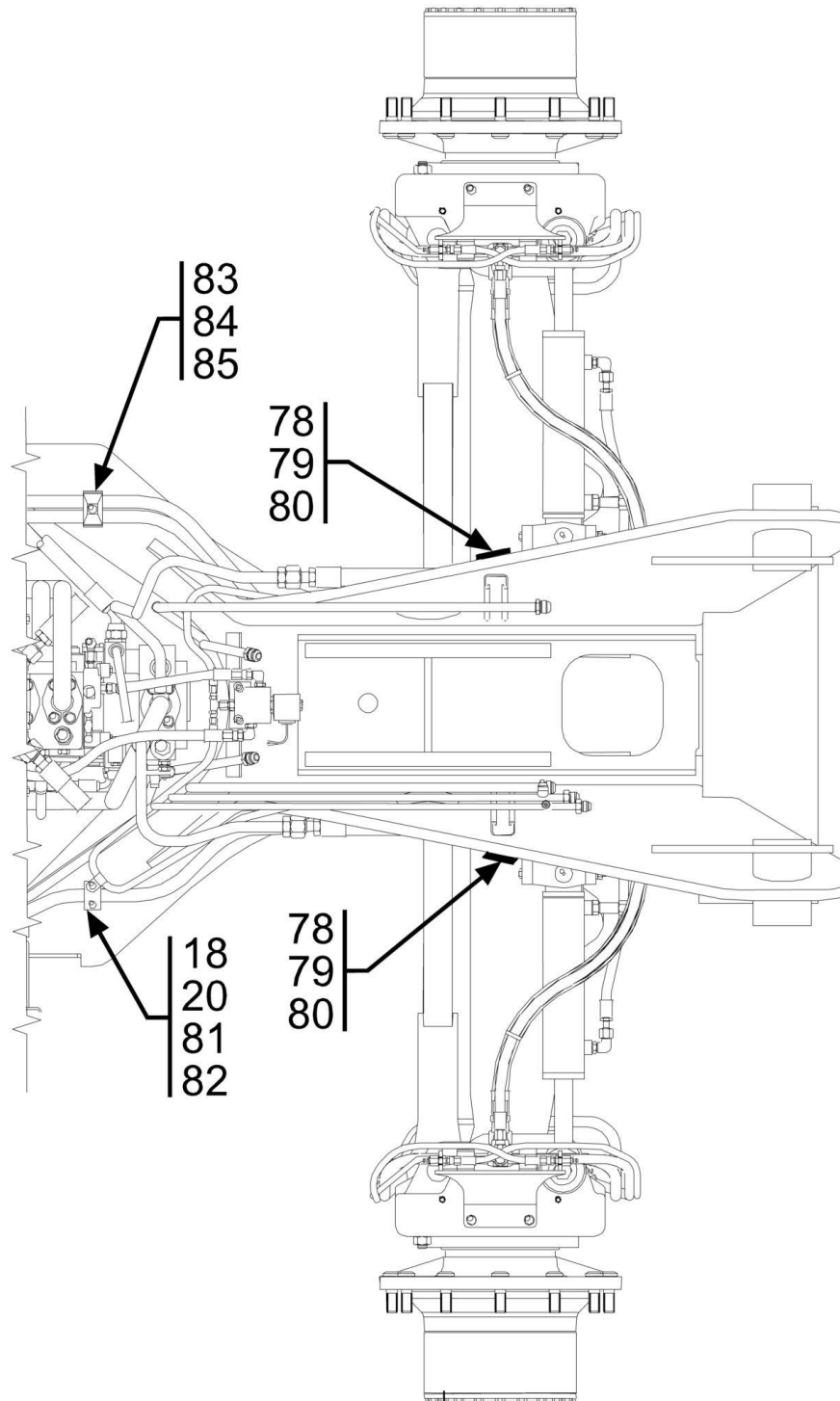
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205792	2	CUSHION CLAMP	
2	84712738	8	SPLIT FLANGE CLAMP	
3	91333004	1	TUBE ASSY	
4	83201155	8	HEX HD CAPSCREW, 7/16-14X1-3/4, GR8	
5	88551012	16	LOCKWASHER, 7/16	
6	91083106	4	O-RING	
7		Ref	TRACTION LOCK VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	84717911	1	HOSE ASSY	
9	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
10		Ref	FRONT DRIVE MOTOR, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
11	91083339	4	O-RING	
12	84719689	2	HOSE ASSY	
13	91143055	1	TUBE ASSY	
14		Ref	HYDROSTATIC TRANSMISSION PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
15	90027906	2	ELBOW, 90, (includes item 24)	
16	84718861	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	84717983	1	HOSE ASSY	
24	88591204	5	O-RING	
25	88662064	1	ELBOW, 90, (includes item 24)	
26	91053020	2	TEST COUPLING, (includes item 40)	
27	91053426	1	STRAIGHT THREAD ADAPTER, (includes item 31)	
28	84717832	1	HOSE ASSY	
29	91163201	1	TUBE ASSY	
30	83201135	8	HEX HD CAPSCREW, 7/16-14X1-1/2, GR8	
31	88591207	1	O-RING	
32	84717344	1	HOSE ASSY	
33	88662084	1	ELBOW , 45, (includes item 24)	
34	77133140	2	COVER PLATE	
35	77133177	2	HEX HD CAPSCREW, 5/16-18X1-3/8	
37	77133497	1	CLAMP SET	
38	77133498	1	COVER PLATE	
39	77133499	2	HEX HD CAPSCREW, 1/4-20X1-5/16	
40	91054002	2	VITON O-RING	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-6. DRIVE CIRCUIT - REAR



SECTION 8 - HYDRAULIC CIRCUITS



REAR DRIVE HOSE CLAMP LOCATIONS

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-6. DRIVE CIRCUIT - REAR

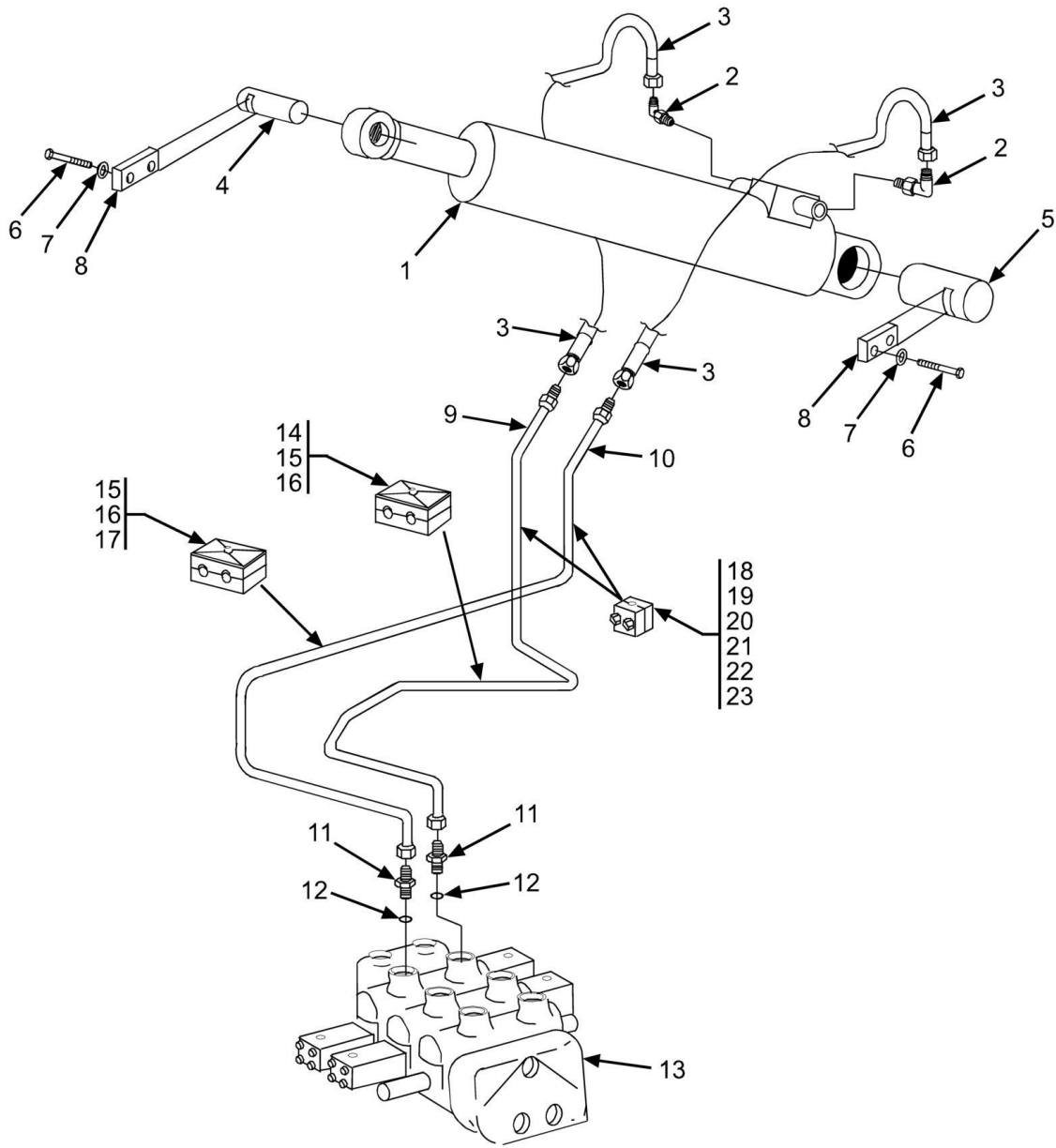
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88671001	6	LUBE FITTING, STRAIGHT, 1/8	
2	80623016	6	BULK HEAD ADAPTER	
3	84719169	2	GREASING HOSE	
4	84719698	2	GREASING HOSE	
5	84719380	2	GREASING HOSE	
6	91406099	1	RIGHT TUBE SUPPORT BRACKET	
7	88661103	6	MALE ELBOW, 90, 1/4X1/8 TUBE	
8	91063040	2	CLAMP SET, 3/8	
9	88201006	4	HEX HD CAPSCREW, 1/4-20X1-1/4, GR5	
10	91063039	2	COVER PLATE	
11	91383057	1	RIGHT TUBE ASSEMBLY	
12	91033138	2	CLAMP SET, 1/2	
13	77133499	4	HEX HD CAPSCREW, 1/4-20X1-5/16	
14	77133498	2	COVER PLATE	
15	91383056	1	RIGHT TUBE ASSEMBLY	
16	88662020	2	CONNECTOR, (includes item 17)	
17	88591207	6	O-RING	
18	77133053	5	CLAMP SET, 3/4	
19	88201007	8	HEX HD CAPSCREW, 1/4-20X1-1/2, GR5	
20	77133052	5	COVER PLATE	
21	91383055	1	RIGHT TUBE ASSEMBLY	
22	88662425	2	ELBOW, 45, (includes item 23)	
23	88591209	4	O-RING	
24	91383054	1	RIGHT TUBE ASSEMBLY	
25	88662306	2	STR THD CONNECTOR, (includes item 23)	
26	91385022	2	RESTRICTOR, (includes item 27)	
27	88591204	7	O-RING	
28	90027187	18	TIE WRAP	
29	91483023	1	LEFT TUBE ASSEMBLY	
30	91383061	1	LEFT TUBE ASSEMBLY	
31	91383059	1	LEFT TUBE ASSEMBLY	
32	91383060	1	LEFT TUBE ASSEMBLY	
33	91486011	1	LEFT TUBE SUPPORT BRACKET	
34	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
35	88551011	4	LOCKWASHER, 3/8	
36		Ref	REAR DRIVE MOTOR, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
37	90023155	2	O-RING	
38	88662064	1	ELBOW, 90, (includes item 27)	
39	88662222	1	SWIVEL NUT BRANCH TEE, 1/4 TUBE, (includes item 27)	
40	84719432	1	HOSE ASSEMBLY	
41	84719431	1	HOSE ASSEMBLY	
42		Ref	SOLENOID VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
43	84719142	1	HOSE ASSEMBLY	
44	91163098	1	FLOW DIVIDER TUBE	
45	88662224	1	SWIVEL NUT BRANCH TEE, 3/8 TUBE	
46	88662005	1	CONNECTOR, (includes item 27)	
47	84718185	1	HOSE ASSEMBLY	

SECTION 8 - HYDRAULIC CIRCUITS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48		Ref	TRACTION LOCK VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
49	88591206	1	O-RING	
50	91083306	1	STR THD CONNECTOR, (includes item 49)	
51	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
52	77133447	1	HOSE ASSEMBLY	
53	88662105	1	ELBOW, 90, (swivel nut)	
54		Ref	HOSE ASSEMBLY, (See CONTROLS SECTION item 12 for Breakdown)	
55	91083222	1	REDUCING CONNECTOR, (includes item 17)	
56		Ref	HYDROSTATIC TRANSMISSION PUMP, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
57	91083106	3	O-RING	
58	84712738	8	SPLIT FLANGE CLAMP	
59	83201135	8	HEX HD CAPSCREW, 7/16-14X1-1/2	
60	88551012	12	LOCKWASHER, 7/16	
61	91163201	1	TUBE ASSEMBLY	
62	91053020	2	TEST COUPLING, (includes item 63)	
63	91054002	2	VITON O-RING, (lubricates lightly)	
64	91143055	1	TUBE ASSEMBLY	
65	90205792	1	CUSHION CLAMP	
66	91083191	1	TUBE ASSEMBLY	
67	91083194	1	TUBE ASSEMBLY	
68	88591508	6	O-RING	
69	84717824	2	HOSE ASSEMBLY	
70	88662008	1	CONNECTOR, (includes item 17)	
71	88662242	1	SWIVEL NUT RUN TEE, 3/4 TUBE	
72	83651133	1	REDUCER WITH ADAPTER	
73	84719429	1	HOSE ASSEMBLY	
74	84717878	2	HOSE ASSEMBLY, (includes item 68)	
75	88662421	2	ELBOW, 45, (includes item 17)	
76	83201155	4	HEX HD CAPSCREW, 7/16-14X1-3/4	
77	91083266	1	TUBE ASSEMBLY	
78	91303049	2	HOSE SUPPORT	
79	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
80	88561108	2	FLAT WASHER, 5/16	
81	85941016	3	SUPPORT CLAMP	
82	77133209	2	HEX HD CAPSCREW, 1/4-20X1-3/8	
83	77133279	1	CLAMP SET	
84	77133137	1	COVER PLATE	
85	88201023	1	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-7. LIFT CYLINDER



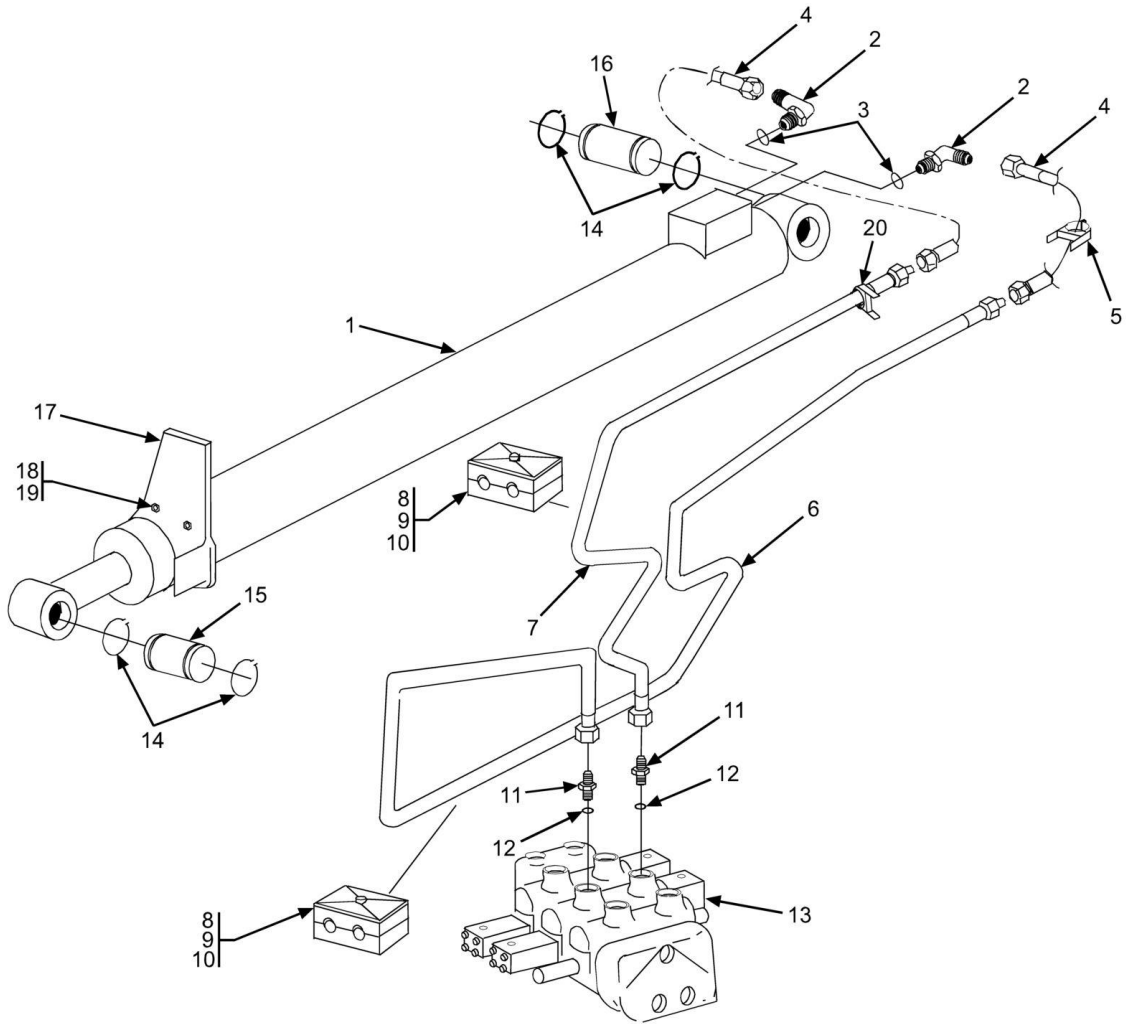
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-7. LIFT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	LIFT CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91083050	2	HYDRAULIC SWIVEL	
3	84717860	2	HOSE ASSY	
4	91081432	1	PIN	
5	91081433	1	PIN	
6	88201065	4	HEX HD CAPSCREW, 1/2-13X1,GR5	
7	88551013	4	LOCKWASHER, 1/2	
8	91081313	2	KEEPER PLATE	
9	91083224	1	TUBE ASSY	
10	91083225	1	TUBE ASSY	
11	88662007	2	CONNECTOR, (includes item 12)	
12	88591206	2	O-RING	
13		Ref	MAIN HYDRAULIC CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
14	77133139	1	CLAMPSET	
15	77133140	2	COVER PLATE	
16	77133177	2	HEX HD CAPSCREW, 5/16-18X1-3/8	
18	77133497	2	CLAMP SET	
19	77133498	2	COVER PLATE	
20	88201009	4	HEX HD CAPSCREW, 1/4-20X2, GR5	
21	88561002	4	FLATWASHER, 1/4	
22	88551009	4	LOCK WASHER, 1/4	
23	88501004	4	HEX NUT, 1/4-20	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-8. CROWD CYLINDER



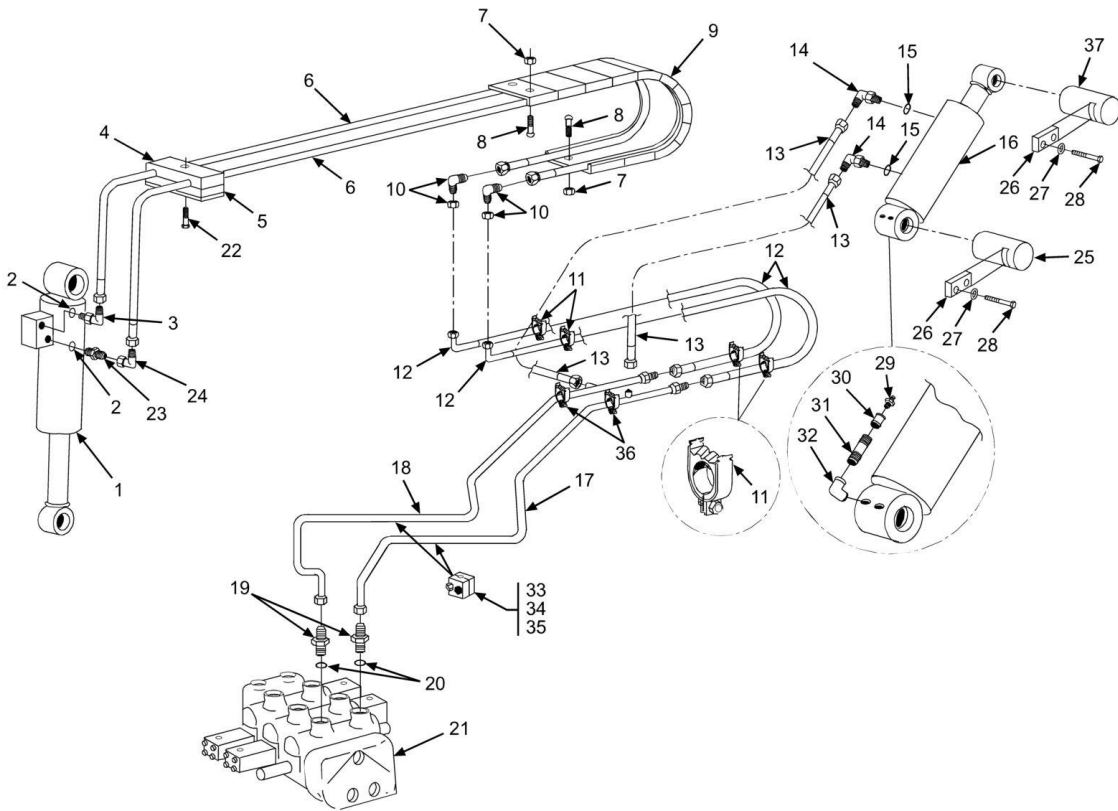
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-8. CROWD CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	CROWD CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88662065	2	ELBOW, 90, (includes item 3)	
3	88591205	2	O-RING	
4	84719650	2	HOSE ASSY	
5	90207464	2	CUSHION CLAMP	
6	91303009	1	TUBE ASSY	
7	91303006	1	TUBE ASSY	
8	77133139	2	CLAMP SET	
9	77133140	2	COVER PLATE	
10	77133177	2	HEX HD CAPSCREW	
11	88662007	2	CONNECTOR, (includes item 12)	
12	88591206	2	O-RING	
13		Ref	MAIN HYDRAULIC CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
14	88581140	4	EXT RETAINING RING	
15	91081437	1	CROWD CYLINDER PIN	
16	91081438	1	CROWD CYLINDER PIN	
17	91086085	1	CYLINDER SUPPORT WELDMENT	
18	88201066	4	HEXHD CAPSCREW, 1/2-13X1-1/4, GR5	
19	88551013	4	LOCKWASHER, 1/2	
20	91083217	2	CUSHION CLAMP	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-9. TILT AND TILT COMPENSATING CYLINDER



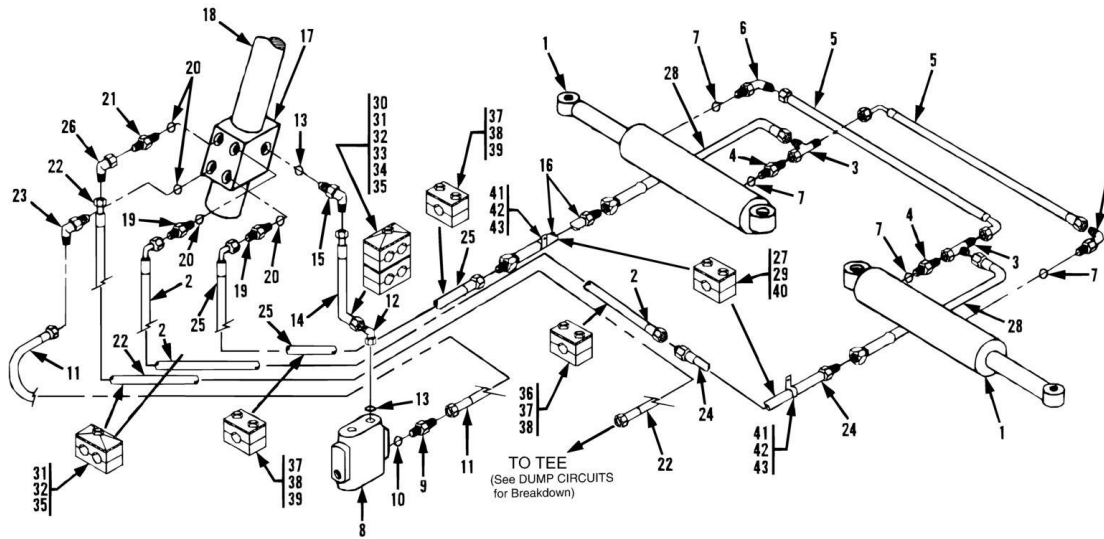
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-9. TILT AND TILT COMPENSATING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TILT CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591207	2	O-RING	
3	91053450	1	STR.THREAD ELBOW, 90	
4	77133139	1	CLAMP SET	
5	77133140	1	COVER PLATE	
6	84717886	2	HOSE ASSY	
7	88521205	4	HEX LOCKNUT, 5/16-18	
8	88411036	4	ROUND HD CARRIAGE BOLT, 5/16-18X3/4	
9	91083290	1	HOSE CARRIER	
10	90027179	2	BULK HEAD FITTING, 90	
11	90207463	4	CUSHION CLAMP	
12	84717563	2	HOSE ASSY	
13	84717859	2	HOSE ASSY	
14	88662065	2	ELBOW, 90, (includes item 15)	
15	88591205	2	O-RING	
16		Ref	COMPENSATING CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	91303007	1	TUBE ASSY	
18	91303008	1	TUBE ASSY	
19	88662019	2	CONNECTOR, (includes item20)	
20	88591206	2	O-RING	
21		Ref	MAIN CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	77133177	1	HEX HD CAPSCREW, 5/16-18X1-3/8, GR5	
23	91053426	1	CONNECTOR	
24	88662105	1	ELBOW, 90, (swivel nut)	
25	91301019	1	CYLINDER PIN	
26	91081313	2	KEEPER PLATE	
27	88551013	4	LOCKWASHER, 1/2	
28	88201065	4	HEX HD CAPSCREW, 1/2-13X1, GR5	
29		Ref	GREASE FITTING, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
31	88701023	2	PIPE NIPPLE, 1/8X3	
32	88711100	2	STREET ELBOW, 90, 1/8	
33	77133168	2	CLAMP SET	
34	77133140	2	COVER PLATE	
35	77133177	2	HEX HD CAPSCREW, 5/16-18X1-3/8	
36	91083216	2	CLAMP SET	
37	91081432	1	CYLINDER PIN	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-10. STEERING CYLINDER



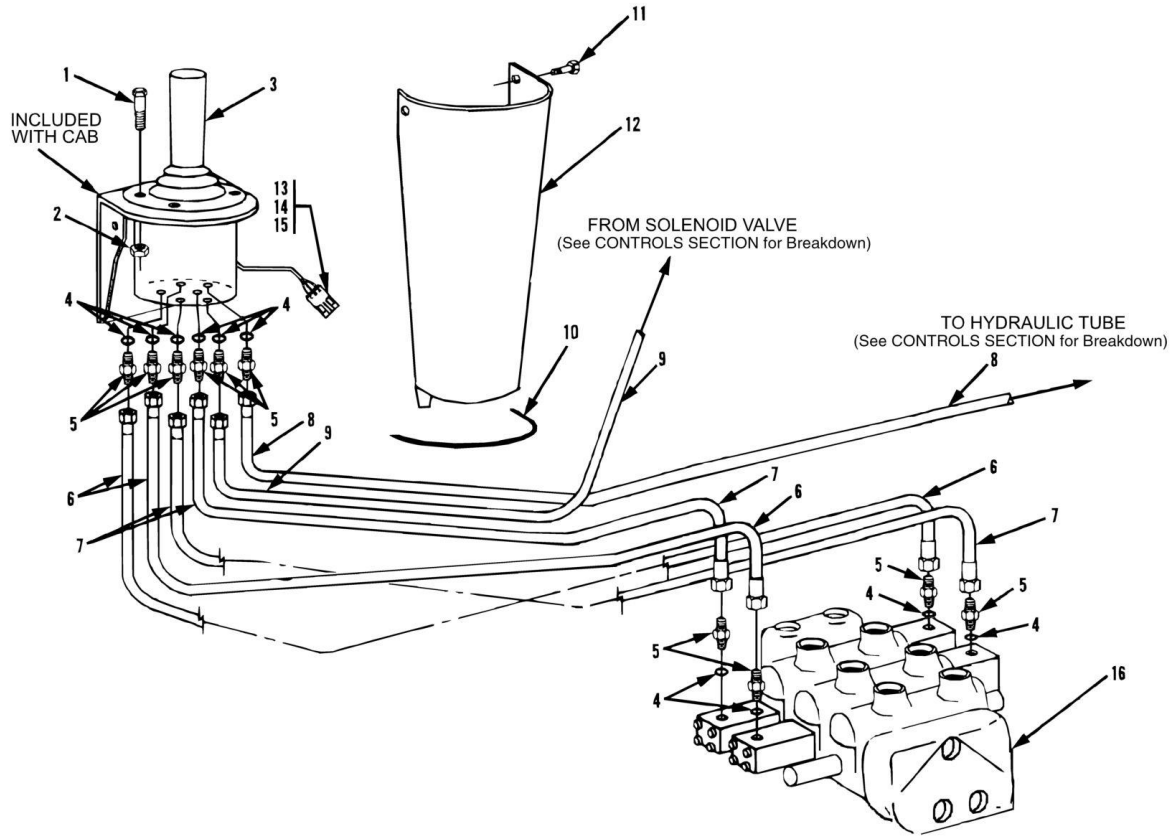
SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-10. STEERING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	STEERING CYLINDER, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	84719646	1	HOSE ASSY	
3	88662240	2	SWIVEL NUT RUN TEE, 1/2TUBE	
4	88662026	2	CONNECTOR, (includes o-ring)	
5	84718189	2	HOSE ASSY	
6	88662064	2	ELBOW, 90, (includes item 7)	
7	88591204	4	O-RING	
8		Ref	PRIORITY FLOW CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9	88662019	1	CONNECTOR, (includes item10)	
10	88591206	1	O-RING	
11	84717854	1	HOSE ASSY	
12	88662062	1	ELBOW, 90, (includes item13)	
13	88591202	2	O-RING	
14	84718439	1	HOSE ASSY	
15	88662062	1	ELBOW, 90, (includes item13)	
16	91483022	1	R.H.TUBE ASSY	
17		Ref	STEERING CONTROL UNIT, (See CONTROLS SECTION for Breakdown)	
18		Ref	STEERING COLUMN, (See CONTROLS SECTION for Breakdown)	
19	88662006	2	CONNECTOR, (includes item20)	
20	88591205	4	O-RING	
21	88662018	1	CONNECTOR, (includes item 20)	
22	84719647	1	HOSE ASSY	
23	88662065	1	ELBOW, 90, (includes item 20)	
24	91483021	1	L.H. TUBEASSY	
25	84719042	1	HOSE ASSY	
26	88662105	1	ELBOW, 90, (swivel nut)	
27	77133499	4	HEX HD CAPSCREW, 1/4-20X1-5/16	
28	90022042	2	HOSE ASSY	
29	77133498	2	COVERPLATE	
30	91213002	1	CLAMP SET	
31	77323029	2	CLAMP SET	
32	88201023	2	HEX HD CAPSCREW, 5/16-18X1-3/4	
33	77133306	1	STACK BOLT	
34	77133390	1	SAFETY CLIP	
35	77133137	2	COVER PLATE	
36	77133893	1	CLAMP SET	
37	77133052	3	COVER PLATE	
38	77133209	6	HEX HD CAPSCREW, 1/4-20X1-3/8	
39	77133073	2	CLAMP SET	
40	91033138	2	CLAMP SET	
41	85941016	2	SUPPORT CLAMP	
42	88551010	2	LOCKWASHER, 5/16	
43	88501005	2	HEX NUT, 5/16-18	

SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-11. JOYSTICK CIRCUIT



SECTION 8 - HYDRAULIC CIRCUITS

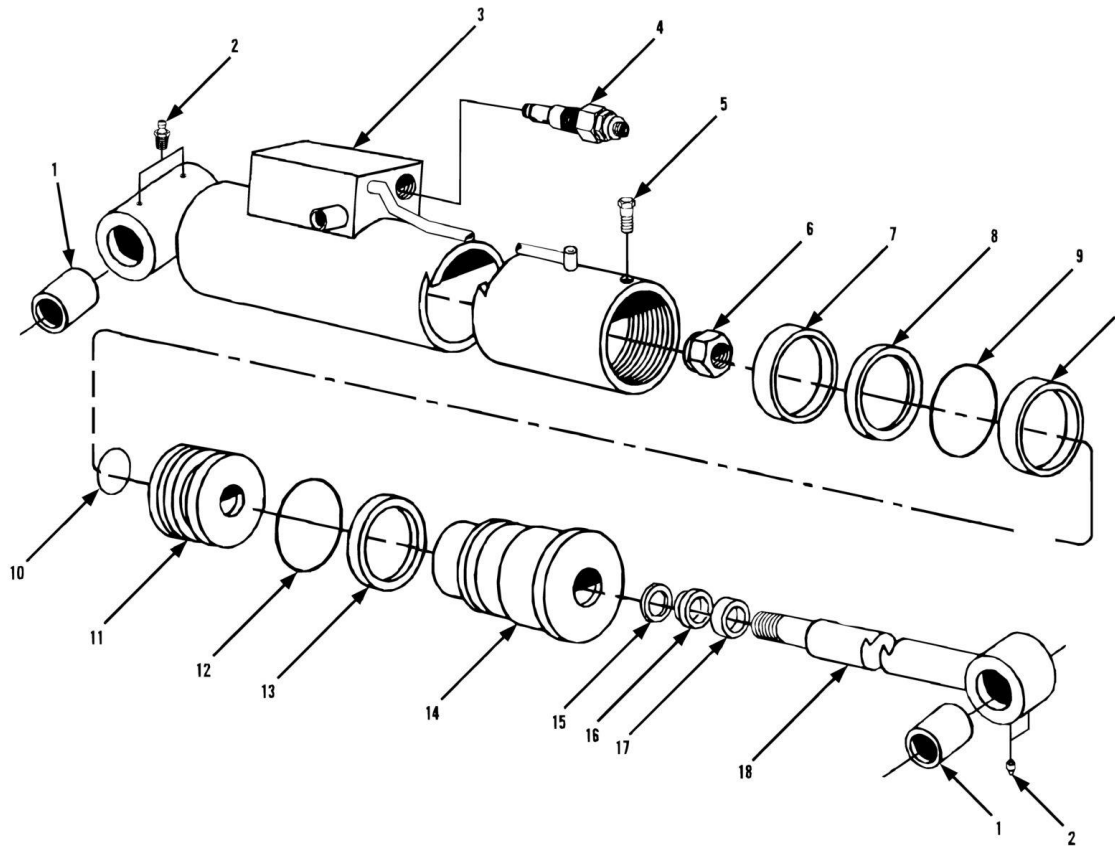
FIGURE 8-11. JOYSTICK CIRCUIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88261017	4	SOCKET BUTTON HD CAPSCREW, 1/4-20X7/8,GR5	
2	88521304	4	LOCKNUT, 1/4-20	
3		Ref	JOYSTICK ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
4	88591204	10	O-RING	
5	88662005	10	CONNECTOR, (includes item4)	
6	84717458	2	HOSE ASSY	
7	84717519	2	HOSE ASSY	
8	84718736	1	HOSE ASSY	
9	84718735	1	HOSE ASSY	
10	90206199	AR	TRIM LOK	
11	77143003	2	WHIZ SCREW, 5/16-18X5/8	
12	91363002	1	JOYSTICK COVER	
13	80963060	1	WEATHER PACK SHROUD	
14	80963069	3	MALE PIN TERMINAL	
15	91143187	3	CABLE SEAL	
16		Ref	MAIN CONTROL VALVE,(See HYDRAULIC COMPONENTS SECTION for Breakdown)	

SECTION 9 - HYDRAULIC COMPONENTS

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (91483025) LIFT CYLINDER



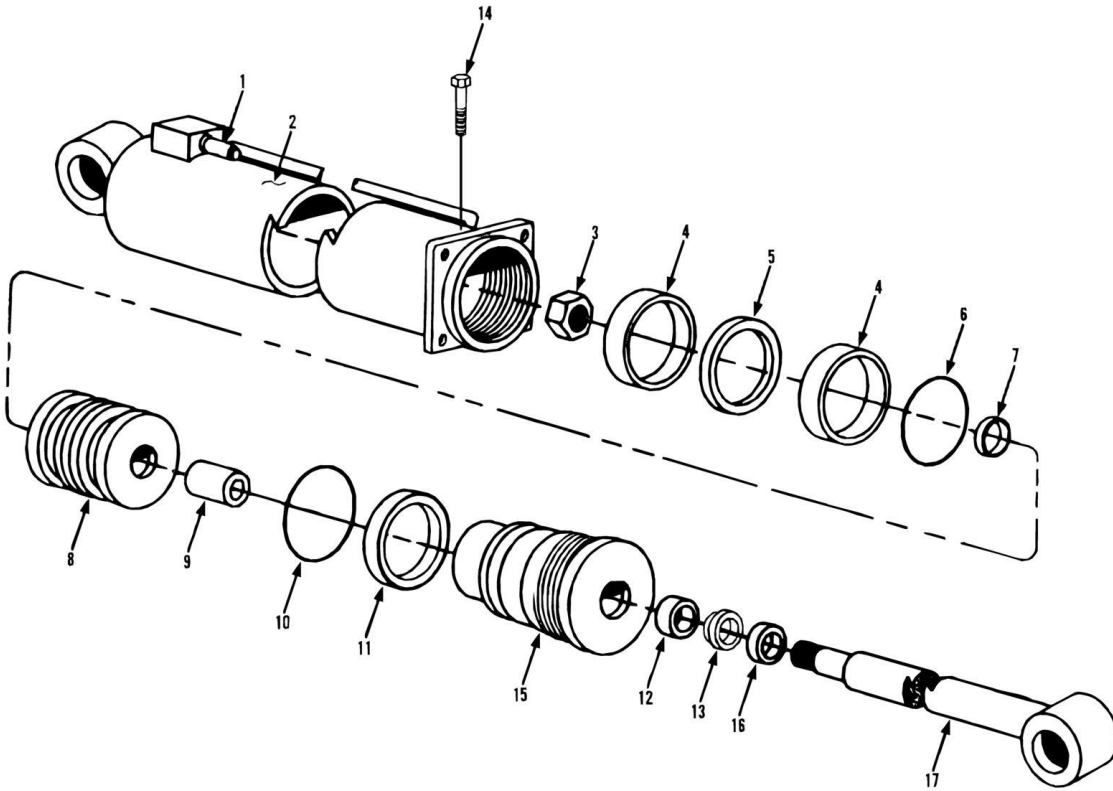
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (91483025) LIFT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483025	1	LIFT CYLINDER ASSY, (includes all items)	
	91124071	1	SEAL KIT, (includes items 7 thru 10, 12, 13 & 15 thru 17)	
1	91083304	4	BUSHING	
2	91144128	4	GREASE FITTING	
3	91484011	1	CASE ASSY	
4	91083473	1	COUNTERBALANCE VALVE	
4	91034276	1	COUNTERBALANCE VALVE SEAL KIT	
5	91124096	1	CAPSCREW, #10-24	
6	91034153	1	LOCKNUT, (lubricate and torque to 1400-1500 ft-lbs)	
7	Kit	2	WEAR RING	
8	Kit	1	PISTON SEAL	
9	Kit	1	O-RING	
10	Kit	1	O-RING	
11	91124073	1	PISTON	
12	Kit	1	O-RING	
13	Kit	1	BACK-UP RING	
14	91124074	1	CYLINDER HEAD	
15	Kit	1	STEP SEAL	
16	Kit	1	U-CUP	
17	Kit	1	WIPER	
18	91484012	1	SHAFT ASSY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. (91083468) CROWD CYLINDER



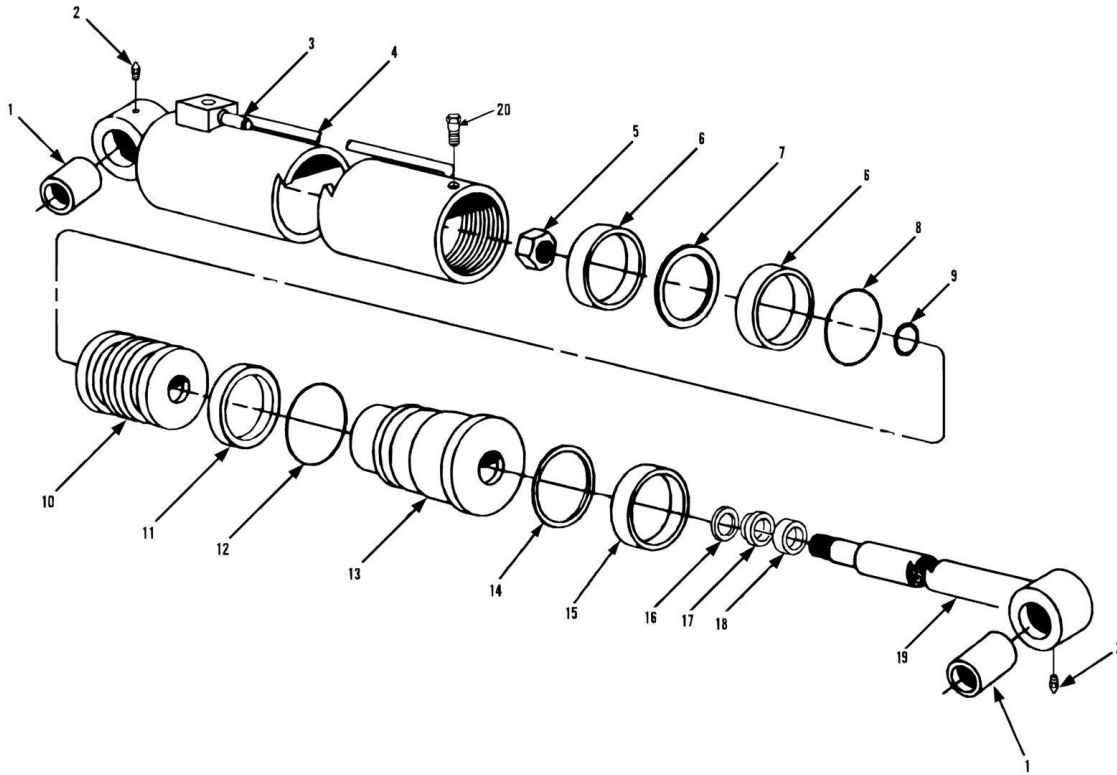
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. (91083468) CROWD CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083468	1	CROWD CYLINDER, (includes all items)	
	91084306	Ref	SEAL KIT, (includes items 4 thru 7, 10 thru 13 & 16)	
1	91084347	1	COUNTERBALANCE VALVE	
2	91084348	1	CASE ASSY	
3	91034267	1	LOCKNUT, (torque to 350-400 ft-lbs)	
4	Kit	2	WEAR RING	
5	Kit	1	PISTON SEAL	
6	Kit	1	O-RING	
7	Kit	1	O-RING	
8	91084368	1	PISTON	
9	91084369	1	SPACER	
10	91164023	1	O-RING	
11	Kit	1	BACKUP	
12	Kit	1	STEP SEAL	
13	Kit	1	U-CUP	
14	91124096	1	SELF TAPPING SCREW	
15	91084351	1	HEAD	
16	Kit	1	WIPER	
17	91084352	1	SHAFT ASSY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91083513) TILT CYLINDER



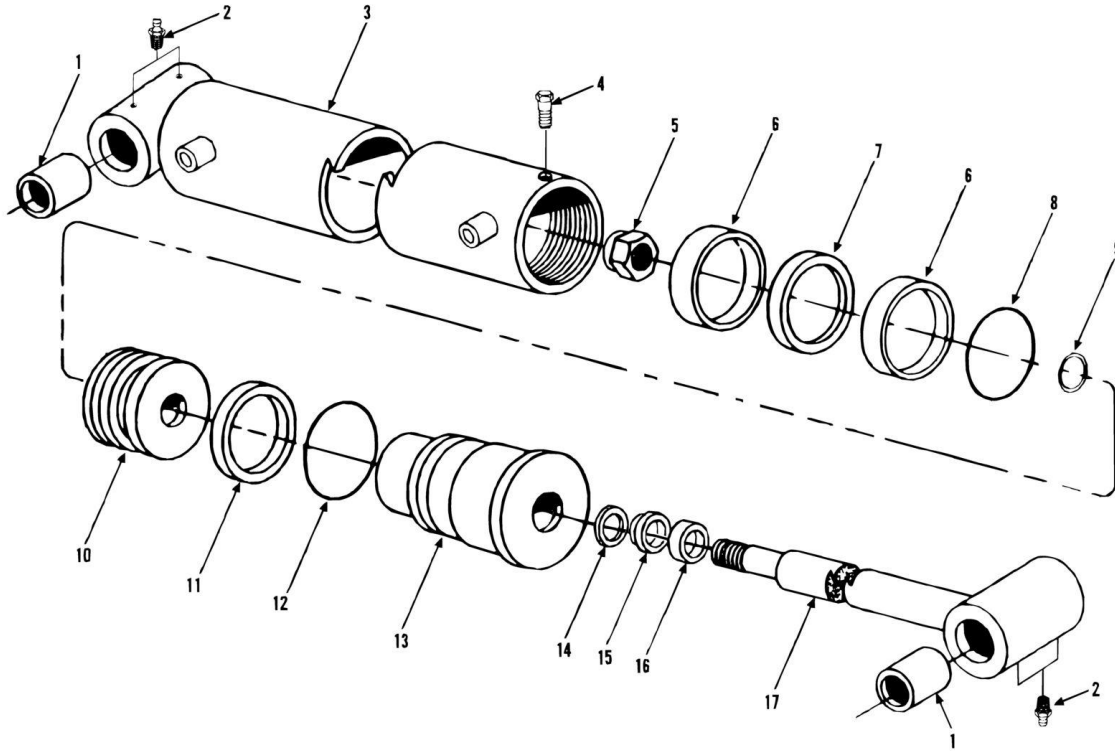
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91083513) TILT CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083513	1	TILT CYLINDER ASSY, (includes all items)	
	91084370	1	SEAL KIT, (includes items 6 thru 9, 11, 12 & 16 thru 18)	
1	91404352	2	BUSHING	
2	91144128	2	GREASE FITTING	
3	91083473	1	COUNTERBALANCE VALVE	
3	91034276	1	COUNTERBALANCE VALVE SEAL KIT	
4	91124076	1	CASE ASSY	
5	91064017	1	LOCKNUT, (torque to 650-750 ft lbs)	
6	Kit	2	WEAR RING	
7	Kit	1	SEAL	
8	Kit	1	O-RING	
9	Kit	1	O-RING	
10	91044274	1	PISTON	
11	Kit	1	BACK-UP RING	
12	Kit	1	O-RING	
13	91084371	1	GLAND	
14	91084372	1	SNAP RING	
15	91084373	1	WEAR RING	
16	Kit	1	STEP SEAL	
17	Kit	1	U-CUP	
18	Kit	1	WIPER	
19	91124078	1	SHAFT ASSY	
20	91124096	1	SELF TAPPING SCREW, #10-24	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-4. (91083470) COMPENSATING CYLINDER



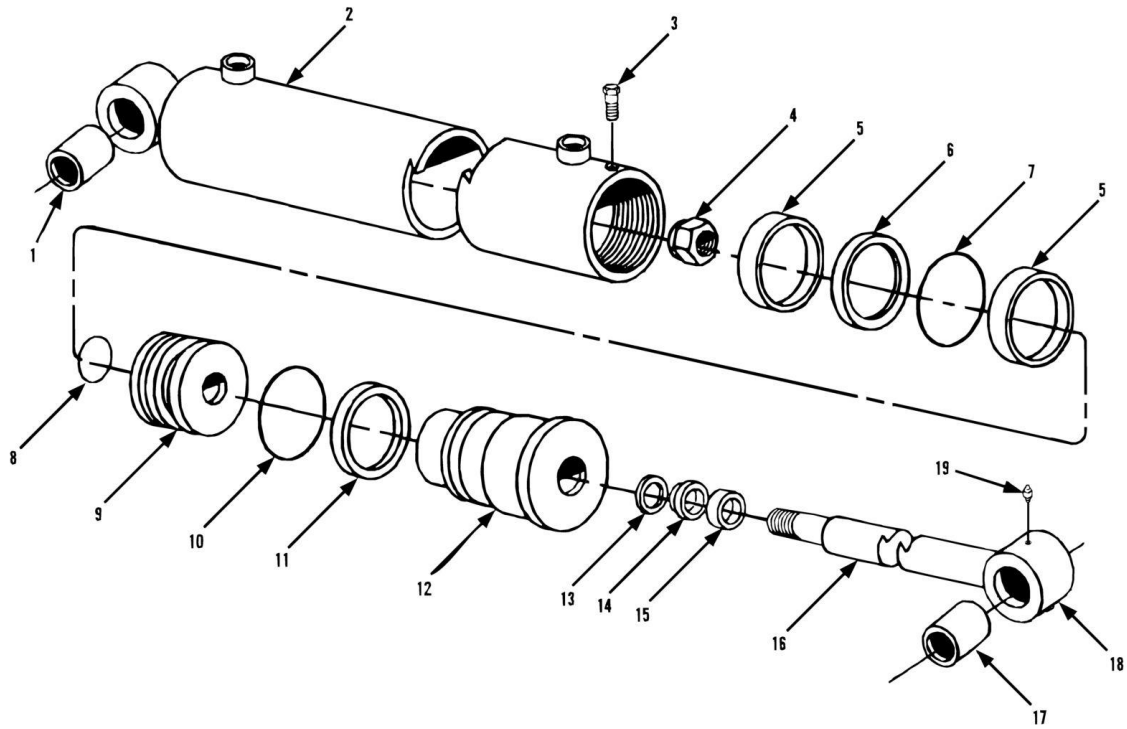
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-4. (91083470) COMPENSATING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083470	1	COMPENSATING CYLINDER ASSY, (includes all items)	
	91034339	1	SEAL KIT, (includes items 6 thru 9, 11, 12 & 14 thru 16)	
1	91083304	4	BUSHING	
2	91144128	4	GREASE FITTING	
3	91124079	1	CASE ASSY	
4	91124096	1	SELF TAPPING SCREW	
5	91034153	1	LOCKNUT, (lubricate and torque to 1175-1275 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	BACK-UP RING	
12	Kit	1	O-RING	
13	91124081	1	CYLINDER HEAD	
14	Kit	1	STEP SEAL	
15	Kit	1	U-CUP	
16	Kit	1	WIPER	
17	91124082	1	ROD ASSY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91383075) STEERING CYLINDER



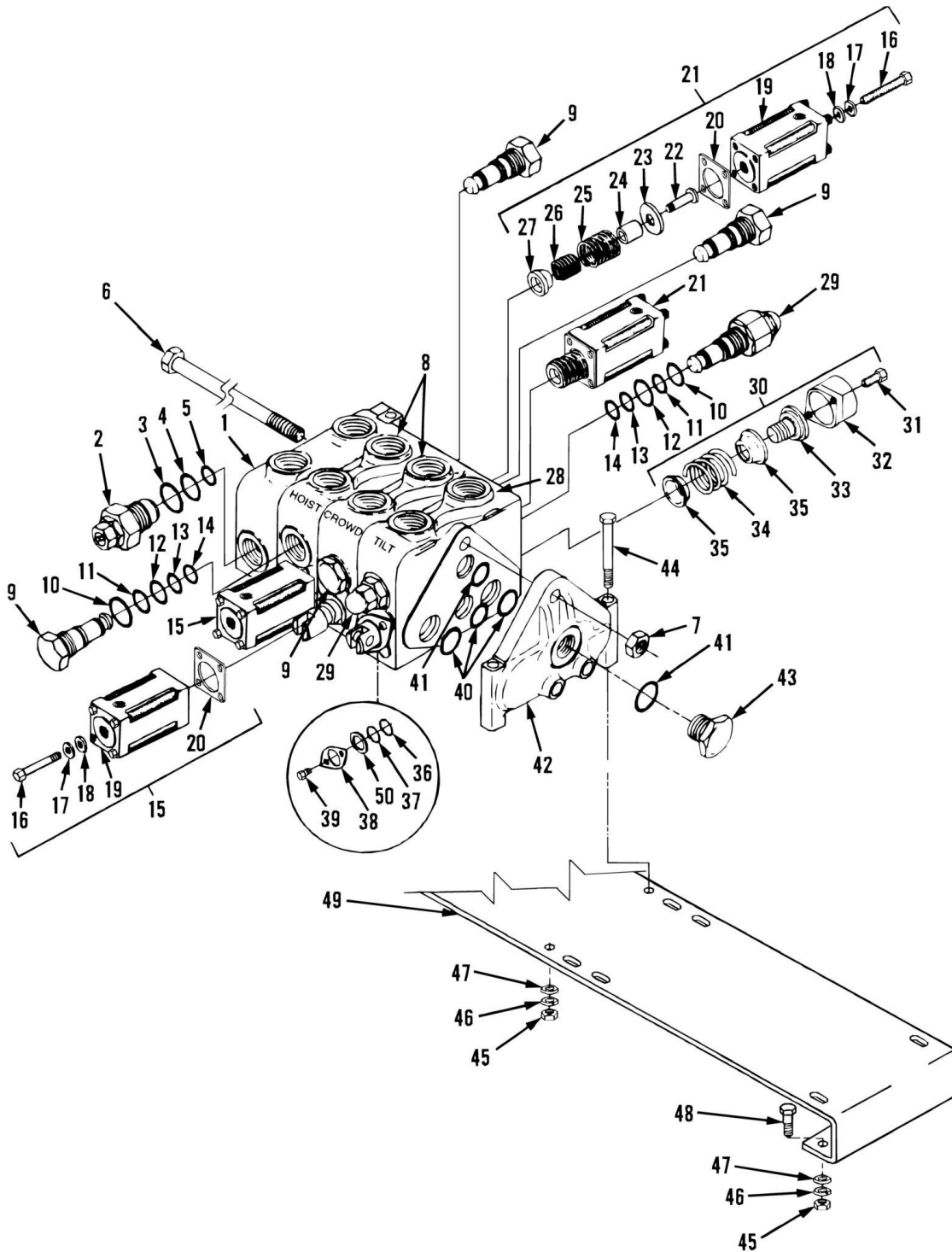
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91383075) STEERING CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91383075	2	STEERING CYLINDER ASSY, (includes all items)	
	91084305	1	SEAL KIT, (includes items 5 thru 8, 10, 11 & 13 thru 15)	
1	91124087	1	BUSHING	
2	91124088	1	CASE ASSY	
3	91124096	1	SELF-TAPPING SCREW	
4	91204460	1	LOCKNUT, (torque to 350-370 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	PISTON SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91124089	1	PISTON	
10	Kit	1	O-RING	
11	Kit	1	BACK-UP RING	
12	91124090	1	CYLINDER HEAD	
13	Kit	1	STEP SEAL	
14	Kit	1	U-CUP	
15	Kit	1	WIPER	
16	91124108	1	ROD ASSY	
17	91144042	1	BUSHING	
18	91144128	1	GREASE FITTING	
19		Ref	HEX HD PLUG, 1/8-27 NPT, (torque to 10-20 ft lbs)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-6. (91483012) MAIN HYDRAULIC CONTROL VALVE ASSEMBLY



SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-6. (91483012) MAIN HYDRAULIC CONTROL VALVE ASSEMBLY

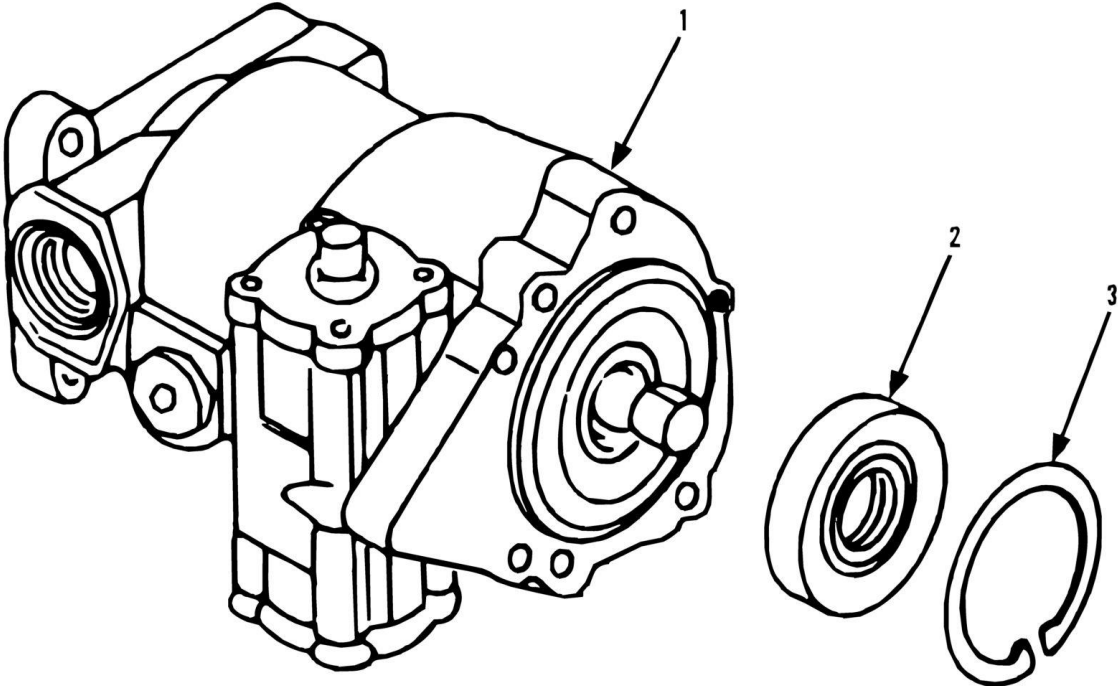
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483012	1	MAIN HYDRAULIC CONTROL VALVE ASSY, (includes all items except 44 thru 49)	
	91084203	1	STUD KIT, (includes items 6 & 7)	
	91404178	4	SECTION SEAL KIT, (includes items 40 & 41)	
	91404179	1	MAIN RELIEF SEAL KIT, (includes items 3, 4 & 5)	
	91084201	6	PLUG SEAL KIT, (includes items 10 thru 14)	
	91404180	1	SEAL RETAINER KIT, (includes items 38 & 39)	
	91404181	2	SPOOL SEAL KIT, (includes items 36 & 37)	
1	91084008	1	INLET COVER ASSY, (includes item 2)	
2	91084009	1	MAIN RELIEF CARTRIDGE, (includes items 3, 4 & 5)	
3	Kit	1	O-RING	
4	Kit	1	BACKUP RING	
5	Kit	1	O-RING	
6	Kit	3	HEX HD CAPSCREW	
7	Kit	3	HEX NUT	
8	91084277	2	VALVE SECTION ASSY, (Hoist and Crowd), (includes item 9, 15 & 21)	
9	91404183	4	LOAD CHECK PLUG, (includes items 10 thru 14)	
10	Kit	2	O-RING	
11	Kit	1	BACK UP RING	
12	Kit	1	O-RING	
13	Kit	1	O-RING	
14	Kit	2	BACK UP RING	
15	91404184	2	HYDRAULIC REMOTE POSITIONER, (includes items 16 thru 20)	
16		Ref	SCREW	
17		Ref	LOCKWASHER	
18		Ref	BEARING PLATE	
19		Ref	BONNET	
20		Ref	SEAL	
21	91404185	2	HYDRAULIC REMOTE POSITIONER, (includes items 16 thru 20 & 22 thru 27)	
22		Ref	SPUD POSITIONER	
23		Ref	WASHER	
24		Ref	STOP SLEEVE	
25		Ref	SPRING, (large)	
26		Ref	SPRING, (small)	
27		Ref	STOP COLLAR	
28	91084012	1	VALVE SECTION ASSY, (Tilt), (includes items 29 & 30)	
29	91084199	2	RELIEF CARTRIDGE, (includes items 10 thru 14)	
30	91404190	2	SPOOL POSITIONER ASSY, (includes items 31 thru 35)	
31		Ref	SCREW	
32		Ref	BONNET	
33		Ref	SPOOL SPUD	
34		Ref	SPRING	
35		Ref	SPRING COLLAR	
36	Kit	1	BACK UP WASHER	
37	Kit	1	O-RING	
38	Kit	1	RETAINER PLATE	
39	Kit	2	SCREW	
40	Kit	3	O-RING	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	Kit	2	O-RING	
42	91084278	1	OUTLET COVER ASSY, (includes item 43)	
43	91084279	1	PLUG	
44	88201028	3	HEX HD CAPSCREW, 5/16-18X3, GR5	
45	88501005	7	HEX NUT, 5/16-18	
46	88551010	7	LOCKWASHER, 5/16	
47	88561003	7	FLAT WASHER, 5/16	
48	88201020	4	HEX HD CAPSCREW, 5/16-18X1	
49	91381009	1	VALVE SUPPORT, (partially illustrated)	
50	91404214	1	SEAL RETAINER	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. (91383076) REAR DRIVE MOTOR



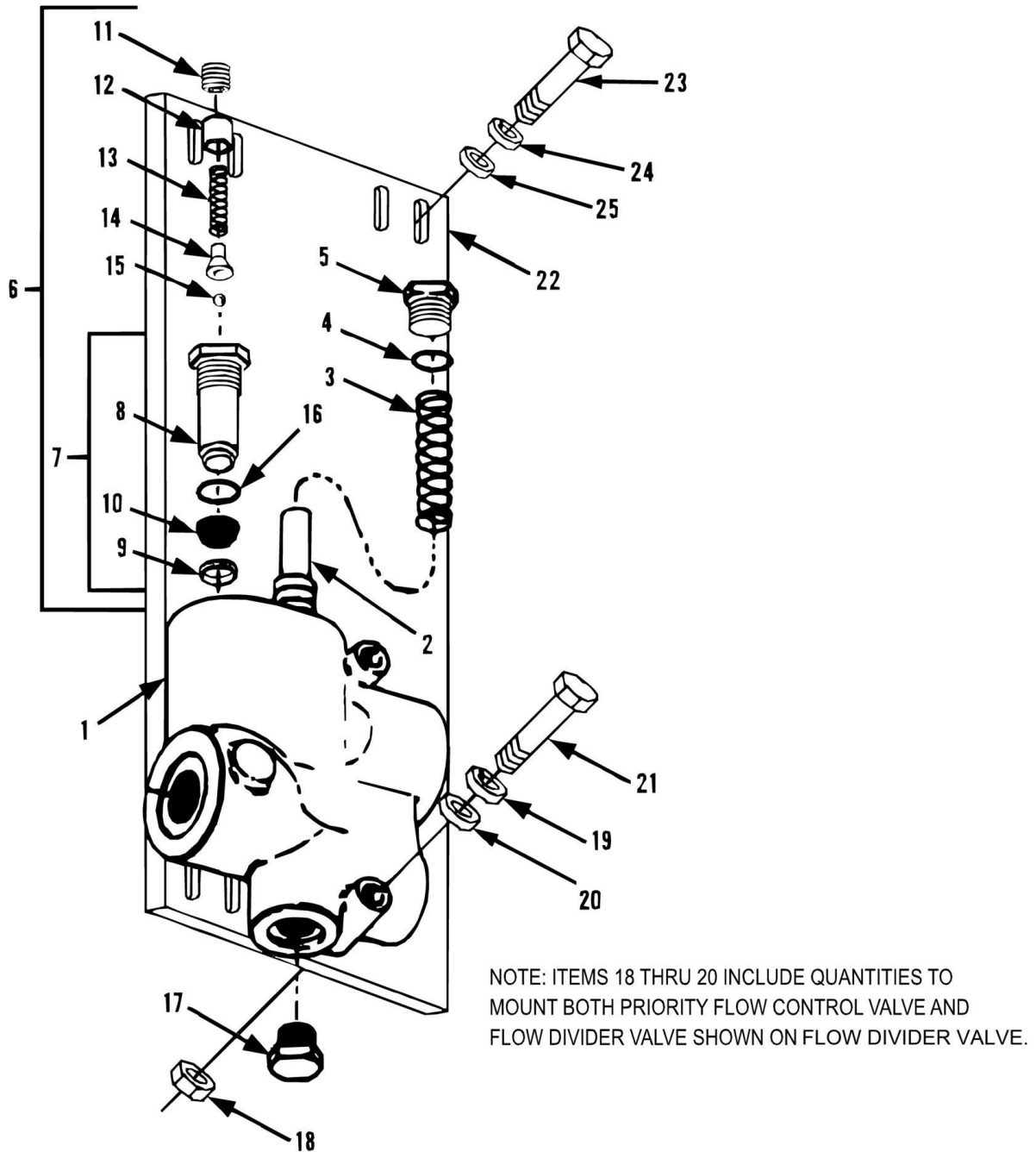
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. (91383076) REAR DRIVE MOTOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91383076	1	REAR DRIVE MOTOR, (includes all items)	
2	91084214	1	LIP SEAL	
3	91084215	2	RETAINING RING	

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FIGURE 9-8. (91033240) PRIORITY FLOW CONTROL VALVE



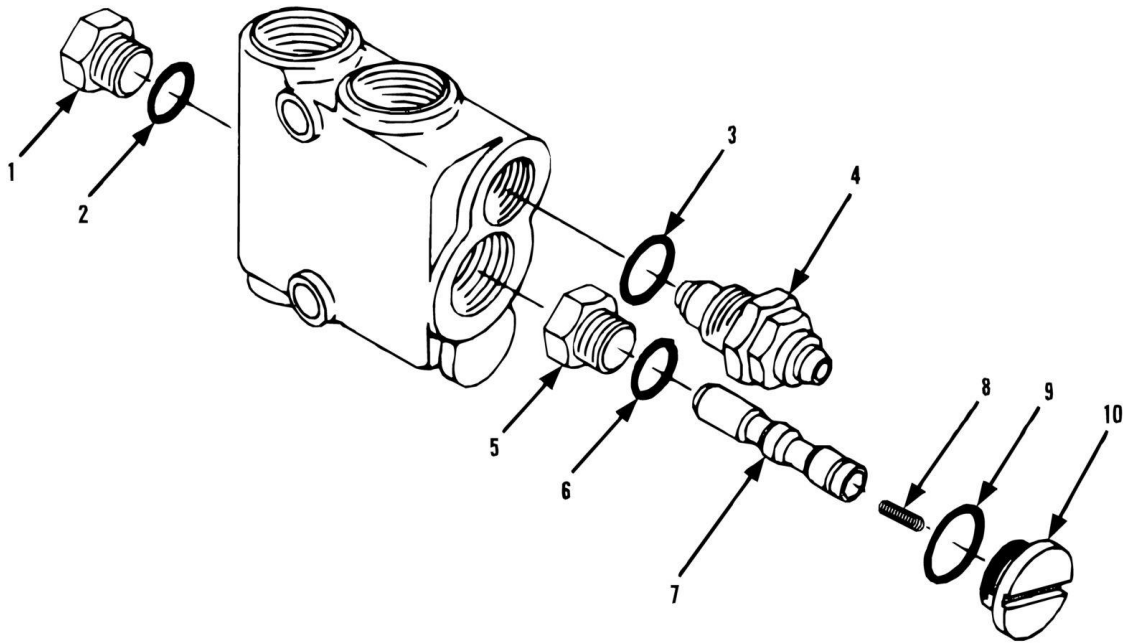
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-8. (91033240) PRIORITY FLOW CONTROL VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033240	1	PRIORITY FLOW CONTROL VALVE, (includes items 1-17), (2500 PSI relief setting)	
1	90206548	1	HOUSING, (includes item 2)	
2		Ref	SPOOL	
3		Ref	SPRING	
4		Ref	O-RING	
5		Ref	PLUG	
6	90206553	1	RELIEF CARTRIDGE, (includes items 7 thru 16)	
7		Ref	RELIEF VALVE SUB BODY, (includes items 8 thru 10)	
8		Ref	BODY	
9		Ref	RING	
10		Ref	SCREEN	
11		Ref	RELIEF VALVE ADJUSTING SCREW	
12		Ref	SPRING GUIDE	
13		Ref	SPRING	
14		Ref	BALL HOLDER	
15		Ref	BALL	
16		Ref	O-RING	
17		Ref	PLUG	
18	88501005	4	HEX NUT, 5/16-18	
19	88551010	4	LOCKWASHER, 5/16	
20	88561003	4	FLAT WASHER, 5/16	
21	88201030	2	HEX HD CAPSCREW, 5/16-18X3-1/2, GR5	
22	91121264	1	BRACKET	
23	88201003	4	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
24	88561001	4	FLAT WASHER, 3/16	
25	88551009	4	LOCKWASHER, 1/4	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-9. (91083521) FLOW DIVIDER VALVE



NOTE: SEE PRIORITY FLOW CONTROL VALVE ITEMS THRU 20 FOR MOUNTING HARDWARE.

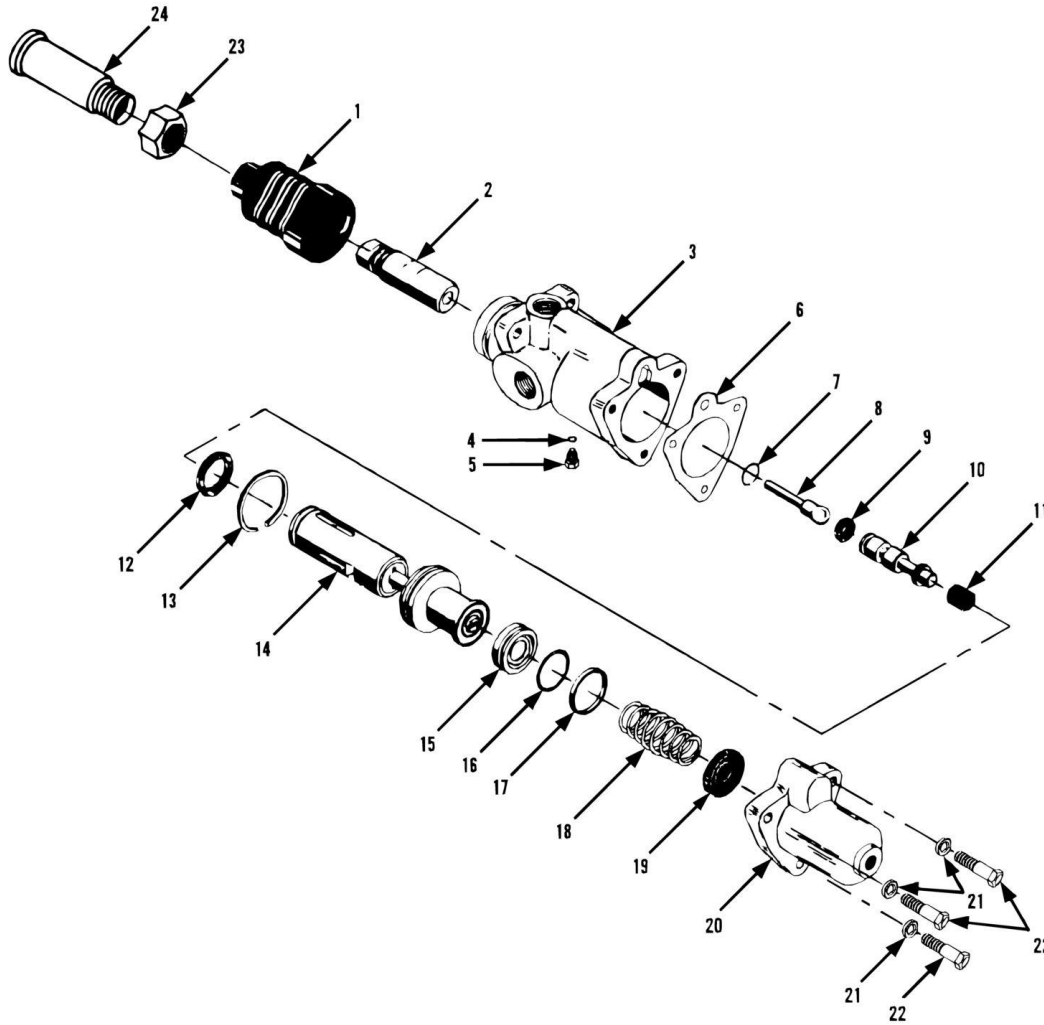
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-9. (91083521) FLOW DIVIDER VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083521	1	FLOW DIVIDER VALVE - 625 PSI, (includes all items)	
	91084386	1	SEAL KIT, (includes items 2, 3, 6 & 9)	
1	91084157	1	PLUG	
2	91084161	1	O-RING	
3	Kit	1	O-RING	
4	91084159	1	RELIEF, (includes item 3)	
5	91084387	1	ORIFICE PLUG	
6	91084388	1	O-RING	
7	91084155	1	SPOOL	
8	91084156	1	SPRING	
9	91084158	1	O- RING	
10	91084160	1	PLUG	
11	88201029	2	HEX HD CAPSCREW, 5/16-18X3-1/4, GR5, (item not shown; for mounting)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-10. (91143201) BRAKE VALVE



LK

10-10

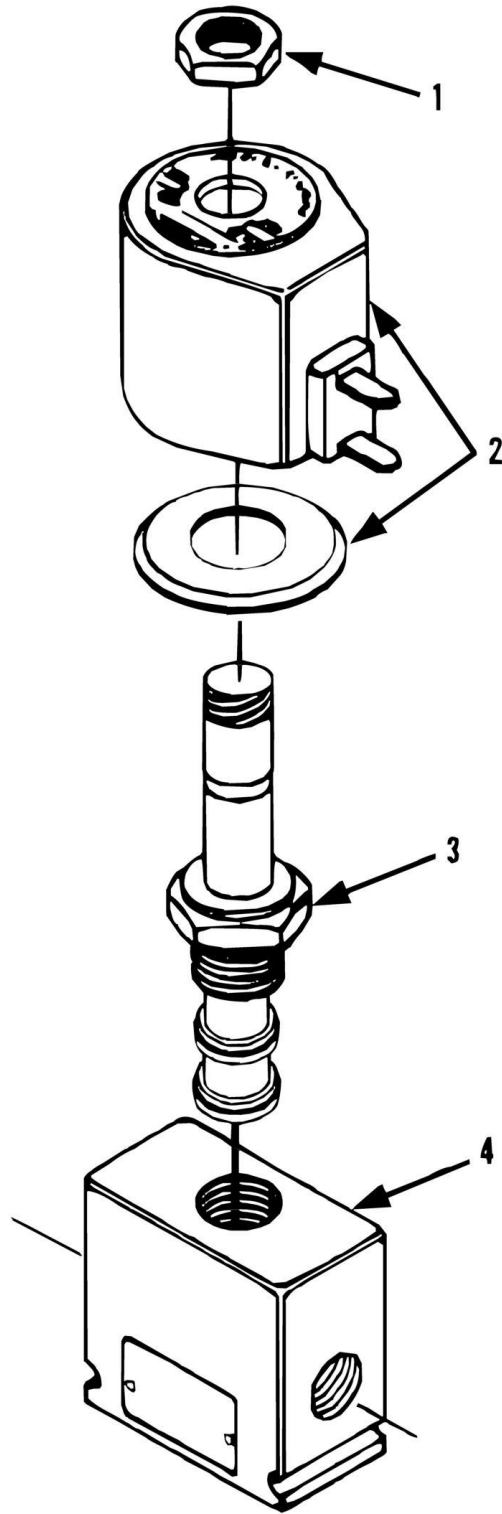
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-10. (91143201) BRAKE VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143201	1	POWER BRAKE VALVE, (includes items 1 thru 22)	
	91084043	1	REPAIR KIT, (includes items 1, 4, 6, 9, 12, 13, 15, 16, 17 & 19)	
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	
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	Kit	1	RESIDUAL VALVE	
20		Ref	END CAP	
21		Ref	LOCKWASHER	
22		Ref	HEX HD CAPSCREW, (torque to 16-18 ft lbs)	
23	88501408	1	HEX JAM NUT, 1/2-20	
24	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



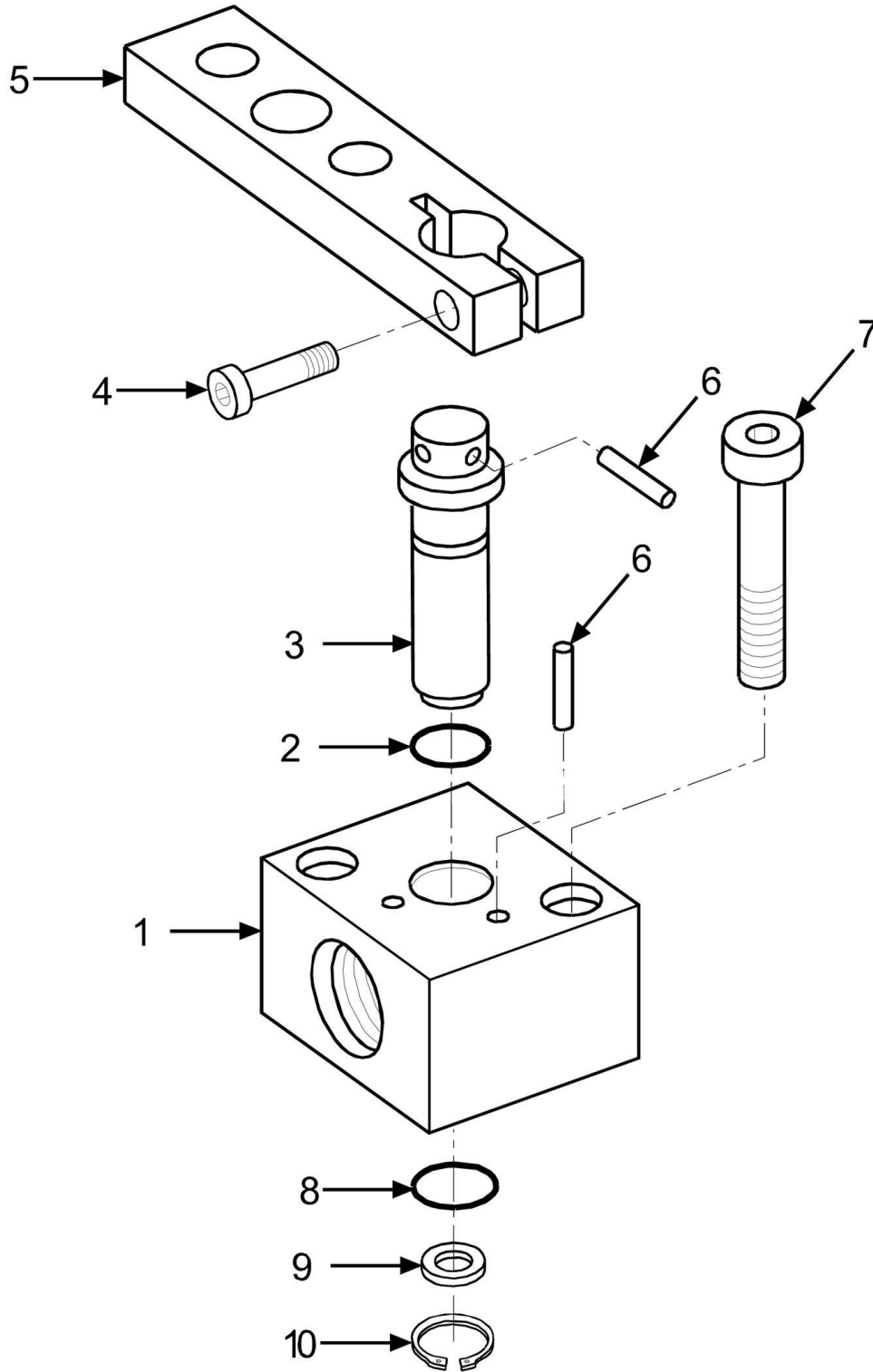
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-11. (91043446) SOLENOID VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043446	1	3-WAY SOLENOID VALVE, (includes all items)	
1	80934036	1	NUT	
2	91144158	1	COIL	
3	80934038	1	CORE ASSY, (3-way, 2-position)	
4	80934035	1	VALVE BODY	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (91143372) INCHING VALVE



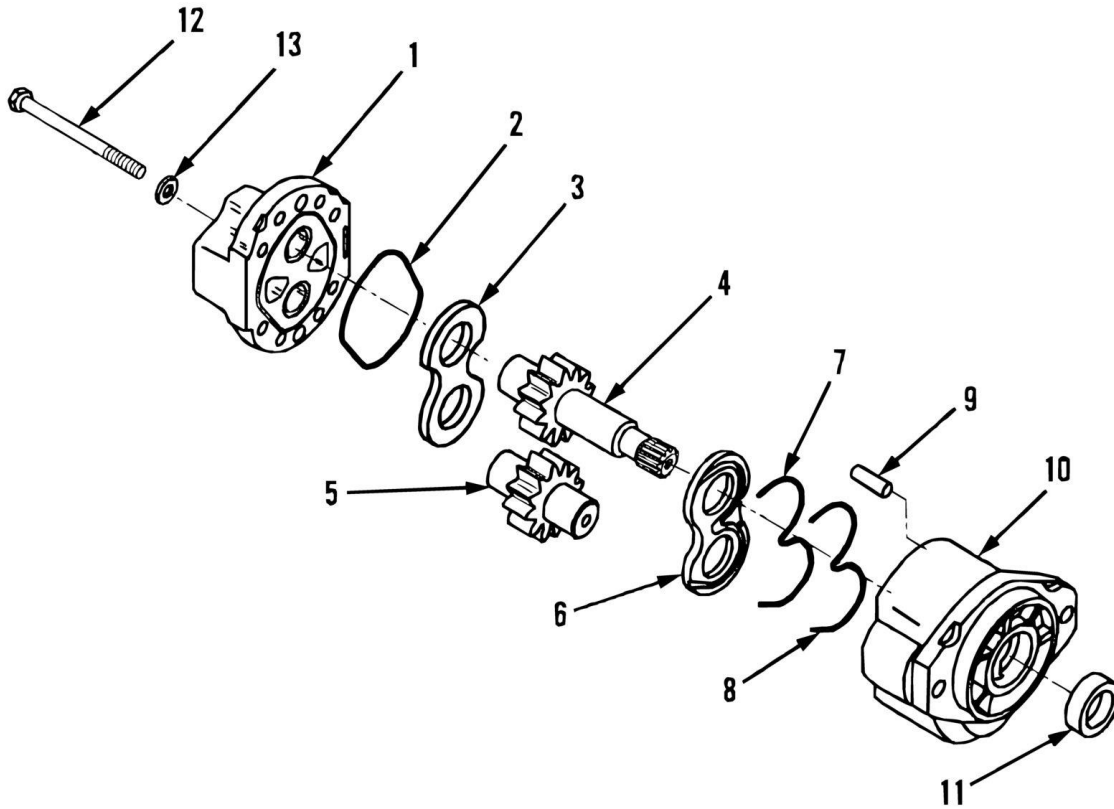
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (91143372) INCHING VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143372	Ref	INCHING VALVE, (includes all items)	
	91144459	AR	SEAL KIT, (includes items 2, 5, 7 & 8)	
1	91144460	1	INCHING DEVICE, (includes all items except one of item 6)	
2	70022051	1	O-RING	
3	91144462	1	SHAFT	
4	91144463	1	CAPSCREW, M5X20	
5	91144464	1	LEVER	
6	91144465	3	PIN	
7	91144466	2	CAPSCREW, M8X30	
8	80934671	1	O-RING	
9	91144461	1	SHIM	
10	91144467	1	SNAP RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-13. (91083296) MAIN HYDRAULIC PUMP



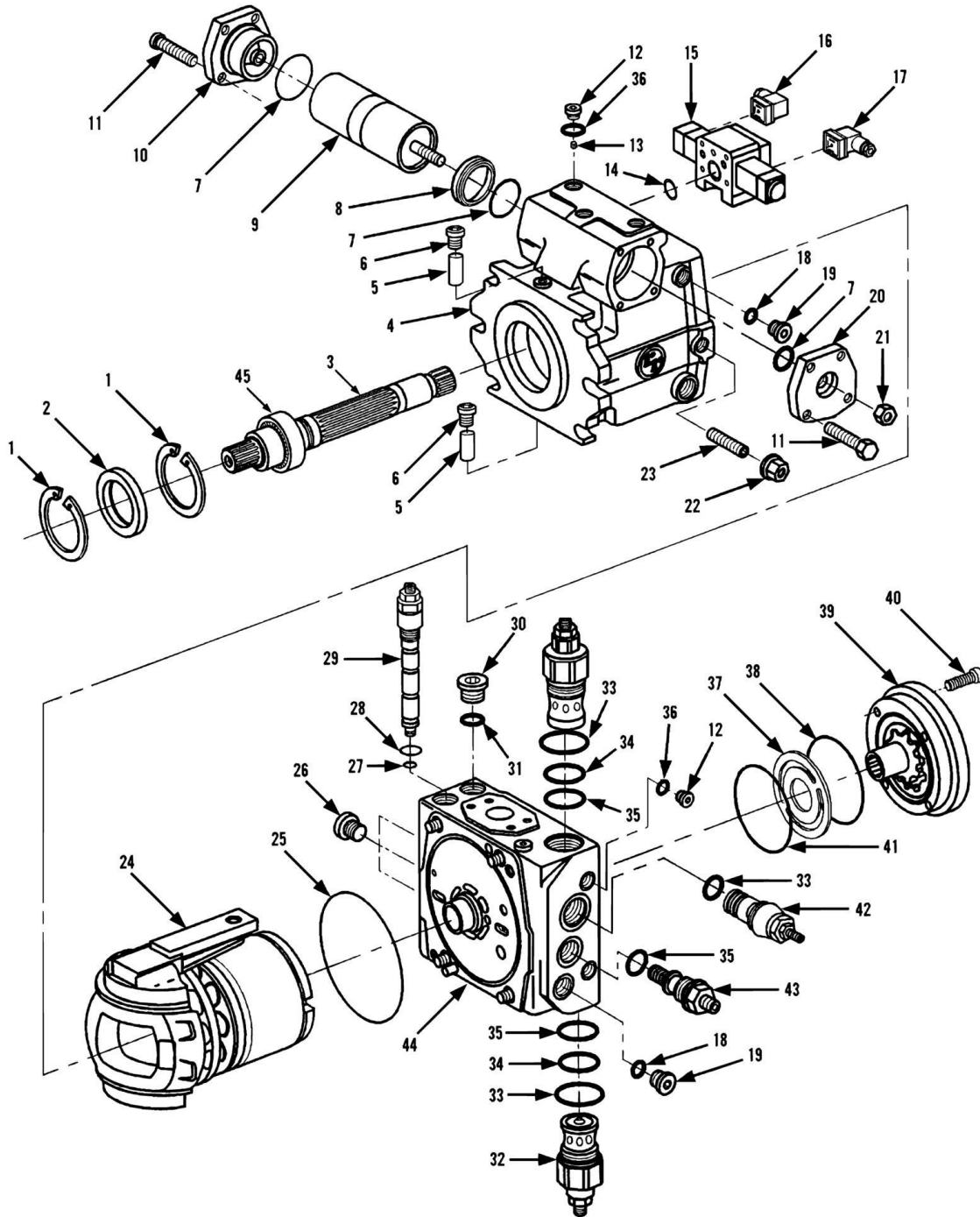
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-13. (91083296) MAIN HYDRAULIC PUMP

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083296	1	MAIN HYDRAULIC PUMP, (includes all items)	
	91084218	1	SEAL KIT, (includes items 2, 3, 6, 7, 8 & 11)	
1	91084144	1	REAR COVER	
2	91084137	1	SEAL	
3	91084138	1	THRUST PLATE	
4	91084375	1	DRIVE GEAR	
5	91084145	1	DRIVEN GEAR	
6	91084139	1	WEAR PLATE	
7	91084140	1	SEAL	
8	91084142	1	SEAL SPACER	
9	91084143	2	DOWEL PIN	
10	91084376	1	BODY	
11	91084141	1	SHAFT SEAL	
12	91084135	8	HEX HD CAPSCREW, 3/8-16X3-1/4	
13	91084136	8	FLATWASHER	

SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. (91083499) HYDROSTATIC TRANSMISSION PUMP



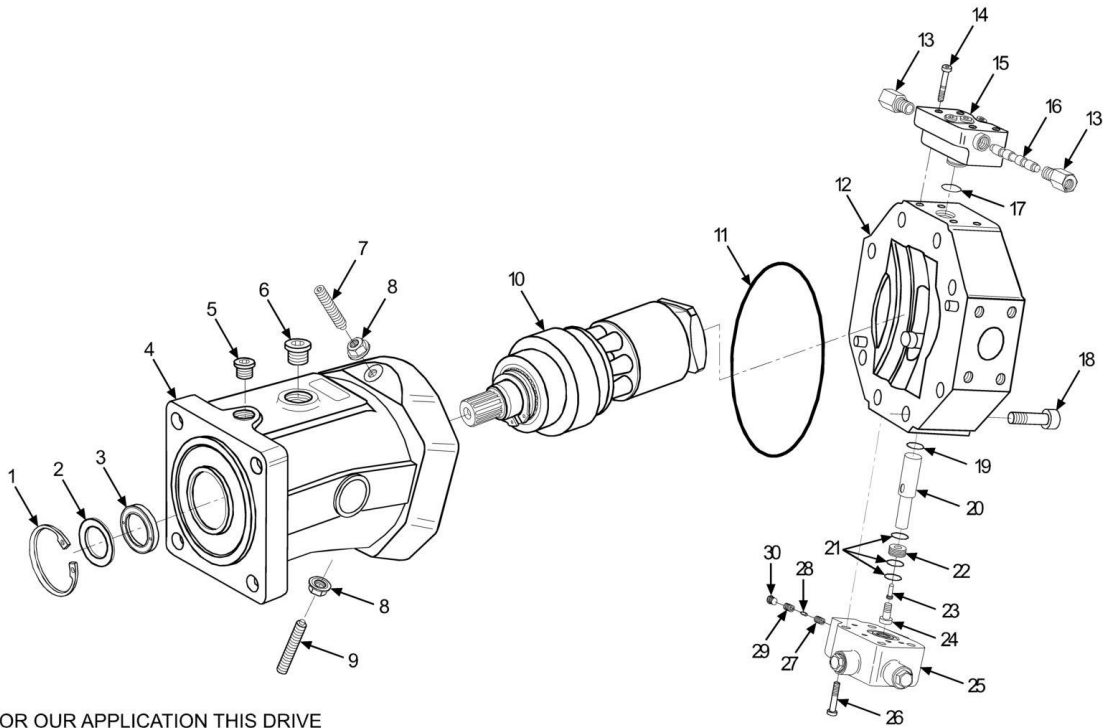
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. (91083499) HYDROSTATIC TRANSMISSION PUMP

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083499	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	91084389	1	SHAFT SEAL	
3	91084318	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	91084330	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	91084390	1	ROLLER BEARING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-15. (91093016) FRONT DRIVE MOTOR



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

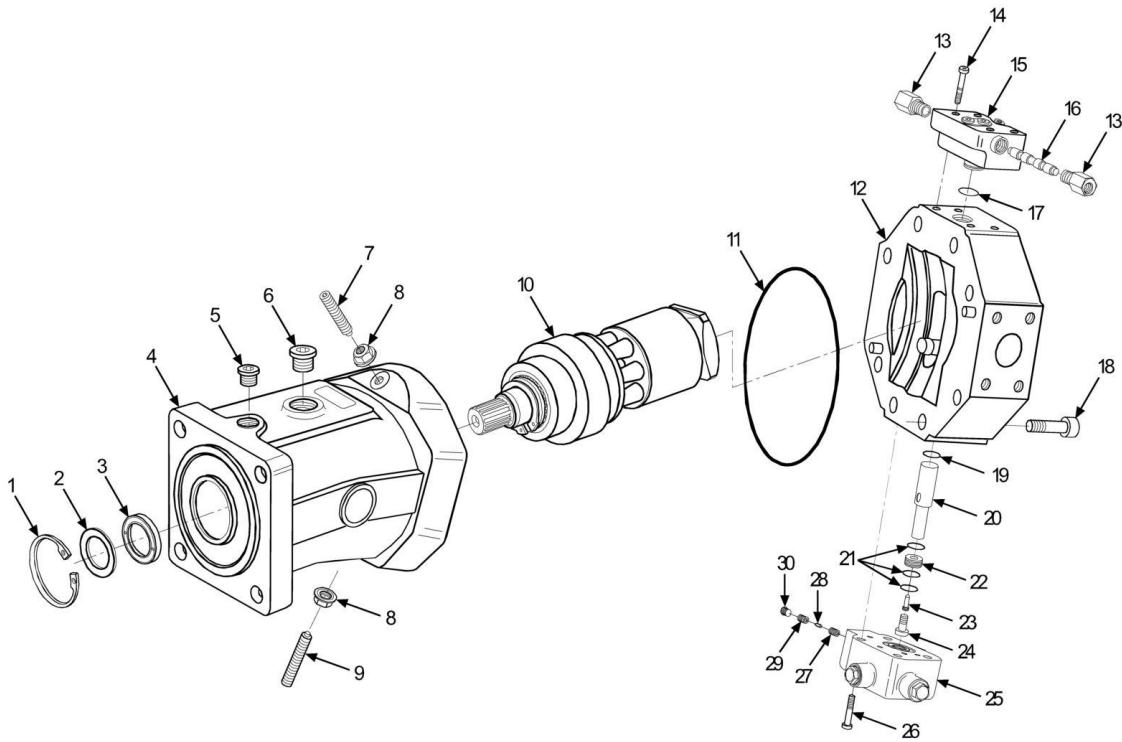
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-15. (91093016) FRONT DRIVE MOTOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91093016	1	FRONT DRIVE MOTOR ASSY, (includes all items)	
	91094025	AR	SEAL KIT, (includes items 3, 4, 6, 9, 13, 14, 18, 20 & 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	91384008	1	STOP SCREW, M12x100	
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	91144248	2	FITTING	
17	80934080	4	CAPSCREW	
18	Kit	1	SEAL NUT	
19	91094033	1	DA1 CONTROL KIT, (includes items 16, 17, 18 & 20)	
20	Kit	1	O-RING	
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	91384009	4	CAP SCREW, M8X50	
26	91094038	1	FLUSHING ORIFICE	
27	91094039	1	PLUG	
28	83924157	1	SWIVEL TIME ORIFICE	
29	91094040	2	PLUG	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-16. (91163044) FRONT DRIVE MOTOR



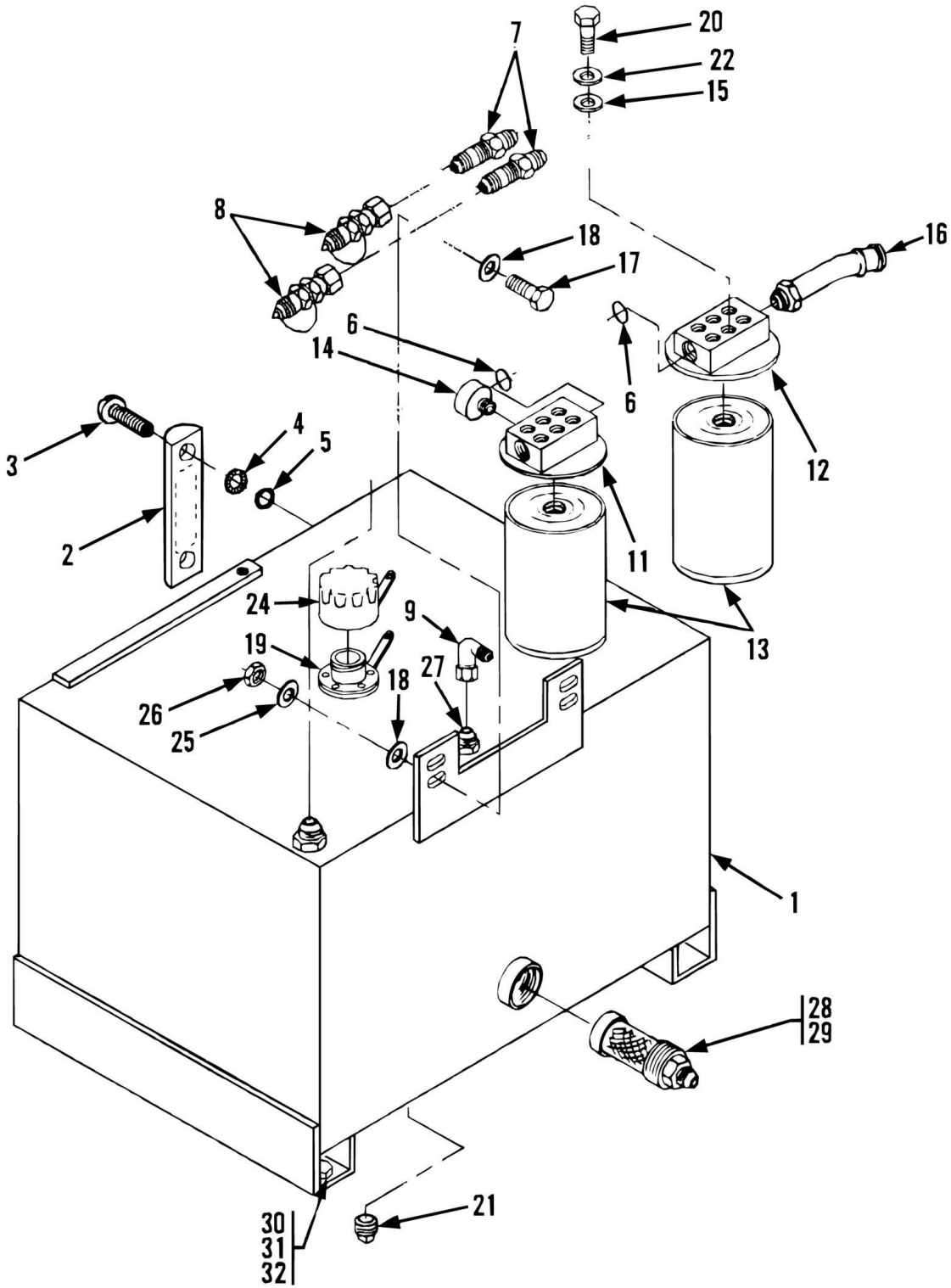
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-16. (91163044) FRONT DRIVE MOTOR

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91163044	Ref	FRONT DRIVE MOTOR, (includes all items)	
	91164109	AR	SEAL KIT, (includes items 2, 3, 5, 6, 8 11,17, 19, 21, 30 and additional items not illustrated)	
1	91404040	1	SNAP RING	
2	80214343	1	SHIM	
3	Kit	1	SHAFT SEAL	
4	91404041	1	HOUSING	
5	Kit	1	PLUG, 7/8-14	
6	Kit	1	PLUG, 1-1/16-12	
7	91404043	1	STOP SCREW	
8	Kit	2	SEAL NUT, M12	
9	91404042	1	STOP SCREW	
10	91404044	1	ROTARY GROUP	
11	Kit	1	O-RING	
12	91164110	1	CONTROL ASSY, (includes items 15, 18 & 20 thur 25)	
13	91094022	2	FITTING	
14	91404046	4	CAPSCREW, M8X50	
15	91094033	1	DA1 CONTROL, (includes items 13, 14, 16 & 17)	
16	91404047	1	SLIDER	
17	Kit	1	O-RING	
18	91404048	8	CAPSCREW, M16X45	
19	Kit	1	O-RING	
20	91404049	1	STROKING PISTON	
21	Kit	3	SQUARE-RING	
22	91404050	1	PISTON	
23	91404051	1	THREADED PIN	
24	91164111	1	CAPSCREW, M14X1.5	
25	91404053	1	FLUSHING VALVE, (includes items 19 & 26 thur 30)	
26	91404054	4	CAPSCREW, M12X50	
27	91404055	1	ORIFICE SEAT, (inner)	
28	91404056	1	SHUTTLE ORIFICE	
29	91404057	1	ORIFICE SEAT, (outer)	
30	Kit	1	PLUG, M14X1.5	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-17. (91125069) HYDRAULIC RESERVOIR AND FILTER



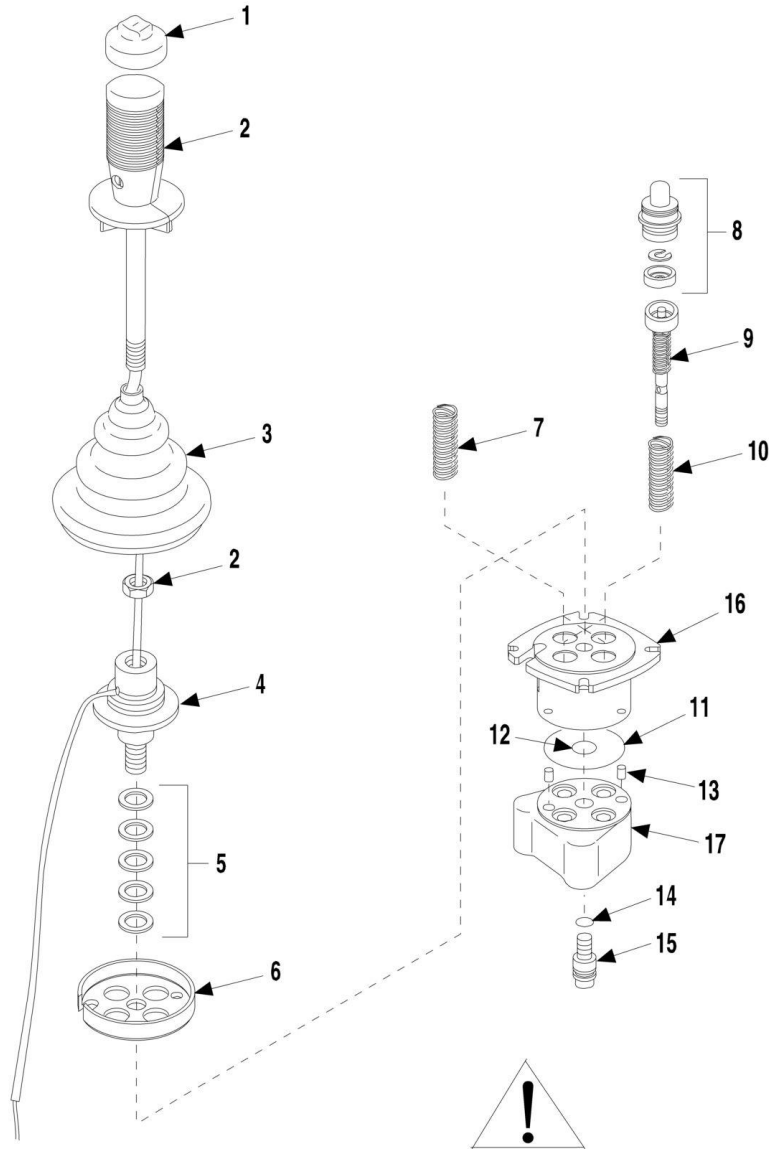
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-17. (91125069) HYDRAULIC RESERVOIR AND FILTER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91125069	1	HYDRAULIC RESERVOIR ASSY, (includes all items except 30, 31 & 32)	
1	91143133	1	HYDRAULIC OIL TANK, (includes item 21)	
2	91083070	1	FLUID LEVEL GAUGE, (includes items 3, 4 & 5)	
3		Ref	ROUND HD SCREW, PORTED	
4		Ref	LOCKWASHER	
5		Ref	O-RING	
6	88591210	2	O-RING	
7	88661084	2	BULKHEAD UNION, 9/16-18X3/8 TUBE	
8	91143172	2	MINI CHECK COUPLING	
9	88662106	1	ELBOW, 90, (swivel nut)	
10	91123150	1	TUBE ASSY	
11	91143218	1	RETURN FILTER, (includes one of item 13 & item 14)	
12	91083518	1	SUCTION FILTER, (includes one of item 13)	
13	91143144	2	FILTER ELEMENT	
14	91084022	1	COLOR CODED GAUGE	
15	83623032	1	ELBOW, 90	
16	91083519	1	BEADED INSERT, 45	
17	88201036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
18	88561004	8	WASHER, 3/8	
19	91333023	6	SLOTTED HEX WASHER HD MACHINE 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	88551015	4	LOCKWASHER, 5/8	
31	88201095	4	HEX HD CAPSCREW, 5/8-11X1-1/2, GR5	
32	88561008	4	FLAT WASHER, 5/8	
33	88551010	4	LOCKWASHER, 5/16	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 9-18. (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.

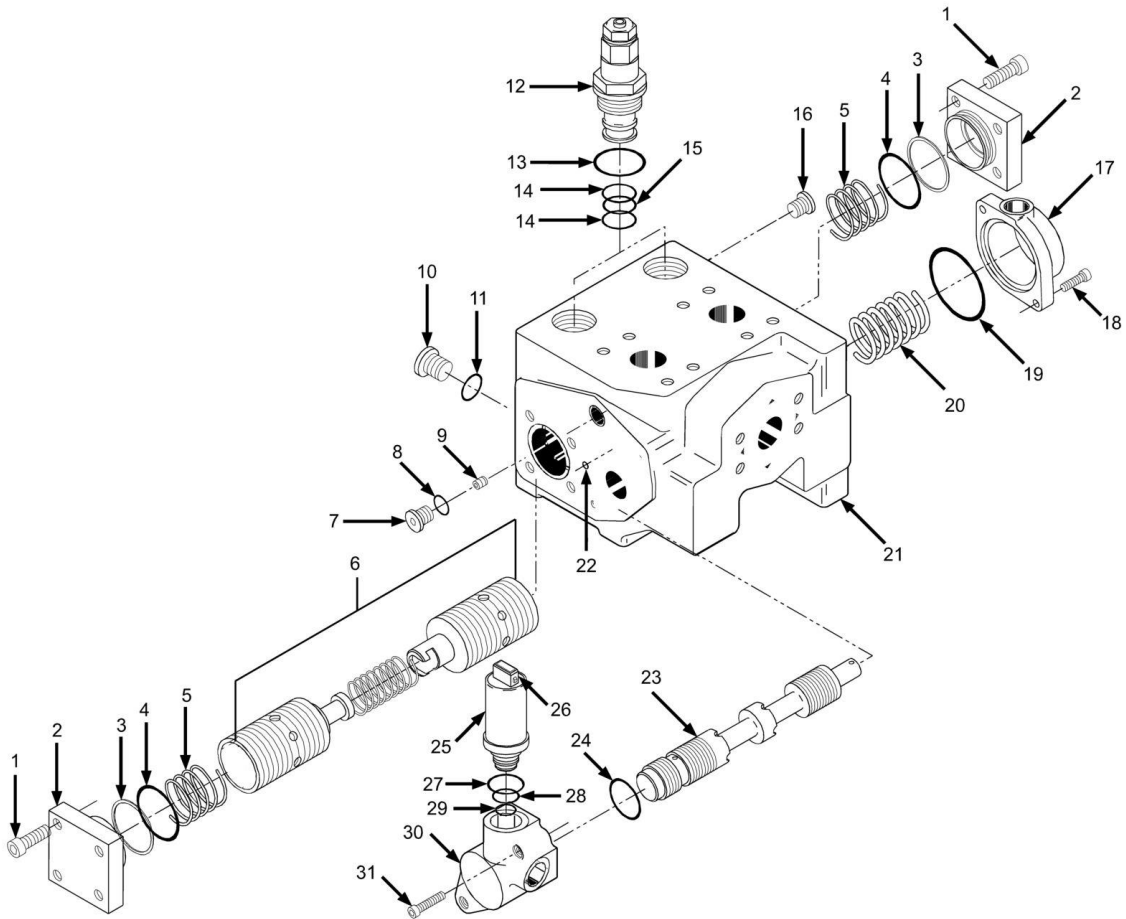
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-18. (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	Kit	AR	SHIM	
6	91304026	1	RETAINING PLATE	
7	91504029	1	STANDARD SPRING, (pack of two), (ports 2 & 4)	
8	80934498	4	PLUNGER AND GUIDE KIT	
9	91404327	4	REGULATING KIT	
10	91504028	1	HEAVY SPRING, (pack of two), (ports 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 9-19. (91083459) TRACTION LOCK VALVE



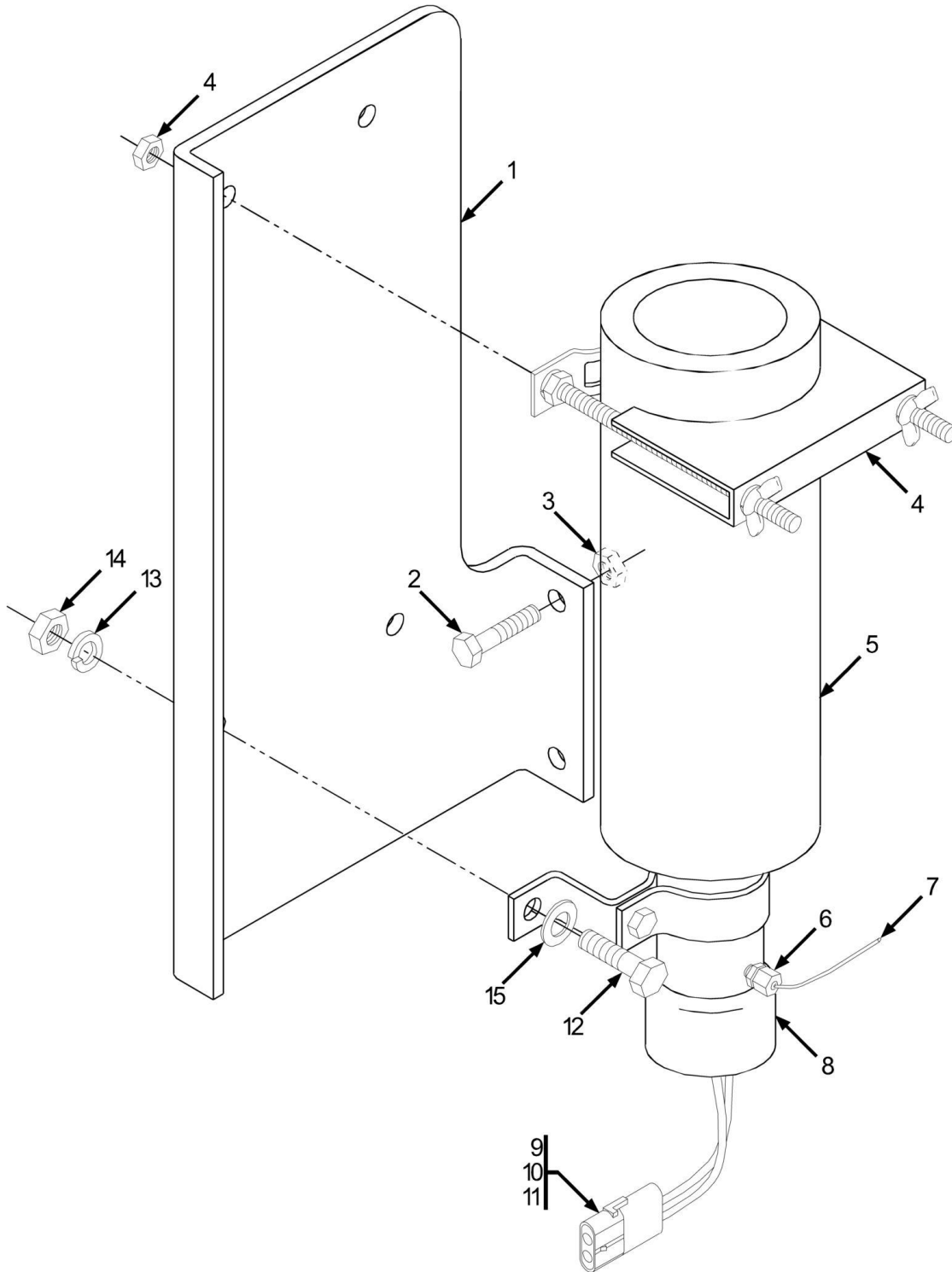
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-19. (91083459) TRACTION LOCK VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083459	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	91404058	8	HEX HD CAPSCREW, M10X30	
2	91404059	2	COVER	
3	Kit	2	BACK-UP RING	
4	Kit	2	O-RING	
5	91404060	2	SPRING	
6		Ref	SPOOL, (not sold separately, order P/N 91083459)	
7	91404061	1	PLUG, (includes item 8)	
8	Kit	1	O-RING	
9	91404062	1	ORIFICE	
10	91404063	2	PLUG, (includes item 11)	
11	Kit	2	O-RING	
12	91084297	2	RELIEF VALVE CARTRIDGE, (set at 5800 PSI), (includes items 13, 14 & 15)	
13	Kit	2	O-RING	
14	Kit	4	BACK-UP RING	
15	Kit	2	O-RING	
16	Kit	1	PLUG	
17	91404064	1	COVER	
18	91404065	2	HEX HD CAPSCREW, M6X16	
19	Kit	1	O-RING	
20	91404066	1	SPRING	
21		Ref	VALVE BODY, (not sold separately, order P/N 91083459)	
22	Kit	1	O-RING	
23		Ref	SPOOL, (not sold separately, order P/N 91083459)	
24	Kit	1	O-RING	
25	91084302	1	SOLENOID VALVE, (include items 27, 28 & 29)	
26	91144015	1	CONNECTOR	
27	Kit	1	O-RING	
28	Kit	1	O-RING	
29	Kit	1	O-RING	
30	91084301	1	COVER	
31	91404067	2	HEX HD CAPSCREW, M6X30	

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FIGURE 9-20. (91335020) QUICK START CYLINDER AND VALVE ASSEMBLY



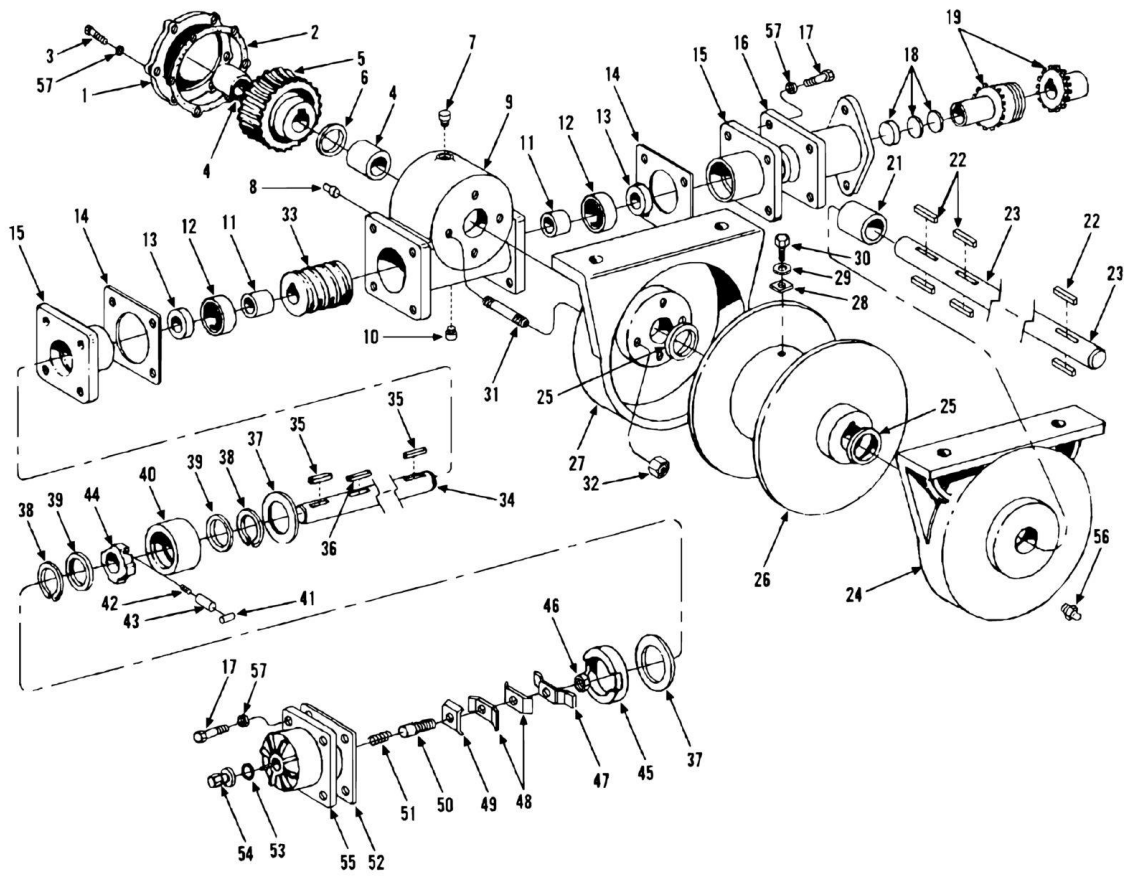
SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-20. (91335020) QUICK START CYLINDER AND VALVE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91335020	1	QUICK START CYLINDER AND VALVE ASSY, (includes all items except 2 & 3)	
1	91331018	1	MOUNTING BRACKET	
2	88201035	2	HE XHD CAPSCREW, 3/8-16X1, GR5	
3	77143015	2	WHIZ-LOK NUT, 3/8-16	
4	91363027	1	CYLINDER CLAMP	
5	83953028	1	CYLINDER	
6	91363026	1	VALVE FITTING, STRAIGHT	
7	91363028	1	NYLON TUBE	
8	91363030	1	VALVE	
9	80963058	1	SHROUD CONNECTOR , 2 - WIRE	
10	80963069	2	MALE PIN TERMINAL	
11	80963065	2	CABLE SEAL	
12	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
13	88551009	2	LOCKWASHER, 1/4	
14	88501004	2	HEX NUT, 1/4-20	
15	88561107	2	FLAT WASHER, 1/4	

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FIGURE 9-21. (90453050) TRUSS BOOM WINCH



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FIGURE 9-21. (90453050) TRUSS BOOM WINCH

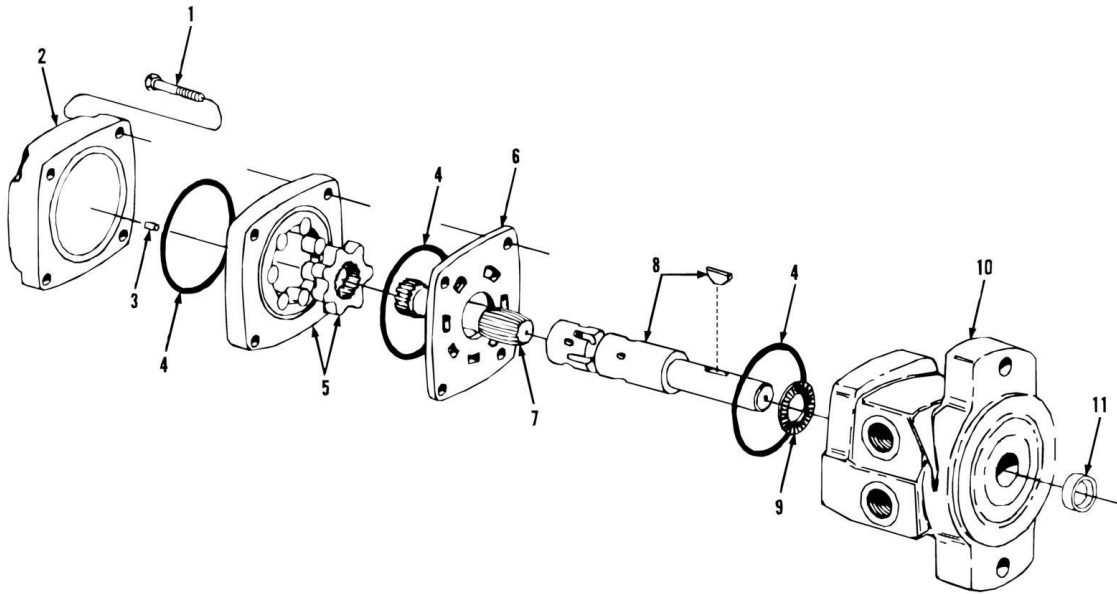
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90453050	1	TRUSS BOOM WINCH, (includes all items on this page and on (9020-7879) WINCH MOTOR for Breakdown)	
1	90208147	1	GEAR CASE COVER	
2	90208171	1	GEAR CASE GASKET	
3	88201035	6	HEX HD CAPSCREW, 3/8-16X1, GR5	
4	90208154	2	BUSHING	
5	90208150	1	WORM GEAR	
6	90208174	1	BUSHING	
7	90208168	1	OIL FILL PLUG	
8	90208185	1	OIL LEVEL PLUG	
9	90208142	1	GEAR CASE	
10	90208186	1	OIL DRAIN PLUG	
11	90208156	2	COLLAR	
12	90208183	2	BEARING	
13	90208189	2	OIL SEAL	
14	90208170	2	BEARING HUB GASKET	
15	90208188	2	BEARING HUB	
16	90208180	1	MOTOR MOUNT ADAPTER	
17	88201037	12	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
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 (VC 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	
49	90208167	1	FIXING PLATE	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
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	
57	88551011	14	LOCKWASHER, 3/8	

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FIGURE 9-22. (90207879) WINCH MOTOR



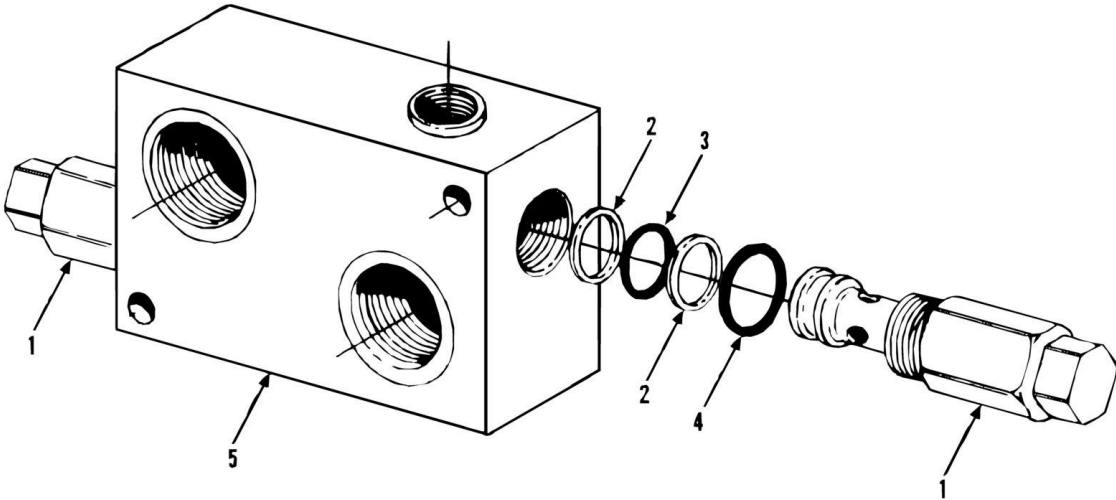
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FIGURE 9-22. (90207879) WINCH MOTOR

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 9-23. (90602706) CROSSOVER VALVE



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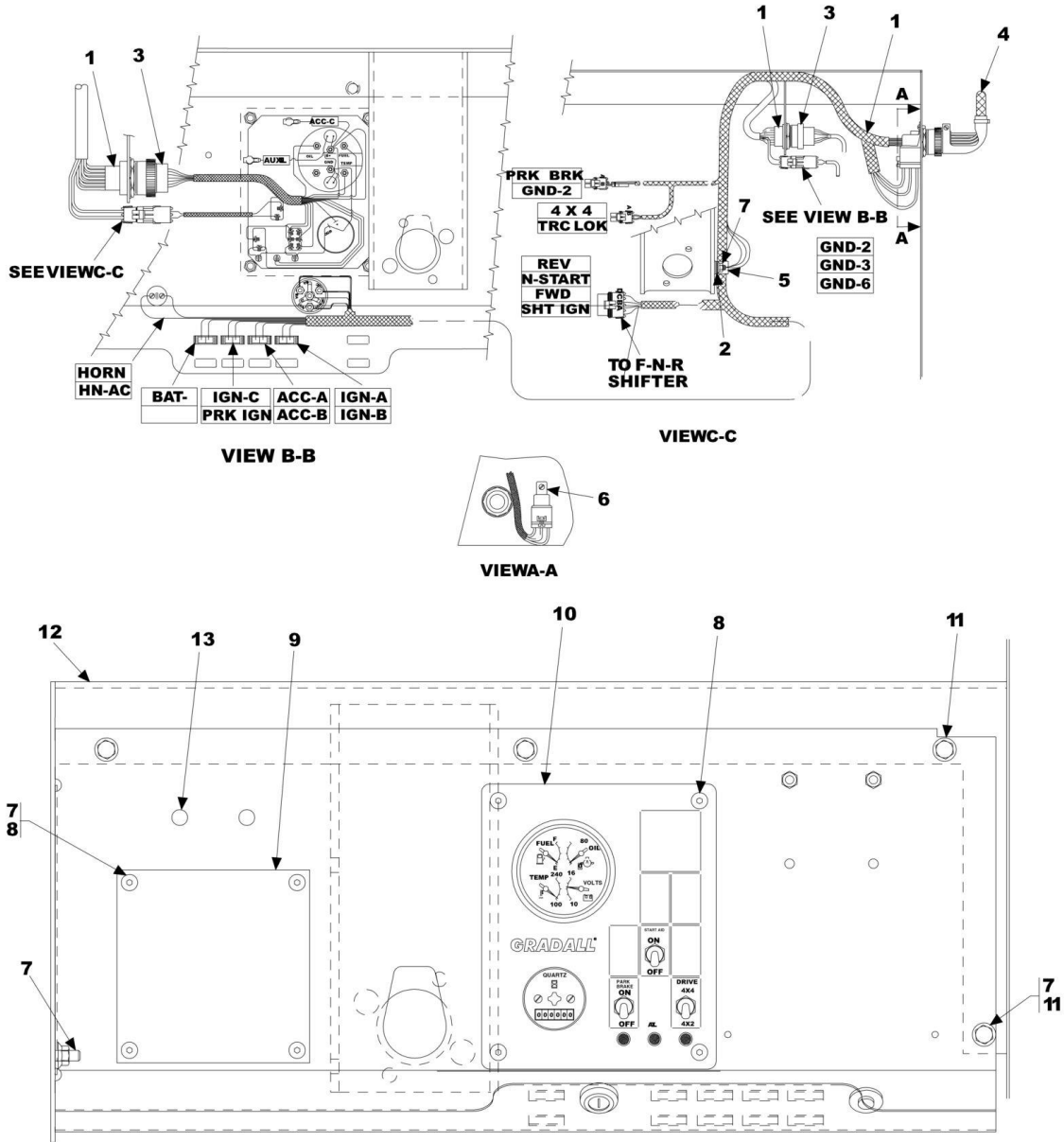
FIGURE 9-23. (90602706) CROSSOVER VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90602706	1	CROSS OVER 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 10-1. DASH PANEL ASSEMBLY



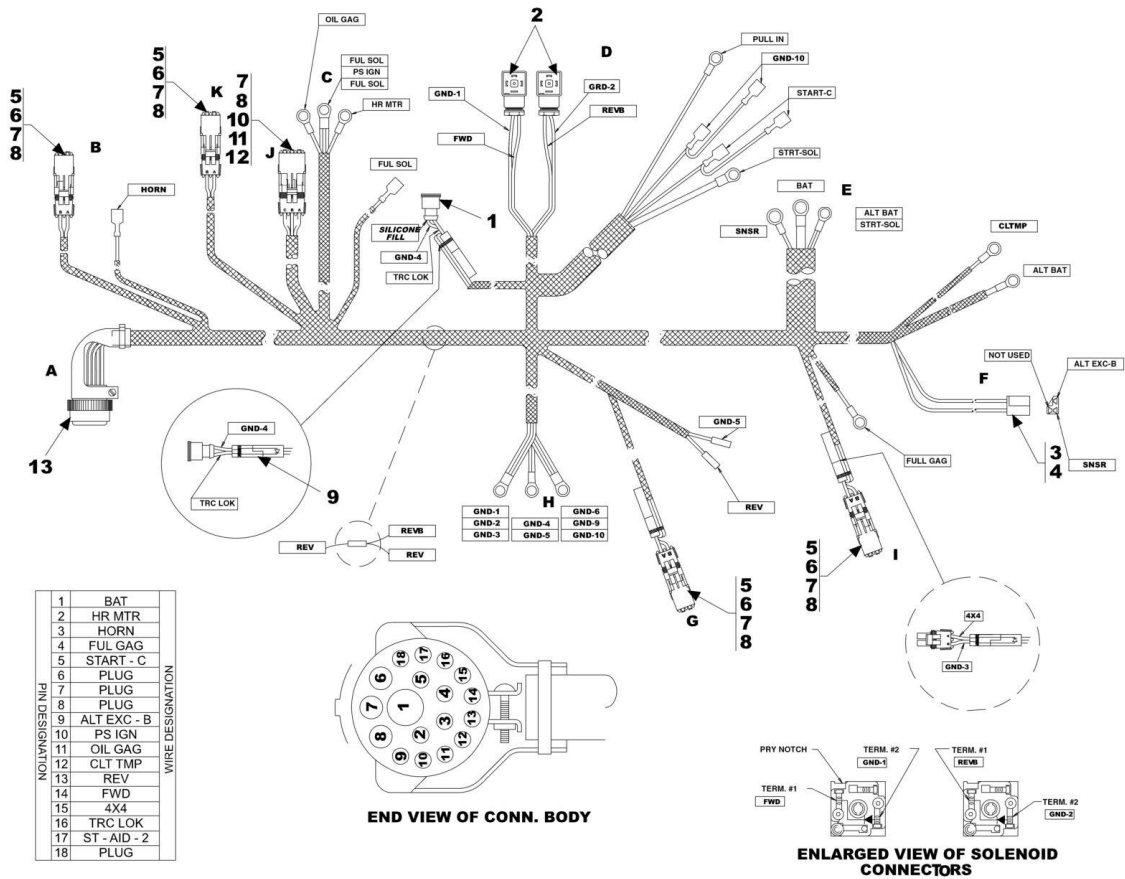
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FIGURE 10-1. DASH PANEL ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	DASH HARNESS ASSY, (See (91365013) DASH HARNESS ASSEMBLY for Breakdown)	
2	88561003	1	FLAT WASHER, 5/16	
3		Ref	GAUGE PANEL WIRING HARNESS, (See (91093037) GAUGE PANEL ASSEMBLY for Breakdown)	
4		Ref	ENGINE WIRING HARNESS, (See (91333013) ENGINE WIRING HARNESS for Breakdown)	
5	24861170	1	CLAMP	
6	88321029	1	SELF-TAPPING SCREW, #10-24x3/8	
7	77143006	7	WHIZ-LOCK NUT, 5/16-18	
8	88261022	8	SOCKET BUTTON HD CAPSCREW, 5/16-18x3/4	
9	91141480	1	COVER PLATE	
10		Ref	GAUGE PANEL ASSY, (See (91093037) GAUGE PANEL ASSEMBLY for Breakdown)	
11	77143003	4	WHIZ-LOCK SCREW, 5/16-18X5/8	
12	91361008	1	DASH PANEL	
13	91093031	2	NYLON HOLE PLUG	

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FIGURE 10-2. (91333013) ENGINE WIRING HARNESS



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FIGURE 10-2. (91333013) ENGINE WIRING HARNESS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91333013	1	ENGINE WIRING HARNESS, (includes all items)	
1	91083440	1	ELECTRICAL CONNECTOR	
2	91084038	2	PLUG-IN CONNECTOR	
3	83683254	1	3 CONTACT PLUG, (includes item 4)	
4	90026803	3	PIN	
6	80963058	4	SHROUD	
7	80963068	AR	FEMALE PIN TERMINAL	
8	91364009	AR	CABLE SEAL	
9	91363021	1	MOLDED DIODE	
10	80963059	1	TOWER	
11	80963060	1	SHROUD	
12	80963067	AR	CABLE SEAL	
13	91334038	1	CONNECTOR	

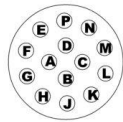
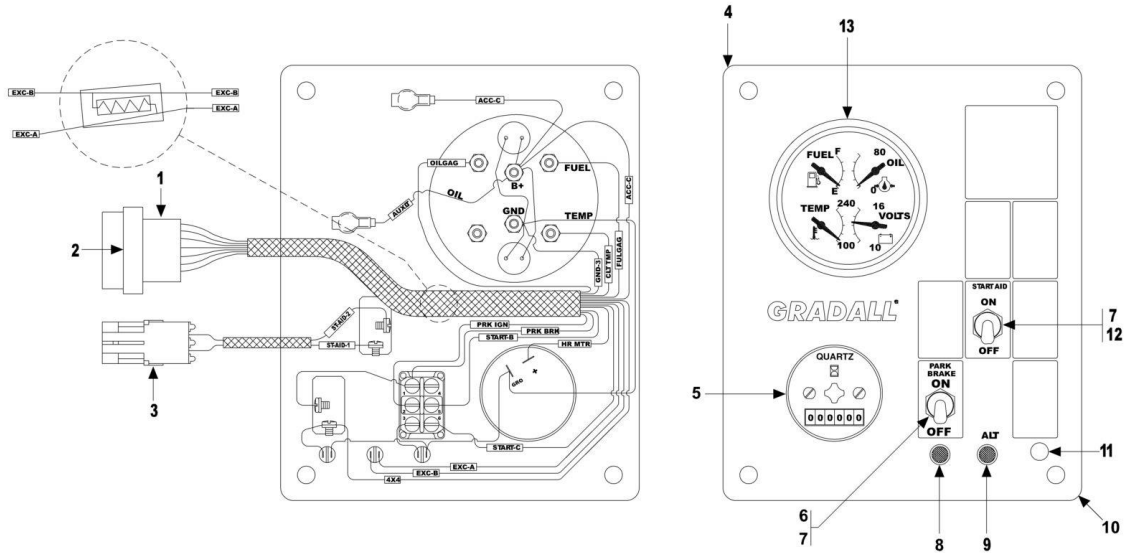
SECTION 10 - ELECTRICAL

FIGURE 10-3. (91365013) DASH HARNESS ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91365013	1	DASH HARNESS ASSY, (includes all items)	
1	91363035	1	DASH HARNESS, (includes items 2 thru 17 & 19)	
2	91363021	1	MOLDED DIODE	
3	80963057	3	MOLDED DIODE	
4	80963068	AR	FEMALE PIN TERMINAL	
5	91364009	AR	CABLE SEAL	
6	91364010	1	RECEPTACLE CONNECTOR	
7	83481286	1	PANEL NUT	
8	83481285	1	LOCKWASHER	
9	91363054	1	RELAY	
10	91364011	1	CONNECTOR	
11	91364012	4	TERMINAL END	
12	77363225	1	RECEPTACLE CONNECTOR	
13	77363264	1	PANEL NUT	
14	77363263	1	LOCKWASHER	
15	91364013	1	CONNECTOR	
16	91364014	AR	FEMALE PIN TERMINAL	
17	80963065	AR	CABLE SEAL	
18	24771004	1	HORN BUTTON	
19	91143108	5	SNAP-IN FUSE HOLDER	
20	77363268	5	15 AMP FUSE	
21	91033317	1	IGNITION SWITCH	
21	77384578	1	KEY	

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FIGURE 10-4. (91093037) GAUGE PANEL ASSEMBLY



DEUTSCH CONNECTOR HD 36-18-14-SN		
A	ACC-C	WIRE DESIGNATION
B	FUIGAG	
C	C/T TMP	
D	OILGAG	
E	HR MTR	
F	GND-3	
G	ALT EXC-B	
H	4X4	
I	ALT EXC-A	
J	PRK BRK	
K	START-C	
L	PRK IGN	
M	START-B	
N		

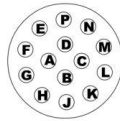
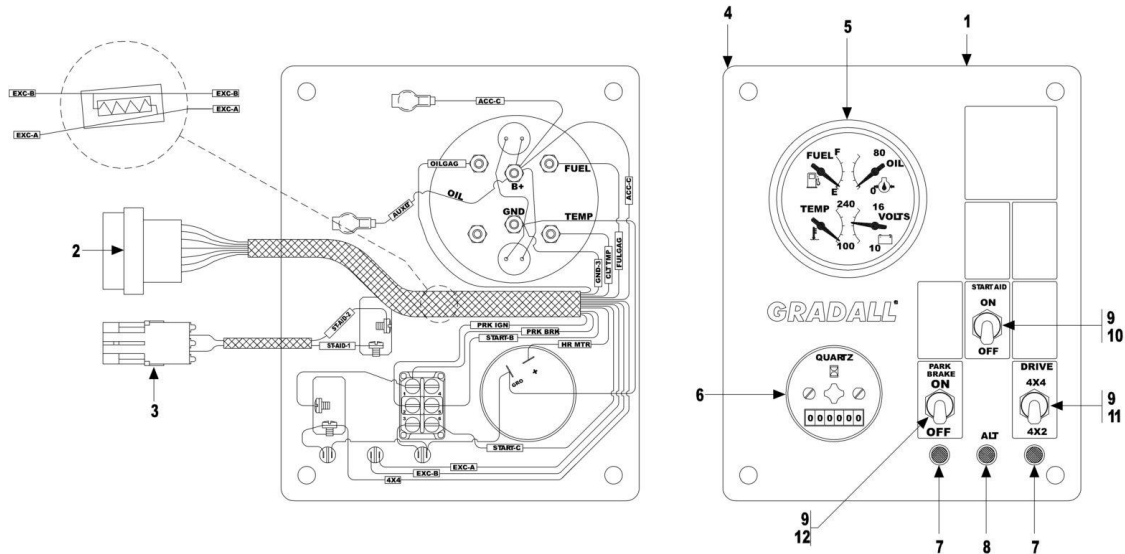
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FIGURE 10-4. (91093037) GAUGE PANEL ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91093037	1	GAUGE PANEL, (includes all items)	
1	91364008	1	WIRE HARNESS	
2	77363223	1	PLUG CONNECTOR	
3	91363034	1	START-AID HARNESS	
4	91364005	1	RUBBER BOOT	
5	91364006	1	HOUR METER	
6	91343074	1	DPTP TOGGLE SWITCH	
7	77383470	2	TOGGLE SWITCH BOOT	
8	91143128	1	AMBER INDICATOR LIGHT	
9	91143127	1	RED INDICATOR LIGHT	
10	91364004	1	PANEL ASSY, (includes front and back plates, acrylic lens and std labels)	
11	91093030	1	NYLON HOLE PLUG	
12	77383467	1	SPST TOGGLE SWITCH	
13	91364007	1	4-IN-1 GAUGE	

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FIGURE 10-5. (91143331) GAUGE PANEL ASSEMBLY



DEUTSCH CONNECTOR HD 36-18-14-SN	
PIN DESIGNATION	WIRE DESIGNATION
A	ACC-C
B	FUEL GAG
C	CD TMP
D	OIL GAG
E	-----
F	HR MTR
G	GND-3
H	ALT EXC-B
J	4X4
K	ALT EXC-A
L	PRK BRK
M	START-C
N	PRK IGN
P	START-B

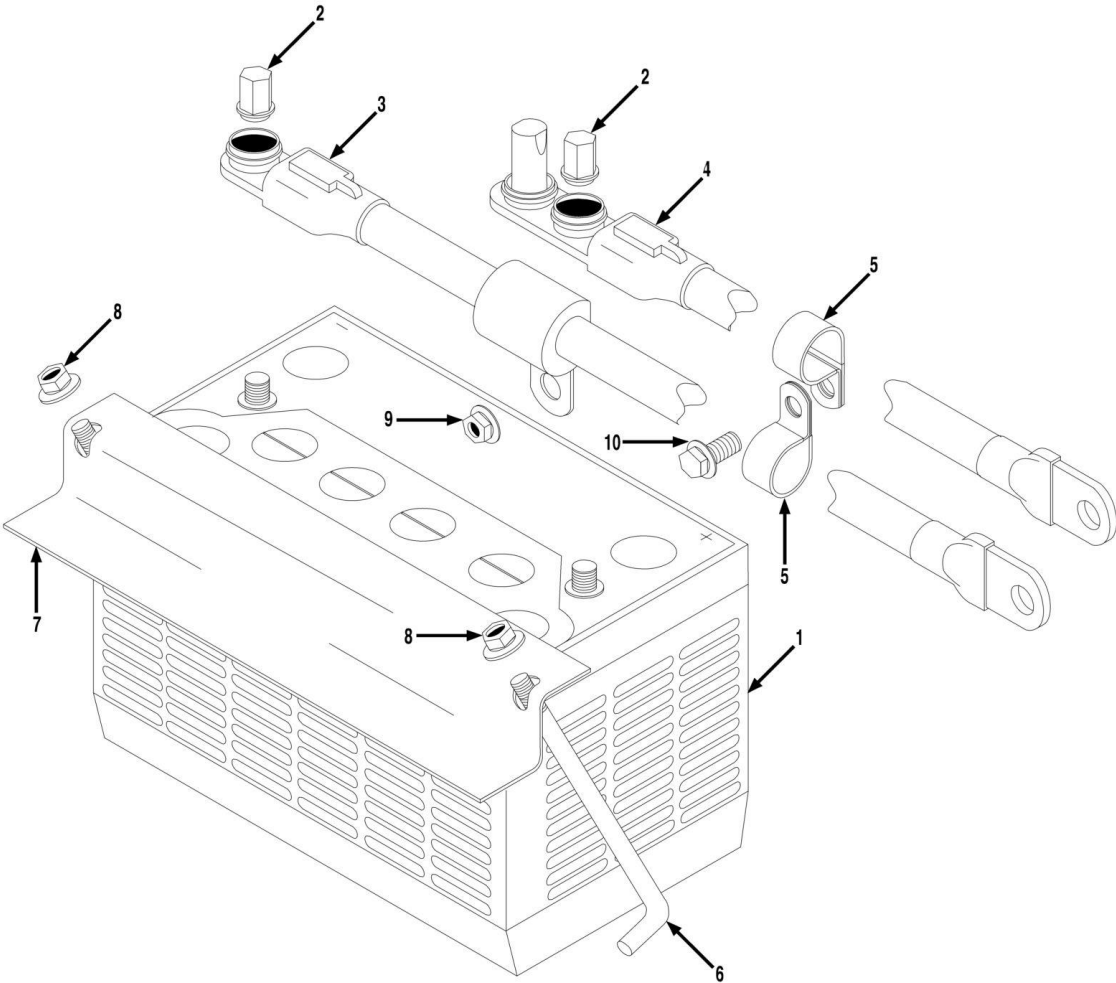
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FIGURE 10-5. (91143331) GAUGE PANEL ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91143331	1	GAUGE PANEL, (includes all items)	
1	91364004	1	PANEL ASSY, (includes front and back plates, acrylic lens and std labels)	
2	91364008	1	WIRE HARNESS	
3	91363034	1	START-AID HARNESS	
4	91364005	1	RUBBER BOOT	
5	91364007	1	4-IN-1 GAUGE	
6	91364006	1	HOUR METER	
7	91143128	2	AMBER INDICATOR LIGHT	
8	91143127	1	RED INDICATOR LIGHT	
9	77383470	3	TOGGLE SWITCH BOOT	
10	91123181	1	SPST TOGGLE SWITCH	
11	77383467	1	TOGGLE SWITCH	
12	91343074	1	DPDT TOGGLE SWITCH	

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FIGURE 10-6. BATTERY AND CABLES



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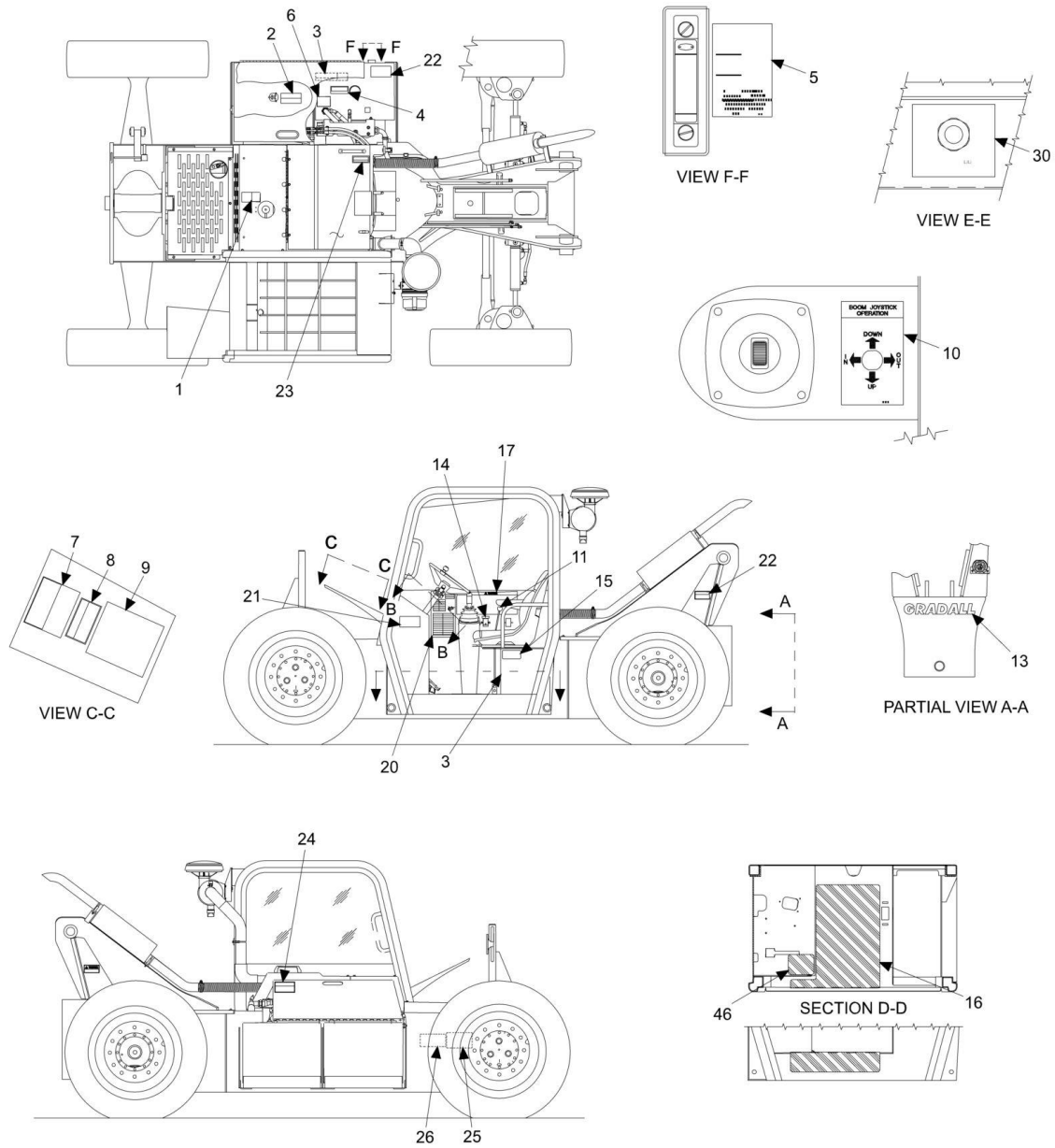
FIGURE 10-6. BATTERY AND CABLES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	80973021	1	BATTERY, (12 volt, 1000 amps), TOP STUD, 3/8-16 UNC THREAD, BCI GROUP 31	
2	77383567	2	BATTERY POST TERMINAL NUT	
3	91083481	1	NEGATIVE BATTERY CABLE	
4	91083482	1	POSITIVE BATTERY CABLE	
5	85941017	2	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	1	WHIZLOCK 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.	

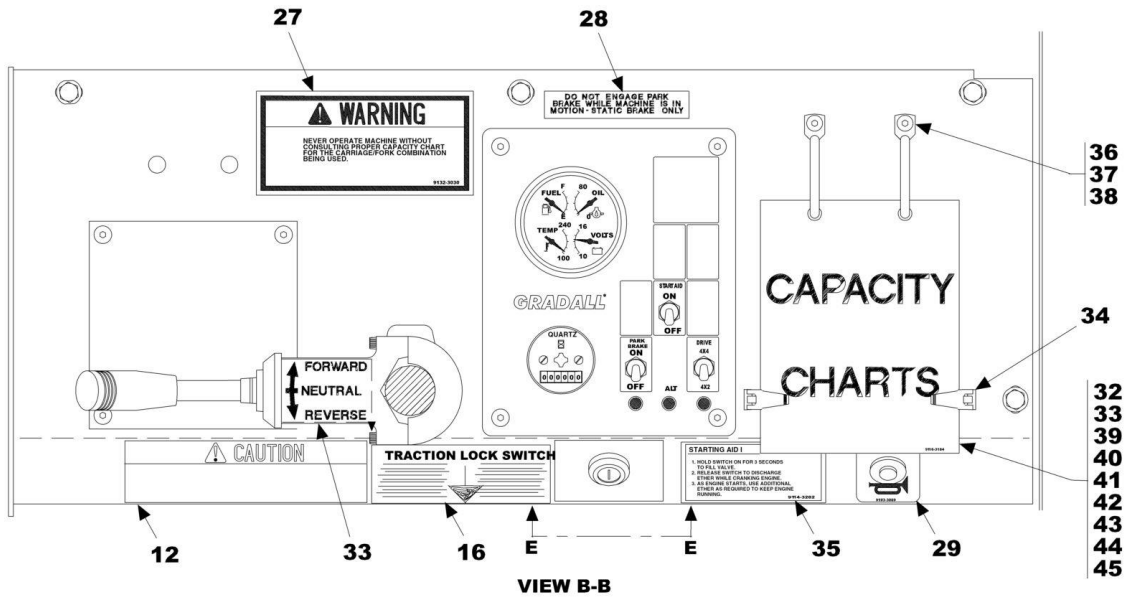
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FIGURE 11-1. CAB AND FRAME DECALS



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FIGURE 11-1. CAB AND FRAME DECALS

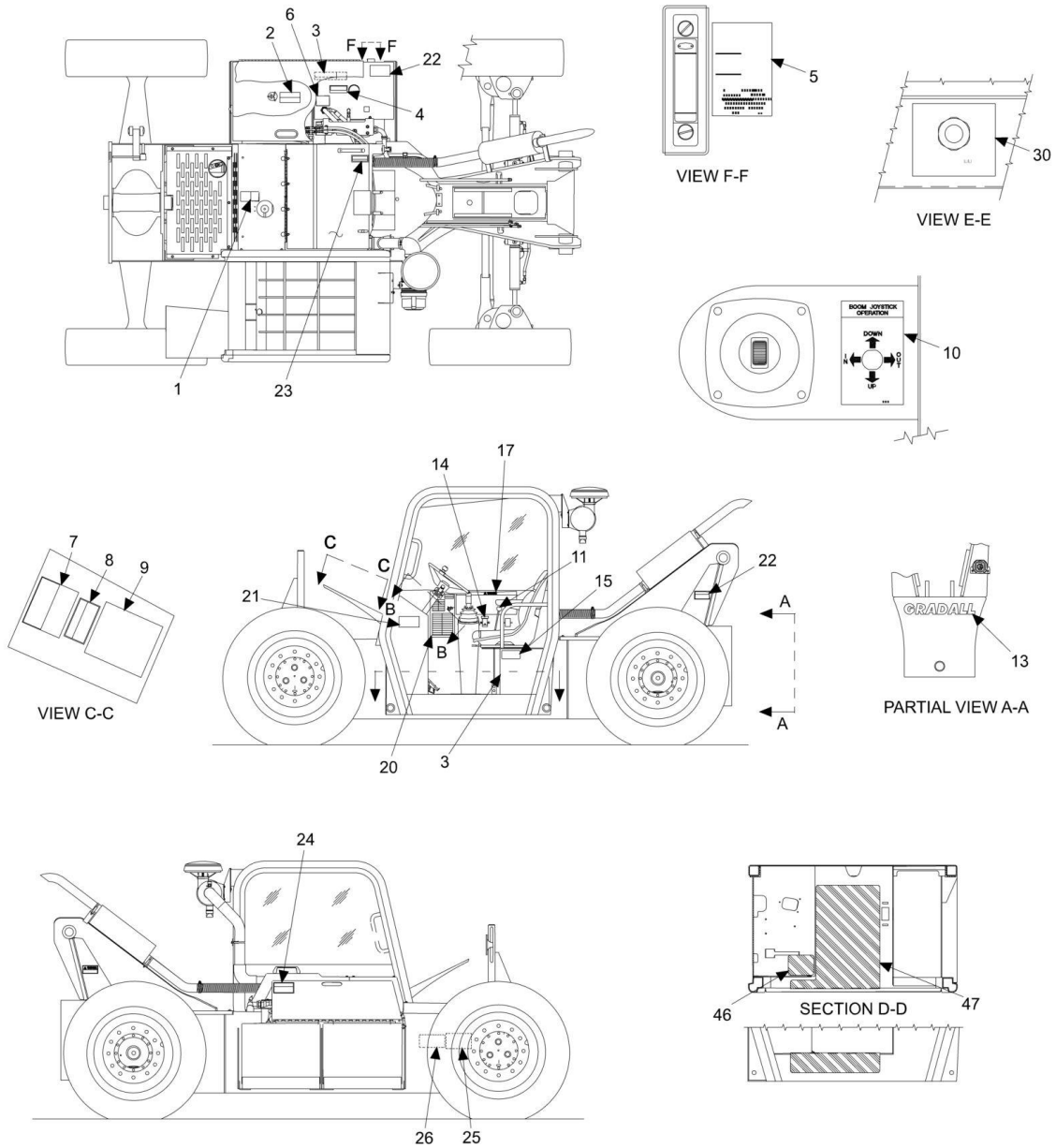
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	80603026	1	CAUTION DECAL	
2	91143286	1	WARNING PLATE	
3	91083492	2	OIL WARNING DECAL	
4	91143288	1	HYDRAULIC OIL PLATE	
5	91163130	1	OIL LEVEL DECAL	
6	91143162	1	TEST PORT DECAL	
7	80603022	1	DANGER DECAL	
8	90553027	1	WARNING DECAL	
9	91483035	1	SERVICE INSTRUCTION DECAL	
10	91303047	1	BOOM OPERATION DECAL	
11	91083317	1	TILT DECAL	
12	91483034	1	CAUTION DECAL	
13	83641675	1	GRADALL DECAL, (white)	
14	91143292	1	DIPSTICK DECAL	
15	77333027	1	MADE IN USA DECAL	
16	91363128	1	NON SKID FLOOR DECAL	
17	90553028	1	WARNING DECAL	
18	91484002	1	SERIAL TAG	
19	91164094	1	ROPS WARNING DECAL	
20	91483026	1	SERIAL NO AND ATTACHING PLATE, (2 section boom, std)	
20	91483027	1	SERIAL NO AND ATTACHING PLATE, (3 section boom, opt)	
21	91143283	1	WARNING DECAL	
22	91143282	3	WARNING DECAL	
23	91143280	1	WARNING DECAL	
24	91143281	1	WARNING DECAL	
25	91143285	1	INSTRUCTION DECAL	
26	91143284	1	WARNING DECAL	
27	91323030	1	WARNING DECAL	
28	91143182	1	PARK BRAKE DECAL	
29	91033089	1	HORN DECAL	
30	91143120	1	INSTRUMENT PANEL DECAL	
31	91163028	1	SHIFTER DECAL	
32	91163184	1	CAPACITY CHART COVER	
33	91483028	1	CAPACITY CHART, (2 section boom, std)	
33	91483029	1	CAPACITY CHART, (3 section boom, opt)	
34	91363070	2	HINGED CLAMP	
35	91143202	1	INSTRUCTION DECAL	
36	91163087	2	LOAD CHART BRACKET	
37	88302125	2	RD HD MACHINE SCREW, 1/4-20X5/8	
38	88501616	2	HEX NUT, 1/4-20	
39	91483032	1	LOAD CHART, SLOPE PILER, (2 section boom, std)	
39	91483033	1	LOAD CHART, SLOPE PILER, (3 section boom, opt)	
40	91483030	1	LOAD CHART, STD CARRIAGE W/WINCH, (2 section boom, std)	
40	91483031	1	LOAD CHART, STD CARRIAGE W/WINCH, (3 section boom, opt)	
41	91483037	1	LOAD CHART, SWING CARRIAGE, (2 section boom, std)	
41	91483038	1	LOAD CHART, SWING CARRIAGE, (3 section boom, opt)	
42	91483039	1	LOAD CHART, DRYWALL SWING CARRIAGE, (2 section boom, std)	
42	91483040	1	LOAD CHART, DRYWALL SWING CARRIAGE, (3 section boom, opt)	

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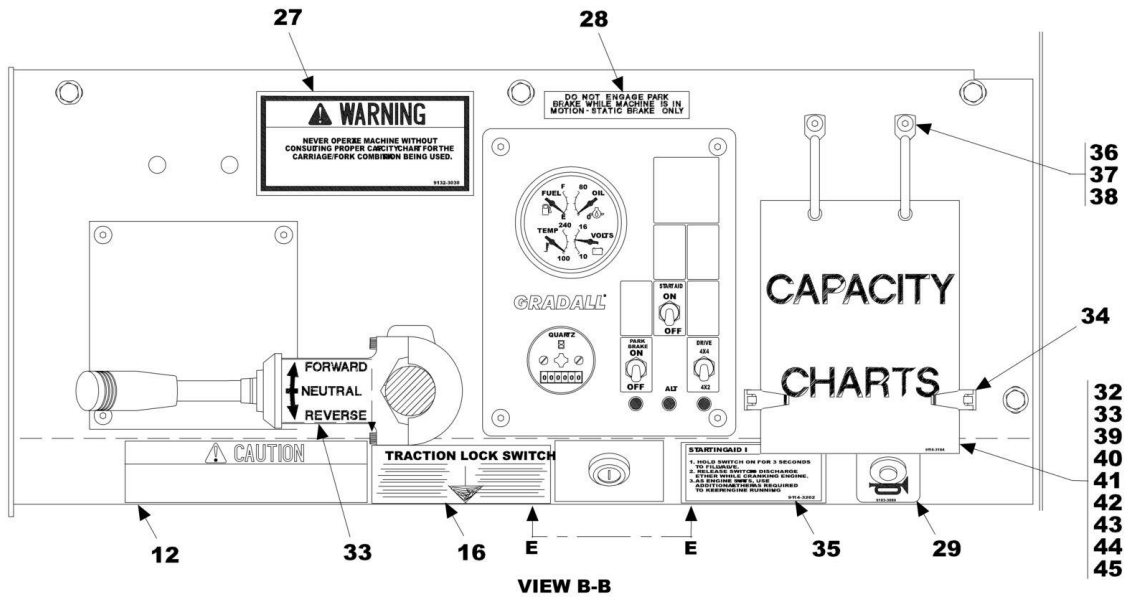
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	91163184	1	CAPACITY CHART COVER	
44	91483028	1	CAPACITY CHART, (2 section boom, std)	
45	91483029	1	HORN DECAL	
46	91363140	1	NON SKID FLOOR DECAL	

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FIGURE 11-2. CAB AND FRAME DECALS



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FIGURE 11-2. CAB AND FRAME DECALS

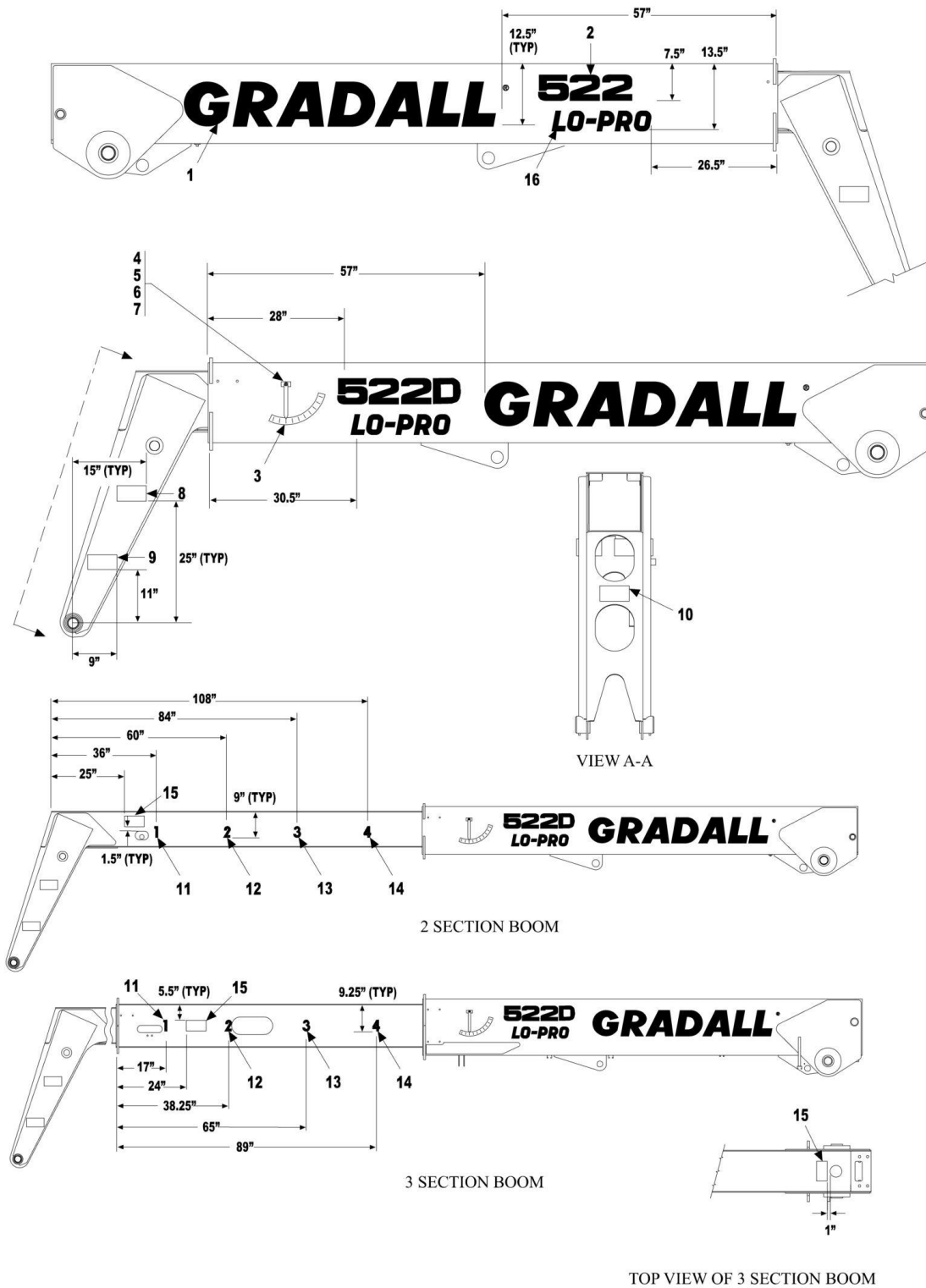
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485007	1	524D LO PRO DECAL KIT, WHITE, (std), (includes all items on CAB AND FRAME DECALS except 18 thru 20, 32 thru 44; and all items on BOOM DECALS except 4 thru 7 for Breakdown).	
1	80603026	1	CAUTION DECAL	
2	91143286	1	WARNING PLATE	
3	91083492	2	OIL WARNING DECAL	
4	91143288	1	HYDRAULIC OIL PLATE	
5	91163130	1	OIL LEVEL DECAL	
6	91143162	1	TEST PORT DECAL	
7	80603022	1	DANGER DECAL	
8	90553027	1	WARNING DECAL	
9	91483035	1	SERVICE INSTRUCTION DECAL	
10	91303047	1	BOOM OPERATION DECAL	
11	91083317	1	TILT DECAL	
12	91483034	1	CAUTION DECAL	
13	83641675	1	GRADALL DECAL, (white)	
14	91143292	1	DIPSTICK DECAL	
15	77333027	1	MADE IN USA DECAL	
16	91083314	1	TRACTION DECAL	
17	90553028	1	WARNING DECAL	
18	91484002	1	SERIAL TAG	
19	91164094	1	ROPS WARNING DECAL	
20	91483026	1	SERIAL NO AND ATTACHING PLATE, (2 section boom, std)	
20	91483027	1	SERIAL NO AND ATTACHING PLATE, (3 section boom, opt)	
21	91143283	1	WARNING DECAL	
22	91143282	3	WARNING DECAL	
23	91143280	1	WARNING DECAL	
24	91143281	1	WARNING DECAL	
25	91143285	1	INSTRUCTION DECAL	
26	91143284	1	WARNING DECAL	
27	91323030	1	WARNING DECAL	
28	91143182	1	PARK BRAKE DECAL	
29	91033089	1	HORN DECAL	
30	91143120	1	INSTRUMENT PANEL DECAL	
31	91163028	1	SHIFTER DECAL	
32	91163184	1	CAPACITY CHART COVER	
33	91483028	1	CAPACITY CHART, (2 section boom, std)	
33	91483029	1	CAPACITY CHART, (3 section boom, opt)	
34	91363070	2	HINGED CLAMP	
35	91143164	1	INSTRUCTION DECAL	
36	91163087	2	LOAD CHART BRACKET	
37	88302125	2	RD HD MACHINE SCREW, 1/4-20x5/8	
38	88501616	2	HEX NUT, 1/4-20	
39	91483032	1	LOAD CHART, SLOPE PILER, (2 section boom, std)	
39	91483033	1	LOAD CHART, SLOPE PILER, (3 section boom, opt)	
40	91483030	1	LOAD CHART, STD CARRIAGE W/ WINCH, (2 section boom, std)	
40	91483031	1	LOAD CHART, STD CARRIAGE W/ WINCH, (3 section boom, opt)	
41	91483037	1	LOAD CHART, SWING CARRIAGE, (2 section boom, std)	
41	91483038	1	LOAD CHART, SWING CARRIAGE, (3 section boom, opt)	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
42	91483039	1	LOAD CHART, DRYWALL SWING CARRIAGE, (2 section boom, std)	
42	91483040	1	LOAD CHART, DRYWALL SWING CARRIAGE, (3 section boom, opt)	
43	91483042	1	LOAD CHART, 6 FT MAST, (2 section boom, std)	
43	91483043	1	LOAD CHART, 6 FT MAST, (3 section boom, opt)	
44	91483044	1	LOAD CHART, TRUSS BOOM, (2 section boom, std)	
44	91483045	1	LOAD CHART, TRUSS BOOM, (3 section boom, opt)	
45	91483046	1	LOAD CHART, WORK PLATFORM, (2 section boom, std)	
45	91483047	1	LOAD CHART, WORK PLATFORM, (3 section boom, opt)	
46	91363140	1	NON SKID FLOOR DECAL	
47	91363128	1	NON SKID FLOOR DECAL	

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FIGURE 11-3. BOOM DECALS



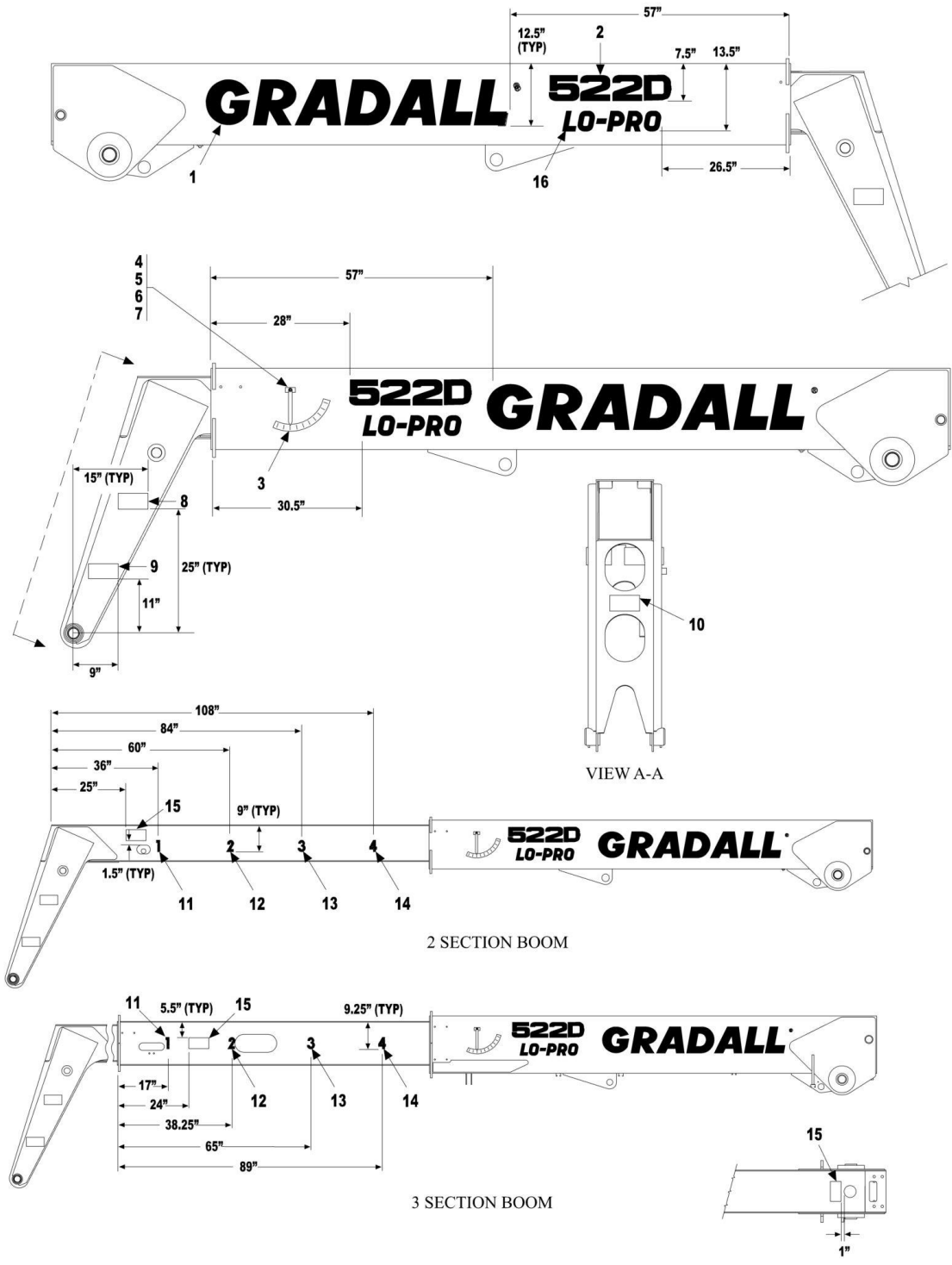
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FIGURE 11-3. BOOM DECALS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91123037	2	GRADALL DECAL, WHITE, (std)	
1	91123038	2	GRADALL DECAL, BLACK, (opt)	
3	91003031	1	BOOM ANGLE DECAL, WHITE	
4	90200445	1	PENDULUM	
5	90200688	1	BEARING	
6	90026491	1	SHOULDER BOLT, 1/4-20	
7	91333036	1	SPECIAL WASHER	
8	91143282	2	WARNING DECAL	
9	91143290	1	WARNING DECAL	
10	90553026	1	WARNING DECAL	
11	91003016	1	"1" DECAL, WHITE, (std)	
11	91043134	1	"1" DECAL, BLACK, (opt)	
12	91003018	1	"2" DECAL, WHITE, (std)	
12	91043135	1	"2" DECAL, BLACK, (opt)	
13	91123042	1	"3" DECAL, WHITE, (std)	
13	91123043	1	"3" DECAL, BLACK, (opt)	
14	91003020	1	"4" DECAL, WHITE, (std)	
14	91043136	1	"4" DECAL, BLACK, (opt)	
15	80603037	3	WARNING DECAL	
16	91483013	2	"LO-PRO" DECAL, WHITE (std)	
16	91483014	2	"LO-PRO" DECAL, BLACK (opt)	
		Ref	NOTE:STANDARD DECALS ARE WHITE. OPTIONAL DECALS ARE BLACK. ONLY STANDARD DECALS ARE INCLUDED IN THE DECAL KIT.	

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FIGURE 11-4. BOOM DECALS



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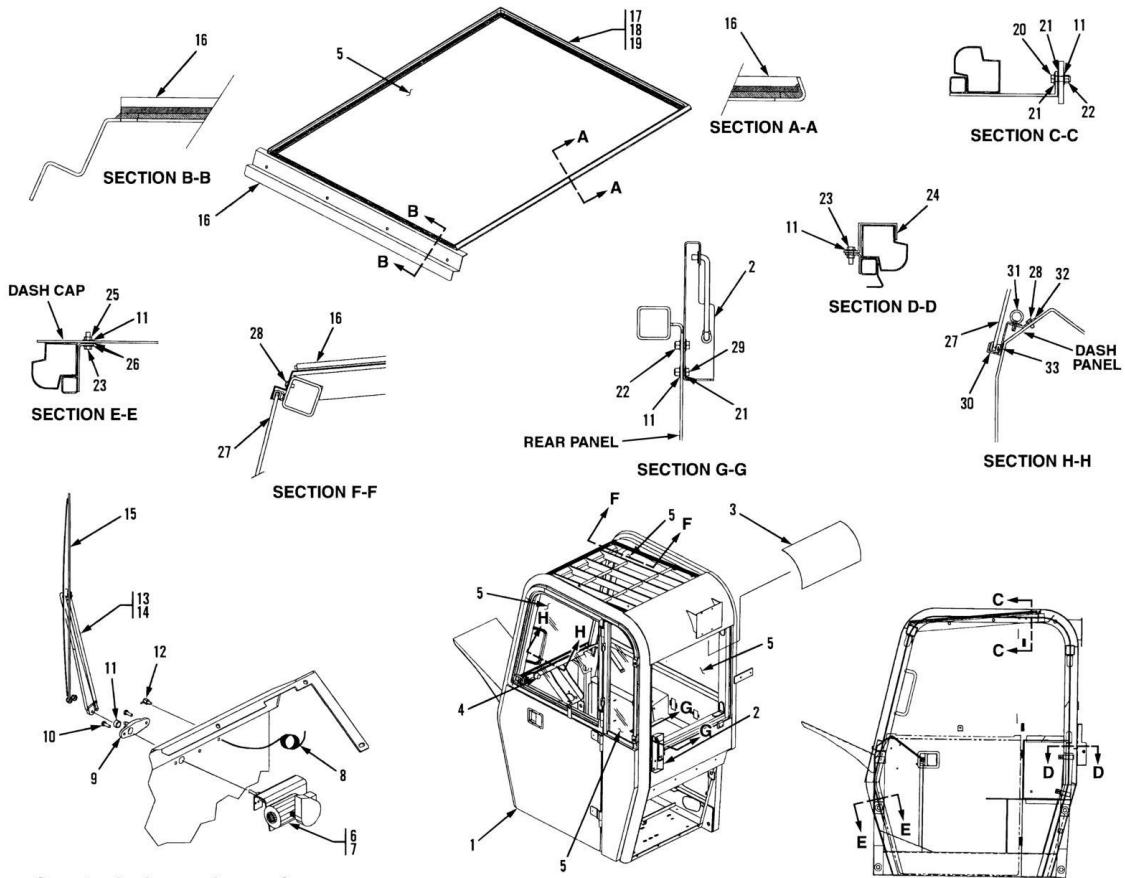
FIGURE 11-4. BOOM DECALS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485007		524D LO PRO DECAL KIT, WHITE, (std), (includes all items on CAB AND FRAME DECALS except 18 thru 20, 32 thru 44; and all items on BOOM DECALS except 4 thru 7 for Breakdown).	
1	91123037	2	GRADALL DECAL, WHITE, (std)	
1	91123038	2	GRADALL DECAL, BLACK,(opt)	
2	91083561	2	"524D" DECAL, WHITE, (std)	
2	91083562	2	"524D" DECAL, BLACK, (opt)	
3	91003031	1	BOOM ANGLE DECAL, WHITE	
4	90200445	1	PENDULUM	
5	90200688	1	BEARING	
6	90026491	1	SHOULDER BOLT, 1/4-20	
7	91333036	1	SPECIAL WASHER	
8	91143282	2	WARNING DECAL	
9	91143290	1	WARNING DECAL	
10	90553026	1	WARNING DECAL	
11	91003016	1	"1" DECAL, WHITE, (std)	
11	91043134	1	"1" DECAL, BLACK, (opt)	
12	91003018	1	"2" DECAL, WHITE, (opt)	
12	91043135	1	"2" DECAL, BLACK, (opt)	
13	91123042	1	"3" DECAL, WHITE, (std)	
13	91123043	1	"3" DECAL, BLACK, (opt)	
14	91003020	1	"4" DECAL, WHITE, (std)	
14	91043136	1	"4" DECAL, BLACK, (opt)	
15	80603037	3	WARNING DECAL	
16	91483013	2	"LO-PRO" DECAL, WHITE (std)	
16	91483014	2	"LO-PRO" DECAL, BLACK (opt)	
		Ref	NOTE: STANDARD DECALS ARE WHITE. OPTIONAL DECALS ARE BLACK. ONLY STANDARD DECALS ARE INCLUDED IN THE DECAL KIT.	

SECTION 12 - OPTIONAL EQUIPMENT

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-1. (91483036) CAB ENCLOSURE KIT



See standard manual pages for parts included in a standard open cab

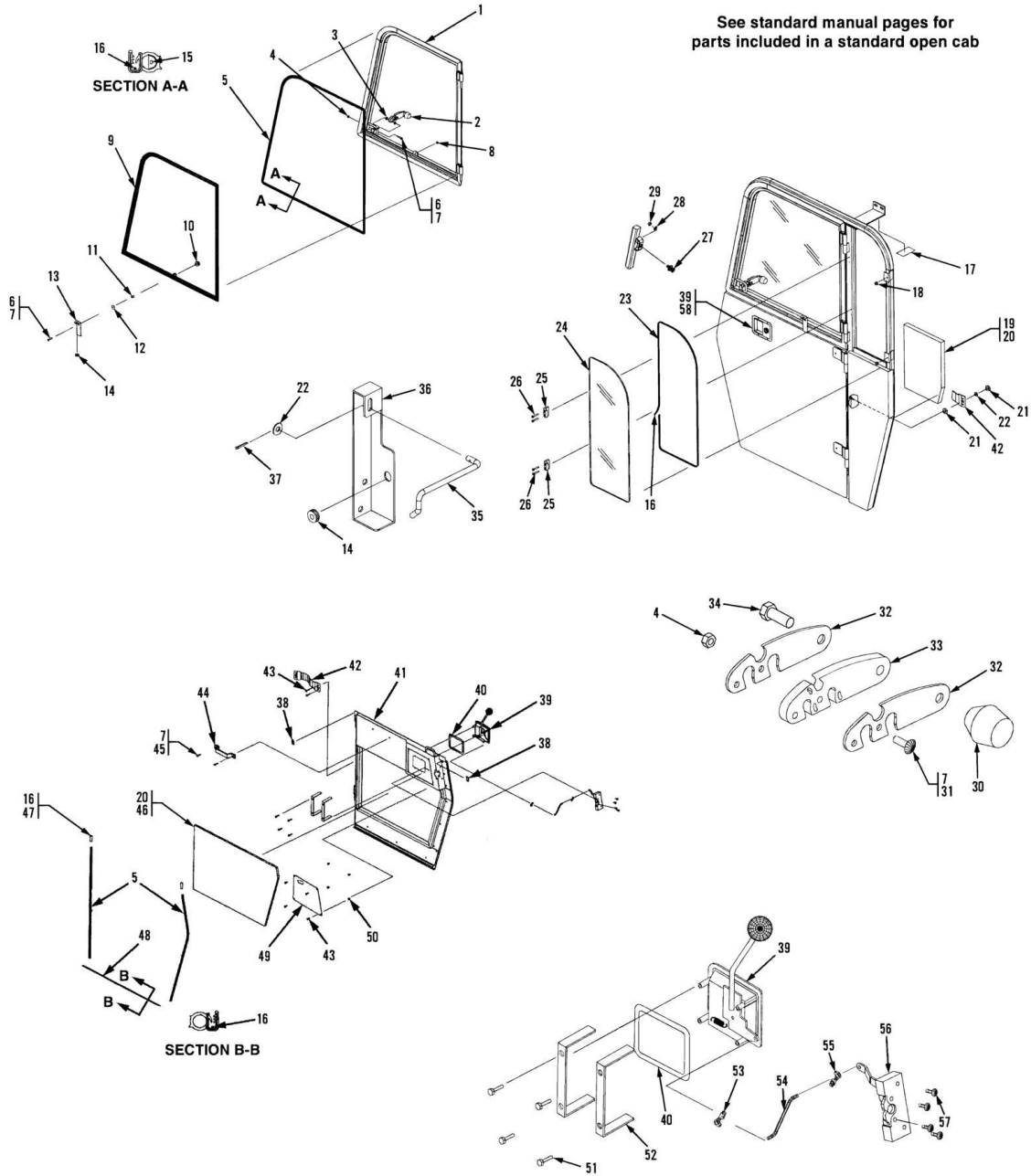
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FIGURE 12-1. (91483036) CAB ENCLOSURE KIT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483036	1	CAB ENCLOSURE KIT, (includes all items on CAB ENCLOSURE KIT thru CAB ENCLOSURE KIT - GLASS)	
1		Ref	L.H. SIDE ASSY, (See CAB ENCLOSURE KIT for Breakdown)	
2		Ref	DOOR HOLD OPEN ASSY, (See CAB ENCLOSURE KIT for Breakdown)	
3	91484019	1	FOAM HEADLINER, (inside cab)	
4		Ref	WINDOW LATCH ASSY, (See CAB ENCLOSURE KIT for Breakdown)	
5		Ref	CAB GLASS, (See CAB ENCLOSURE KIT - GLASS for Breakdown)	
6	91334008	1	WIPER MOTOR, (includes item 7)	
7		Ref	SHAFT AND PIVOT ASSY	
8	91484020	10 ft	WASHER HOSE, .156X344	
9	80384214	1	WIPER ARM ADAPTER	
10	80384207	2	HEX SCREW, .25-28X.75, GR5	
11	91334035	1	SPACER	
12	80384206	1	WET ARM SPACER	
13	80384210	1	WIPER ARM KIT	
14	80384211	1	WIPER ARM	
15	91484021	1	WIPER BLADE	
16	91363019	1	SKYLIGHT ASSY, (includes items 17 thru 19)	
17	80364009	AR	HI VISCOSITY BLACK URETHANE	
18	91484005	AR	GLASS PREP, POWER BOND	
19	91344009	1	SKYLIGHT FRAME WELDMENT	
20	91334017	2	HEX BOLT, 0.375-16X1.25, GR5	
21	91334033	6	FLAT WASHER, 0.375X0.88	
22	91334018	4	LOCK NUT, 0.375-16	
23	91334030	7	HEX BOLT, 0.312-18X1, GR5	
24	91334010	2	REAR LH PANEL CLAMP BRACKET	
25	91334031	5	HEX NUT, 0.312-18, GR8	
26	91334032	8	FLAT WASHER, 0.313X0.75	
27		Ref	FRONT WINDOW ASSY, (See CAB ENCLOSURE KIT - GLASS for Breakdown)	
28	80264066	8	SCREW, M6X1X12	
29	91334024	2	HEX BOLT, 0.375-16X0.875	
30	91334015	1	FRONT WINDOW BRACKET	
31	91334028	2	RING PIN	
32	91334014	1	FRONT WINDOW ANGLE	
33	91334009	2.25 ft	FOAM, PSA, 1.25X.75	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-2. (91483036) CAB ENCLOSURE KIT



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-2. (91483036) CAB ENCLOSURE KIT

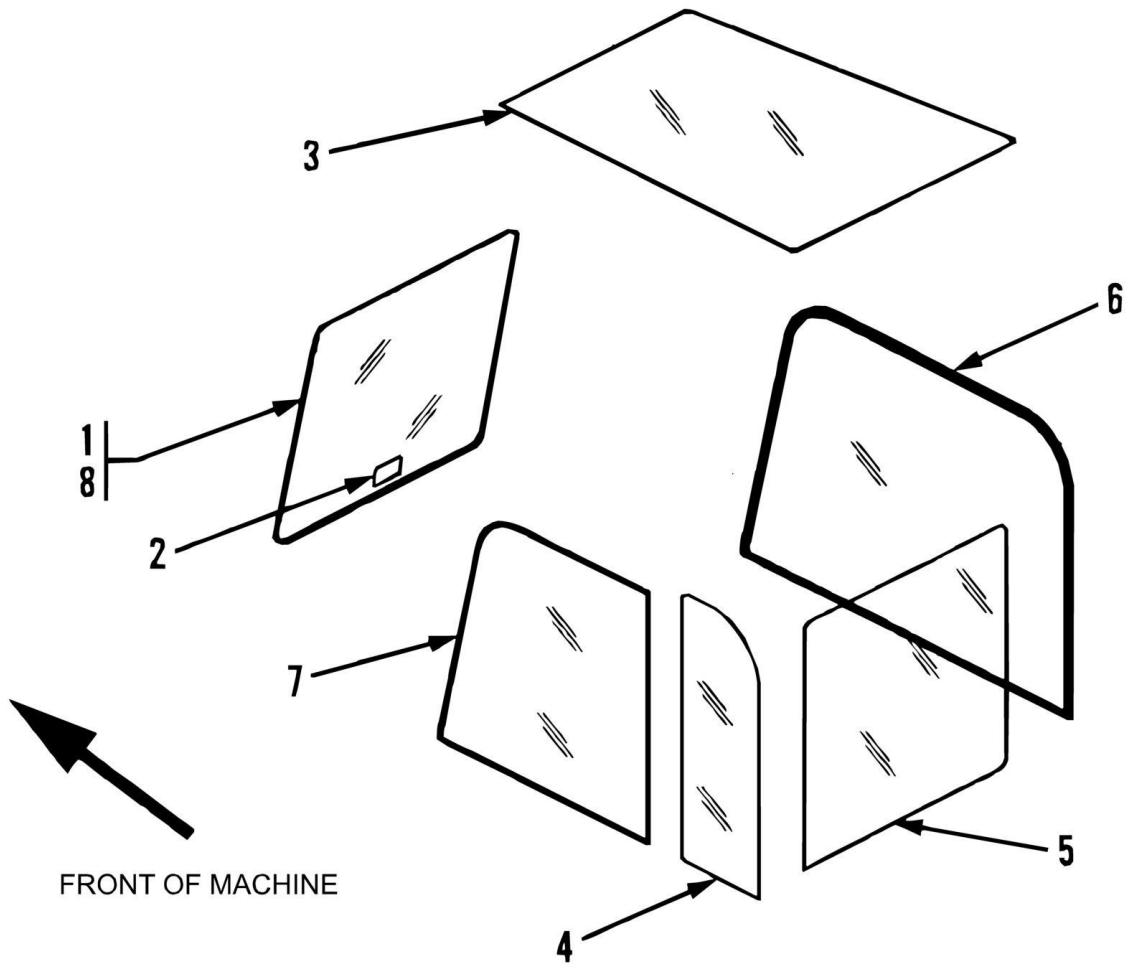
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483036	1	CAB ENCLOSURE KIT, (includes all items on CAB ENCLOSURE KIT thru CAB ENCLOSURE KIT - GLASS)	
	91484018	1	L.H.SIDE ASSY, (includes all items on CAB ENCLOSURE KIT)	
	91484022	1	UPPER DOOR ASSY, (includes items 1 thru 16)	
	91344011	1	LOWER DOOR ASSY, (includes items 38 thru 50)	
	91334012	1	DOOR HOLD OPEN ASSY, (includes 1 of items 14, 22 & items 35 thru 37)	
1	91484023	1	UPPER FRAME ASSY, (painted)	
2	91344013	1	WINDOW LATCH ASSY, (includes 1 of item 4 & items 30 thru 34)	
3	80264052	2	WASHER	
4	91344020	2	NUT, 0.25-20, GR5	
5	91484024	16 ft	BULB SEAL	
6	91344017	2	SCREW, 0.25-20X1.25	
7	91344018	AR	LOCTITE, BLUE	
8	80264078	1	LOCKNUT	
9		Ref	UPPER DOOR GLASS, (See CAB ENCLOSURE KIT - GLASS for Breakdown)	
10	80264084	1	GROMMET	
11	91344015	1	STEEL BUSHING	
12	80264082	1	FLAT WASHER	
13	91344016	1	DOOR ANGLE	
14	91344019	2	GROMMET, 0.375X0.875	
15	91344014	0.17 ft	FOAM, 0.438X0.375	
16	91344046	AR	SEALANT	
17	91484026	1	CAB KIT SERIAL TAG	
18	80364024	2	BUMPER	
19	91344025	1	LH SIDE PANEL FOAM	
20	91344026	AR	ADHESIVE, HIGH PERFORMANCE	
21	91334018	2	LOCKNUT, 0.375-16	
22	91334033	2	FLAT WASHER, 0.375X0.88	
23	91344031	7 ft	BULB SEAL, 1/4 CLIP	
24		Ref	LH SIDE WINDOW, (See CAB ENCLOSURE KIT - GLASS for Breakdown)	
25	80264033	2	WINDOW CLIP	
26	80264034	4	SCREW, #10-32X1.50	
27	80264060	1	BOLT	
28	80264061	1	FLAT WASHER	
29	80264062	1	HEX NUT	
30	80264108	1	KNOB	
31	91344024	1	SCREW, 0.25X1	
32	91344022	2	STEEL LATCH	
33	91344023	1	POLYURETHANE LATCH	
34	91344021	1	HEX BOLT, 0.375-16X1	
35	91344029	1	DOOR HOLD OPEN ROD	
36	91344028	1	DOOR HOLD BRACKET	
37	91344030	1	COTTER PIN	
38	91344033	0.25 in	FOAM, PSA 3/16X5/8	
39	91484028	1	PADDLE LATCH	
40	91484029	1	BULB SEAL	
41	91484030	1	LOWER DOOR	

SECTION 12 - OPTIONAL EQUIPMENT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
42	91344027	1	DOOR STRAP	
43	91344043	6	LOCTITE SCREW	
44	91344032	1	GRAB HANDLE	
45	91164096	2	FLANGE SCREW, 0.25-20X0.75	
46	91344047	1	LOWER DOOR FOAM	
47	91344045	2	VINYL CAP	
48	80264091	2.5 ft	BULB SEAL	
49	91484031	1	CENTER STIFFENER COVER	
50	80264046	4	NUT	
51	80384191	4	SCREW	
52	91484034	2	MOUNTING BRACKET	
53	80384187	1	ROD RETAINER CLIP	
54	91484035	1	LINKAGE ROD	
55	80384185	1	ROD RETAINER CLIP	
56	91484036	1	CAM LATCH	
57	80264074	4	LOCTITE SCREW	
58	80964051	1	DOOR KEY	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-3. (91483036) CAB ENCLOSURE KIT - GLASS



See standard manual pages for parts included in a standard open cab.

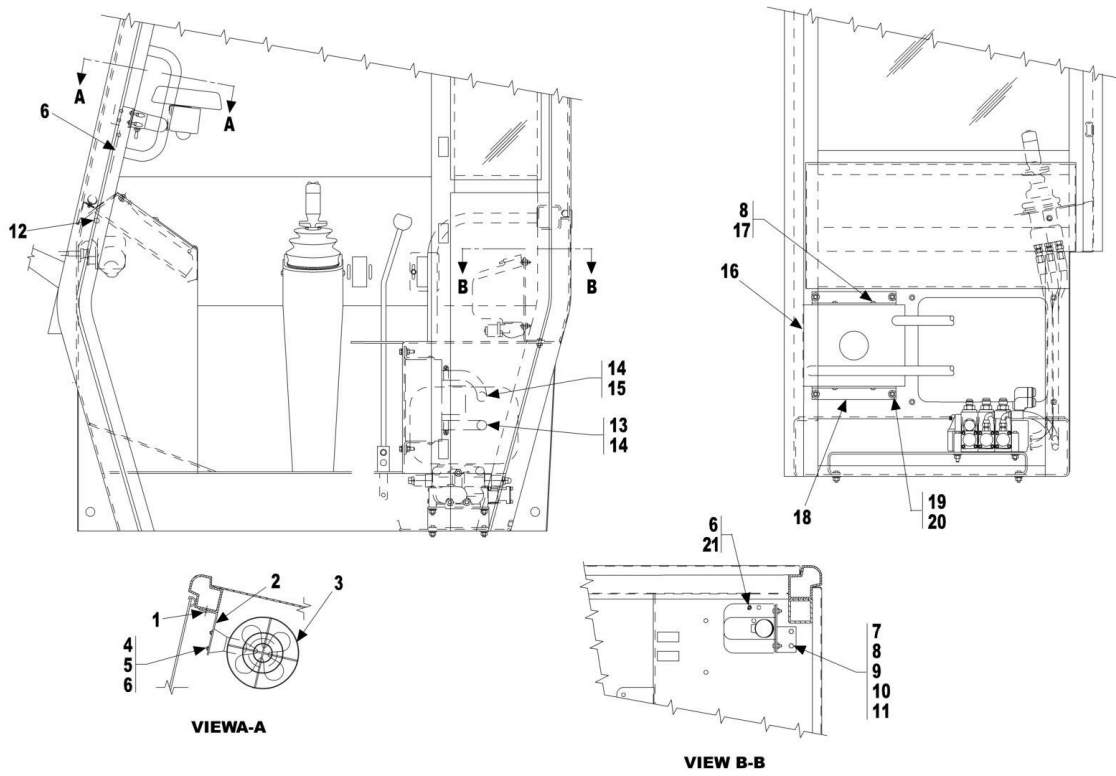
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-3. (91483036) CAB ENCLOSURE KIT - GLASS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483036	1	CAB ENCLOSURE KIT, (includes all items on CAB ENCLOSURE KIT thru CAB ENCLOSURE KIT - GLASS)	
1	91484033	1	FRONT WINDOW ASSY, (includes items 1, 2 & 8)	
	91484032	1	FRONT WINDOW, 0.25 THICK, STD LT GREEN TINT, TEMPERED SAFETY GLASS	
2	91344006	1	EMERGENCY EXIT DECAL, (needs replaced each time front window is ordered)	
3	91164102	1	SKYLIGHT WINDOW, 0.25 THICK, STD LT GREEN TINT, TEMPERED SAFETY GLASS	
4	91484004	1	R.H. SIDE WINDOW, 0.25 THICK, STD LT GREEN TINT, TEMPERED SAFETY GLASS	
5	91484003	1	REAR WINDOW, 0.25 THICK, STD LT GREEN TINT, TEMPERED SAFETY GLASS	
6	91484027	1	L.H. SIDE WINDOW, 0.25 THICK, STD LT GREEN TINT, TEMPERED SAFETY GLASS	
7	91484025	1	UPPER DOOR GLASS, 0.25 THICK STD LT GREEN TINT, TEMPERED SAFETY GLASS	
8	91344031	10.25 ft	BULB SEAL, 90, 1/4 CLIP	

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FIGURE 12-4. (91485003) CAB ENCLOSURE INSTALLATION



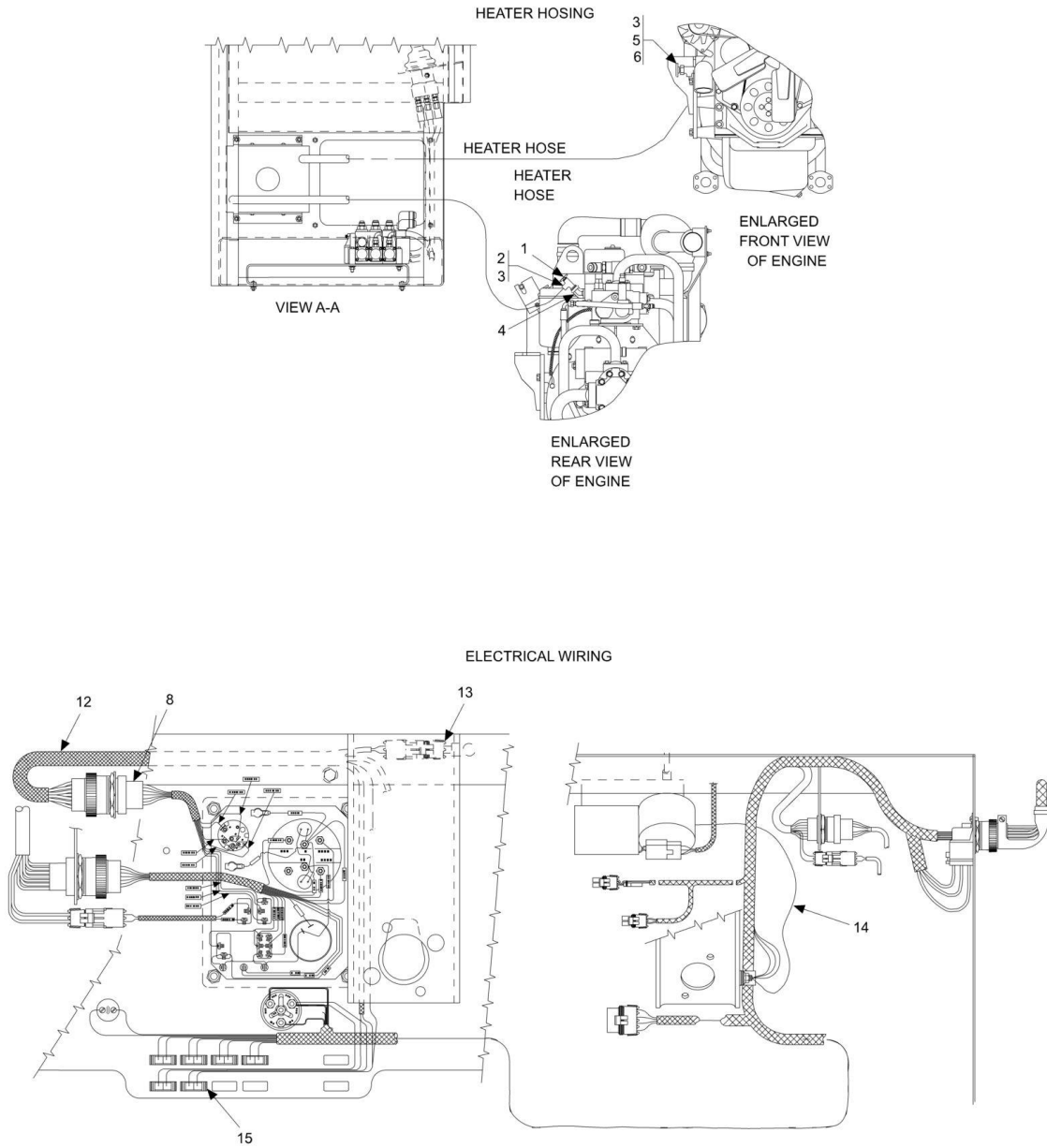
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-4. (91485003) CAB ENCLOSURE INSTALLATION

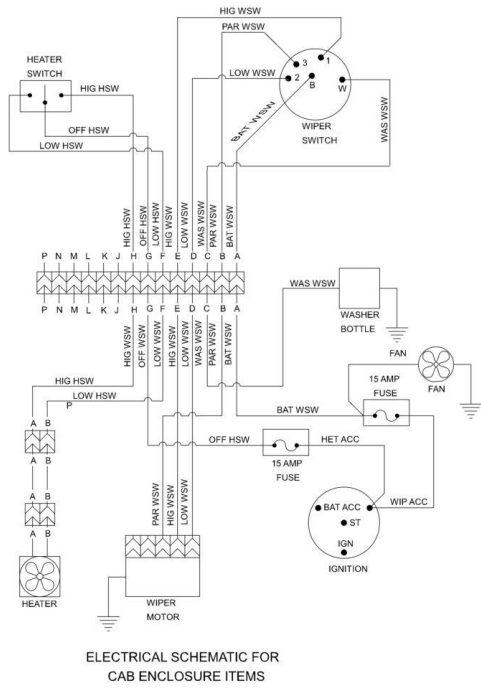
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485003	1	CAB ENCLOSURE INSTALLATION, (includes all items on CAB ENCLOSURE INSTALLATION plus Cab Enclosure Kit)	
	91483036	1	CAB ENCLOSURE KIT, (See CAB ENCLOSURE KIT thru CAB ENCLOSURE KIT – GLASS for Breakdown)	
1	90027319	2	SELF-TAPPING SCREW, 1/4-20X1	
2	91081499	1	MOUNTING ANGLE	
3	90200680	1	FAN	
4	88211030	4	HEX SOCKET HD CAPSCREW, #10-24X3/4, GR8	
5	77143017	4	WHIZ-LOC NUT, #10-24	
6	90027214	3	RUBBER GROMMET	
7	88501004	6	HEX NUT, 1/4-20	
8	88551009	10	LOCKWASHER, 1/4	
9	88201003	6	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
10	91146099	1	BOTTLE MOUNTING BRACKET	
11	83683085	1	WASHER BOTTLE	
12	86683480	1	BUTT CONNECTOR	
13	90206169	1	HEATER HOSE	
14	86683193	2	HOSE CLAMP	
15	91141459	1	HEATER HOSE	
16	91125106	1	HEATER ASSY, (includes the next 5 items, 17, 18 & 4 pcs of item 8)	
16	91043429	1	HEATER	
16	82033996	6 in	FLEX LOOM	
16	80963068	2	FEMALE PIN TERMINAL	
16	80963067	2	CABLE SEALS	
17	88201003	4	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
18	91031521	2	HEATER MOUNTING BRACKET	
19	77143004	4	WHIZ-LOCK SCREW	
20	77143006	4	WHIZ-LOCK NUT	
21	77163102	1	FEMALE SPADE, 16-14 GA	

SECTION 12 - OPTIONAL EQUIPMENT

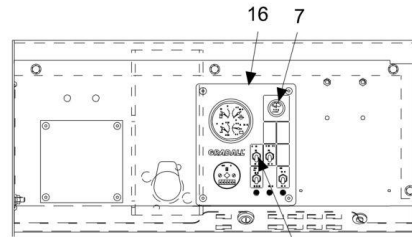
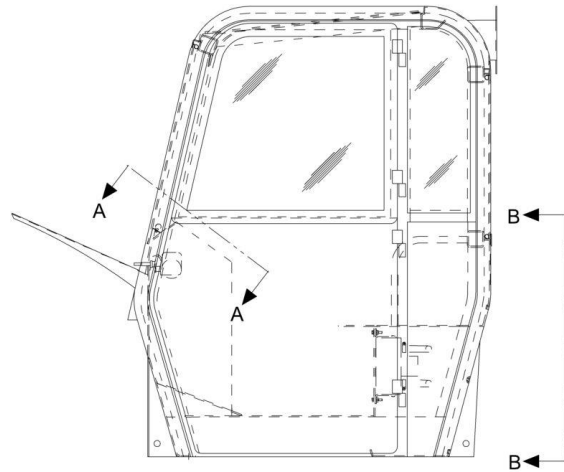
FIGURE 12-5. (91485003) CAB ENCLOSURE INSTALLATION



SECTION 12 - OPTIONAL EQUIPMENT



ELECTRICAL SCHEMATIC FOR CAB ENCLOSURE ITEMS



VIEW A-A
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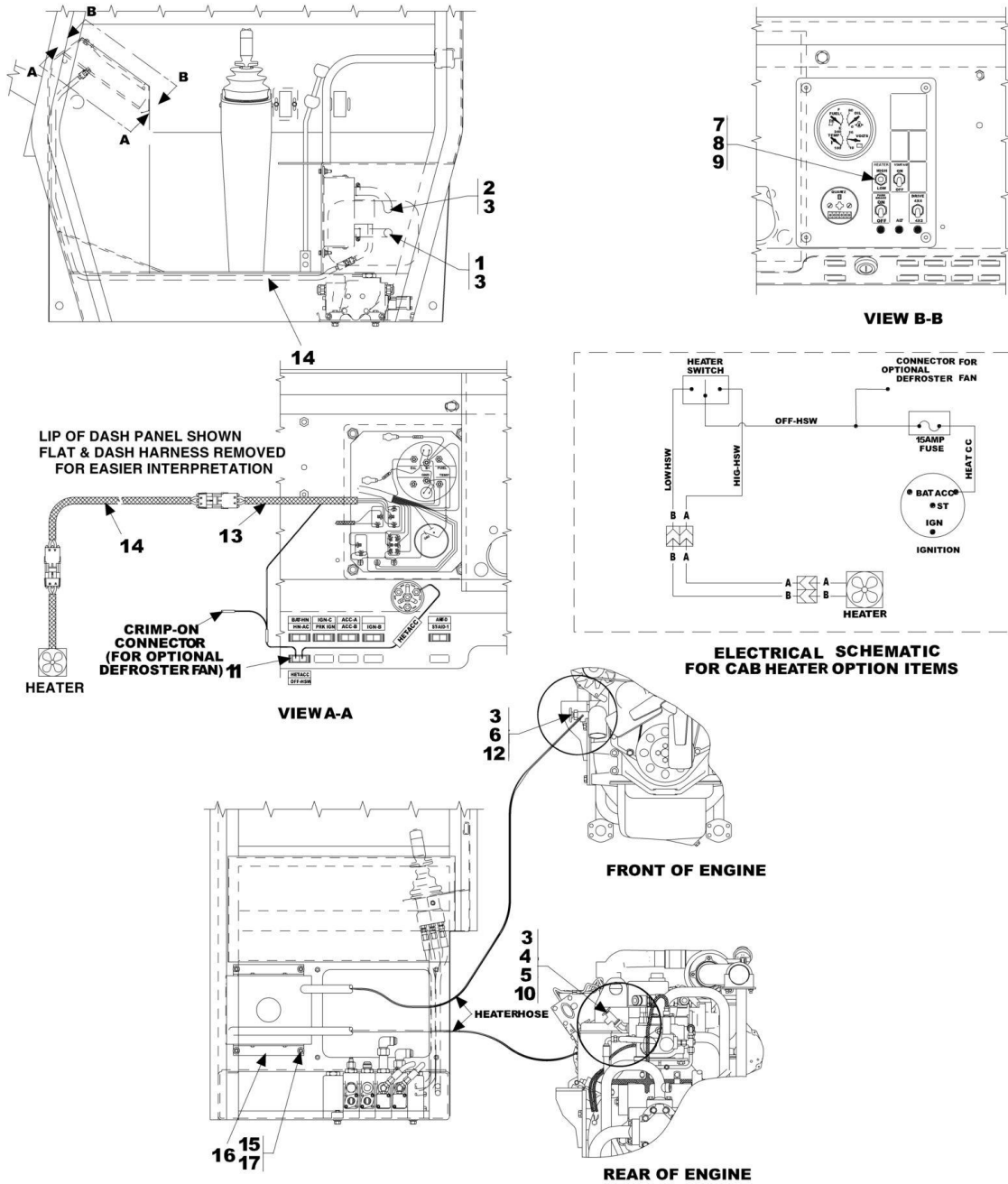
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-5. (91485003) CAB ENCLOSURE INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485003	1	CAB ENCLOSURE INSTALLATION, (includes all items on CAB ENCLOSURE INSTALLATION plus Cab Enclosure Kit)	
	91483036	1	CAB ENCLOSURE KIT, (See CAB ENCLOSURE KIT thru CAB ENCLOSURE KIT – GLASS for Breakdown)	
	91095034	Ref	GAUGE PANEL ASSEMBLY, (522D), (includes items 7 thru 11 & item 16)	
	91145128	Ref	GAUGE PANEL ASSEMBLY, (524D), (includes items 7 thru 11 & item 16)	
1	91083155	1	TRUCK VALVE	
2	77383540	1	COOLANT RESTRICTOR ORIFICE	
3	86683193	2	CLAMP	
4	88712034	1	STREET ELBOW, 45, 1/2	
5	88711383	1	PIPE BUSHING, 1/2X3/8	
6	24641328	1	SHUT OFF VALVE	
7	80963101	1	WIPER AND WASHER SWITCH	
8	91143333	1	WIPER-WASHER-HEATER HARNESS	
9	77383744	1	HEATER SWITCH	
10	77383470	1	BOOT	
11	91143361	1	HEATER DECAL	
12	91143361	1	WIPER-HEATER OPTION HARNESS	
13	91123182	1	HEATER HARNESS	
14	91361018	1	JUMPER WIRE	
15	77363268	2	15-AMP FUSE	
16		Ref	GAUGE PANEL, (See ELECTRICAL SECTION for Breakdown)	

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FIGURE 12-6. (91365017) CAB HEATER OPTION



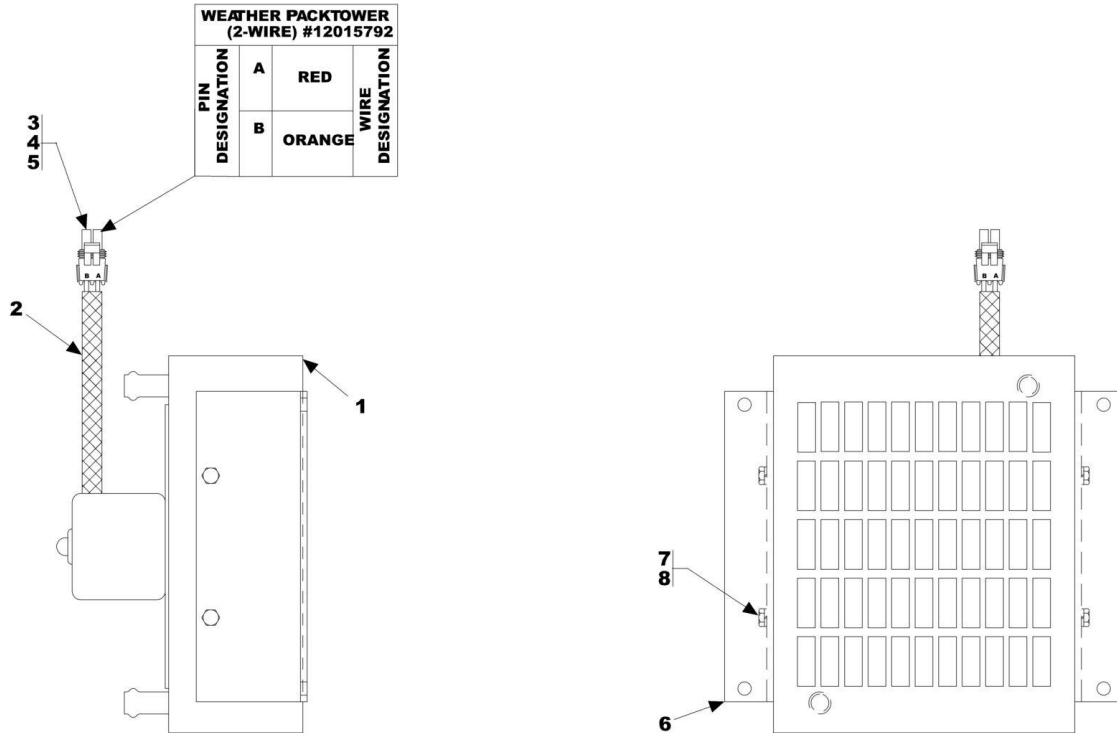
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-6. (91365017) CAB HEATER OPTION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91365017	1	CAB HEATER OPTION, (includes all items)	
1	90206169	1	HEATER HOSE	
2	91141459	1	HEATER HOSE	
3	86683193	4	HOSE CLAMP	
4	88712034	1	STREET ELBOW, 45, 1/2	
5	91083155	2	TRUCK VALVE	
6	24641328	1	SHUT OFF VALVE	
7	91143361	1	HEATER DECAL	
8	77383470	1	BOOT	
9	77383744	1	TOGGLE SWITCH	
10	77383540	1	COOLANT RESTRICTOR ORIFICE	
11	77363268	1	FUSE, 15 AMP	
12	88711383	1	REDUCING BUSHING, 1/2X3/8	
13	91343040	1	HEATER HARNESS	
14	91123182	1	HEATER HARNESS	
15	77143004	4	WHIZ LOCK SCREW	
16		Ref	HEATER ASSEMBLY, (See HEATER ASSEMBLY for Breakdown)	
17	77143006	4	WHIZ LOCK NUT	

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FIGURE 12-7. (91125106) HEATER ASSEMBLY



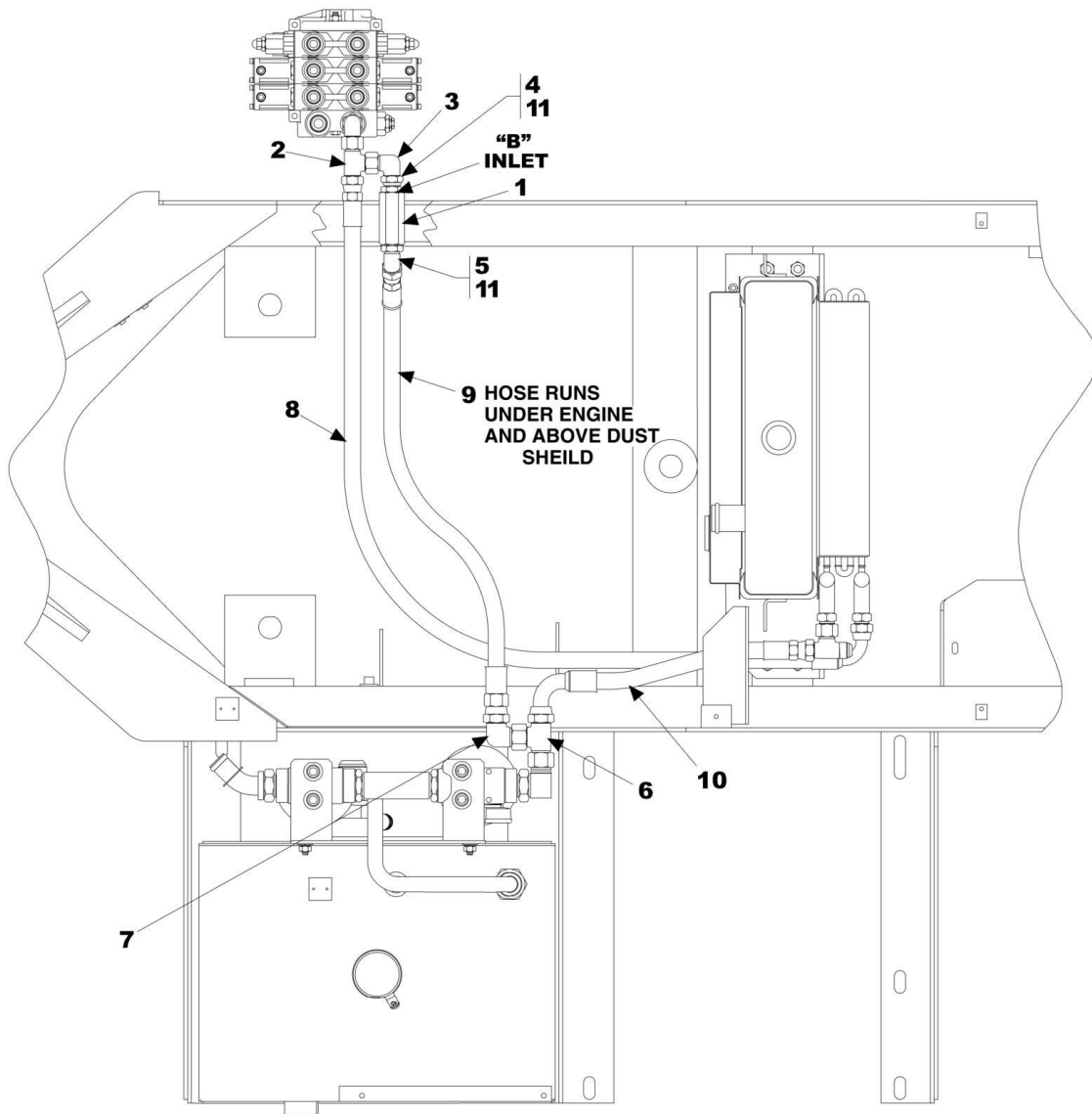
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-7. (91125106) HEATER ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91125106	1	HEATER ASSEMBLY, (includes all items)	
1	91043429	1	HEATER	
2	82033996	6 in	FLEX LOOM	
4	80963068	2	FEMALE PIN TERMINAL	
5	80963067	2	CABLE SEALS	
6	91031521	2	HEATER MOUNTING BRACKET	
7	88201003	4	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
8	88551009	4	LOCKWASHER, 1/4	

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FIGURE 12-8. (91125056) INLINE BY-PASS



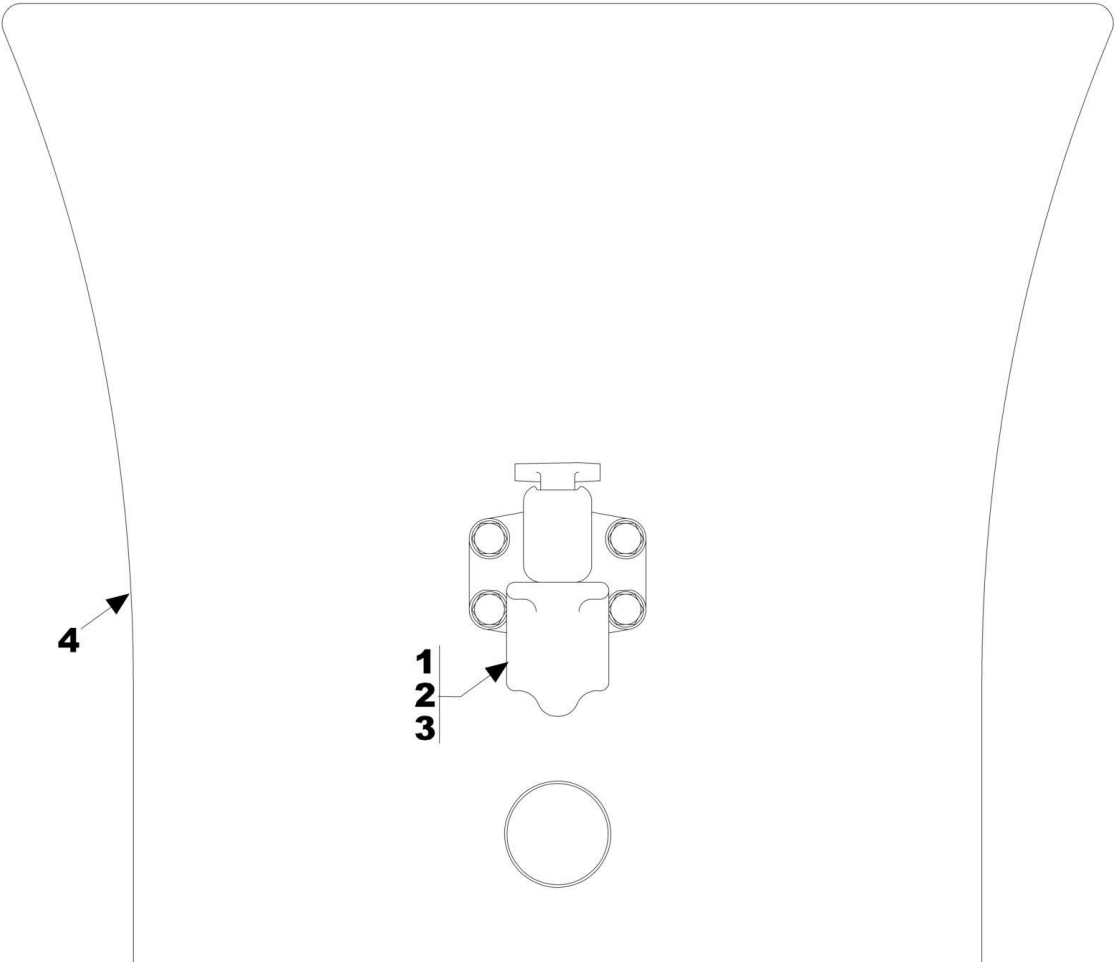
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-8. (91125056) INLINE BY-PASS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91125056	1	INLINE BY-PASS, (includes all items)	
1	91163191	1	INLINE VALVE	
2	88662242	1	SWIVEL NUT RUN TEE, 3/4 TUBE	
3	88662108	1	ELBOW, 90, (swivel nut)	
4	91163121	1	STRAIGHT THREAD ADAPTER, (includes item 11)	
5	88662087	1	ELBOW, 45, (includes item 11)	
6	88662244	1	SWIVEL NUT RUN TEE, 1 TUBE	
7	88662110	1	ELBOW, 90, (swivel nut)	
8		Ref	HOSE ASSEMBLY, (See HYDRAULIC CIRCUITS SECTION, item 29 for Breakdown)	
9	84718925	1	HOSE ASSEMBLY	
10	84718926	1	HOSE ASSEMBLY	
11	88591207	2	O-RING	

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FIGURE 12-9. (91085115) TOW HOOK INSTALLATION



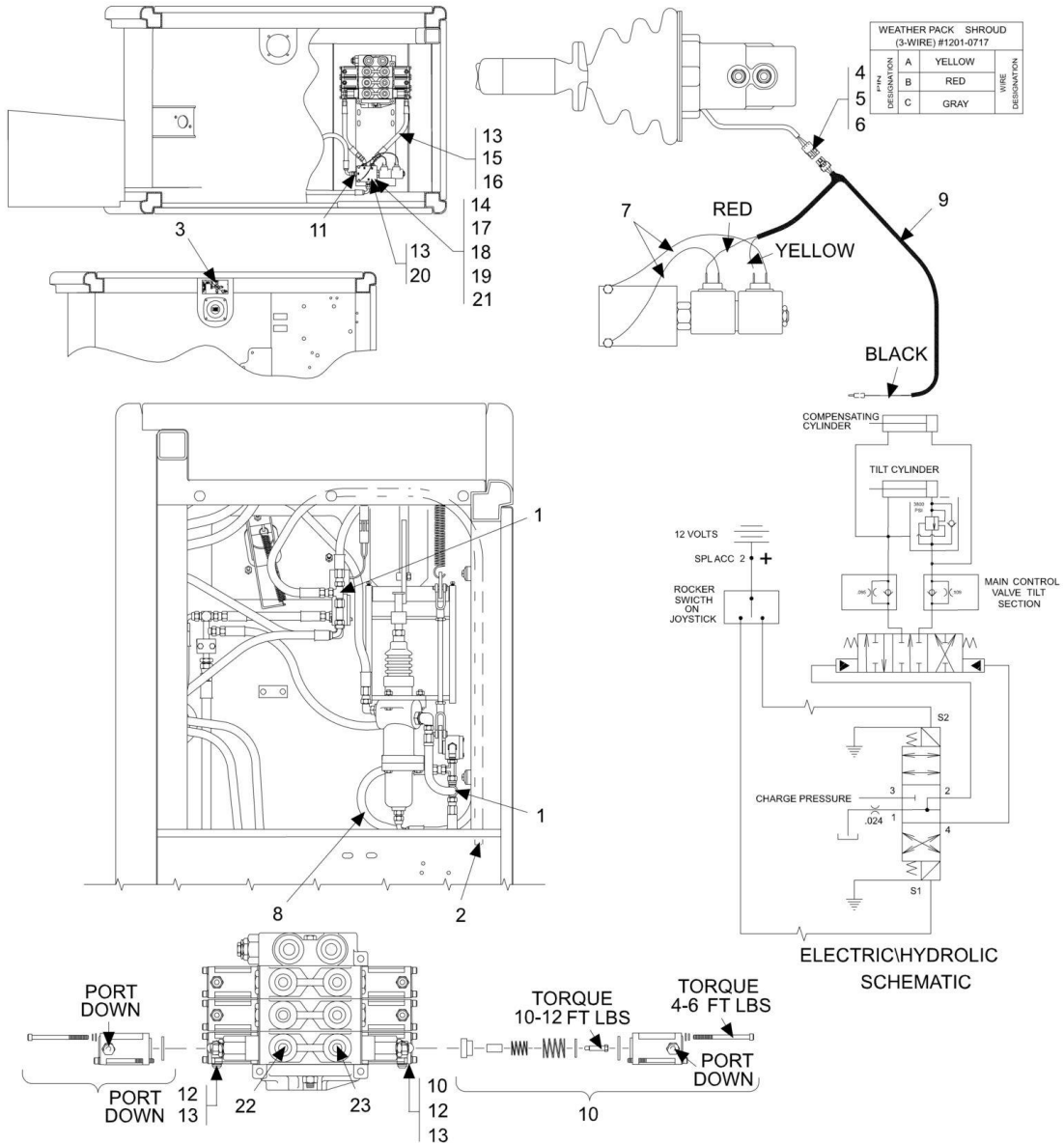
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-9. (91085115) TOW HOOK INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085115	1	TOW HOOK INSTALLATION, (includes items 1 thru 3)	
1	90200602	1	PINTLE HOOK	
2	83201120	4	HEX HD CAPSCREW, 1/2-13X1-3/4	
3	88551013	4	LOCKWASHER, 1/2	
4		Ref	COUNTERWEIGHT PLATE, (See CHASSIS AND ATTACHING PARTS SECTION for Breakdown)	

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FIGURE 12-10. (91485011) JOYSTICK INSTALLATION (TILT ON JOYSTICK)



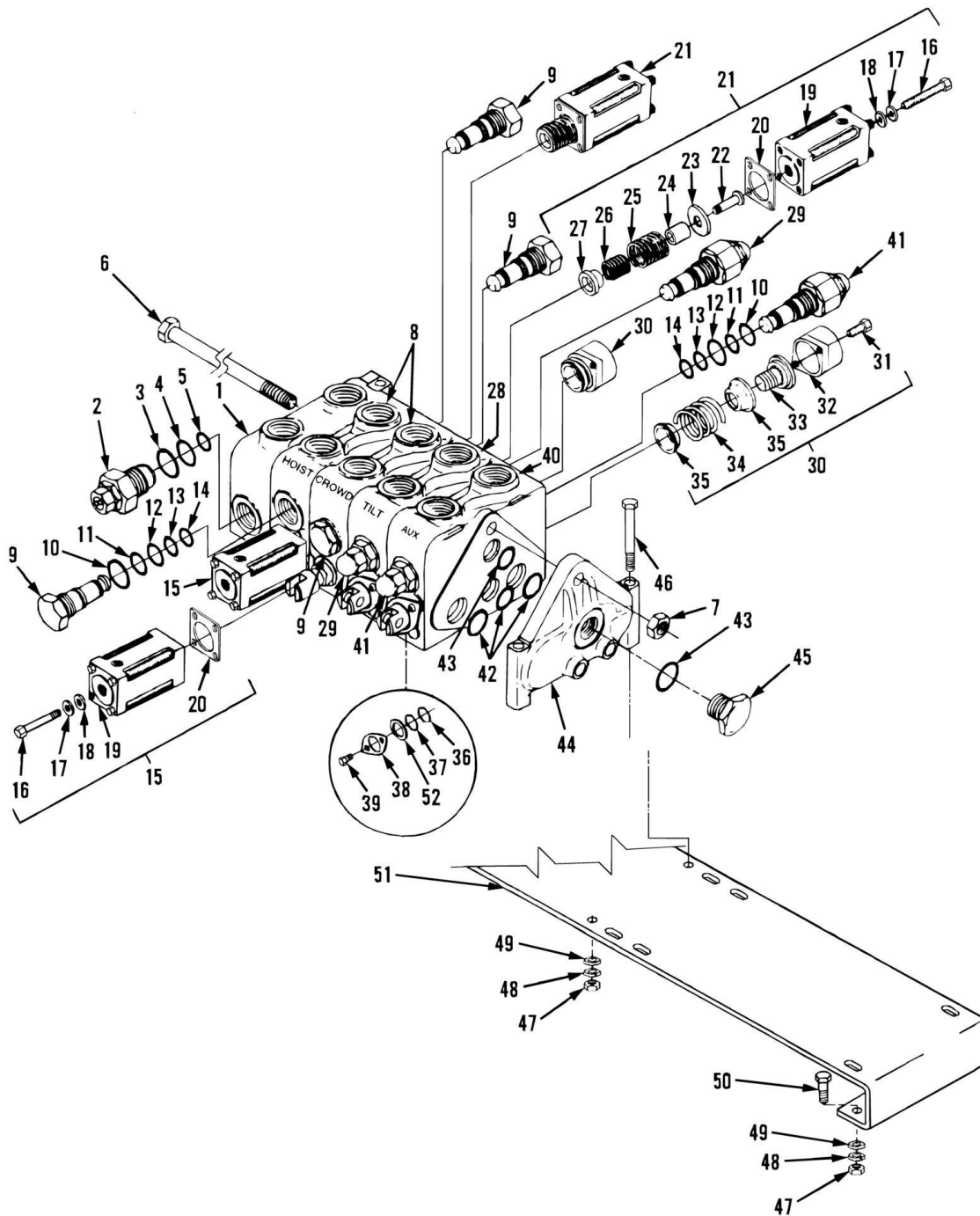
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-10. (91485011) JOYSTICK INSTALLATION (TILT ON JOYSTICK)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485011	1	JOYSTICK INSTALLATION, (tilt on joystick), (includes all items)	
1	88662239	2	SWIVEL NUT RUN TEE, 3/8 TUBE	
2	84717306	1	HOSE ASSEMBLY	
3	91303041	1	BOOM CONTROL DECAL	
4	80963060	1	WEATHER PACK SHROUD	
5	80963069	3	WEATHER PACK MALE PIN TERMINAL	
6	91143187	3	WEATHER PACK CABLE SEAL	
7	90207719	2	JUMPER WIRE, (green)	
8	84717893	1	HOSE ASSEMBLY	
9	91083490	1	JOYSTICK HARNESS	
10	91123075	1	HYDRAULIC VALVE POSITIONER KIT	
11	91085071	1	MODIFIED CONNECTION	
12	88662064	2	ELBOW, 90, (includes item 13)	
13	88591204	5	O-RING	
14	91303038	1	SOLENOID VALVE	
15	88662084	2	ELBOW, 45, (includes item 13)	
16	84717537	2	HOSE ASSEMBLY	
17	88201011	2	HEX HD CAPSCREW, 1/4-20X2-1/2, GR5	
18	88551004	2	LOCKWASHER, #5	
19	88501004	2	HEX NUT, 1/4-20	
20	88662005	1	CONNECTOR, (includes item 13)	
21	91301065	1	SPACER	
22	91083425	1	WORK PORT RESTRICTOR, (.062)	
23	91083426	1	WORK PORT RESTRICTOR, (.070)	

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FIGURE 12-11. (91483004) MAIN CONTROL VALVE W/AUXILIARY HYDRAULICS



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FIGURE 12-11. (91483004) MAIN CONTROL VALVE W/AUXILIARY HYDRAULICS

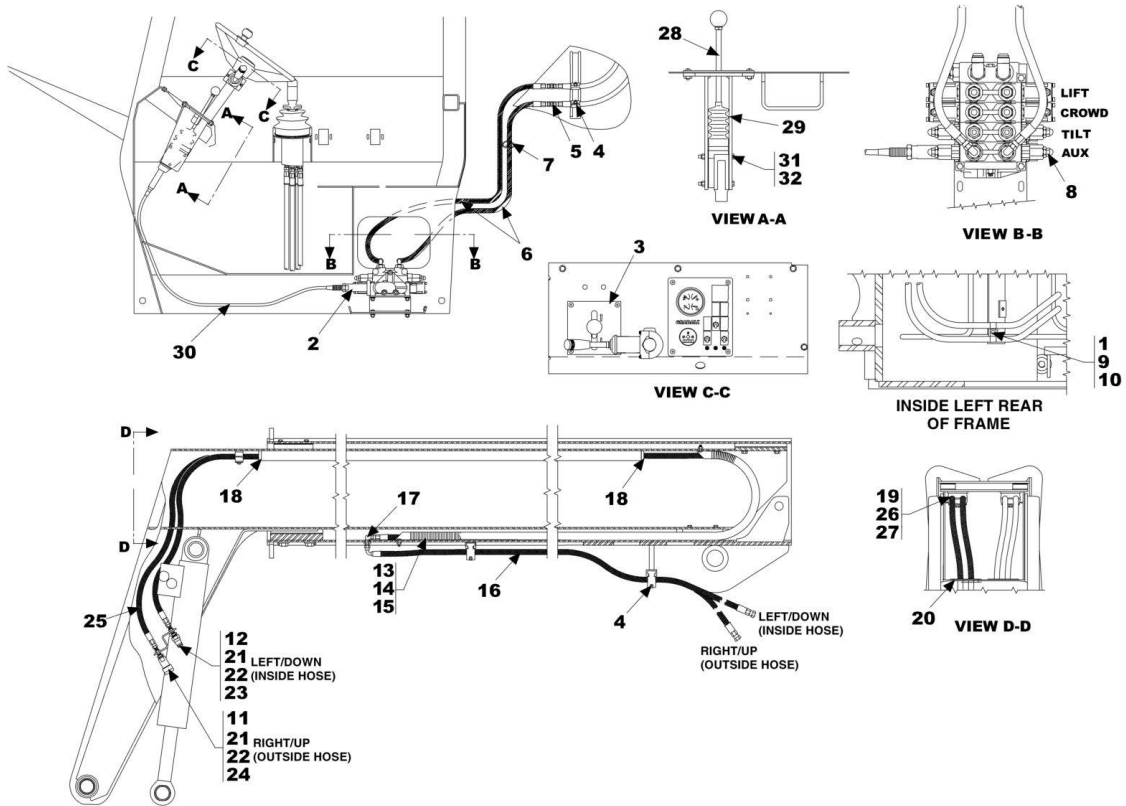
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91483004	1	MAIN HYDRAULIC CONTROL VALVE AUXILIARY ASSY, (includes all items except 46 thru 51)	
	91404177	1	STUD KIT, (includes items 6 & 7)	
	91404178	5	VALVE SECTION SEAL KIT, (includes items 42 & 43)	
	91404179	1	MAIN RELIEF SEAL KIT, (includes items 3, 4 & 5)	
	91084201	8	PLUG SEAL KIT, (includes items 10 thru 14)	
	91404180	2	SEAL RETAINER KIT, (includes one of item 38 and two of item 39)	
	91404181	4	SPOOL SEAL KIT, (includes one each of items 36 & 37)	
1	91084008	1	INLET COVER ASSY, (includes item 2)	
2	91084009	1	MAIN RELIEF CARTRIDGE, (includes items 3, 4 & 5)	
3	Kit	1	O-RING	
4	Kit	1	BACK UP RING	
5	Kit	1	O-RING	
6	Kit	3	HEX HD CAPSCREW	
7	Kit	3	HEX NUT	
8	91084277	2	VALVE SECTION ASSY, (Hoist and Crowd), (includes items 9, 15 & 21)	
9	91404183	4	LOAD CHECK PLUG, (includes items 10 thru 14)	
10	Kit	2	O-RING	
11	Kit	1	BACK UP RING	
12	Kit	1	O-RING	
13	Kit	1	O-RING	
14	Kit	2	BACK UP RING	
15	91404184	2	HYDRAULIC REMOTE POSITIONER, (includes items 16 thru 20)	
16		Ref	SCREW	
17		Ref	LOCKWASHER	
18		Ref	BEARING PLATE	
19		Ref	BONNET	
20		Ref	SEAL	
21	91404185	2	HYDRAULIC REMOTE POSITIONER, (includes items 16 thru 20 & 22 thru 27)	
22		Ref	SPUD POSITIONER	
23		Ref	WASHER	
24		Ref	STOP SLEEVE	
25		Ref	SPRING, (large)	
26		Ref	SPRING, (small)	
27		Ref	STOP COLLAR	
28	91084012	1	VALVE SECTION ASSY, (Tilt), (includes one each of items 30 & 38 and two each of 29, 36, 37, 39 & 52)	
29	91084199	2	RELIEF CARTRIDGE, (includes items 10 thru 14)	
30	91404190	2	SPOOL POSITIONER ASSY, (includes items 31 thru 35)	
31		Ref	SCREW	
32		Ref	BONNET	
33		Ref	SPOOL SPUD	
34		Ref	SPRING	
35		Ref	SPRING COLLAR	
36	Kit	4	BACK UP WASHER	
37	Kit	4	O-RING	
38	Kit	2	RETAINER PLATE	
39	Kit	4	SCREW	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
40	91484016	1	VALVE SECTION ASSY, (Aux), (includes one each of items 30 & 38 and two each of 36, 37, 39, 41 & 52)	
41	91484017	2	RELIEF CARTRIDGE, (includes items 10 thru 14)	
42	Kit	3	O-RING	
43	Kit	2	O-RING	
44	91084278	1	OUTLET COVER ASSY, (includes item 45)	
45	91084279	1	PLUG	
46	88201028	3	HEX HD CAPSCREW, 5/16-18X3, GR5	
47	88501005	7	HEX NUT, 5/16-18	
48	88551010	7	LOCKWASHER, 5/16	
49	88561003	7	FLAT WASHER, 5/16	
50	88201020	4	HEX HD CAPSCREW, 5/16-18X1	
51	91381009	1	VALVE SUPPORT, (partially illustrated)	
52	91404214	4	SEAL RETAINER	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

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FIGURE 12-12. (91485008) AUXILIARY HYDRAULICS ASSEMBLY 2 SECTION BOOM ONLY



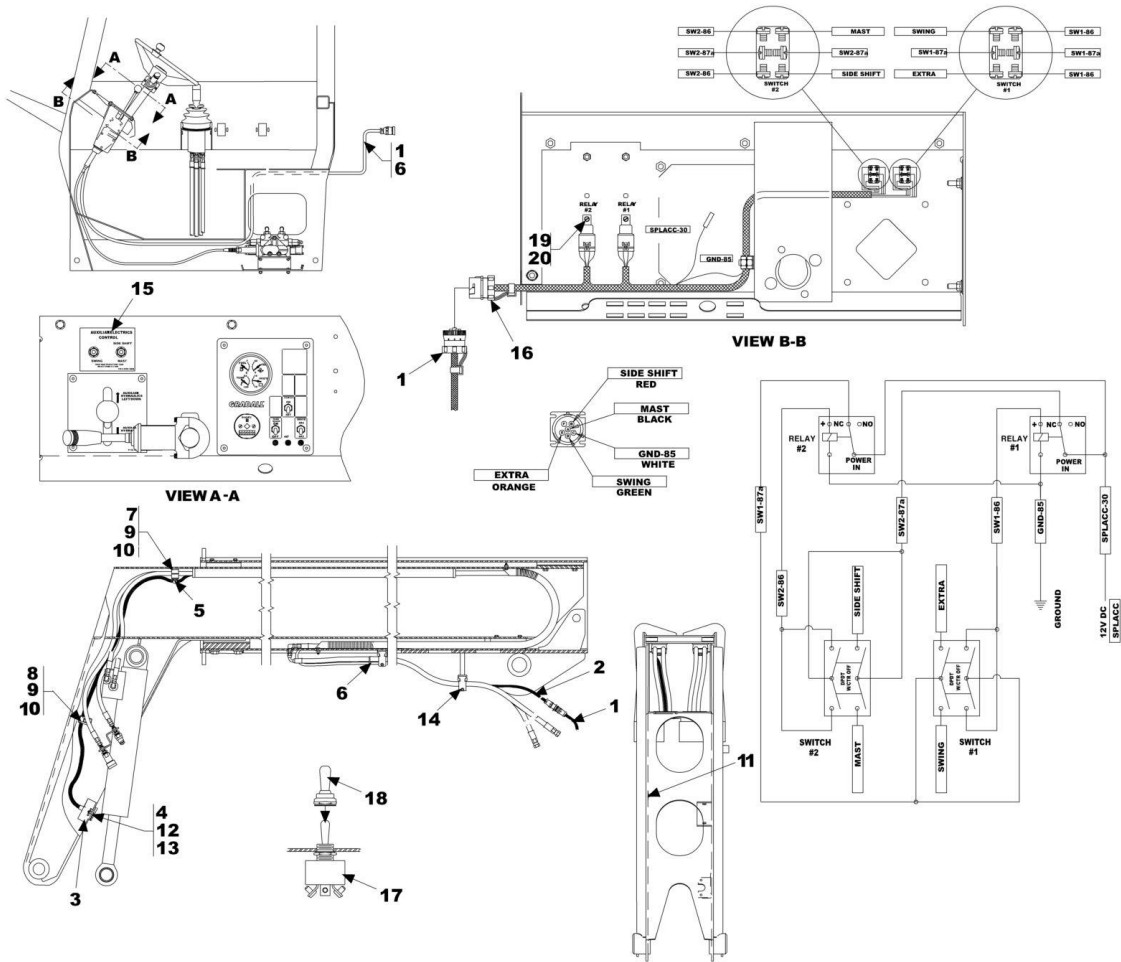
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-12. (91485008) AUXILIARY HYDRAULICS ASSEMBLY 2 SECTION BOOM ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485008	1	AUX HYDRAULICS ASSEMBLY, (2 section boom), (includes all items)	
	91345010	1	REMOTE VALVE CONTROL ASSY, (includes items 28 thru 32)	
1	88561108	1	FLAT WASHER, 5/16	
2	91123062	1	CABLE ADAPTER BONNET	
3	91363045	1	GUIDE PLATE	
4	90207463	6	CUSHION CLAMP, 3/4	
5	88661065	2	UNION, 1/2 TUBE	
6	84718026	2	HOSE ASSEMBLY	
7	90027187	10	TIE WRAP	
8		Ref	CONTROL VALVE ASSEMBLY, (See MAIN CONTROL VALVE W/AUXILIARY HYDRAULICS for Breakdown)	
9	91043174	2	SUPPORT CLAMP	
10	88201022	1	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
11	91043125	1	DUST PLUG	
12	91043126	1	DUST CAP	
13	91083290	1	HOSE CARRIER	
14	88411037	4	ROUND HD CARRIAGE BOLT, 5/16-18X1	
15	88521205	4	HEX LOCKNUT, 5/16-18	
16	84717563	2	HOSE ASSEMBLY	
17	90027179	2	ELBOW, 90	
18	90206194	8 in	TRIM-LOCK, (sold in 25ft lengths)	
19	77133177	1	HEX HD CAPSCREW, 5/16-18X1-3/8	
20	90206199	28 in	TRIM-LOCK, (sold in 25ft lengths)	
21	91123061	2	BULK HEAD FITTING	
22	88712305	2	REDUCING BUSHINGS, 1/2X1/4	
23	90204244	1	MALE HYDRAULIC COUPLER	
24	90204245	1	FEMALE HYDRAULIC COUPLER	
25	84718032	2	HOSE ASSEMBLY	
26	77133139	1	CLAMP SET	
27	77133140	1	COVER PLATE	
28	91303019	1	REMOTE VALVE CONTROL	
29	91366007	1	LEVER BRACKET	
30	91363043	1	CONTROL CABLE	
31	88201012	3	HEX HD CAPSCREW, 1/4-20X2-3/4, GR5	
32	88521304	3	HEX LOCKNUT, 1/4-20	

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FIGURE 12-13. (91085125) AUXILIARY ELECTRONICS ASSEMBLY 2 SECTION BOOM ONLY



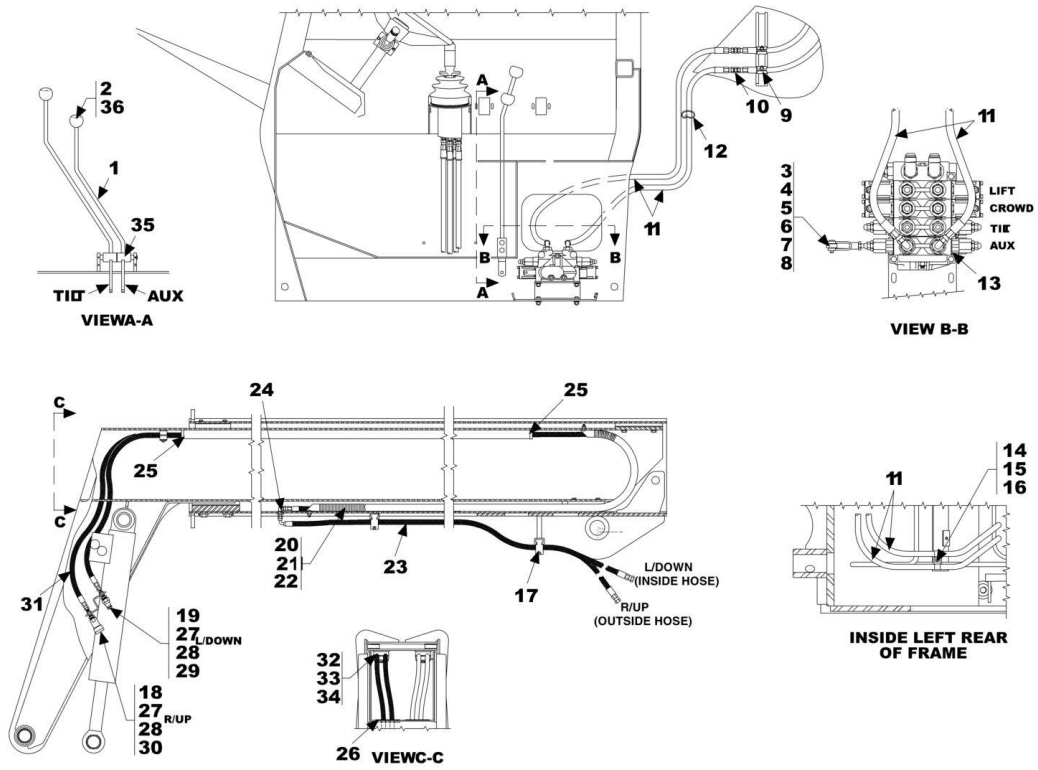
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-13. (91085125) AUXILIARY ELECTRONICS ASSEMBLY 2 SECTION BOOM ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085125	1	AUX ELECTRONICS ASSEMBLY, (2 section boom), (includes all items)	
1	91143105	1	AUX FRAME HARNESS	
2	91083550	1	AUX BOOM HARNESS	
3	91121283	1	RECEPTICAL BRACKET	
4	90207661	1	6 CONTACT SOCKET	
5	85941016	1	SUPPORT CLAMP	
6	90027187	24	NYLON TIE	
7	77133139	1	CLAMP SET	
8	77133168	1	CLAMP SET	
9	77133140	2	COVER PLATE	
10	77133177	2	HEX BOLT	
11	77133141	1	BASE PLATE	
12	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
13	88521304	2	HEX LOCKNUT, 1/4-20	
14	91083216	2	CUSHION CLAMP	
15	91123155	1	DECAL	
16	91123154	1	AUX DASH HARNESS	
17	77163204	2	SWITCH	
18	77383470	2	SWITCH BOOT	
19	88301088	2	RD HD MACH SCREW, #10-24X3/8	
20	88561105	2	FLATWASHER, #10	

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FIGURE 12-14. (91485013) R.H. AUXILIARY HYDRAULIC ASSEMBLY 2 SECTION BOOM ONLY



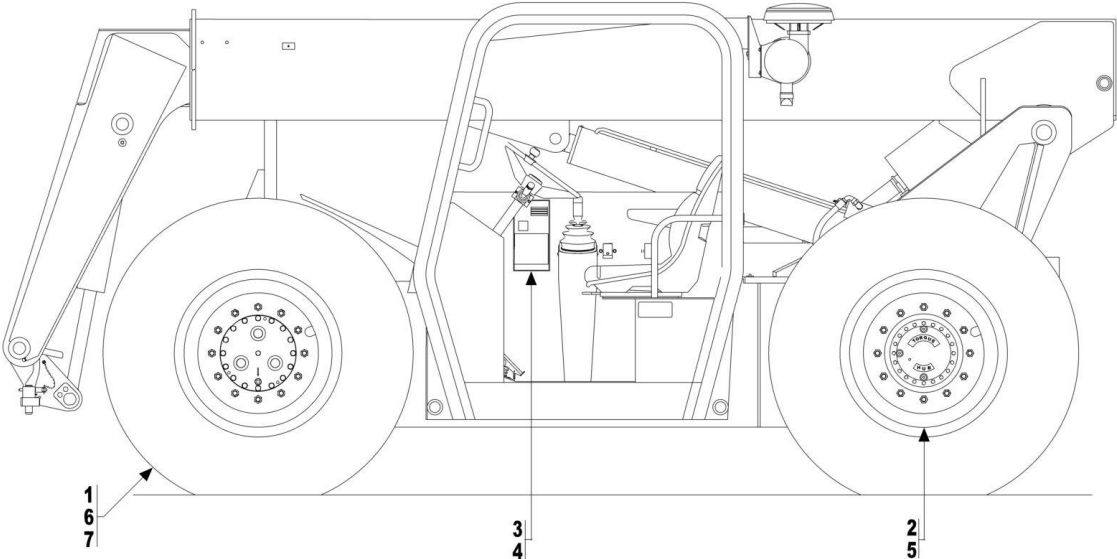
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-14. (91485013) R.H. AUXILIARY HYDRAULIC ASSEMBLY 2 SECTION BOOM ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485013	1	R.H. AUXILIARY HYDRAULIC ASSEMBLY, (2 section boom), (includes all items)	
	91385008	1	LEVER ASSY, (includes items 1, 35 & 36)	
1	91386006	1	AUXILIARY LEVER WELDMENT	
2	91083547	1	AUXILIARY DECAL	
3	88821004	1	ADJUSTABLE YOKE END	
4	90027987	1	SPRING CLEVIS	
5	88501406	1	HEX JAM NUT, 3/8-24	
6	91086081	1	ROD LINKAGE	
7	90021552	1	CLEVIS PIN	
8	88631301	1	COTTER PIN, 1/16X1/2	
9	91383039	2	CUSHION CLAMP	
10	88661065	2	UNION, 1/2 TUBE	
11	84718026	2	HOSE ASSY	
12	90027187	10	TIE WRAP	
13		Ref	MAIN CONTROL VALVE, (See MAIN CONTROL VALVE W/AUXILIARY HYDRAULICS for Breakdown)	
14	91043147	2	SUPPORT CLAMP	
15	88201022	1	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
16	88561108	1	FLATWASHER, 5/16	
17	90207463	4	CUSHION CLAMP	
18	91043125	1	DUST PLUG	
19	91043126	1	DUST CAP	
20	91083290	1	HOSE CARRIER	
21	88411037	4	ROUND HD CARRIAGE BOLT, 5/16-18X1	
22	88521205	4	HEX LOCKNUT, 5/16-18	
23	84717563	2	HOSE ASSEMBLY	
24	90027179	2	ADAPTER, 90, BULK HEAD	
25	90206194	8 in	TRIM-LOCK	
26	90206199	28 in	TRIM-LOCK	
27	91123061	2	BULK HEAD FITTING	
28	88712305	2	REDUCING BUSHING, 1/2X1/4	
29	90204244	1	MALE HYDRAULIC COUPLER	
30	90204245	1	FEMALE HYDRAULIC COUPLER	
31	84718032	2	HOSE ASSY	
32	77133139	1	CLAMP SET	
33	77133140	1	COVER PLATE	
34	77133177	1	HEX HD CAPSCREW, 5/16-18X1-3/8	
35	91083136	1	BUSHING	
36	90200638	1	KNOB	

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FIGURE 12-15. (91485021) (9148-5022) FOAM FILLED TIRE ASSEMBLY 2 SECTION BOOM



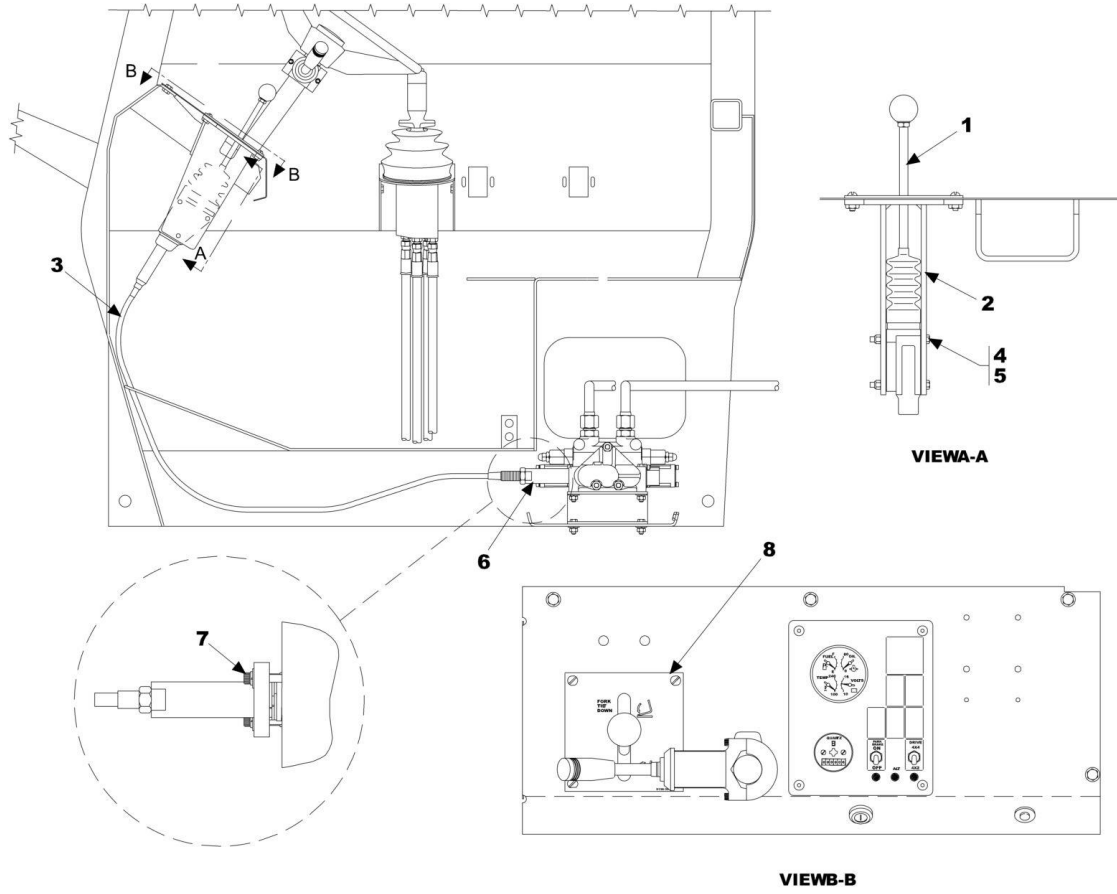
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-15. (91485021) (9148-5022) FOAM FILLED TIRE ASSEMBLY 2 SECTION BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485021	1	FOAM FILLED TIRE ASSEMBLY, (includes items 1 thru 3)	
	91485022	1	FOAM FILLED TIRE ASSEMBLY, (includes items 4 thru 7)	
1	91395006	4	FOAM FILLED TIRE ASSY	
2	91393007	4	TIRE DECAL	
3	91483048	1	524D LO-PRO SN AND ATTACHMENT PLATE	
4	91483052	1	524D LO-PRO SN AND ATTACHMENT PLATE	
5	91123160	4	TIRE DECAL	
6	91035247	2	FOAM FILLED TIRE ASSY, R.H.	
7	91035248	2	FOAM FILLED TIRE ASSY, L.H.	

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FIGURE 12-16. (91485012) L.H. TILT ASSEMBLY



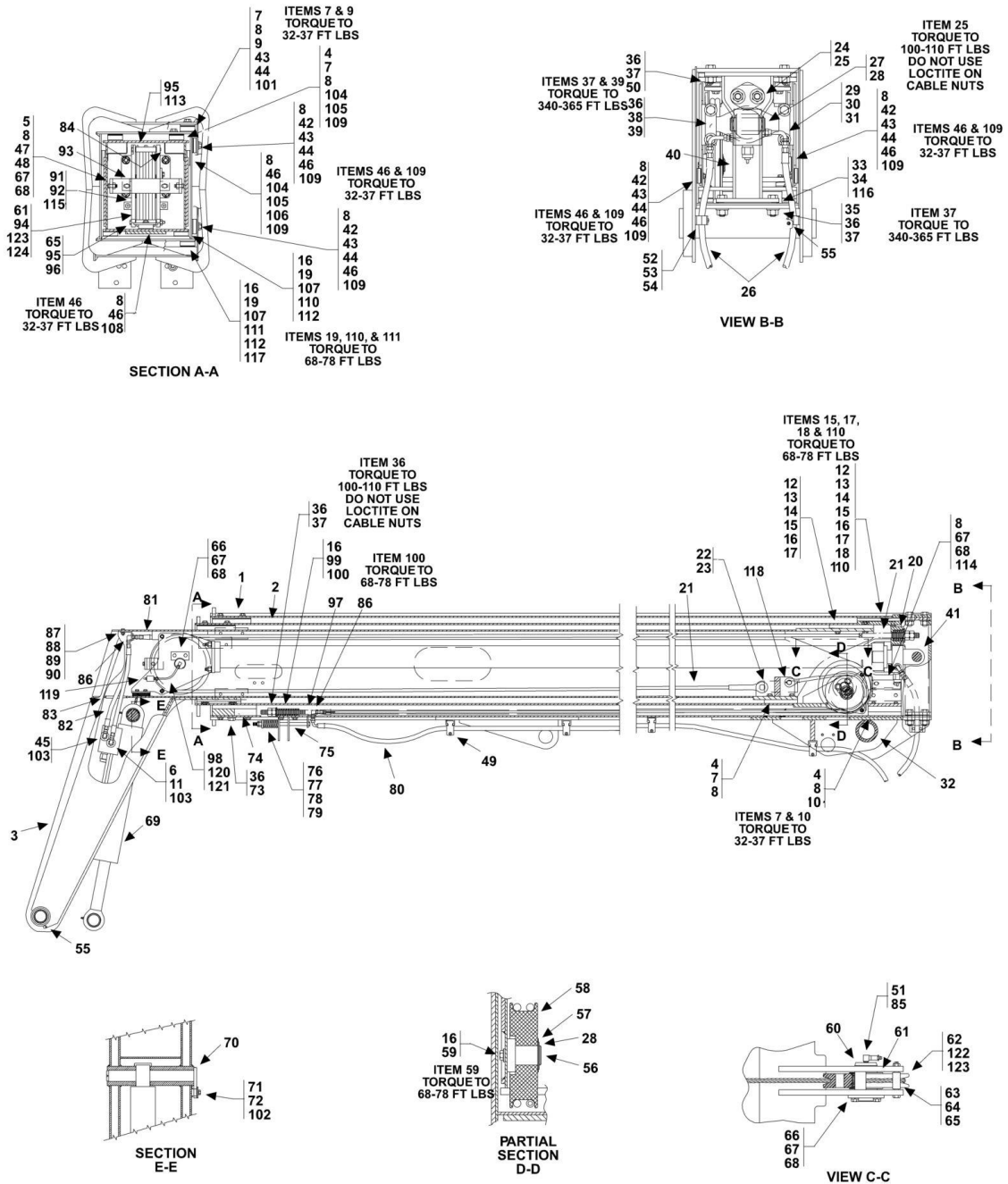
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-16. (91485012) L.H. TILT ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485012	1	L.H. TILT ASSEMBLY, (includes all items)	
	91345010	1	REMOTE VALVE CONTROL ASSEMBLY, (includes items 1 thru 5)	
1	9103019	1	REMOTE VALVE CONTROL	
2	91366007	1	LEVER BRACKET	
3	91363043	1	CONTROL CABLE	
4	88201012	3	HEX HD CAPSCREW, 1/4-20X2-3/4, GR5	
5	88521304	3	HEX LOCKNUT, 1/4-20	
6	91123062	1	CABLE ADAPTER BONNET	
7	88211044	2	SOCKET HD CAPSCREW, 1/4-20X1-1/2, GR8	
8	91363040	1	TILT GUIDE PLATE	

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FIGURE 12-17. (91485020) 3 SECTION BOOM ASSEMBLY



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-17. (91485020) 3 SECTION BOOM ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485020	1	3 SECTION BOOM ASSY	
1	91086140	1	BOOM WELDMENT, (first section)	
2	91086141	1	BOOM WELDMENT, (second section)	
3	91086142	1	BOOM WELDMENT, (third section)	
4	91123019	6	BEARING PAD, 5/8X6	
5	91121122	1	GUIDE BAR	
6	91053426	1	CONNECTOR, (includes item 103)	
7	88201535	8	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	
8	88561109	42	FLATWASHER, 3/8	
9	88201536	AR	HEX HD CAPSCREW, 3/8-24X1-1/2, GR5	
10	88201538	4	HEX HD CAPSCREW, 3/8-24X2, GR5	
11	88662105	1	ELBOW, 90, (swivel nut)	
12	91083297	4	BEARING PAD, 1/2X8	
13	91081447	4	SPACER, (.132 thick)	
14	91121081	6	SHIM, (.06 thick)	
15	88201565	6	HEX HD CAPSCREW, 1/2-20X1-1/4, GR5	
16	90027471	21	HARDENED FLATWASHER, 1/2	
17	88201566	AR	HEX HD CAPSCREW, 1/2-20X1-1/2, GR5	
18	88201563	AR	HEX HD CAPSCREW, 1/2-20X7/8, GR5	
19	88201564	AR	HEX HD CAPSCREW, 1/2-20X1, GR5	
20	91123018	2	SPRING	
21	91083431	2	EXTENSION CABLE, 1/2	
22	91121080	1	EXTENSION CABLE PIN	
23	88581310	2	RETAINING RING EXTERNAL	
24	91121079	2	SPECIAL WASHER, 7/8	
25	88501314	4	HEX NUT, 7/8-14	
26	84719651	2	HOSE ASSEMBLY	
27	91121041	1	CROWD CYLINDER PIN	
28	88581320	3	RETAINING RING EXTERNAL	
29	86561308	2	ADAPTER	
30	91123022	2	ADAPTER, (includes item 31)	
31	88591205	2	O-RING	
32	91083298	2	BUSHING	
33	91121023	2	SHIM, (.0598)	
34	91121024	2	SHIM, (.0359)	
35	83201039	4	HEX HD CAPSCREW, 3/4-10x2-1/2, GR8	
36	90027473	15	HARDENED WASHER, 3/4	
37	88501012	10	HEX NUT, 3/4-10	
38	91121066	2	CROWD CYLINDER RETAINER	
39	83201017	4	HEX HD CAPSCREW, 3/4-10X2-3/4, GR8	
40	91126010	1	CROWD CYLINDER MOUNTING BRACKET	
41	91385016	1	CROWD CYLINDER, (See CROWD CYLINDER ASSEMBLY 3 SECTION BOOM ONLY for Breakdown)	
42	91033186	8	BEARING PAD, 1/2X6	
43	91031236	10	SPACER, (.06)	
44	90205870	24	SHIM, (.06)	
45	91053450	1	FITTING, (includes item 103)	
46	88201532	22	HEX HD CAPSCREW, 3/8-24X3/4, GR5	
47	88501006	2	HEX NUT, 3/8-16	
48	91123136	2	BRASS HEX HD CAPSCREW, 3/8-16X1	

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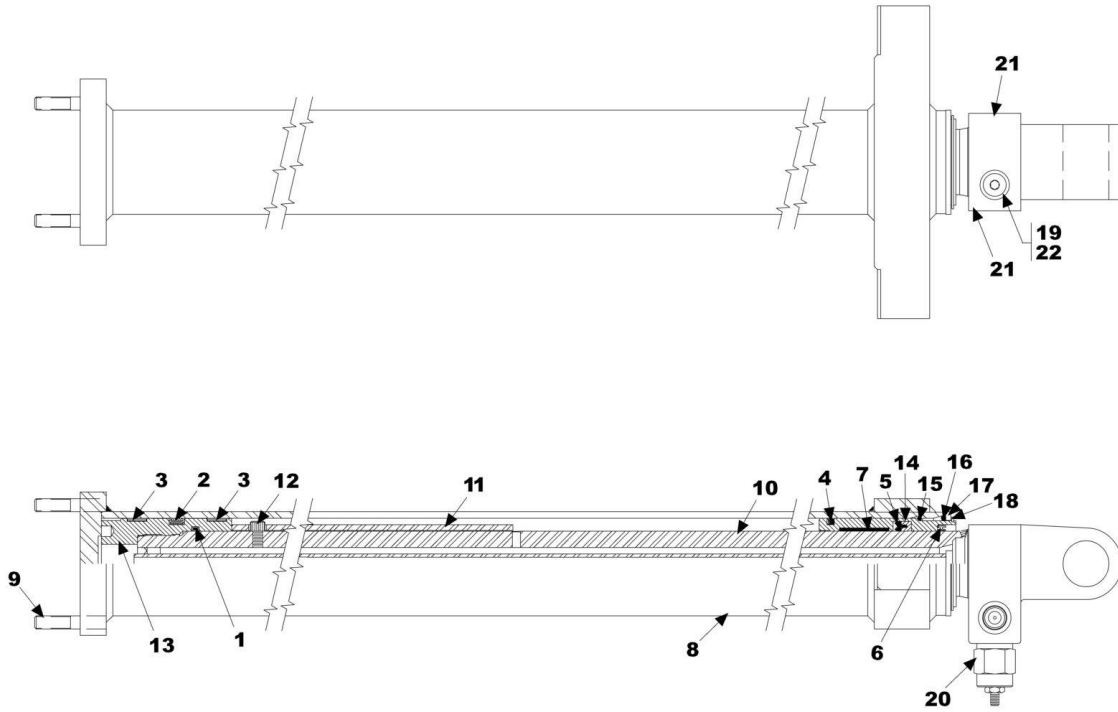
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
49	91383039	8	CUSHION CLAMP	
50	83201038	4	HEX HD CAPSCREW, 3/4-10x2-1/4, GR8	
51	88712011	1	STREET ELBOW, 90, 1/8	
52	77133893	2	STAUFF CLAMP SET	
53	77133052	2	STAUFF COVER PLATE	
54	77133209	4	HEX HD CAPSCREW, 1/4-20X1-3/8	
55	88671001	4	LUBE FITTING, STRAIGHT, 1/8	
56	91081326	1	HOSE REEL SUPPORT	
57	90203040	1	THRUST WASHER	
58	91123016	1	HOSE SHEAVE	
59	83201123	3	HEX HD CAPSCREW, 1/2-13X1, GR8	
60	91121197	1	RETRACT SHEAVE PIN	
61	91041451	5	THRUSTWASHER	
62	91125031	1	RET. SHEAVE ASSEMBLY, (includes item 122 & 1 of 123)	
63	91121056	2	RETAINER ROLLER	
64	88201043	2	HEX HD CAPSCREW, 3/8-16X3, GR5	
65	88521306	3	HEX LOCKNUT, 3/8-16	
66	86641158	2	PIN KEEPER	
67	88201034	8	HEX HD CAPSCREW, 3/8-16X7/8, 1 GR5	
68	88551011	8	LOCKWASHER, 3/8	
69	91083513	1	TILT CYLINDER	
70	91146052	1	PIN WELDMENT	
71	88201065	1	HEX HD CAPSCREW, 1/2-13X1, 1 GR5	
72	83621283	1	SPECIAL WASHER	
73	88201608	2	HEX HD CAPSCREW, 3/4-16X1-1/2, 1 GR5	
74	91121022	1	BEARING PLATE	
75	91126008	2	HOSE TAKE-UP WELD	
76	91123054	2	COMPRESSION SPRING	
77	91121134	2	SPRING RETAINER	
78	88501008	2	HEX NUT, 1/2-13	
79	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
80	84718280	2	HOSE ASSEMBLY	
81	84718281	2	HOSE ASSEMBLY	
82	84717896	2	HOSE ASSEMBLY	
83	90206199	13 in	TRIM-LOCK	
84	90206194	3.5 in	TRIM-LOCK	
85	91033445	1	LUB FITTING	
86	90027179	4	BULKHEAD FITTING, 90	
87	91121125	1	BULKHEAD BRACKET	
88	88201020	2	HEX HD CAPSCREW, 5/16-18X1, 1 GR5	
89	88551010	2	LOCKWASHER, 5/16	
90	88501005	2	HEX NUT, 5/16-18	
91	91126009	1	EXTEND CABLE BRACKET	
92	88521208	4	HEX LOCKNUT, 1/2-13	
93	91121196	1	EXTEND CABLE PIN	
94	91125030	2	EXTEND SHEAVE ASSEMBLY, (includes item 124 & 1 of 123)	
95	91121045	2	RETAINER ROLLER	
96	83201073	1	HEX HD CAPSCREW, 3/8-16X4-1/2, GR8	
97	91083432	1	RETRACTION CABLE, (includes item 118)	
98	72088049	20 in	NYLON TUBING, 1/4	
99	91081087	1	CABLE ADJUSTMENT BLOCK	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
100	83201026	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR8	
101	91033185	2	BEARING PAD, 3/4X6	
102	88551013	1	LOCKWASHER, 1/2	
103	88591207	2	O-RING	
104	91121083	4	SPACER, (.06)	
105	91121082	8	SHIM, (.06)	
106	91123021	2	BEARING PAD, 1/2X6	
107	91083063	4	BEARING PAD, 5/8X8	
108	91033187	1	BEARING PAD, 5/8x3-1/4	
109	88201534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	
110	88201562	6	HEX HD CAPSCREW, 1/2-20X3/4, GR5	
111	88201568	4	HEX HD CAPSCREW, 1/2-20X2, GR5	
112	91081172	4	SPACER, (.132)	
113	88201046	1	HEX HD CAPSCREW, 3/8-16X3-3/4, GR5	
114	91126071	1	HOSE GUARD	
115	88561111	4	FLATWASHER, 1/2	
116	91121157	2	SHIM, (.134)	
117	91081171	2	SHIM	
118	88631337	1	COTTER PIN, 3/16x1-1/2	
119	88671002	2	LUBE FITTING, STRAIGHT, 1/8	
120	86881276	2	TUBE FITTING, 90	
121	86881273	2	STRAIGHT TUBE FITTING	
122	91121031	1	RET CABLE SHEAVE	
123	91123102	2	BUSHING	
124	91121032	1	EXTEND CABLE SHEAVE	

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FIGURE 12-18. (91385016) CROWD CYLINDER ASSEMBLY 3 SECTION BOOM ONLY



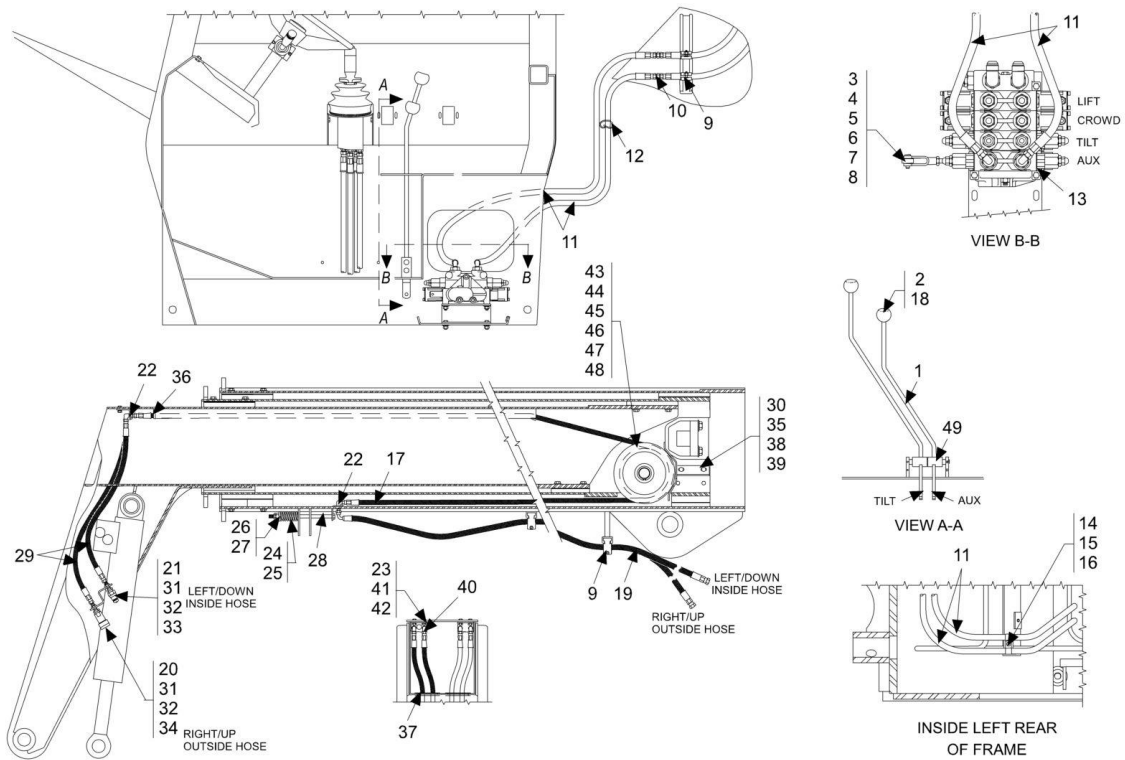
SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-18. (91385016) CROWD CYLINDER ASSEMBLY 3 SECTION BOOM ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91385016	1	CROWD CYLINDER ASSY, (3 section boom), (includes all items)	
	91333029	1	PACKING KIT, (includes items 1 thru 7)	
1	88591036	1	O-RING	
2	91123081	1	PISTON SEAL	
3	91123082	2	PISTON WEAR RING	
4	91123137	1	STATIC-SEAL	
5	80003082	1	ROD SEAL	
6	80003337	1	ROD WIPER	
7	80003227	1	ROD BEARING	
8	91086139	1	BODY WELDMENT	
9	91121180	4	STUD	
10	91086138	1	ROD WELDMENT	
11	91121178	1	STOP LUBE	
12	88211068	1	SOCKET HD CAPSCREW, 3/8-16X5/8, GR8, (hand torque to 40-45 ft lbs)	
13	91121176	1	PISTON, (hand torque to 450-475ft lbs)	
14	91121307	1	CYLINDER HEAD	
15	91123086	1	RETAINING RING	
16	80003152	12 in	NEOPRENE CORD	
17	91121179	1	SNAP RING WASHER	
18	91123085	1	SNAP RING	
19	88662193	1	HEX HD PLUG, (includes item 22)	
20	91123089	1	LOAD CONTROL VALVE	
21	80003447	2	THREADED CAP PLUG	
22	88591205	1	O-RING	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-19. (91485014) R.H. AUXILIARY HYDRAULIC ASSEMBLY 3 SECTION BOOM ONLY



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-19. (91485014) R.H. AUXILIARY HYDRAULIC ASSEMBLY 3 SECTION BOOM ONLY

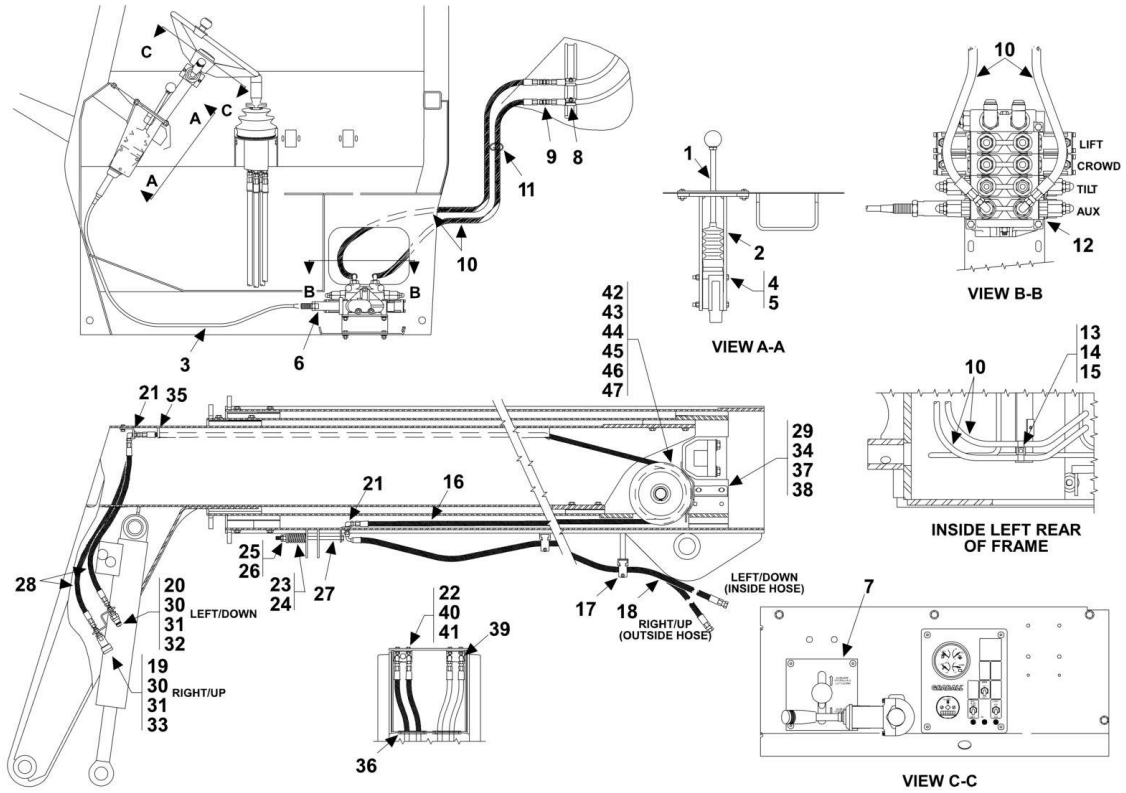
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485014	1	R.H.AUXILIARY HYDRAULIC ASSEMBLY, (3 section boom), (includes all items)	
	91385008	1	LEVER ASSY, (includes items 1, 18 & 49)	
1	91386006	1	AUXILIARY LEVER WELDMENT	
2	91083547	1	AUXILIARY DECAL	
3	88821004	1	ADJUSTABLE YOKE END	
4	90027987	1	SPRING CLEVIS	
5	88501406	1	HEX JAM NUT, 3/8-24	
6	91086081	1	ROD LINKAGE	
7	90021552	1	CLEVIS PIN	
8	88631301	1	COTTER PIN, 1/16X1/2	
9	91383039	10	CUSHION CLAMP	
10	88661065	2	UNION, 1/2 TUBE	
11	84718026	2	HOSE ASSY	
12	90027187	10	TIE WRAP	
13		Ref	MAIN CONTROL VALVE, (See MAIN CONTROL VALVE W/AUXILIARY HYDRAULICS for Breakdown)	
14	91043147	2	SUPPORT CLAMP	
15	88201022	1	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
16	88561108	1	FLAT WASHER, 5/16	
17	84718281	2	HOSE ASSEMBLY	
18	90200638	1	KNOB	
19	84718280	2	HOSE ASSEMBLY	
20	91043125	1	DUST PLUG	
21	91043126	1	DUST CAP	
22	90027179	4	ADAPTER, 90, BULK HEAD	
23	88551010	2	LOCKWASHER, 5/16	
24	91123054	2	COMPRESSION SPRING	
25	91121134	2	SPRING RETAINER	
26	88501008	2	HEX NUT, 1/2-13	
27	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
28	91126008	2	HOSE TAKE-UP WELDMENT	
29	84718041	2	HOSE ASSEMBLY	
30	91126080	1	HOSE GUARD	
31	91123061	2	BULK HEAD FITTING	
32	88712305	2	REDUCING BUSHING, 1/2X1/4	
33	90204244	1	MALE HYDRAULIC COUPLER	
34	90204245	1	FEMALE HYDRAULIC COUPLER	
35	88201034	2	HEX HD CAPSCREW, 3/8-16X7/8, GR5	
36	90206194	3.5 in	TRIM-LOCK	
37	90206199	13 in	TRIM-LOCK	
38	88551011	2	LOCKWASHER, 5/16	
39	88561109	2	FLAT WASHER, 3/8	
40	91121125	1	BULKHEAD BRACKET	
41	88201019	2	HEX HD CAPSCREW, 5/16-18X7/8, GR5	
42	88501005	2	HEX NUT, 5/16-18	
43	91123016	1	AUX SHEAVE HOSE	
44	91081326	1	HOSE REEL SUPPORT	
45	90203040	1	THRUST WASHER	
46	88581320	1	RETAINING RING EXTERNAL	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	83201123	3	HEX HD CAPSCREW, 1/2-13X1, (torque to 68-78 ft lbs)	
48	90027471	3	HARDENED FLAT WASHER, 1/2	
49	91083136	1	BUSHING	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-20. (91485009) AUXILIARY HYDRAULIC ASSEMBLY 3 SECTION BOOM ONLY



SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-20. (91485009) AUXILIARY HYDRAULIC ASSEMBLY 3 SECTION BOOM ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91485009	1	AUX HYDRAULICS ASSEMBLY, (3 section boom), (includes all items)	
	91345010	1	REMOTE VALVE CONTROL ASSEMBLY, (includes items 1 thru 5)	
1	91303019	1	REMOTE VALVE CONROL	
2	91366007	1	LEVER BRACKET	
3	91363043	1	CONTROL CABLE	
4	88201012	3	HEX HD CAPSCREW, 1/4-20X2-3/4, GR5	
5	88521304	3	HEX LOCKNUT, 1/4-20	
6	91123062	1	CABLE ADAPTER BONNET	
7	91363045	1	GUIDE PLATE	
8	90207463	2	CUSHION CLAMP, 3/4	
9	88661065	2	UNION, 1/2 TUBE	
10	84718026	2	HOSE ASSEMBLY	
11	90027187	10	TIE WRAP	
12		Ref	CONTROL VALVE ASSEMBLY, (See MAIN CONTROL VALVE W/AUXILIARY HYDRAULICS for Breakdown)	
13	91043147	2	SUPPORT CLAMP	
14	88201022	1	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
15	88561108	1	FLATWASHER, 5/16	
16	84718281	2	HOSE ASSEMBLY	
17	91383039	8	CUSHION CLAMP	
18	84718280	2	HOSE ASSEMBLY	
19	91043125	1	DUST PLUG	
20	91043126	1	DUST CAP	
21	90027179	4	ELBOW, 90	
22	88551010	2	LOCKWASHER, 5/16	
23	91123054	2	COMPRESSION SPRING	
24	91121134	2	SPRING RETAINER	
25	88501008	2	HEX NUT, 1/2-13	
26	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
27	91126008	2	HOSE TAKE UP WELD	
28	84718041	2	HOSE ASSEMBLY	
29	91126080	1	HOSE GUARD	
30	91123061	2	BULK HEAD FITTING	
31	88712305	2	REDUCING BUSHING, 1/2X1/4	
32	90204244	1	MALE HYDRAULIC COUPLER	
33	90204245	1	FEMALE HYDRAULIC COUPLER	
34	88201034	2	HEX HD CAPSCREW, 3/8-16X7/8, GR5	
35	90206194	3.5 in	TRIM-LOCK, (sold in 25ft lenghts)	
36	90206199	13 in	TRIM-LOCK, (sold in 25ft lenghts)	
37	88551011	2	LOCKWASHER, 3/8	
38	88561109	2	FLATWASHER, 3,8	
39	91121125	1	BULKHEAD BRACKET	
40	88201019	2	HEX HD CAPSCREW, 5/16-18X7/8, GR5	
41	88501005	2	HEX NUT, 5/16-18	
42	91123016	1	AUXILIARY HOSE SHEEVE	
43	91081326	1	HOSE REEL SUPPORT	
44	90203040	1	THRUSTWASHER	
45	88581320	1	RETAINING RING EXT	
46	83201123	3	HEX HD CAPSCREW, 1/2-13X1, (torque to 68-78 ft lbs)	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	90027471	3	HARDENED FLATWASHER, 1/2	

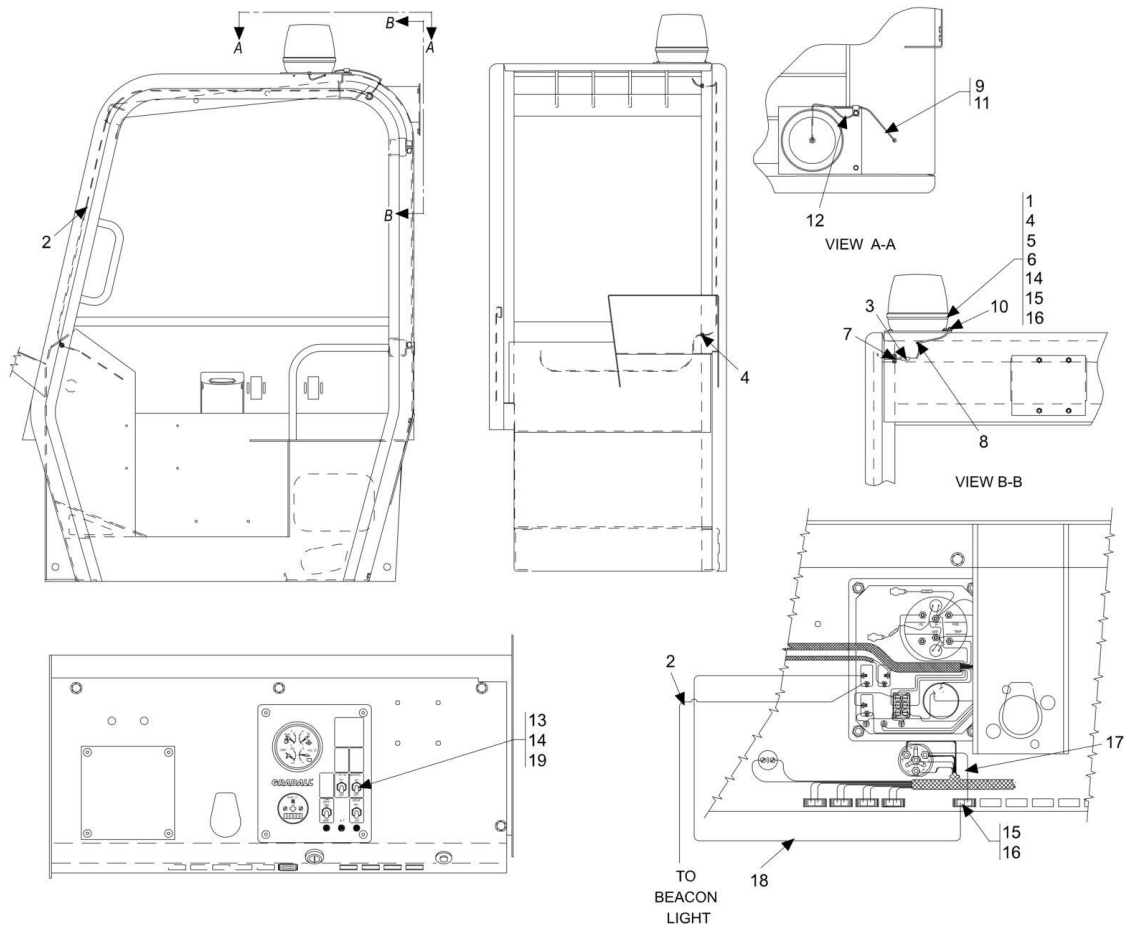
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FIGURE 12-21. (91085128) AUXILIARY ELECTRONICS ASSEMBLY 3 SECTION BOOM ONLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085128	1	AUX ELECTRONICS ASSEMBLY, (3 section boom), (includes all items)	
1	91143105	1	AUX FRAME HARNESS	
2	91083551	1	AUX BOOM HARNESS	
3	91123055	2	STRAIN RELIEF FITTING	
4	91126029	1	HOSE AND CABLE SUPPORT	
5	91126031	1	CABLE TAKE-UP WELDMENT	
6	91126032	1	CABLE TAKE-UP SUPPORT	
7	91123054	1	COMPRESSION SPRING	
8	91121134	1	SPRING RETAINER	
9	91121283	1	RECEPTICAL BRACKET	
10	90207661	1	6 CONTACT SOCKET	
11	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
12	88521304	2	HEX LOCKNUT, 1/4-20	
13	90027187	22	NYLON TIE	
14	77133168	1	CLAMP SET	
15	77133140	1	COVER PLATE	
16	77133177	1	HEX BOLT	
17	77133141	1	BASE PLATE	
18	88201017	2	HEX HD CAPSCREW, 5/16-18X5/8, GR5	
19	88551010	2	LOCKWASHER, 5/16	
20	88501008	1	HEX NUT, 1/2-13	
21	88501108	1	HEAVY HEX JAM NUT, 1/2-13	
22	91083216	1	CUSHION CLAMP	
23	91123155	1	DECAL	
24	91123154	1	AUX DASH HARNESS	
25	77163204	2	SWITCH	
26	77383470	2	SWITCH BOOT	
27	88301088	2	RD HD MACH SCREW, #10-24X3/8	
28	88561105	2	FLATWASHER, #10	

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FIGURE 12-22. (91345013) BEACON LIGHT PACKAGE



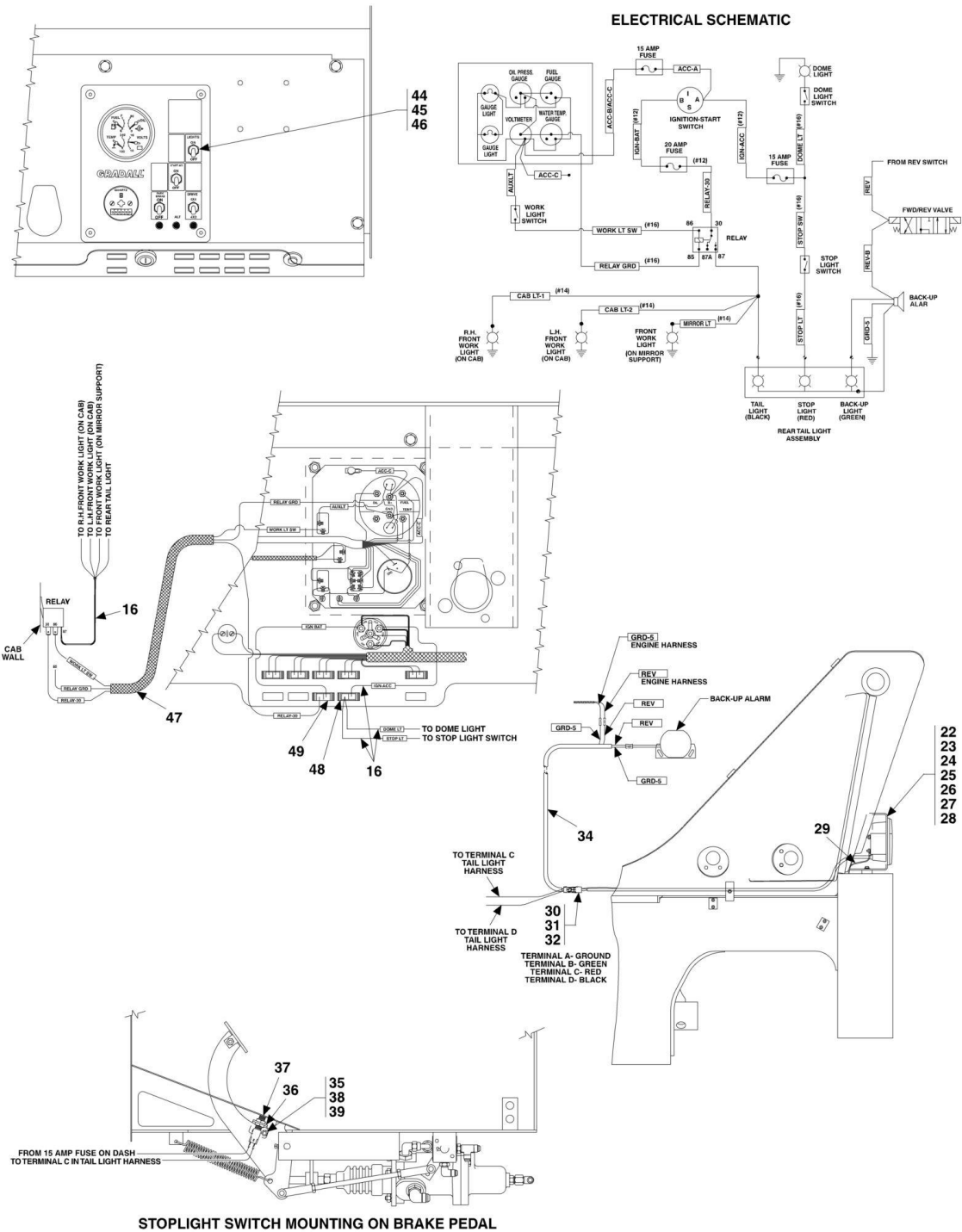
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FIGURE 12-22. (91345013) BEACON LIGHT PACKAGE

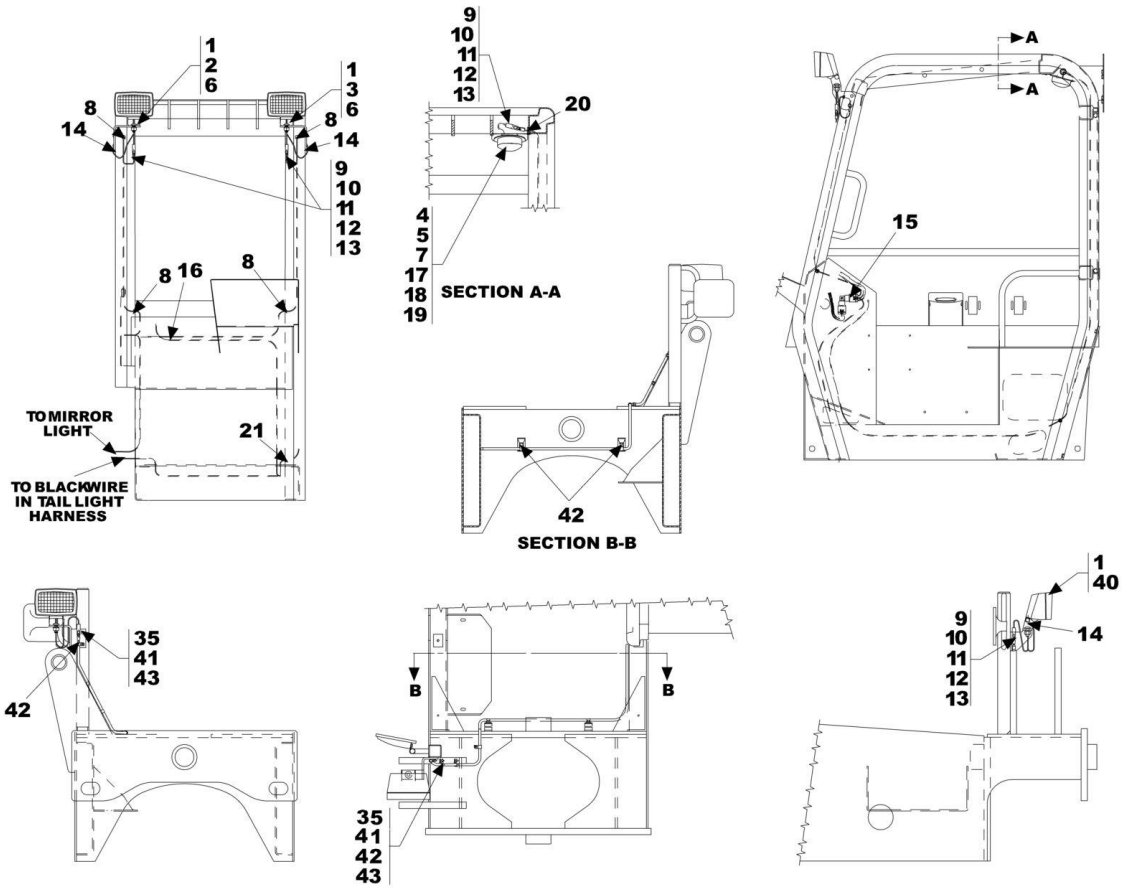
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91345013	1	BEACON LIGHT PACKAGE, (includes all items)	
1	91343031	1	ROTATING BEACON	
2	91121151	1	JUMPER WIRE	
3	86683480	1	BUTT CONNECTOR	
4	90027214	2	RUBBER GROMMET	
5	91341012	1	BEACON BRACKET	
6	90027319	2	DRILL AND TAP SCREW, 1/4-20X1	
7	91033380	1	RUBBER GROMMET	
8	90029955	1	RUBBER GROMMET	
9	82033996	12 in	WIRE LOOM	
10	90021705	1	SUPPORT CLAMP	
11	91053419	2	TIE WRAP	
12	91341013	1	JUMPER WIRE	
13	77383467	1	SPST TOGGLE SWITCH	
14	77383470	1	BOOT	
15	91143108	1	FUSE HOLDER	
16	77363267	1	FUSE, 10 AMP	
17	91141259	1	JUMPER WIRE	
18	91121216	1	JUMPER WIRE	
19	91123177	1	BEACON DECAL	

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FIGURE 12-23. (91385004) WORK LIGHT PACKAGE



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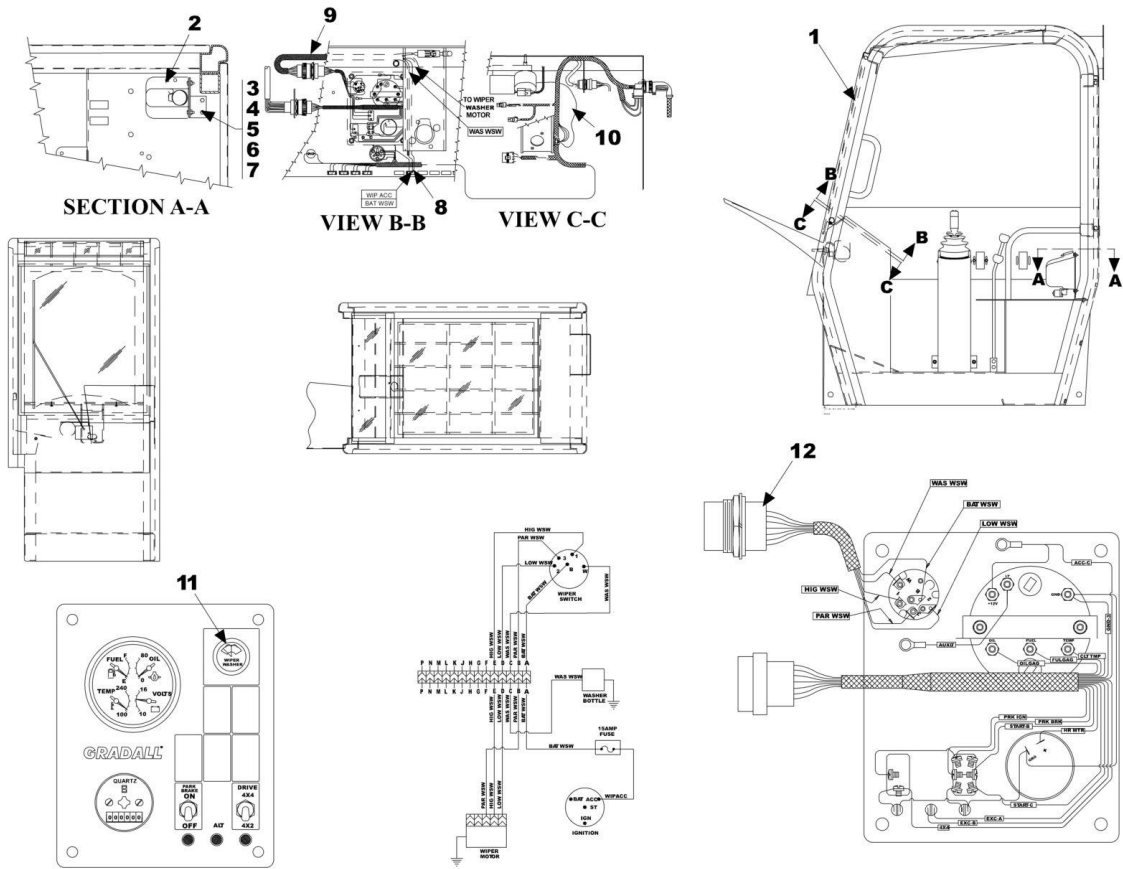
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FIGURE 12-23. (91385004) WORK LIGHT PACKAGE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91385004	1	WORK LIGHT PACKAGE, (includes all items)	
1	80963050	3	UTILITY FLOOD LIGHT	
2	91361001	1	RH LIGHT SUPPORT	
3	91361002	1	LH LIGHT SUPPORT	
4	24861167	1	INTERIOR LIGHT	
5	91361003	1	MOUNTING BRACKET	
6	90027319	2	DRILL AND TAP SCREW, 1/4-20X1	
7	88321022	2	SELF TAPPING SCREW, #8-32X3/8	
8	90027214	4	RUBBER GROMMET	
9	80963055	4	WEATHER PACK, TOWER	
10	80963056	4	WEATHER PACK, SHROUD	
11	80963068	4	FEMALE PIN TERMINAL	
12	80963069	4	MALE PIN TERMINAL	
13	80963066	8	CABLE SEAL	
14	86883260	3	SCREW EYELET, 3/8	
15	77383410	1	RELAY	
16	91363008	1	LIGHT HARNESS	
17	90029955	1	RUBBER GROMMET	
18	89981036	3	PAN HEAD SCREW, #8-32X3/8	
19	88501610	3	HEX NUT, 1-8	
20	91033380	1	Rubber Grommet	
21	91033425	1	RUBBER GROMMET	
22	90207220	1	MOUNTING BAR	
23	91121145	1	TAIL LIGHT BRACKET	
24	91121146	1	TAIL LIGHT HOUSING	
25	91365045	1	TAIL LIGHT ASSEMBLY	
26	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
27	88561108	2	FLATWASHER, 5/16	
28	88551010	2	LOCKWASHER, 5/16	
29	91141364	1	JUMPER WIRE	
30	80963062	1	WEATHER PACK, SHROUD	
31	80963069	4	MALE PIN TERMINAL	
32	80963066	4	CABLE SEAL	
33	82033996	258 in	FLEX LOOM, (use on all wires, not shown)	
34	91363087	1	TAIL LIGHT HARNESS	
35	88551009	6	LOCKWASHER, 1/4	
36	91141512	1	TAB	
37	91143117	1	STOPLIGHT SWITCH	
38	88201002	1	HEX HD CAPSCREW, 1/4-20X5/8, GR5	
39	88561107	1	FLAT WASHER, 1/4	
40	91361004	1	LIGHT SUPPORT	
41	83661336	5	WELD STUD, 1/4-20X5/8	
42	86621230	6	SUPPORT CLAMP	
43	88501004	5	HEX NUT, 1/4-20	
44	77383467	1	TOGGLE SWITCH, SPST	
45	77383470	1	BOOT	
46	91363009	1	LIGHTS ON/OFF DECAL	
47	91363073	1	WORK LIGHT DASH HARNESS	
48	77363268	1	FUSE, 15 AMP	
49	77363302	1	FUSE, 20 AMP	

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FIGURE 12-24. (91375005) WINDSHIELD/TOP WINDOW KIT INSTALLATION



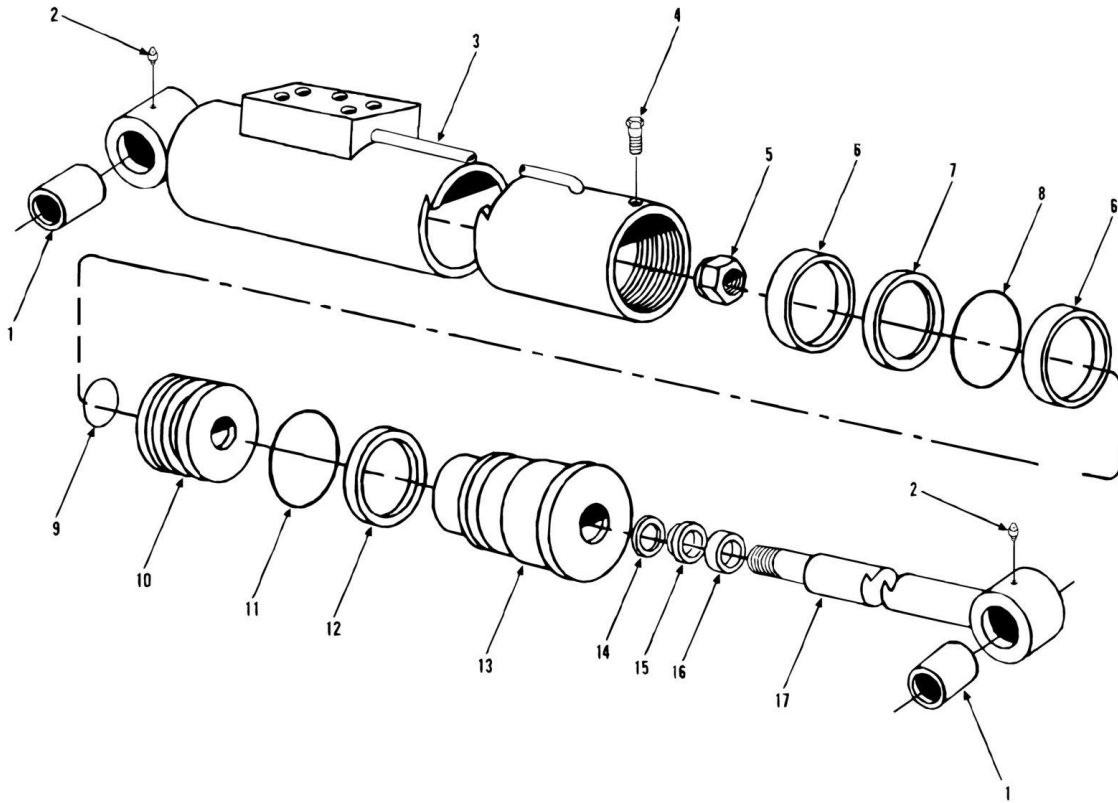
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FIGURE 12-24. (91375005) WINDSHIELD/TOP WINDOW KIT INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91375005	1	WINDSHIELD/ TOP WINDOW KIT INSTALLATION, (includes all items)	
1	91373011	1	WINDSHIELD/ TOP WINDOW KIT	
2	90029955	1	RUBBER GROMMET	
3	83683085	1	WASHER BOTTLE ASSEMBLY	
4	91146099	1	BOTTLE MOUNTING BRACKET	
5	88201003	6	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
6	88561009	6	FLAT WASHER, 3/4	
7	88501004	6	HEX NUT, 1/4-20	
8	77363268	1	15 AMP FUSE	
9	91143335	1	WIPER-HEATER OPTION HARNESS	
10	91361018	1	JUMPER WIRE	
11	80963101	1	WIPER AND WASHER SWITCH	
12	91143333	1	WIPER-WASHER-HEATER HARNESS	

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FIGURE 12-25. (91083471) SLOPE PILER CARRIAGE SWAY CYLINDER



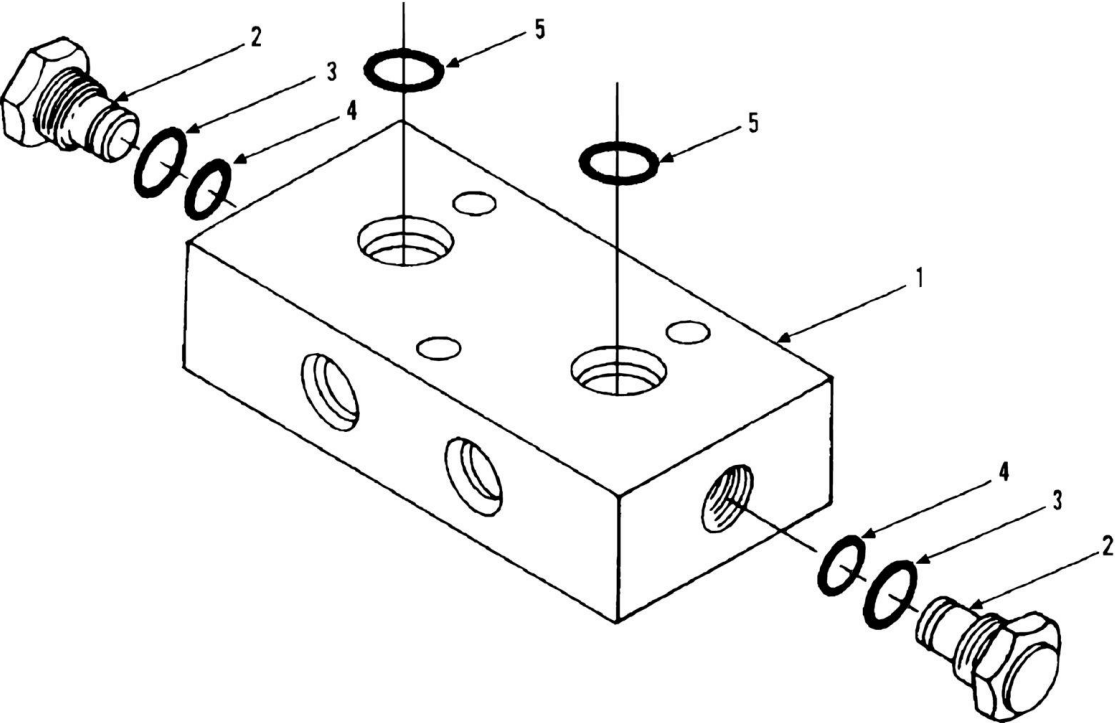
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FIGURE 12-25. (91083471) SLOPE PILER CARRIAGE SWAY CYLINDER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083471	1	SLOPE PILER CARRIAGE SWAY CYLINDER ASSY, (includes all items)	
	91084308	1	SEAL KIT, (includes items 6 thru 9, 11, 12 & 14 thru 16)	
1	91404352	2	BUSHING	
2	91144128	2	GREASE FITTING	
3	91124083	1	CASE ASSY	
4	91144017	1	CAPSCREW, #8X32X.375	
5	91034156	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	91124084	1	PISTON	
11	Kit	1	O-RING	
12	Kit	1	BACK-UP RING	
13	91124085	1	CYLINDER HEAD	
14	Kit	1	STEP SEAL	
15	Kit	1	U-CUP	
16	Kit	1	WIPER	
17	91124086	1	ROD ASSY	

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FIGURE 12-26. (9108-3262) DUAL P.O. CHECK VALVE



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FIGURE 12-26. (9108-3262) 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	

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